2024 EDITION

REMOVAL-FILL GUIDE

Applying for permits to work in wetlands, rivers, streams, lakes, and other Oregon waters

CHAPTER QUICK LINKS

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Acronyms Used in the Removal-Fill Guide

ARM	Aquatic Resource Management (Division)
BLM	Bureau of Land Management
BMP	Best Management Practice
CM	Compensatory Mitigation
CWM	Compensatory Wetland Mitigation
Corps	U.S. Army Corps of Engineers
DEM	Digital Elevation Model
DEQ	Department of Environmental Quality
DLCD	Department of Land Conservation and Development
DSL	Department of State Lands
EP	Emergency Permit
EFU	Exclusive Farm Use
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESH	Essential (Indigenous Anadromous) Salmonid Habitat
FEMA	Federal Emergency Management Administration
FPA	Forest Practices Act
GA	General Authorization
GIS	Geographical Information System
GP	General Permit
HGM	Hydrogeomorphic (Method)
HMT	Highest Measured Tide
ICCTA	Interstate Commerce Commission Termination Act
IP	Individual Permit
ILF	In-Lieu-Fee
JPA	Joint Permit Application
LiDAR	Light Detection and Ranging
LLC	Limited Liability Corporation
LWI	Local Wetland Inventory
MLW	Mean Low Water
MLLW	Mean Lower Low Water
NAVD 88	North American Vertical Datum of 1988
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NOS	National Ocean Service
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resource Conservation Service
NWI	National Wetlands Inventory
OAR	Oregon Administrative Rule
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHW	Ordinary High Water
OHWL	Ordinary High-Water Line

OPRD	Oregon Parks and Recreation Department
ORS	Oregon Revised Statute
ORWAP	Oregon Rapid Wetland Assessment Protocol
OSMB	Oregon State Marine Board
OSP	Oregon State Police
OWRD	Oregon Water Resources Department
PIL	Payment-in-Lieu
PW	Permit Waiver
PC	Prior converted (cropland)
SWI	Statewide Wetlands Inventory
SDAM	Streamflow Duration Assessment Method
SHPO	State Historic Preservation Office
SSW	State Scenic Waterway
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
UGB	Urban Growth Boundary
USFS	United States Forestry Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VEMA	Vegetation Manager (software)
WRD	Oregon Water Resources Department

Chapter 1: Working with the Aquatic Resource Management Program (ARM)

Chapter Overview

Organization of the Aquatic Resource Management Program
The Aquatic Resource Management Program (ARM) is made up of two units: The Operations Unit (including removal-fill regulatory, proprietary, and jurisdictional disciplines) and the Planning and Policy Unit. Staff duties and links to contact information are provided.

How the Aquatic Resource Management Program Works with Other Entities
The ARM coordinates with numerous local, state, and federal agencies and other entities in administering the removal-fill permit program and the state's ownership of certain waterways in Oregon.

Permit and Authorization-Related Services Provided by the Aquatic Resource Management Program
The ARM provides a variety of services to support the removal-fill permit process including: wetland determinations, wetland delineation report review, responding to wetland land use notices, conducting pre-application meetings, providing assistance for permit application processing, and program compliance. The ARM also administers the state's ownership of certain waterways in Oregon including the issuance of leases, licenses, easements, and registrations.

Wetland and Waterway Mitigation Grants
Grants are provided to construct state-sponsored mitigation projects related to the payment in-lieu and in-lieu fee mitigation programs.

Requesting Public Records
Most records generated by DSL are public records and available upon request. Depending on the extent of the request, there may be a fee.

Reporting a Suspected Violation
The ARM investigates complaints of alleged removal-fill violations and unauthorized use of state-owned waterways. Certain information is essential to facilitate violation investigation and handling.

Participating in Agency Improvements
Members of the public are invited to participate in a variety of efforts to improve the ARM.

Requesting Training or Speakers
Speakers and trainers are available for a variety of ARM-related topics.

Registering a Complaint or a Compliment
This section provides information on how to report a complaint related to ARM performance.

Chapter 1: Working with the Aquatic Resource Management Program

Organization of the Aquatic Resource Management Program

DSL is organized into three program areas: Aquatic Resource Management, Common School Fund Properties and Business Operations and Support Services. In addition, DSL administers the South Slough National Estuarine Research Reserve (SSNERR) in Charleston in partnership with NOAA. A more detailed description of the Department can be found on the "About Us" page of the DSL website.

The mission of the Aquatic Resources Management Program (ARM) is to conserve, restore, and protect the waters of this state and the ecosystem services they provide through implementation of Oregon's removal-fill and wetlands planning and conservation laws. The ARM program also manages state-owned waterways to preserve the public trust rights of navigation, fishing, and recreation.

The ARM implements its mission while allowing responsible, sustainable economic development and exercise of private property interests. Waters are protected for their contribution to aquatic life and habitats, fisheries, aquatic-based economies, public recreation, navigation, commerce, water quality, floodwater storage, and other natural resource functions and values.

The ARM is managed by a Deputy Director and is organized into two units: the Operations Unit and the Planning and Policy Unit.

The Operations Unit

The Operations Unit implements the permit program for conducting removal-fill activities in wetlands and waterways and the proprietary program for authorizing uses of state-owned waterways. The Operations Unit is divided into two geographic regions: the northern region (comprised of northwest and metro regional teams) and the southern region (comprised of mid-west, southwest, and eastern regional teams). Each regional team includes the following personnel:

- **Aquatic Resource Coordinators** are responsible for processing removal-fill permit applications, handling complaints of unauthorized activities, and compliance monitoring of permits.

- **Proprietary Coordinators** are responsible for processing and managing leases, licenses, easements, and registrations for uses of state-owned waterways

- **Jurisdictional Coordinators** are responsible for reviewing wetland land use notices, reviewing wetland delineation reports, and preparing jurisdictional determinations.

In addition, there is one Aquatic Resource Coordinator that serves as the Oregon Department of Transportation liaison for state transportation removal-fill permits.

The directory of Operations staff can be found here.

The Planning and Policy Unit

The Planning and Policy unit develops aquatic resource management policies, provides certain wetland planning services to communities, and provides technical specialist services to support the work of the Operations Unit. It includes the following personnel:

- **Wetlands Planner:** Serves as the technical lead for wetland conservation planning and protection programs. In coordination with the Aquatic Resource Specialist, assists local and regional governments, state agencies, and federal agencies developing wetland protection plans and programs.

- **Mitigation Specialist-1:** Serves as the technical expert and interdisciplinary specialist to provide technical guidance to supervisors, staff, and peers from other agencies on all subjects related to wetland and waterways ecology and compensatory mitigation.

- **Mitigation Specialist-2:** Serves as the agency lead on policy development, implementation, and outreach on all subjects related to wetland and waterway ecology and compensatory mitigation.

- **Aquatic Resource Specialist:** Serves as the agency and state technical and scientific expert on aquatic resources (e.g., wetlands and waterways). Duties include, but are not limited to, aquatic resource delineation, management, and regulation under the Oregon Removal-Fill Law.

- **Removal-Fill Specialist:** Provides technical assistance to field operations staff and promotes consistent interpretations in implementing the regulatory program.

- **Proprietary Specialist:** Manages complex, multiagency projects within state-owned waterways. Responds to complex technical questions concerning waterway authorizations and other responsibilities of DSL in relation to the management of state-owned waterways.

The directory of Planning and Policy staff can be found here.

How the Aquatic Resource Management Program Works with Other Entities

The following sections provide a brief description of how the ARM coordinates with other state, federal, and local agencies and consultants in administering removal-fill and proprietary duties.

Working with Other State Agencies

Coordination with other state agencies in administering removal-fill and proprietary duties is required under the agency's State Agency Coordination Plan. In coordinating with other state agencies, DSL is responsible for:

- Ensuring that state agencies have the opportunity to provide input on removal-fill and proprietary applications
- Considering other agency recommendations for permit and authorization decisions
- Incorporating other agency recommendations into permit and authorization conditions
- Brokering resolution of conflicting requirements
- Soliciting input to resolve violations for unauthorized activities

Other state agencies routinely participate in the development of removal-fill and proprietary improvements and rule revisions. Many state agencies also serve on the Interagency Review Team (IRT) for mitigation banks. The following list provides a description of how various state agencies interface with the ARM.

Oregon Department of Fish and Wildlife (ODFW)

ODFW serves as a consultant to DSL on all matters related to fish and wildlife habitat in support of the ARM. In this capacity, ODFW:

- Provides input to DSL on permit applications and authorizations and resolution of violations to reduce a proposed project's impact to fish and wildlife habitat
- Developed the Oregon Guidelines for Timing of In-water Work, which are incorporated into removal-fill permit conditions
- Administers fish passage requirements and fish passage plan reviews (this can be required by ODFW even if there is no DSL permit)
- Issues scientific take permits generally associated with work-area isolation when endangered fish are present in the waterway
- Issues in-water blasting permits
- Approves fish screening and bypass structures
- Serves on the IRT for mitigation banks
- Develops and implements the Oregon Habitat Conservation Strategy
- Serves as lead state agency on salmon recovery

Oregon Department of Environmental Quality (DEQ)
DEQ serves as a consultant to DSL on all matters related to water quality. DEQ provides the following services that support the ARM:

- Through its responsibility for the federal 401 water quality certification program, DEQ reviews Clean Water Act permit applications for the Corps. DEQ may also provide input to DSL on removal-fill permit applications about the potential water quality effects of a proposed removal-fill project.
- DEQ issues stormwater (NPDES) permits that are frequently required for removal-fill related activities.
- DEQ administers the Total Maximum Daily Load (TMDL) standards for water quality, which are considered in the removal-fill permit process.

Oregon Department of Parks and Recreation (OPRD)
OPRD provides input within State Scenic Waterway (SSW) to the ARM:

- OPRD administers the State Scenic Waterways Act. For removal-fill activities in state scenic waters (SSW), coordination with OPRD about project consistency with the State Scenic Waterway Act is required
- OPRD administers the Ocean Shore permitting program for removal-fill activities on the ocean shore.

Department of Land Conservation and Development (DLCD)
DLCD reviews proposed projects located in the coastal zone for consistency with the federal Coastal Zone Management Act.

Oregon Water Resources Department (OWRD)
OWRD may review removal-fill applications for water storage or uses that may require a water right from OWRD.

Oregon State Marine Board (OSMB)
If a proposed project involves a dock or other structure in the waterway, OSMB may provide input to DSL to address boater safety requirements.

Oregon State Police (OSP) OSP may investigate unauthorized removal-fill activities for potential criminal prosecution.

Working with Federal Agencies

Many projects in wetlands and waterways will require a federal Clean Water Act permit from the Army Corps of Engineers. The Corps' Portland District Office website provides further information on the federal permitting requirements. While the Corps is responsible for coordinating with other federal agencies, DSL also interacts with a variety of federal agencies. The following list provides a brief summary of how DSL coordinates with each federal agency.

The Army Corps of Engineers

The Corps and DSL use a joint permit application for proposed removal-fill activities; however, each agency independently reviews the application and issues its own permit. The Corps and DSL coordinate by:

- Routinely sharing information and coordinating to resolve issues encountered during the permit process for each agency
- Routinely sharing information to resolve violations for unauthorized activities and non-compliance with permits
- Developing and implementing programmatic expedited permits
- Acting as co-chairs on IRTs for mitigation banks
- Resolving wetland boundary issues for specific sites
- Developing technical methods such as wetland functions and values assessments, wetland delineations, and stream assessments

The Environmental Protection Agency (EPA)

The EPA is responsible for administering the Clean Water Act through the Corps. However, EPA interfaces with the removal-fill program by:

- Providing input on removal-fill permit applications
- Handling enforcement for unauthorized activities subject to the Clean Water Act and coordinating with DSL on joint enforcement actions
- Serving as a member of IRTs for mitigation banks
- Participating in the development of technical methods such as wetland functions and values assessments, wetland delineations, and stream assessments
- Participating in the development and implementation of programmatic expedited permit

The National Marine Fisheries Service (NMFS)

NMFS is responsible for administering the Endangered Species Act (ESA) for listed fish species. Although the responsibility for coordination and consultation with NMFS rests with the Corps, NMFS interfaces with the removal-fill program by:

- Conducting federal enforcement for unauthorized activities subject to the ESA
- Serving as a member of IRTs for mitigation banks if ESA species are involved
- Participating in the development of programmatic expedited permits if ESA species are involved

The U.S. Fish and Wildlife Service (USFWS)

USFWS is responsible for administering the Endangered Species Act (ESA) for plants and animals. Although the responsibility for coordination and consultation with USFWS rests with the Corps, the USFWS interfaces with the removal-fill program by:

- Routinely serving as a member of IRTs for mitigation banks if ESA species are involved
- Participating in the development of programmatic expedited permits if ESA species are involved

Working with the Tribes

The government-to-government policy of DSL was originally established in 1998 in response to Governor's Executive Order EO-96-30 on state/tribal relations. This policy commits DSL to:

- Include affected Tribal interests in the review of agency actions likely to affect tribal members or resources of Tribal interest
- Thoughtfully consider Tribal comments concerning pending decisions and actions
- Provide materials to each Tribal government that explain DSL's roles and responsibilities in natural resource management

In furtherance of this policy, the ARM makes available to each potentially affected Tribe a copy of removal-fill and proprietary applications during the public review period. The Tribes are given the opportunity to comment on the proposed activities set forth in the applications, and staff work closely with Tribal staff to address any concerns they may have. In addition, ARM management participates in Cultural Resources and Natural Resources Workgroup meetings to share information with the Tribes on DSL's activities related to natural resource management.

Working with Local Governments

To ensure land use compatibility with permit actions, DSL works with city and county governments in the following ways:

- Jurisdictional coordinators provide input to local government on land use applications that may involve work in wetlands and waterways through the Wetland Land Use Notification program.
- The Wetlands Planner provides technical assistance to local government with their Goal 5 (Natural Resources) requirements including development of local wetland inventories and local ordinances implementing wetland and waterway protections.
- Proprietary coordinators and aquatic resource coordinators consult with local governments during the proprietary and removal-fill application processes to ensure that projects are consistent with local comprehensive plan and zoning ordinances and local wetland and waterway protection ordinances, where applicable.

Working with Watershed Councils and Soil and Water Conservation Districts

DSL works with councils and districts to facilitate voluntary restoration activities and collaborate on specific permit actions. These two organizations:

- Provide technical assistance to applicants
- Provide watershed specific information to DSL
- May comment on removal-fill and proprietary applications
- Conduct voluntary restoration activities
- Obtain grants from the DSL mitigation fund

Working with Environmental Justice Communities and the Environmental Justice Task Force

Environmental justice (EJ) is equal protection from environmental and health hazards, and meaningful public participation in decisions that affect the environment in which people live, work, learn, practice spirituality, and play. "Environmental justice communities" include minority and low-income communities, tribal communities, and other communities traditionally underrepresented in public processes. In response to the need for equal protection for all Oregonians, the Oregon Legislature created the Environmental Justice Task Force (EJTF) to protect minority and low-income populations from disproportionate environmental impacts. DSL is a participating natural resource agency in the task force and has an active representative to the EJTF. The agency seeks to provide all interested people with knowledge of and access to decision-making that affects Oregon's waters and the communities connected to them. The development of EJ tools such as the EJTF Best Practices Handbook and the EPA-constructed geospatial tool EJSCREEN, are improving the agency's ability to identify EJ communities and ensure meaningful public participation.

Working with Consultants

Applicants for removal-fill permits typically hire consultants to prepare wetland delineation reports, removal-fill permit applications, mitigation plans, and monitoring reports. DSL cannot recommend consultants, but there are resources on the DSL Waterways & Wetlands web pages to help:

Wetlands in Oregon and Consultant Summary.

Consultants may be designated to act as authorized agents for permit applications and enforcement cases. DSL will then communicate directly with the consultant regarding the technical aspects of the project, however, all formal agency correspondence will still be addressed to the applicant or responsible party.

ARM staff work closely with consultants in a variety of ways by:

- Providing technical and regulatory updates
- Participating and collaborating with consultants in professional forums (e.g., Society of Wetland Scientists)
- Reviewing wetland delineation reports and site visits
- Conducting pre-application meetings and site visits
- Negotiating permit conditions
- Reviewing consultant monitoring reports and conducting site visits

Permit and Authorization-Related Services Provided by the Aquatic Resource Management Program

Wetland Determinations

This free service provides landowners with information about the likelihood of wetlands or waterways on their property. This service requires submittal of a wetland determination request form which is reviewed by a Jurisdictional Coordinator. Wetland determinations are primarily performed in the office and occasionally may be conducted onsite. These determinations, if conducted without a site visit, are a screening tool for identifying the likely presence of wetlands. They are not conclusive in determining the absence of wetlands. DSL's response may also specify if a wetland delineation is needed and if identified wetlands or waterways are subject to removal-fill permit requirements.

Review of Wetland Delineation Reports

Wetland delineations (determining the boundary of a wetland) are conducted by wetland consultants hired by property owners and approved by Jurisdictional Coordinators. A wetland delineation report contains the methods, data, conclusions, and maps and figures that identify wetland and waterway boundaries. Specific information about the methods, report format, and requirements is on the DSL website.

DSL will complete an initial review of a wetland delineation report within 120 days of receipt of the report and the review fee. If the report meets the standards defined by Administrative Rule 141-090, DSL approves the report. DSL staff may request additional or clarifying information and/or conduct an onsite inspection. DSL will write a concurrence, with an attached DSL approved wetland delineation map. The concurrence is valid for up to five years.

Delineation Report Timing
Given the time necessary for the consultant to conduct field work and prepare the report, and the time necessary for DSL to review and approve the report, applicants need to plan for this work well in advance of the removal-fill permit application process.

If requested, DSL may, under certain circumstances, reissue the concurrence one time. The reissued concurrence is valid for up to an additional five years of the original expiration date. Specific information about the requirements is on the DSL website.

The wetland delineation report review status can be checked on the DSL website.

Review of Wetland Land Use Notices

The wetland land use notice process is a free service provided to city and county planning departments and performed by a Jurisdictional Coordinator. Cities and counties are required by law to submit a Wetland Land Use Notification Form to DSL within five days of receiving a local land use application if an activity is proposed on a

parcel that has wetlands or waterways identified on the National Wetlands Inventory, Statewide Inventory, or applicable Local Wetlands Inventory maps.

The purpose of this notice process is to provide notification to landowners about the need for a removal-fill permit and prevent unintentional violations of the Removal-Fill Law.

Some common local land use actions that prompt a Wetland Land Use Notice are grading permits, conditional use permits, land partitions, planned unit developments, and building permits for new structures.

Within 30 days of receipt of a wetland land use notice, DSL will respond to the local planning department, the applicant, and the landowner. The response will indicate the likelihood of wetlands or waterways on the project site. If wetlands are present or likely to be present, DSL will indicate that a wetland delineation study and/or a removal-fill permit will be necessary.

Removal-Fill Permit Assistance

Aquatic Resource Coordinators are available to advise property owners and project proponents on matters relating to the removal-fill permit process such as:

- The types of wetlands and waterways that are subject to removal-fill permit requirements
- Activities that are subject to removal-fill permit requirements and exemptions that may apply
- Removal-fill permit application requirements, processing steps and timelines
- Other agencies that may require a permit or otherwise need involvement in the project
- Resources for further information

Pre-application Meetings

As resources allow, Aquatic Resource Coordinators are available to meet with applicants at the project site or in an office setting to discuss a proposed project prior to preparation of the removal-fill permit application. The pre-application meeting provides a good opportunity for DSL staff to become familiar with the project and can help avoid costly project design changes. It also provides an opportunity for all parties to gain information to assist the applicant through the application process. Pre-application meetings are further discussed in Chapter 4: Planning Ahead.

Proprietary Authorization Assistance

Proprietary Coordinators are available to advise property owners and project proponents on matters relating to the state's ownership of certain waterways such as:

- Those waterways that are subject to proprietary authorization requirements

- Activities that are subject to proprietary authorization and the types of authorizations available
- Application requirements, processing steps and timelines
- Resources for further information

Wetland and Waterway Mitigation Grants

The ARM administers a grant program for constructing mitigation sites for the payment-in-lieu and in-lieu fee mitigation programs. In some circumstances, applicants for removal-fill permits have an option to pay money to the mitigation fund. DSL uses this money to generate mitigation credits to fulfill the mitigation obligation.

Generally, grants are provided for projects that:

- Provide ecological improvements to generate mitigation credits to offset losses to wetland or waterway functions
- Are located in areas where DSL currently or expects to have a mitigation obligation
- Are not conducted for profit
- May have a variety of partners with an interest in voluntary restoration

Requesting Public Records

DSL is required by law to maintain public records that are available upon request. There are two ways to review and obtain copies of public records:

- Make an appointment with the Public Records Coordinator to come into the DSL office and review files. The reviewer will then make copies for a fee.
- Submit a Public Record Request Form to the Department for staff to collect and copy relevant materials.

There are fees associated with researching, gathering, copying, and posting, mailing, or faxing requested documents. If DSL requires legal advice to fulfill your request, a fee may be charged for that time as well. Before conducting any fee-related service for a public records request, DSL will notify the requestor of the estimated fees.

Reporting a Suspected Violation

Complaints of a suspected violation of the Removal-Fill Law are made by contacting the Aquatic Resource Coordinator assigned to that county. Complaints can be made by phone, mail, fax, or e-mail.

Supplying complaint information: The ability of DSL to respond effectively to a suspected violation is directly related to the accuracy of the information provided in the

initial contact. When contacting DSL about a suspected removal-fill violation, the following information should be provided:

- The location (address, intersection or legal description of the tax lot). An aerial photo (e.g., Google Earth image) or coordinates of the activity would also help identify the location.
- Property owner's or other responsible party's name and contact information, if known
- The name of the waterway involved, if applicable
- A description of the activity, including equipment used
- The date the activity started and ended. If ongoing, the date the activity was last witnessed
- Any other information that could further identify the responsible party, such as names on trucks, fill wanted signs, for sale signs, etc.
- Approximate dimensions or volume of material being put into, or taken out of, the wetland or waterway
- Photos of the site and activity if such can be obtained without trespassing

What complainants should expect after a complaint is filed: DSL investigates all complaints that are received. The time required to confirm a violation is dependent on staff resources and the nature of the alleged activity. To confirm a violation, DSL must have verifiable evidence and clearly establish all of the following:

- The activity involved a regulated water of the state
- The volume thresholds were exceeded
- The activity was not exempt from permit requirements
- The activity did not have DSL authorization, or
- The activity did not comply with a DSL authorization

Circumstances that generally result in DSL's inability to confirm a violation are when:

- The activity lacks verifiable evidence due to passage of time
- The activity is clearly outside the authority of the Removal-Fill Law. Commonly reported activities that are outside the authority of the Removal-Fill Law include vegetation removal, directing water onto someone else's property and trespass.
- Sufficient information related to the location of the activity is not provided
- The activity and impacts are too minor to confirm the volume thresholds. In these cases, DSL may simply issue a warning letter.

Generally, DSL does not report back to the complainant on the outcome of a suspected violation. Complainants may call the Aquatic Resource Coordinator to inquire about the status or outcome of a violation. The following should be kept in mind when a violation has occurred:

- DSL handles most cases through administrative enforcement procedures and in only rare cases may refer criminal proceedings to OSP. The administrative remedies allow for considerable discretion and flexibility so that cooperative agreements may be reached to resolve violations.

- It can take substantial time to resolve violations depending on the nature of the action, the cooperation of the responsible party and the options for resolution. It is the goal of DSL to have a final resolution in place within 12 months of the complaint.
- DSL is committed to protecting the rights of alleged violators and makes every effort to ensure that alleged violators are aware of, and have access to, due process.

Participating in Agency Improvements

Members of the public and other agencies that are interested in participating in ARM improvements can do so by:

- Providing input on rule making
- Completing customer service surveys when available
- Staying informed. Interested parties can get updates on DSL activities and events by reading the DSL e-newsletter published quarterly.
- Contacting the ARM Management Team. For special problems or suggestions for program improvements, any member of the ARM Management Team can be contacted directly.

Requesting Training or Speakers

Upon request, DSL can provide training and presentations related to the removal-fill and proprietary programs, wetland planning, and identifying state-owned waterways and regulated waters to groups. Frequently requested training and presentation topics include:

- The removal-fill permit process
- State-owned waterways and the proprietary authorization process
- Voluntary restoration permitting
- Compensatory mitigation
- Mitigation banking
- The wetland grant program
- Road and transportation-related permitting
- Training on technical methods such as wetland assessments, stream assessments, and monitoring methods

Request A Speaker or Trainer

Registering a Complaint or Compliment

There are times when members of the public or other agencies wish to register a complaint or compliment regarding the ARM. These issues can be related to:

- Accommodating or unfair treatment
- Upstanding or unprofessional behavior by ARM employees
- Exceptionally fast or untimely responses
- Positive or negative comments regarding agency procedures or policies
- Statute or rule interpretation

To register a complaint or compliment, it is recommended that the appropriate member of the ARM Management Team be contacted.

Chapter 2: When is a Permit Required?

Chapter Overview

Oregon's Removal-Fill Law (ORS 196.795-990) requires any person who plans to "remove or fill" material within "waters of this state" to obtain a permit from DSL. There is one exception, permitting on the ocean shore between extreme low tide and the vegetation line is administered by Oregon Parks and Recreation Department.

Waters of this State: Types of Jurisdictional Waters and their Boundaries

Type of "Water of the State"	Jurisdictional Limit
Pacific Ocean	Extreme low tide to 3 miles out
Tidal Bays, Tidal Rivers, and Estuaries	Highest Measured Tide (HMT) or upper edge of wetland
Rivers, Perennial Streams, Lakes and Ponds	Ordinary High Water (OHW)
Intermittent Streams	OHW
Wetlands	Wetland boundary
Artificially Created Ponds and Ditches	OHW
Artificially Created Wetlands	Wetland boundary
Reservoirs	Normal operating pool level or upper edge of adjacent wetland

Highest Measured Tide (HMT) is determined by using tidal station data, installing a tidal gage on site, or by using field indicators. Ordinary High Water (OHW) is determined by direct observation of an annual event, gauge data or field indicators. The wetland delineation method adopted by the Corps is used to determine wetland boundaries.

Definition of Removal and Fill

Removal means taking inorganic substances (rock, gravel, sand, silt, etc.) and large woody debris; or their movement by artificial means within waters of this state, including channel relocation. Fill means the deposit by artificial means of any material (organic or inorganic) at any one location.

Removal-Fill Volume Thresholds

For many waters of this state, a permit is required if a project will involve 50 cubic yards of fill and/or removal (cumulative) within the jurisdictional boundary. For activities in ESH streams, State Scenic Waterways and compensatory mitigation sites, a permit is required for any amount of removal or fill. Removal is calculated on an annual basis. Fill is calculated on a cumulative basis.

Calculating Removal-fill Volumes

Guidance and examples for calculating removal-fill volumes are provided.

Special Situations: Activities that Cannot Be Permitted By Law

Exploration for minerals within the territorial sea and navigable bays and fill in Smith or Bybee Lakes are prohibited by statute.

Chapter 2: When is a Permit Required?

Oregon's Removal-Fill Law (ORS 196.795-990) requires any person who plans to "remove or fill" material in "waters of this state" to obtain a permit from DSL. As noted below, the one exception is that permitting on the ocean shore is administered by Oregon Parks and Recreation Department. In determining whether a permit is required for a proposed activity, DSL must determine all of the following:

- The activity is proposed in a water of the state (i.e., a jurisdictional waterway or wetland)
- The activity meets the definition of removal or fill
- The activity is not exempt

Waters of This State - Types of Jurisdictional Waters and Their Boundaries

Waters of this state include the jurisdictional portions of the Pacific Ocean, tidal bays, tidal rivers, estuaries, non-tidal rivers, perennial and intermittent streams, lakes, ponds, wetlands, and reservoirs. In addition, certain ditches and created wetlands and ponds are also considered waters of this state. This section outlines the different types of waters of this state and provides guidance on what portion of those waters are jurisdictional.

The Legislature charged DSL with determining "waters of this state" and their boundaries to implement the Removal-Fill Law. This is done through a formal jurisdictional determination. Since only DSL has the authority to make jurisdictional determinations, it is important to get concurrence from the Department prior to starting any work in waterways or wetlands.

The Pacific Ocean

DSL regulates removal-fill activities between extreme low-tide elevation seaward three statutory miles into the Pacific Ocean (the Territorial Sea). Note this does not include the ocean shore, which is defined as the area between extreme low tide (lowest estimated tide) and the "line of statutory vegetation" or "actual vegetation line" whichever is further inland (Figure 2-1). OPRD regulates earthwork on the ocean shore through the Ocean Shore Permit Program.

The statutory vegetation line is the line described according to the Oregon Coordinate System and set forth in ORS 390.770. The line consists of a series of connected line segments. The "actual vegetation line" means the extreme seaward boundary of natural, non-aquatic vegetation. It is a visible boundary, marking the border between the dry sand beach and the adjoining upland. Seasonal occurrences or isolated patches of vegetation may lie seaward of the actual vegetation line.

The extreme low tide elevation is the lowest estimated tide that can occur in a given year. This line can change from year to year and does not have a fixed elevation. For

this reason, it is best to contact a Jurisdictional Coordinator or an Aquatic Resource Coordinator to determine the elevation of extreme low tide for a specific project.

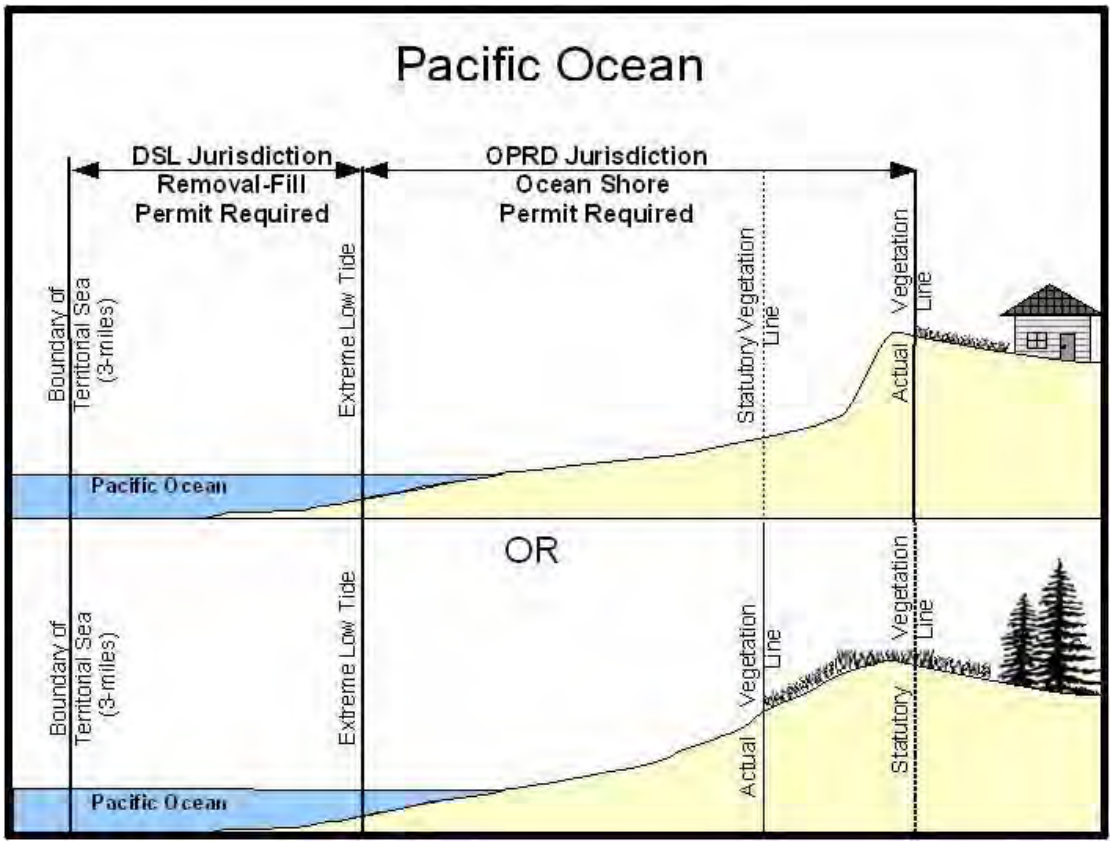


Figure 2-1: Jurisdiction of the Pacific Ocean and the beach (between extreme low tide and upland).

Tidal Bays, Tidal Rivers, and Estuaries

Basic information on tides is found in the Estuary Assessment chapter of Oregon Watershed Enhancement Board's *Watershed Assessment Manual*.

A waterway is considered tidal if it is located below the head of tide. The head of tide is the farthest point upstream where a waterway is affected by tidal fluctuations. The head of tide is established for coastal rivers and streams and maps are located in the publication, *Heads of Tide for Coastal Streams in Oregon*. Although the Columbia River's actual head of tide is located at Bonneville Dam, 146 river miles upstream from its mouth, the western edge of Puget Island around River Mile 38 has been designated as the end of the estuary for the purposes of the Removal-Fill Law. For GIS users, a shape file titled 'Head of Tide Locations for Coastal Streams in Oregon' has been created from this document and may be downloaded from the Oregon Coastal Atlas.

If the subject waterway is not listed in the heads of tide document, then, ideally, a site visit should be made during a high tide when the moon is full or new ('spring tide') in the winter to determine if a water is tidal. NOAA's website has predictions of high tide times

for the station closest to the waterway in question. If it is not practical to visit the waterway during a winter high spring tide, then the site should be visited during a spring tide and the timing of the observation should be interpreted in the context of the tidal cycle.

Tidal bays and estuaries are jurisdictional below the elevation of highest measured tide (HMT) or to the wetland boundary, whichever is higher, as illustrated in Figure 2-2. The HMT is defined as the "highest tide projected from actual observations within an estuary or tidal bay."

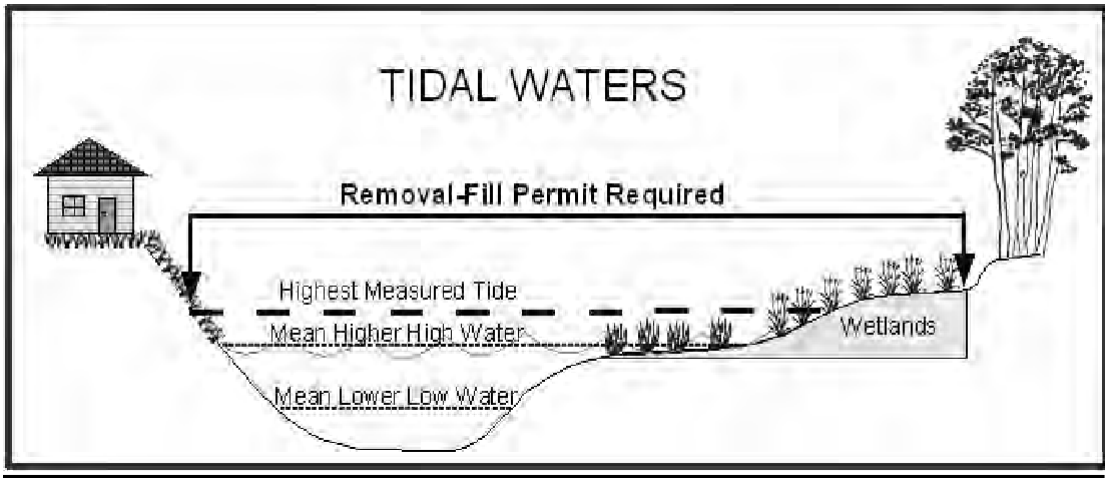


Figure 2-2: Jurisdictional boundary in waters subject to the tide.

The HMT elevation on a parcel may be determined by a land survey referenced to the closest tidal benchmark based on the most recent tidal epoch and reference to both the tidal datum (MLLW) and the fixed geodetic datum (NAVD88). In lieu of surveyed elevations, subject to approval by DSL, HMT elevation may be based upon actual tide gauge measurements during a wintertime spring tide or observation of the highest of the field indicators. These methods are outlined below.

Using Tidal Station Data

Tidal elevation data is on the NOAA's National Ocean Service website. The closest station to the subject property should be used to derive the elevation of the highest water level recorded. Because this water level is usually referenced to the station datum, it will need to be converted to the geodetic datum NAVD88. Once the highest water level elevation is identified and converted to geodetic datum NAVD88, it can be used to identify the HMT on the property through a topographic survey. A more complete description of how to use tidal data to determine HMT, plus a compilation of HMT data from various stations, is available from DSL.

More information on tidal and geodetic datums is available on NOAA's Web site.

Installing Tidal Gages On-Site

Installing a tidal gage on the property for a winter tide cycle is a more accurate way to determine HMT. Caution should be exercised in applying this option because data collected during the winter tide cycle may not be representative of a typical tide cycle. Applicants seeking to pursue this option should consult with DSL before installation.

Using Field Indicators

At the discretion of DSL, field indicators may be used to determine HMT. The highest of the following field indicators can be used to determine the elevation of HMT. Examples of field indicators include:

- The uppermost drift or wrack (or debris) line containing small driftwood, mats of filamentous algae (algae that form long visible chains, threads, or filaments that intertwine forming a mat), seaweeds, sea grasses, pieces of bulrush or other emergent vascular plants, Styrofoam or other buoyant plastic debris, bivalve shells, crab molts, or other aquatic invertebrate remains
- The uppermost water mark line on an eroding bank
- The uppermost water mark line (e.g., discoloration; sediment, barnacles, snails, or algae growth) visible on a hard shoreline or bank consisting of bedrock, boulders, cobbles, riprap or a seawall
- The uppermost intertidal zone inhabited by a community of barnacles, limpets, and littorine snails along shorelines composed of bedrock, riprap, boulders and/or cobble
- The uppermost tidal marsh/upland boundary, as indicated by a dominant plant community characteristic of saltwater, brackish, or freshwater tidal plant communities changing to a dominant plant community typical of uplands
- The intertidal/upland boundary along sandy shores as indicated by the appearance of a distinct dune plant community

These field indicators are often not observable in the upper riverine portion of an estuary, in which case a topographic survey is required.

Areas behind dikes and tide gates may require additional evaluation to determine if there are jurisdictional waters and the type of water (tidal or non-tidal). If the subject area is separated from tidal influence by a properly functioning dike or a tide gate, the area behind the dike should be assessed for wetlands. Also, channels present on the site may be jurisdictional either to OHW or HMT (if tidal). If there is no tidal influence upstream of a tide gate and the area behind the dike does not meet wetland criteria, channels below OHW may be the only regulated feature.

Non-tidal Rivers, Intermittent and Perennial Streams, Lakes, and Ponds

Rivers and perennial streams have continuous flow in parts of their bed all year long during years of normal precipitation. Intermittent streams flow a portion of every year (see more details below). Lakes and ponds are bodies of standing water in depressions

of land or within expanded portions of streams. Rivers, perennial and intermittent streams, lakes, ponds, and jurisdictional ditches are jurisdictional to the ordinary high water (OHW) line, meaning the line on the bank or shore to which the high water ordinarily rises. The OHW line excludes exceptionally high water levels caused by large flood events (e.g., 100-year events).

Three methods are used to identify OHW: using field indicators, determining bankfull stage using local gage data, and directly observing an annual high water event. These methods can be used individually or in combination. The choice should be based on best professional judgment. However, often the most practical approach is to first look for field indicators because local gage data is not always available and direct observation is often difficult to schedule.

Bankfull stage is defined as the two-year recurrence interval flood elevation.

Field indicators of OHW include:

- Clear, natural line impressed on the shore, including scour, shelving and exposed roots
- Change in plant community from riparian (e.g., willows) to upland (e.g., oak, fir) dominated. If the area is cropped, hydrophytic plants, or evidence of crop stress or damage from high flows would be indicative of high water.
- Textural change of depositional sediment or changes in the character of the soil (e.g., from sand, sand and cobble, cobble and gravel to upland soils). Sediments may appear stratified. This indicator may require careful evaluation on floodplains where certain farming practices regularly disturb the soil profile.
- Elevation below which no fine debris (needles, leaves, cones, seeds, soil organic matter) occurs
- Presence of water-borne litter and debris, wrack accumulation, water-stained leaves, water lines on tree trunks, flattened vegetation. Certain farming practices can obscure these indicators.

Documentation of field indicators should include a map that clearly shows the location and extent of the river, stream, lake, pond, or jurisdictional ditch; and a brief written report with ground level color photographs describing and showing the indicator(s) observed.

Determining bankfull stage: The following documents provide examples of how hydrologic data can be used to estimate OHW:

- A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States
- Determining the Ordinary High Water Mark on Streams in Washington State

Documentation of bankfull determinations should include a map that clearly shows the location and extent of the stream, lake, or pond; and a brief written report providing the gage data and describing the analysis method used to make the determination.

Direct observation of a high water event during a year of normal precipitation may also be used to determine OHW. The date chosen for the observation should be based on local knowledge or by estimating the likelihood of an event occurring using hydrologic data.

Documentation of annual high water events should include a map that clearly shows the location and extent of the stream, lake, pond, or jurisdictional ditch on the day of the observation; and a brief written report that includes precipitation data and ground level color photographs to support the line drawn.

Sources of additional evidence to support OHW determinations include:

- Aerial photographs of the site (current and historic) from late winter and early spring are useful for identifying annual high water events. False-color infrared aerial photography will help differentiate between contrasting patterns of vegetation associated with active floodplains and drier terraces, and stereo pairs of aerial photographs show site topography.
- Light Detection and Ranging (LiDAR) or Shaded Relief Digital Elevation Model (DEM) data often show topographic features associated with OHW.
- County soil survey maps (including accompanying soil descriptions) and FEMA floodplain maps can help identify active floodplains.

Intermittent Streams

An intermittent stream is defined in statute as "any stream that flows during a portion of every year and which provides spawning, rearing, or food-producing areas for food and game fish" (ORS 196.800). In other words, an intermittent stream is a stream which flows during a portion of every year and which provides one or more of the following:

- Spawning areas for at least one species of food fish and one species of game fish
- Rearing areas for at least one species of food fish and one species of game fish
- Food-producing areas for at least one species of food fish and one species of game fish

Intermittent streams are jurisdictional to the elevation of OHW. A DSL jurisdictional determination applies only to the portion of the stream where the removal-fill activity is proposed or has occurred.

In contrast, ephemeral streams flow only during or immediately after storm events. Streams typically begin as ephemeral, transition to intermittent, and then become perennial. However, some streams, particularly on the east side of Oregon, may flow into closed basins, may become ephemeral downstream or may even disappear.

Generally, if an intermittent stream is identified on the National Hydrography Dataset or USGS quad map, it is an indication that the stream is at least intermittent by DSL standards. However, if jurisdiction is otherwise unclear or disputed, additional information may be necessary to determine whether a stream is intermittent.

- Visual observations or hydrology data during years of normal precipitation may indicate that the stream flows during a portion of every year.

- Consultation with ODFW or StreamNet may confirm whether the stream segment contains spawning or rearing areas for food fish and game fish. (Note: StreamNet may not always reflect the most accurate mapping of waterways containing spawning or rearing areas for food fish and game fish.
- If confirmation of spawning or rearing areas for food and game fish is not possible, then determining whether the stream segment is a food producing area will be necessary. Generally this occurs when the flow is of sufficient duration to support amphibians and aquatic insects, and provide other food web support mechanisms, such as conveyance of particulate organic matter. The Streamflow Duration Assessment Method (SDAM) may be applied to see if the stream segment has sufficient flow to provide food or food web support. SDAM is not required to make stream flow duration determinations. The method was designed to be an assessment tool and should support, not replace best professional judgment. To be intermittent, at least one food fish and one game fish must be present downstream or the stream must be a tributary to a stream with the fish present. Consultation with ODFW or StreamNet may be required to determine this fish presence.

Wetlands

Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are jurisdictional within the wetland boundary.

A wetland boundary is delineated and mapped according to the Wetlands Delineation Manual; Western Mountains, Valleys, and Coast Region; and Arid West Region developed by the Corps. Wetland delineation reports are prepared by wetland consultants and submitted to DSL for review and approval (jurisdictional determination). Jurisdictional determinations for wetlands are valid for a period of five years unless new information necessitates a revision. In comment below:

Jurisdiction over compensatory mitigation sites: Mitigation sites that are referenced in a removal-fill authorization are jurisdictional for the entire area of the mitigation site, as shown in the authorization, including any upland buffers. Any amount of removal or fill within mitigation sites requires a permit. To determine whether there is a compensatory mitigation site at a project location, contact DSL.

Reservoirs

A reservoir is a natural or artificial pond or lake used for storing and regulating water. Reservoirs are jurisdictional to the normal operating pool level (sometimes called the full-pool elevation), or to the upper edge of an adjacent wetland, whichever is higher.

In most cases, the normal operating pool level of a reservoir coincides with a very clear line on the bank around the reservoir where the vegetation, slope and soil characteristics change dramatically. Indicators of this line are similar to the OHW line

indicators for streams and rivers. For larger reservoirs, the applicant may want to verify the elevation of this line with elevation data from the entity that manages the reservoir (the Corps, an electric company, or a local irrigation or water management district).

Artificially Created Ponds and Wetlands

Artificially created ponds and wetlands are waters that exist as a result of some human activity. They are jurisdictional if they meet any one of the following criteria (other than the exceptions listed below):

- Greater than or equal to one acre in size (unless created for one of the purposes listed below)
- Created, in part or in whole, in waters of this state
- Identified in an authorization as a mitigation site

Artificially created ponds and wetlands of any size that are created entirely from uplands are not jurisdictional if created for the purpose of:

- Wastewater treatment
- Settling of sediment
- Stormwater detention or treatment
- Agricultural crop irrigation or stock watering
- Fire suppression
- Cooling water
- Surface mining
- Log storage
- Aesthetic purposes

Legally constructed ponds that are artificially created and are severed from interaction with the surrounding environment by an impermeable liner are not jurisdictional.

To determine whether a wetland or pond was “created in part or in whole in a water of this state”, the applicant should use the following resources to research the historical site conditions. Generally, if any of the following situations exist in any portion of the created wetland or pond, it was likely created in part or wholly in a water of this state:

- The USGS map shows a channel flowing through, into, or out of the artificially created pond or wetland
- Historical aerial photos show a water body, inundation, or an area devoid of vegetation in early spring
- NWI or LWI maps show a wetland identified at the site
- Hydric soils maps from the county Soil Survey show that the site is mapped as a hydric soil unit, or is in a low topographic position in a soil unit with hydric soil inclusions
- There are springs, seeps or wetlands upslope of the site, or a channel flowing into the site

When an existing **jurisdictional pond, wetland, or waterway** is enlarged through artificial means, such as redirection of water or excavation, the additional area is included in the jurisdictional boundary.

Following are some examples of jurisdictional artificially created ponds and wetlands:

- A flood-irrigated pasture that meets wetland criteria, greater than one acre, where no wetland or waterway existed on the site prior to flooding
- A wetland caused by water backing up behind an undersized culvert in a stream
- A two-acre wildlife pond created by construction of a berm or excavation of material in a non-jurisdictional drainage

Figure 2-3 provides a step-by-step procedure for how to determine if an artificially created wetland or pond is jurisdictional.

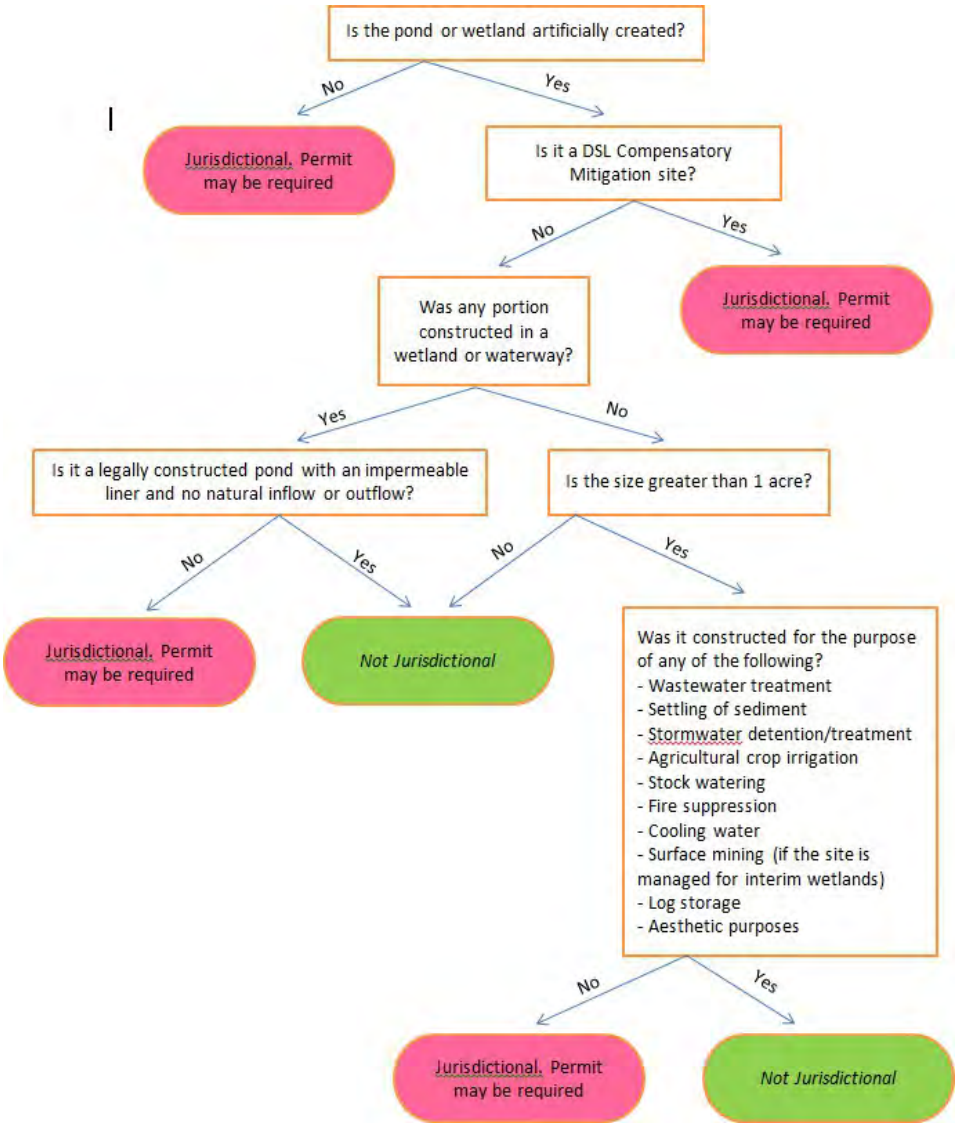


Figure 2-3: Jurisdiction flowchart for artificially created ponds and wetlands.

Ditches

A ditch is a manmade water conveyance channel. Channelized or straightened natural waterways are not considered ditches. If the channelized waterway is shown as an intermittent or perennial stream on a USGS map, it is likely not a ditch, but a channelized stream. Likewise, if historical aerials show the waterway in a different location, it is likely a channelized stream.

Ditches created in wetlands are jurisdictional (with the exception of some irrigation ditches and roadside and railroad ditches as described below).

Ditches created in uplands are jurisdictional if they meet both of the following:

- Have a free and open connection to a waterway: A “free and open connection” means a connection by any means, including but not limited to culverts, to or between natural waters that allows the interchange of surface flow at bankfull stage (the two-year recurrence interval flood elevation) or OHW, or at or below HMT between tidal waterways.
- Contain food *and* game fish: Because the list of food fish includes almost any fish (there is no list available), and the ditch must have both to be jurisdictional, the game fish list (ORS 496.009) is used to establish jurisdiction. Ditches created from upland that have fish screens are generally not jurisdictional.

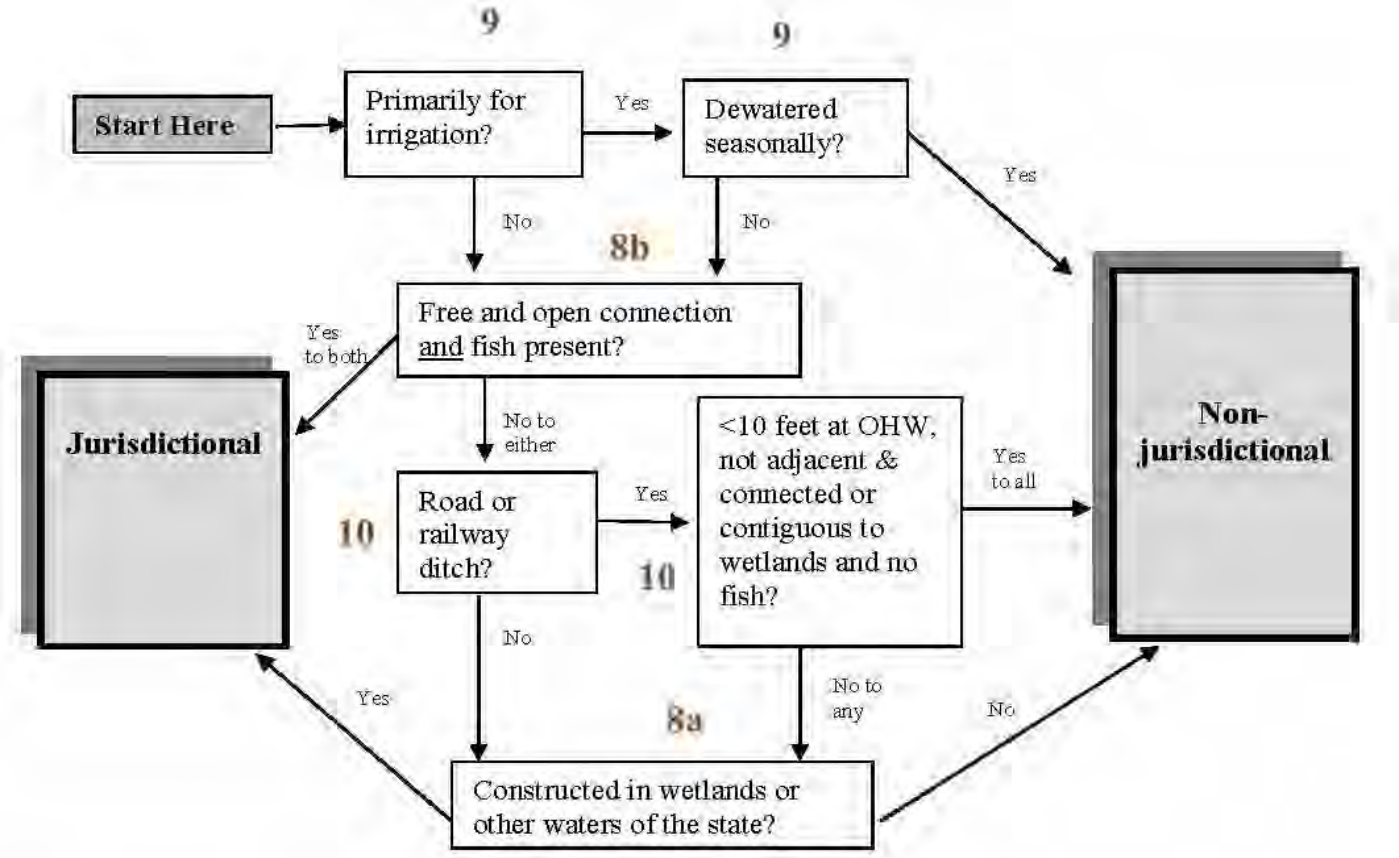


Figure 2-4: Jurisdiction flowchart for ditches.

Irrigation Ditches

Regardless of whether it was created in wetlands or uplands, an irrigation ditch is not jurisdictional if it meets both of the following:

- The ditch is operated and maintained for the primary purpose of irrigation.
- The ditch is dewatered for the non-irrigation season except for isolated puddles in low areas. “Dewatered” means that the source of the irrigation water is turned off or diverted from the irrigation ditch. A ditch that is dewatered during the non-irrigation season may be used for temporary flows associated with stormwater collection, stock water runs, or fire suppression.

Roadside and Railroad Ditches

Regardless of whether it was created in wetlands or uplands, a roadside or railroad ditch is not jurisdictional if it meets all of the following:

- It is ten feet wide (average) or less at OHW or the wetland boundary
- It is not adjacent and connected or contiguous to wetlands. (If so, only the portion that is connected or contiguous with the wetland is jurisdictional.)
- It does not contain fish

Note that a roadside ditch is always jurisdictional if it is a channelized stream, or if it has a free and open connection to another water and contains food and game fish.

Figure 2-5 illustrates a portion of a roadside ditch that is jurisdictional because it is adjacent to a wetland. (A ditch may be considered adjacent to a wetland even if there is an upland berm between the ditch and the wetland.)

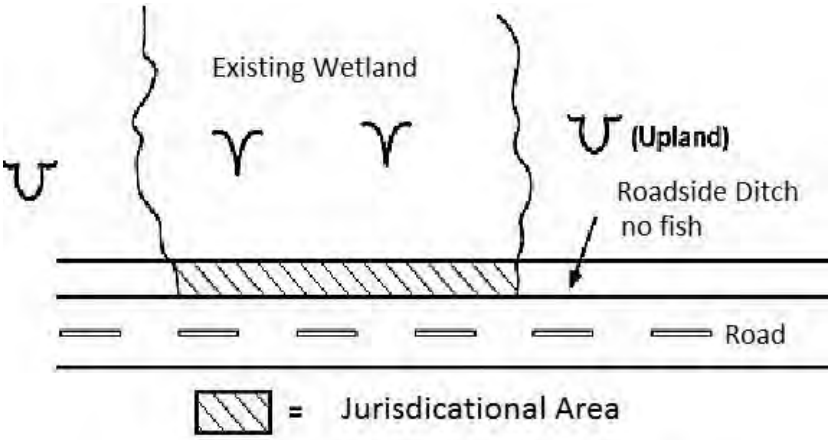


Figure 2-5: Jurisdiction of a roadside ditch with adjacent wetlands.

If an applicant is uncertain about whether a ditch is jurisdictional, he or she should contact a Jurisdictional Coordinator or Aquatic Resource Coordinator. Figure 2-4 may also help to determine whether a ditch is jurisdictional.

Definition of Removal and Fill

Definition of Removal

As stated in statute and rule:

"Removal means the taking of more than 50 cubic yards of material (or its equivalent weight in tons) in any waters of this state in any calendar year; or the movement by artificial means of an equivalent amount of material on or within the bed of such waters, including channel relocation. However, in designated Essential Salmonid Habitat areas and State Scenic Waterways, the 50-cubic-yard minimum threshold does not apply."

In other words, removal involves:

- More than 50 cubic yards (except in State Scenic Waterways, ESH streams, or mitigation sites where the threshold is zero)
- Inorganic material and large woody debris
- Either taking material from the bed and/or banks or "movement" of material within the bed and banks

"Channel relocation" means to change the location of a channel. If more than 50 cubic yards of material is removed in moving the channel or if it would require more than 50 cubic yards of material to completely fill the old channel, a permit is required.

Movement may include disturbance of the substrate or other inorganic materials associated with embedded organic materials such as salvage logs, wood piling, log jams and beaver dams. While, other than Large Woody Debris, removal of the organic material is not regulated, disturbance of the associated inorganic material may be considered movement.

Examples of removal are digging a ditch through a wetland, excavating a foundation in a wetland, or dredging to remove sediment from a waterway. Examples of movement are plowing in a wetland or moving gravel around in a stream.

"By artificial means" is the *purposeful* movement or placement of material by humans and/or their machines.

Note that the term "removal" includes large woody debris. Per statute (ORS 198.800), "large woody debris" means any naturally downed wood that captures gravel, provides stream stability, or provides fish habitat, or any wood placed into waters of this state as part of a habitat improvement or conservation project.

Definition of Fill

As stated in statute and rule:

"Fill means the total of deposits by artificial means equal to or exceeding 50 cubic yards or more of material at one location in any waters of this state. However, in designated ESH areas and in State Scenic Waterways, fill means any deposit by artificial means."

In other words, fill involves:

- Equal to or greater than 50 cubic yards, except in State Scenic Waterways, ESH areas, mitigation sites, or if the project is for an Ocean Renewable Energy Facility where the threshold is zero
- Inorganic or organic material
- A one-time volume with no annual allotment
- Includes the entire project location(s)

> The rules define "**location**" as the entire area where the project is located. In determining whether the cubic yard threshold is met, all the removal-fill activities in all waters of this state for the entire project must be included to determine whether a permit is needed.

Examples of fill are placing material for a road or building pad in a wetland, placing rip-rap on a stream bank, placing large wood into a stream or pushing material into a stream. Note that fill does not require that the material be imported from another site. Fill can include moving or pushing material from an upland location on a site into a water or wetland.

Removal-Fill Volume Thresholds

Once it has been determined that a proposed removal-fill activity is located in a jurisdictional water of the state, then it must be determined if the activity exceeds the applicable volume threshold, which is the amount of removal or fill allowed without a permit.

Volume Threshold for Many Waters

For many waters of this state, 50 cubic yards or more of fill requires a permit. More than 50 cubic yards of removal within waters of this state in any calendar year requires a permit. For projects with both removal and fill, the cubic yards of removal is added to the cubic yards of fill. A permit is required if the combined total exceeds 50 cubic yards.

Volume Threshold for State Scenic Waterways

Any amount of removal or fill activities in State Scenic Waterway requires a permit, except for certain prospecting (exploring for samples of precious minerals using non-

motorized methods from among small quantities of aggregate). A permit is not required for:

- Prospecting that involves:
    - Less than one cubic yard of removal-fill at any one individual site in any year
    - Less than 5 cubic yards of removal-fill, cumulatively, in any single waterway in any year

Volume Threshold for Essential Salmonid Habitat

Any amount of removal-fill in ESH waters requires a permit, except higher thresholds are allowed for certain activities (See *Chapter 3: What Activities Are Exempt?*):

- Prospecting and other non-motorized activities involving less than one cubic yard of removal-fill at any one site and cumulatively less than 5 cubic yards of removal-fill in any single waterway in any year
- Fish passage and fish screening structures may be constructed, operated, or maintained up to 50 cubic yards without a permit under ORS 498.306, 498.316, 498.326, or 509.600 to 509.645
- Activities customarily associated with agriculture involving 50 cubic yards or less

Though shown on the maps as a line, **ESH waters are jurisdictional to Ordinary High Water or Highest Measured Tide**, even if muted behind tidegates. Adjacent wetlands may also be ESH. Tributaries not mapped as such are not ESH upstream of the OHW or HMT elevation of the ESH waterbody.

Essential Salmonid Habitat (ESH) Defined:
ESH is the habitat necessary to prevent the depletion of native anadromous salmon species (chum, sockeye, Chinook and Coho salmon, and steelhead and cutthroat trout) during their life history stages of spawning and rearing. The designation applies only to those species that have been listed as Sensitive, Threatened or Endangered by a state or federal authority. DSL, in consultation with ODFW, designates ESH based on field surveys and the professional judgment of ODFW´s district biologists.

ESH-designated areas include the stream segment identified on the ESH map and any adjacent off-channel rearing or high-flow refugia habitat with a permanent or seasonal surface water connection to the stream.

Adjacent off-channel rearing or high refugia habitat includes wetlands connected by shallow surface water during high water or flood events. For tidal streams and estuaries, it would include the wetland area inundated by higher high tides. For non-tidal areas, the wetland area within the 100-year floodplain could be ESH, (unless excluded from flooding by a dike or other obstruction). If a wetland is within the 100-year floodplain, the site should be investigated for physical indicators of inundation, such as debris lines or drainage patterns. Floodplain maps and knowledge from landowners about the frequency of inundation may also be helpful. Note that only the wetland area within the inundation area would be considered ESH wetland and subject to the zero cubic yard threshold. Portions of the wetland that are not connected by surface water would be subject to the 50 cubic yard threshold.

Volume Threshold for Compensatory Mitigation Sites

Compensatory mitigation sites are areas that have been created, restored, or enhanced to compensate for an authorized impact and are referenced in an authorization issued by DSL. At compensatory mitigation sites, any amount of removal or fill requires a permit. The zero volume threshold for compensatory mitigation sites applies to the entire area of the site, including any upland buffer areas**.**

Volume Threshold for Ocean Renewable Energy Facilities

The threshold volume for removal-fill in Oregon's territorial sea that is related to an ocean renewable energy facility is any amount greater than zero.

Calculating Removal-Fill Volumes

What to Include in the Volume Calculation

In determining whether a permit is required for a project, the volumes of material that are placed, excavated, or moved within a jurisdictional area, whether temporary or permanent, for the entire project are added together. If the volume thresholds are met, a permit is required.

For example, if a project involved temporary excavation (removal) of 25 cubic yards in a stream or wetland and the same 25 cubic yards are returned (fill) in the same location, a permit would be required.

In a non-wetland waterway, fill and removal volumes include the amount below OHW or HMT (in tidal areas). Excavation volumes include the amount below the OHW down to the full extent of the excavation.

In a wetland, fill is measured to the height of the fill (excluding buildings) and removal includes all excavation within the wetland boundary.

"Project" defined: For the purpose of determining if the volume threshold is met, a "project" is defined as the primary development or use intended to be accomplished. A project is conducted at one "location" which is defined as the entire area where the project is located. A "project" must have independent utility and may involve more than one removal-fill site.

Special note regarding directional boring: If a directional bore enters the ground in uplands, goes under the creek bed or wetland, and exits in uplands, the activity does not require a permit. If a "frac-out" occurs because of the boring activity, the discharge and removal of the drilling mud may be considered removal or fill subject to the volume thresholds. The Department would typically handle this situation as an emergency authorization.

Examples of Removal-Fill Volume Calculations

Excavation on the Bank of a Stream

When excavating on a bank of stream, all removal below OHW must be included in the calculation. In Figure 2-6, only area 1 is considered in the calculation of removal volume.

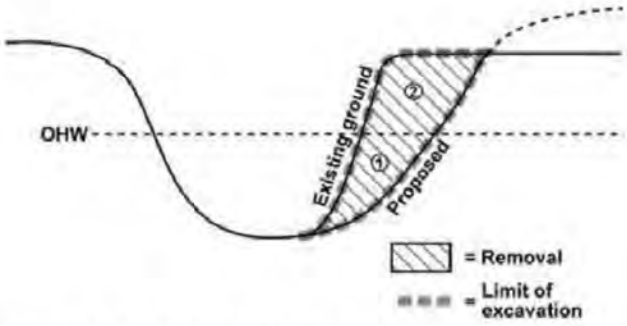


Figure 2-6: Only area 1 is included in the calculation of removal volume.

Calculating Volume for Excavation at the Wetland/Upland Boundary

When excavating at a wetland/upland boundary, as shown in Figure 2-7, the area excavated in upland is not included in the calculation.

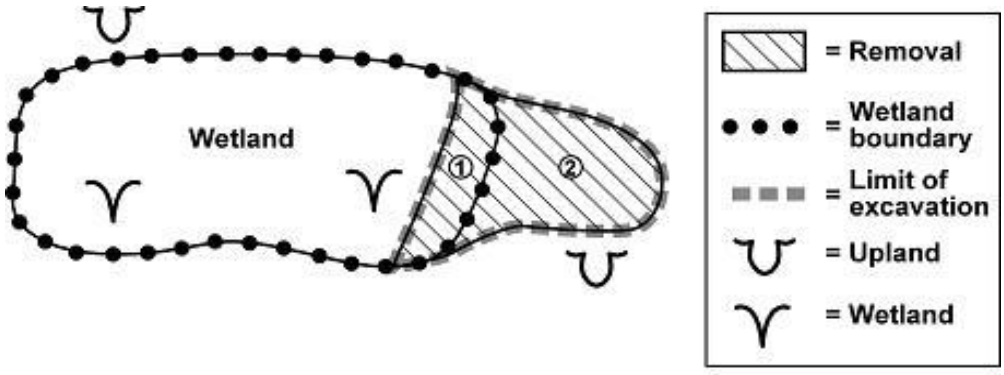


Figure 2-7: Only area 1 is included in the calculation of removal/fill volume at the wetland/upland boundary.

Calculating Volume for Trenching

For trenching and other temporary impact activities where material is first removed and then placed back in the trench, the volume calculation includes both removal and fill within the jurisdictional area only. As shown in Figure 2-8, the material in area 1 would be calculated twice (once as removal and once as fill).

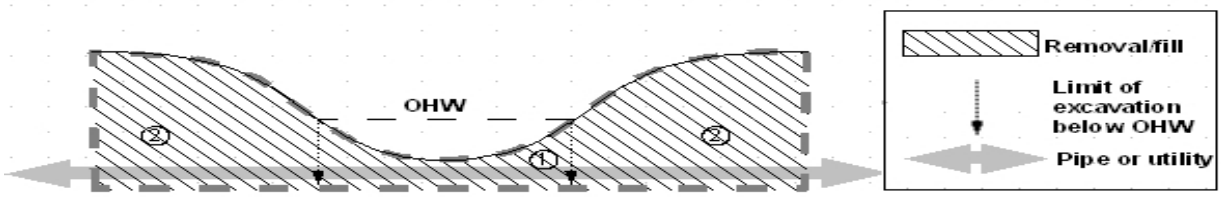


Figure 2-8: Only area 1 is included in the calculation of volume, but it is included as both removal and fill.

Calculating Volume for Channel Relocation

To calculate the removal-fill volume for a channel relocation project, evaluate both of the following volumes:

- The volume of material that will be removed to construct the new channel
- The volume that would be needed to entirely fill the old channel to the OHW Line, even if the proposed project will not fill the channel in its entirety

If either of these two amounts is greater than 50 cubic yards, a permit is required. It is important to note that if a stream is relocated, the new channel becomes jurisdictional. The old channel may remain jurisdictional if it meets wetland criteria or meets the definition of intermittent or perennial stream.

Calculating Volume for Culvert Projects

When calculating fill and removal volumes for culvert replacement projects, the **interior of the culvert is not included**. As shown in Figure 2-9, only the volume of material in area 2 is included in the removal-fill calculations.

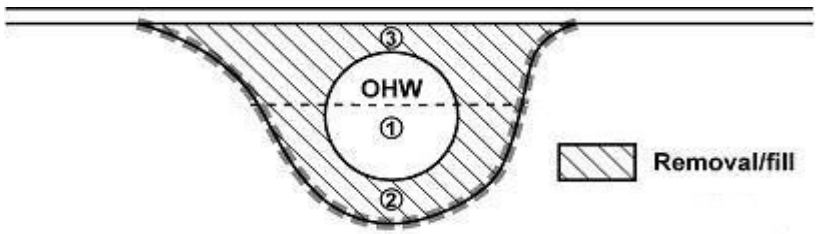


Figure 2-9: Only area 2 is included in the calculation of removal/fill volume

Temporary Removal and Fill Volumes

Removal and fill volumes associated with temporary impacts such as temporary stockpiling of materials, temporary access roads, work-area isolation structures, and spud piles must be included in the volume used to determine if a project exceeds the thresholds.

Special Situations: Activities That Cannot Be Permitted by Law

Prohibited Activities in the Territorial Sea and Navigable Bays

DSL is owner of certain lands, including most submersible and submerged lands within the territorial sea and navigable bays. As landowner, per statute and rule there are certain activities DSL may not enter into a contract to allow. DSL cannot grant permission for the following activities:

- Exploration for Minerals on State-Owned Submersible and Submerged Lands Within the Territorial Sea and Navigable Bays (ORS 274.610)
- Removal of kelp or other seaweed for commercial purposes on state owned land. (OAR 141-125-0110 (14))
- Exploration, development, or production of oil, gas, or sulfur is prohibited in the territorial sea. (2010 Note to ORS 274.710)

Because the landowner (DSL) cannot authorize use of the lands for these activities a removal-fill permit cannot be issued.

Prohibited Activities in Smith or Bybee Lakes

DSL cannot issue a permit to fill within Smith or Bybee Lakes (Multnomah County), other than for maintaining fish and wildlife habitat or to support recreational use or public access. Any activity for enhancing or maintaining fish and wildlife habitat must be approved by ODFW. (ORS 196.820(1) and (2))

Chapter 3: What Activities are Exempt?

Chapter Overview

Certain activities are exempt from permit requirements of the Removal-Fill Law. Exemptions do not apply in State Scenic Waterways (except where specifically noted below).

Exempt activities include:

Chapter 3: What Activities are Exempt?

Some activities in waters of this state are exempt from the permit requirements of the Removal-Fill Law. Unless otherwise stated, the exemptions do not apply in State Scenic Waterways. In applying the exemptions, it is helpful to keep in mind the policy context:

- Some exemptions are based on the legislature's recognition that certain activities are already regulated by another agency (e.g., forest practices by ODF, construction and maintenance of hydroelectric facilities by OWRD).
- Some exemptions are based on the legislature's recognition that these fill and removal activities impacted waters of this state before the Removal-Fill Law was enacted thus allowing maintenance or reconstruction does not result in significant new impacts.
- Each of the exemptions is complex and depends on the facts of the particular activity.

State Forest Management Practices

As stated in the administrative rules:

> *Non-federal forest management practices subject to Oregon's Forest Practices Act (FPA) conducted in any non-navigable water of the state are exempt. When these forestlands are being converted to other uses the exemption does not apply to the activities associated with the new use. Forest management practices shall be directly connected with a forest management practice conducted in accordance with ORS 527.610 to 527.770, 527.990 and 527.992, such as:*
>
> (a) *Reforestation;*
> *(b) Road construction and maintenance;*
> *(c) Harvesting of forest tree species; and/or*
> *(d) Disposal of slash.*

To elaborate:

- This exemption does not apply in State Scenic Waterways.
- The exemption covers forest management practices on state and private forestlands. Activities conducted on federal forestlands and in state-owned navigable waters are not covered.
- The term "forestland" means land that is used for the commercial growing and harvesting of forest tree species, regardless of how the land is zoned or taxed.

- The exemption covers any activity directly connected with a recognized forest management practice and conducted in accordance with the FPA. DSL relies on ODF to make these determinations.
- The exemption does not cover activities associated with changing the use of the land to a non-forest use. The FPA exemption applies to the final harvest operation and all forest management practices directly connected to the final harvest. But, if removal-fill activities are required for the new use, DSL has regulatory authority. For example, if forestland is being converted to a residential subdivision, construction of roads for harvest and transport of the timber are covered under the FPA. However, if wider roads are required for the subdivision, the road widening is not covered under the FPA exemption, and a removal-fill permit may be required if there are impacts to wetlands or waterways.

When forestland is converted to another use, coordination is required between ODF and DSL to facilitate this transition. In these cases:

- The property owner submits a "notice of alternate practice" to ODF.
- If ODF believes there are wetlands or waterways on the property, ODF sends the notice to DSL.
- DSL conducts a preliminary off-site jurisdictional determination to determine whether a wetland delineation or removal-fill permit is required for the activities associated with the new use.

Fills for Construction, Operation and Maintenance of Certain Dams and Water Diversion Structures

As stated in the administrative rules:

> *Filling the beds of the waters of this state for the purpose of constructing, operating and maintaining dams or other diversions for which permits or certificates have been or shall be issued under ORS Chapters 537 or 539 and for which preliminary permits or licenses have been or shall be issued under ORS 543.010 to 543.610 is exempt.*

To elaborate:

- This exemption does not apply in State Scenic Waterways.
- The exemption applies to hydroelectric facilities authorized by OWRD.
- The exemption only applies to the fill activities associated with the construction, operation and maintenance of hydroelectric facilities. Removal within waters of this state to build a dam or diversion or to create a reservoir is not covered under this exemption.
- Removal or fill within waters of this state for the construction of a structure *associated* with a dam or diversion, such as a fish ladder, access roads, and/or streambank stabilization project, are not exempt under this provision.

Navigational Servitude (Maintenance of the Navigational Channel)

As stated in the administrative rules:

> *Activities conducted by or on the behalf of any agency of the federal government acting in the capacity of navigational servitude in connection with a federally authorized navigation channel are exempt. Disposal of dredged material within the ordinary high water line of the same waterway is also exempt.*

To elaborate:

- "Navigational servitude" is a U.S. constitutional doctrine that gives the federal government a property right over waterways as an extension of the Commerce Clause of Article I, Section 8 of the Constitution. It is also sometimes called federal navigational servitude.
- "Federally authorized navigation channels" are designed and maintained by the Corps.
- The exemption covers any agency or contractor conducting removal-fill activities as part of the maintenance of the federally authorized navigation channel.
- The exemption also covers such structures as dolphins or other navigational structures that are necessary elements for maintaining the federally authorized navigation channel.
- The exemption also covers disposal of material below OHW of the same waterway. It does not cover disposal of material in wetlands above OHW.
- For tidal bays and rivers, DSL interprets "same waterway" to include the Pacific Ocean and exclude disposal on tidelands.

Maintenance or Reconstruction of Water Control Structures

As stated in the administrative rules:

> *Fill or removal for maintenance or reconstruction of water control structures such as culverts, dikes, dams, levees, groins, riprap, tidegates, drainage ditches, irrigation ditches, and tile drain systems are exempt if:*
>
> > *(a) The project meets the definition of maintenance under OAR 141-085-0510(57); or*
> > *(b) The project meets the definition of reconstruction under OAR 141-085-0510(87);*
> > *(c) The structure was serviceable within the past five years; and*

(d) The maintenance or reconstruction would not significantly adversely affect wetlands or other waters of this state to a greater extent than the wetlands or waters of this state were affected as a result of the original construction of those structures.

To elaborate:

- This exemption does not apply in State Scenic Waterways.
- The list of structures above and those that are substantially similar in nature are included.
- Retaining walls, bulkheads, and other similar structures that create or extend upland are not considered “water control structures”. Stormwater outfalls are also not included in the exemption but are included in the Minimal Disturbance GA.
- “Serviceable” means the structure was capable of being used for its intended purpose. The structure must have been serviceable within the past five years.
- “Maintenance” means the periodic repair or upkeep of a structure to maintain its original use.
- “Maintenance” includes widening a structure by no more than 20 percent of its original footprint at any specific location in waters of this state if necessary to maintain its serviceability. In the case of culverts, widening can mean widening the culvert or widening of the road prism thus lengthening the culvert. Widening to expand serviceability, capacity, or add new features is expansion and not considered maintenance.
- Maintenance cannot “significantly” adversely affect wetlands or other waters to a greater extent than the original construction.
- “Maintenance” also includes removal of the *minimum* amount of sediment either within, on top of or immediately adjacent to a structure as necessary to restore its serviceability, provided that the spoil is placed on upland.
- Expansion or revision of a structure to accommodate a new or expanded purpose is not covered under this exemption. For example, expanding the size of a levee to provide vehicle access, when it was not provided with the original construction, is not covered under this exemption.
- “Reconstruction” means to rebuild or replace the existing structure in kind and includes a structure being widened by no more than 20 percent of its original footprint at any specific location in waters of this state.
- Ditches are included as a structure under this exemption, but care must be taken to confirm that the “structure” meets the definition of a ditch and is not a channelized stream. A channelized stream is not a structure and dredging a channelized stream is not covered under this exemption.

Maintenance or Emergency Reconstruction of Roads and Transportation Structures

As stated in the administrative rules:

> *Fill or removal for maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable roads or transportation structures, such as groins and riprap protecting roads, causeways, bridge abutments or approaches, and boat ramps is exempt.*

To elaborate:

- This exemption does not apply in State Scenic Waterways.
- The structure must be *currently* serviceable.
- This exemption has no volume or acreage limits, except as noted below.
- "Maintenance" means the periodic repair or upkeep of a structure to maintain its original use.
- "Maintenance" includes widening a structure by no more than 20 percent of its original footprint at any specific location in waters of this state if necessary to maintain its serviceability. Widening to expand serviceability, capacity, or add new features is considered expansion and not maintenance.
- Maintenance cannot "significantly" adversely affect wetlands or other waters to a greater extent than the original construction.
- "Maintenance" also includes removal of the minimum amount of sediment either within, on top of or immediately adjacent to a structure as necessary to restore its serviceability, provided that the spoil is placed on upland. Under limited circumstances the material may be allowed to be placed within the stream.
- Expansion or revision of a structure to accommodate a new or expanded purpose is not covered under this exemption. For example, adding a detour lane during emergency reconstruction is not covered under this exemption.
- Emergency "reconstruction" means to rebuild or replace the existing structure as it was originally built. It includes a structure being widened by no more than 20 percent of its original footprint.
- "Recently damaged parts" refers to structures that were damaged as a result of recent flood or other event.
- Although not listed here, bike paths, pedestrian paths, airport taxiways and airport runways are considered transportation structures. Parking lots and docks are not considered transportation structures.
- Streambanks and streambeds that are not part of the road fill are not considered structures.

Prospecting and Non-Motorized Activities within Designated Essential Indigenous Anadromous Salmonid Habitat (ESH)

As stated in the administrative rules:

> *A permit is not required for prospecting or other non-motorized activities resulting in removal-fill of less than one cubic yard of material at any one individual site and, cumulatively, not more than five cubic yards of material within a particular stream in a single year. Prospecting or other non-motorized activities may be conducted only within the bed or wet perimeter of the waterway and shall not occur at any site where fish eggs are present.*

To elaborate:

- Non-motorized activities are conducted by hand and are not powered by internal combustion, hydraulics, pneumatics or electricity. The use of hand-held tools such as gold pans, wheelbarrows, shovels, rakes, hammers, pry bars and manually operated cable winches are examples of common non-motorized methods.
- The exemption covers prospecting and other non-motorized activities.
- This exemption applies to removal-fill activities in ESH streams.
- Volumes of disturbance are limited to one cubic yard of material at any one individual site and, cumulatively, not more than five cubic yards of material within a particular stream in a single year.
- The activity can only be conducted within the bed or wet perimeter of the stream. “Wet perimeter” refers to the area of the stream under water or exposed as a non-vegetated, dry gravel bar surrounded by moving water at the time the activity occurs. Removal-fill activities between the wet perimeter and the ordinary high water line are not covered under this exemption.
- The activity may not be conducted where fish eggs are present. To avoid fish eggs the activity should be performed within the in-water timing recommended by the ODFW.

Fish Passage and Fish Screening Structures in Essential Indigenous Anadromous Salmonid Habitat (ESH)

As stated in the administrative rules:

> *Less than 50 cubic yards of removal-fill for the construction and maintenance of fish passage and fish screening structures is exempt, provided the project complies with applicable Oregon Department of Fish and Wildlife fish passage statutes (ORS 509.580-509.910). This exemption includes removal of material that inhibits fish passage or prevents fish screens from functioning properly.*

To elaborate:

- This exemption does not apply in State Scenic Waterway. (However, under the state scenic waterway statutes (ORS 390) construction of or improvements to fish passage or propagation facilities by ODFW is exempt.)
- This exemption allows for construction of new and maintenance of existing fish passage and screening structures in ESH waters. (For other waters, if the project involves more than 50 cubic yards of removal and/or fill a permit would be required.)
- To address fish passage requirements, ODFW should be contacted to determine if a fish passage plan is required.
- The exemption also includes removal of material to maintain proper function of the fish passage and screen structures.
- The exemption is limited to less than 50 cubic yards of removal and/or fill.

Fill or Removal for a Change in the Point of Diversion for Surface Water

As stated in the administrative rules:

> *Fill or removal for a change in the point of diversion to withdraw surface water for beneficial use is exempt if the change in the point of diversion is: (a) Necessitated by a change in the location of the surface water; and (b) Authorized by the Oregon Water Resources Department.*

To elaborate:

- This exemption does not apply in State Scenic Waterways.
- The need to change the point of diversion must be the result of the waterway having moved leaving the diversion point inoperable.

Removal of Large Wood

As stated in the administrative rules:

> *Removal of Large Wood. Removal of large woody debris is exempt if:*
>
> > *(a) It poses a direct and demonstrable danger to livestock, human life, or real property; or*
> >
> > *(b) It poses a risk of harm to transportation facilities including, but not limited to, culverts, bridges and roads located near or within the beds or banks of any waters of this state; or*
> >
> > *(c) It prevents or obstructs navigation within the beds or banks of*

any waters of this state; and

(d) The removal is no more than the amount necessary to reduce or eliminate the threat.

To elaborate:

- This exemption does not apply in State Scenic Waterways.
- Large wood removed from state-owned waters will be subject to a DSL proprietary approval.
- If the wood is "stamped" it could be owned by someone and therefore proprietary authorization and royalty may be due upon removal.

A permit is not required to remove wood that is not at least partially resting on the bed or banks of a waterway and is not placed into waters of this state as part of a habitat improvement or conservation project.

Certain Voluntary Habitat Restoration Activities

The following activities are exempt from removal-fill permit requirements as stated in the administrative rules. Some require notifying DSL at least 30 days before the project begins, as noted below.

- **Research and Fish Management in ESH:** Construction and maintenance of scientific and research devices related to population management, watershed and habitat restoration, and species recovery, provided the activity does not exceed 50 cubic yards of removal or fill.

- **Vegetative Planting:** Planting native woody or herbaceous plants by hand or mechanized means. Ground alteration such as grading or contouring before planting is not covered by this exemption.

- **Refuge Management:** Habitat management activities located in a National Wildlife Refuge or State Wildlife Area that are consistent with an adopted refuge or wildlife area management plan. Fill or removal in waters of this state for non-habitat management activities such as road or building construction is not covered by this exemption.

- **Ditch and Drain Tile Removal:** Disruption or removal of subsurface drainage structures (e.g., drain tiles) and plugging or filling of drainage ditches in wetlands. Notification must be submitted on a form provided by DSL at least 30 calendar days before commencing the activity.

- **Placement of Large Wood, Boulders and Spawning Gravels:** Provided the project location is not tidally influenced and material is placed consistent with the Guide to Placing Large Wood and Boulders (DSL/ODFW 2010). Notification must be submitted on a form provided by DSL at least 30 calendar days before commencing the activity.

- **Other Activities Customarily Associated with Habitat Restoration in ESH:** Other voluntary habitat restoration activities resulting in less than 50 cubic yards of removal-fill in waters of this state, including the disposal of material resulting from restoration activities within the project area as long as it assists in accomplishing the objectives of the habitat restoration project. The activities must be consistent with the Oregon Aquatic Habitat Restoration and Enhancement Guide and utilize materials or structures that would naturally and/or historically occur at the project site. Notification must be submitted on a form provided by DSL at least 30 calendar days before commencing the activity.

- **Removal of Trash, Garbage and Rubble**. A permit is not required for the removal of any amount of inorganic trash, garbage, and rubble (e.g., tires, metal, broken concrete, asphalt, foam, plastic) from waters of this state. The project must meet the following criteria: (a) There are no adverse impacts to waters of this state or woody vegetation as a result of the project; (b) There is no stockpiling of collected trash, garbage or rubble in waters of this state; and (c) The trash and garbage is disposed of at a licensed Department of Environmental Quality collection facility.

Three voluntary habitat restoration activities require a notice form be sent to DSL at least 30 calendar days before starting the project:

- Ditch and drain tile removal
- Placement of large wood, boulders and spawning gravels
- Other activities customarily associated with habitat restoration in ESH

The notice form allows DSL to track the use of the exemption, make compliance inspections, evaluate the effect of the exemption, and to respond appropriately to citizen complaints about potential unauthorized activities.

To elaborate:

- These exemptions do not apply in State Scenic Waterways.
- "Habitat Restoration" means the return of an ecosystem from a disturbed or altered condition to a close approximation of its ecological condition before disturbance. The intent of this definition is to limit the exemptions to those projects where the objective is to return the altered or damaged area to as close an approximation of its historical (pre-European settlement) condition as is practicable, given landscape scale changes. Projects aimed at changing one type of habitat to another to meet other objectives (e.g., creating ponds in wetland or streams for fish production) are not consistent with this definition (refuge management is the only exception).
- "Voluntary" means activities undertaken by a person of their own free will, and not as a result of any legal requirement of the Removal-Fill Law. Restoration projects for mitigation banks, in-lieu fee mitigation, and payment in lieu mitigation are not considered voluntary under this definition.
- In-water activities are conducted during the ODFW recommended in-water timing guidelines, unless otherwise approved in writing by ODFW.

- The activities do not convert waters of this state to uplands.
- The activities will cause no more than minimal adverse impact on waters of this state including impacts related to navigation, fishing and public recreation.
- The activities do not cause the water to rise or be redirected in such a manner that it results in flooding or other damage to structures or substantial property off the project site.
- All necessary access permits, right of ways, and local, state and federal approvals have been obtained.

Agricultural Exemptions

The Removal-Fill Law provides several exemptions for specific agricultural activities in wetlands and other waters of this state. The exemptions are specific to the type of land (e.g., zoned exclusive farm use) and the type of activity (e.g., plowing and cultivating). If the specific requirements regarding the type of land and type of activity are met, no permit is required.

Keep in mind:

- These exemptions do not apply in State Scenic Waterways.
- The exemptions are only for farm uses and activities. Non-farm activities, such as county road projects or residential development projects, are not covered by these exemptions, even if the land where the activity will occur is currently farmed.
- The exemptions are conditional and they each have specific limits.
- With few exceptions, the exemptions for agricultural activities in wetlands apply only to wetlands that have been farmed continuously since July 1, 1989. If the exemptions do not apply they have not been farmed continuously and have been allowed to convert back to “natural wetlands”.

Normal Farming and Ranching on Converted Wetlands

As stated in the administrative rules:

> *Exempt activities on converted wetlands include:*
> (a) *Plowing;*
> *(b) Grazing;*
> *(c) Seeding;*
> *(d) Planting;*
> *(e) Cultivating;*
> *(f) Conventional crop rotation; or*
> *(g) Harvesting.*

To elaborate:

- The normal farming and ranching exemptions are allowed only on "converted wetlands" which are wetlands that have been converted to agricultural use, but *still meet wetland criteria*. For a field to be a converted wetland, it must have been cleared of the natural vegetation and hydrologically manipulated through the construction of ditches, berms or installation of subsurface drainage to make the field suitable for farming. This conversion must have occurred before July 1, 1989. To be considered converted wetland, the field must be actively managed to produce an agricultural commodity.
- The exemption does not apply to natural (unfarmed) wetlands. The exemption also does not apply to any other waters of this state including creeks or sloughs that may run through or adjacent to converted wetland fields.
- Exempt activities include only ongoing or regular farming activities that do not completely drain or fill the converted wetland, turning it to upland. For example, intentionally blading soil into low swales or importing fill material to create drier conditions is not exempt.
- Bringing wetland areas into production that are not currently farmed is not exempt.
- Bringing abandoned wetland fields back into production is not exempt. Wetlands that may have been previously farmed, but that have not been actively and regularly managed for commercial agricultural production such that natural vegetation is now dominant, are considered abandoned. A permit is required to bring abandoned wetland fields back into production.
- "Normal Farming and Ranching Activities" that are exempt on converted wetlands are limited to the types of activities listed in the statute and include plowing, grazing, seeding, planting, cultivating, conventional crop rotation and harvesting. However, this is not a finite list of exempt activities. Statute uses the term "such as" which means that similar activities may also be exempt, but they must be similar in their scope and effect. None of the listed exempt activities (plowing, seeding, planting etc.) would normally change wetlands to non-wetlands. Only minor alterations that do not drain or fill the converted wetlands are exempt.

Examples of Converted Wetlands

The following examples help to illustrate converted wetlands:

- Most of the commercial agricultural fields in the Willamette Valley that were first farmed before July 1989 have been cleared and hydrologically manipulated by ditching and other activities such as land leveling. Unless they have been abandoned (see description, above), they are converted wetlands.
- Much of the diked (and sometimes continually pumped) agricultural fields surrounding the Klamath Lakes are converted wetlands. Some pastures may be converted wetlands. DSL has interpreted converted wetlands to

include pastures that meet the same "tests" as other converted wetlands: cleared of natural vegetation and hydrologically manipulated to reduce the hydrology before July 1989, and actively managed to produce a commercial agricultural product. For some pastures, the product is meat or milk. The distinction between intensively managed fields that are converted wetlands and fields that may be grazed but are not converted wetlands may be difficult to determine.For example, pastures in Tillamook County that have been diked and have well maintained surface drainage systems, have managed plant species (seeded, weed control, periodically plowed and reseeded), and support dairy cows are considered converted wetlands. In contrast, an area that is not actively maintained as pasture (rarely plowed, dominated by native or natural vegetation, or includes shrubs) and has little or no hydrologic manipulation is not a converted wetland, even though horses or other livestock may be pastured there.

Caveat on abandoned converted wetlands: If the field was enrolled in a federal conservation reserve program (e.g., NRCS Wetland Reserve Program) and the provisions of that program allow the field to be brought back into cultivation for crops, a removal-fill permit is not required. The exemption allows the "reestablishment" of crops, not conversion to upland; thus, removal-fill activities covered by the exemption include brush removal with heavy equipment, disking, plowing, and minor ditching.

Examples of Normal Farming and Ranching Activities

Exempt activities are established (began before July 1989) and occur on an annual or less-than-annual but regular basis appropriate for the crop.

Examples of exempt farming and ranching activities include:

- Perennial crop production where the fields are plowed every few years (not annually) and the crop is intensively managed with use of weed control, fertilizers and pesticides.
- Setting out plants started in a greenhouse or planting seedlings.
- Adding compost and other soil amendments.
- Plowing or re-creating shallow surface ditches in low swales or around the perimeter of a field, even if not in precisely the same location.

Certain Activities on EFU-Zoned Lands

As stated in the administrative rules:

The following activities on lands zoned for exclusive farm use as described in ORS 215.203 as designated in the city or county comprehensive plan are exempt:

(a) Drainage or maintenance of farm or stock ponds; or
(b) Maintenance of existing farm roads in such a manner as to not significantly adversely affect wetlands or any other waters of this state; or
(c) Subsurface drainage by deep ripping, tiling or moling, limited to converted wetlands.

To elaborate:

- This exemption is *limited to lands that are zoned EFU*. For some of these exemptions, additional restrictions regarding the type of wetland also apply.
- Farm or stock pond drainage or maintenance includes all removal-fill activity necessary to drain a pond (remove berms, create spillway, etc.) and remove accumulated sediments within the pond. Because the exemption is limited to farm or stock ponds, the exemption does not include placing spoils from pond maintenance into another jurisdictional water, including any adjacent stream reaches if the pond was constructed in a stream.
- Maintenance of existing farm roads is exempt from permit requirements if the maintenance activity does not significantly adversely affect any waters of this state to a greater extent than the original construction.
- “Maintenance” means the periodic repair or upkeep of a structure to maintain its original use. Maintenance includes widening a structure by no more than 20 percent of its original footprint at any specific location in waters of this state if necessary to maintain its serviceability. Expansion of a structure to accommodate a new or expanded purpose is not covered.
- “Maintenance” also includes removal of the minimum amount of sediment either within, on top of, or immediately adjacent to a structure that is necessary to restore its serviceability, provided that the spoil is placed on upland.
- Statute allows installation of new subsurface drainage systems or expansion of subsurface drainage systems on *converted wetlands* that are zoned EFU. The following limitations apply:
- The exemption applies only to converted wetlands (currently in commercial agricultural production and not abandoned).
- A person may not expand the subsurface drainage system into adjacent wetland areas that are not converted wetland.
  The exemption is for subsurface drainage systems only. It does not include surface ditches or any other surface drainage system.

Exempt Farm Uses on Certified Prior Converted Cropland (PC)

As stated in the administrative rules:

> *Any activity defined as a farm use in ORS 215.203 is exempt if the land is zoned for exclusive farm use pursuant to 215.203, if the lands are converted wetlands that are also certified as prior converted cropland by the Natural Resources Conservation Service, so long as commercial agricultural production on the land has not been abandoned for five or more years.*

To elaborate:

- The exempt farm uses include anything that is defined as a farm use by the Statewide Land Use Planning statute. For example, farm uses include gravel or paved areas for loading trucks to transport agricultural products, all barns and similar farm buildings, stockpiling compost, construction of commercial riding stables and arenas, feedlots, and construction of ponds for aquatic crops.

Cautionary note: There are various old aerial photo-based or soil survey-based maps done by NRCS that show some areas as PC. These were early broad-scale mapping efforts; they are not certified determinations.

- The exemption is limited to *Certified PC areas* only. Certified PC means that NRCS has made an onsite wetland determination and provided the results to the farmer on a form CPA-026 that is signed and dated after July 3, 1996. The NRCS determination includes a map (usually an aerial photograph) showing the PC area(s) and any other farm bill designations such as “farmed wetland.”
- PC includes the cultivated fields only, not any adjacent waterways. In fact, NRCS is not allowed to map streams, ponds or any other waters than wetlands. Therefore, the landowner and DSL staff need to be aware that the NRCS map is *not a complete map* of all potential waters of this state on or adjacent to the fields in question. The sole purpose of the NRCS maps is to identify wetlands that meet requirements for specific farm bill designations.
- The land where the farm use is proposed must meet two requirements for the exemption to apply: (1) it must be converted wetland (converted before July 1989) per the Removal-Fill Law definition; and (2) it must be certified as PC as described above. This is important because NRCS may certify a field as PC even though farming had not been continuous and the field had been abandoned many years ago; that field would not meet DSL’s converted wetland definition if it had been abandoned for five or more years.
- Due to the limitations described in the previous two bullets, when DSL receives a PC determination DSL must review it and may request additional information to (1) determine if the PC area also meets the converted wetland definition (not abandoned) and (2) if there are any other unmapped waters of this state (creek, etc.) that may be affected by the proposed activity.
- If the proposed activity is not a farm use on EFU-zoned land, there is no need to determine whether or not a wetland has been designated as “PC” by NRCS. The designation “PC” is not relevant to any other exemption under the Removal-Fill Law.

Activities Customarily Associated with Agriculture in ESH

As stated in the administrative rules:

> *These are activities, including maintenance activities that are commonly and usually associated with the raising of livestock or the growing of crops in Oregon. Removal-fill covered by this exemption shall not exceed 50 cubic yards of material.*

To elaborate:

- In most circumstances, a permit is required for all fill, removal and ground alteration within ESH streams. However, activities customarily associated with agriculture are exempt up to a 50 cubic yard limit (cumulative).
- Activities that are commonly and usually associated with raising livestock or growing crops, including maintenance activities (e.g., farm roads, hardened structures for cattle stream access, and crossing or culvert maintenance), are considered activities customarily associated with agriculture. Streambank stabilization is not considered an activity customarily associated with agriculture.

Push-Up Dams

As stated in the administrative rules:

> *Department-authorized push-up dams greater than 50 cubic yards can continue to be maintained indefinitely during the irrigation season and reconstructed each successive season provided the work is done in compliance with all original permit conditions and the Oregon Department of Fish and Wildlife fish passage statutes (ORS 509.580–509.910). In the event of conflicts with the original permit conditions, the most recent fish passage requirements will be controlling.*
>
> *Push-up dams that were built prior to September 13, 1967, are exempt if they meet the following tests:*
>
> - *Are reconstructed, serviceable and used within the past five years;*
> - *Have the same effect as when first constructed (i.e., size and location); and,*
> - *Are operated in a manner consistent with the water right certificate and ORS 540.510(5).*
> - *Push-up dams less than 50 cubic yards used for agricultural purposes in ESH are exempt.*

To elaborate:

- "Push-up dams" are temporary impoundments that are used only during the irrigation season which will vary depending on the geographic area, crops, soil conditions and other factors, but generally runs from May to October of each year.
- "Same effect" (as when the push-up dam was first constructed) means that while the precise location of the dam may vary from year to year, there is no net increase in adverse effects associated with moving the dam from year to year.
- Department-authorized push-up dams greater than 50 cubic yards can continue to be maintained indefinitely during the irrigation season if work is done in compliance with all original permit conditions and the current ODFW fish passage statutes.

Repair or Replacement of Farm Dwellings and Buildings

As stated in statute (ORS 196.921(14); there is no administrative for this statute):

Unless otherwise provided in a proposed order or in a final order issued in a contested case, nothing in ORS 196.800 to 196.900 applies to removal or filling, or both, originally intended or subsequently used for the establishment, repair, restoration, resumption or replacement of the following uses, if the use was established on or before January 1, 2017, on lands zoned for exclusive farm use, forest use or mixed farm and forest use:

(a) A dwelling:

(A) Described in ORS 215.213 (1) or (3) or 215.283 (1);

(B) Established subject to county approval under ORS 215.402 to 215.438; or

(C) Lawfully established on or before December 31, 1973;

(b) An agricultural building as defined in ORS 455.315; or

(c) Activities that:

(A) Are associated with a dwelling or agricultural building described in this subsection;

(B) Have received county approval, if necessary, under ORS 215.402 to 215.438; and

(C) Are located on the same lot or parcel as the dwelling or agricultural building.

To elaborate:

- "Dwellings" specifically refer to farm dwellings. Statute (ORS 215.213 and 215.283) establishes many conditions on this definition and must be consulted.

- "Agricultural buildings" include a wide variety of structures. See ORS 455.315 for a complete listing.
- "Replacement" is defined in statute to mean the construction of a new structure that is substantially similar in size, sited in a substantially similar location and constructed in place of a previously existing structure.
- "Activities that are associated with a dwelling or agricultural building" is an undefined term and should be interpreted broadly to mean any activities that are instrumental to supporting the function or operation of the dwelling or building.
- To qualify for this exemption, farm dwellings and agricultural buildings (and associated activities) must have been originally established on or before January 1, 2017, except as otherwise noted for dwellings.

Exemptions in State Scenic Waterways

The following activities are exempt from removal-fill permits in State Scenic Waterways.

- **Prospecting:** A removal-fill permit is not required for non-motorized methods of recreational prospecting resulting in filling, removing and moving by artificial means less than one cubic yard of material at any one individual site and, cumulatively, not more than five cubic yards of material from within the bed or wet perimeter of any single scenic waterway in a single year. Recreational prospecting is prohibited from any site where fish eggs are present.

- **Certain Activities Conducted by ODFW:** ODFW may construct facilities or make improvements to facilitate the passage or propagation of fish and exercise other responsibilities in managing fish and wildlife resources without a removal-fill State Scenic permit.

- **Certain Activities Conducted by OWRD:** OWRD may construct and maintain stream gauge stations and other facilities related to OWRD's duties in the administration of the water laws without a removal-fill permit.

Special Situations: Railroads and Tribal Lands

Railroad Exemption

Federal law (the Interstate Commerce Commission Termination Act of 1995 preempts state regulation of railroad activities that are regulated by the federal Surface Transportation Board, including enforcement of removal-fill permit requirements. Specifically exempt are railroad facilities and activities that are integrally related to the provision of interstate rail service. This includes *intrastate* rail operations that are significantly associated with interstate commerce (e.g.,

rail operations transporting freight in interstate commerce or participating in through-passenger arrangements).

Examples of exempt activities include:

- The construction, operation, maintenance and removal of rail lines, including spurs and sidings, and rail bridges, trestles, culverts and other wetland/waterway crossing structures.
- Railroad maintenance facilities.
- Roadway crossing devices and switching facilities.
- Transloading facilities operated directly by, or under contract with, a rail carrier.

Examples of non-exempt activities include:

- The construction, operation, maintenance and removal of roadways approaching a rail crossing.
- Warehouse or other business development on a rail spur or siding.
- A "short line" that does not move freight as part of interstate commerce or handle through-passengers.

Tribal Lands Exemption

Tribal trust lands[1] located within federally recognized reservations are generally not subject to the requirements of the Removal-Fill Law. This includes lands in the process of being taken into trust, that is, the Department of the Interior has the parcel listed in a "land acquisition plan" for the tribe.

The only exception to this is where DSL can reasonably argue that removal-fill activity on the tribal trust land will have adverse effects to waters off trust lands.

Tribal casinos are a special case because they are built under gaming agreements negotiated between the state and a tribe. Therefore, the Department of Justice must examine the gaming agreement to determine if the state retained environmental regulation authority over lands connected with the casino.

Conversely, removal-fill activities by non-Indian entities on non-tribal trust lands within a reservation (for example, ODOT right-of-way on Hwy. 26 through the Warm Springs Reservation) still require a removal-fill permit.

Because of the legal complexities associated with the application of state regulation on tribal lands, DSL staff must consult with DSL management and the Department of Justice before making a jurisdictional determination on tribal lands of any form.

More information on Oregon's tribes.

[1] "Tribal trust lands" means lands that the Department of the Interior holds title to for the benefit of a tribe.

Chapter 4: Planning Ahead

Chapter Overview

A well-planned project will result in an easier and faster permitting process. This section provides guidance about early identification of wetlands and waterways on a project site, hiring a consultant, evaluating alternatives to avoid and minimize impacts, planning to mitigate for unavoidable impacts, and pre-application meetings.

Identifying Regulated Waters on the Project Site
Early identification of regulated waters and their jurisdictional boundaries is essential for informed project planning. The National Wetland Inventory (NWI), State Wetland Inventory (SWI), and Local Wetland Inventory (LWI) maps are helpful tools for early identification of wetlands, but they are not conclusive and do not take the place of a wetland delineation. While lakes and rivers are easily identifiable, regulated intermittent streams, channelized streams, ditches, ponds, and wetlands can be more difficult, and require additional investigation.

Retaining Professional Consultant Services
Most projects involving wetlands and waterways require the technical expertise of wetland or environmental consultants to determine wetland boundaries, prepare functions and values assessments and develop mitigation plans.

Exploring Alternatives to Avoid and Minimize Impacts
Applications for removal fill permits require demonstration that the activity is the practicable alternative with the least impact to wetlands or waterways. To do this, applicants must have a clear purpose and need, a set of project criteria and explore alternative project locations alternative site layouts and alternative construction methods to avoid and minimize impacts to meet the project objectives.

Planning to Mitigate for Unavoidable Impacts
If some impacts to wetlands or waterways are unavoidable, the applicant must propose mitigation to replace the functions and values lost as a result of the removal-fill.

Pre-design Permit Scoping
Most projects require permits or approvals from many local, state and federal agencies. Early identification of all the permits and their requirements is essential to avoid costly redesign and project delays.

Pre-application Meetings
DSL offers pre-application meetings to assist applicants in planning ahead for a smooth permitting process. These meetings are available at no cost to the applicants.

Chapter 4: Planning Ahead

Identifying Regulated Waters on the Project Site

DSL recommends that identification of wetlands and waterways on the project site and getting confirmation of the jurisdictional boundaries (a jurisdictional determination) be done as early as possible in the project planning process so that applicants can:

- Determine the need for a permit
- Avoid and minimize impacts where possible
- Assess the mitigation obligation
- Eliminate surprises or revisions that could result in increased time and money for the project

The wetland identification process should begin before project design and at least six months in advance of application submittal to allow time to:

- Secure consulting services
- Conduct field work (some wetlands require a spring hydrology check)
- Prepare a wetland delineation report
- Obtain DSL concurrence (120 days or longer)

How to Identify Regulated Waters

Wetlands, rivers, perennial and intermittent streams, lakes, many ponds, the Pacific Ocean, and estuary bays are subject to state removal-fill permit requirements. A complete listing and description of jurisdictional waters of this state can be found in Chapter 2 When is a Permit Required? Some of these waters are easy to identify and determine the jurisdictional status, but others are more difficult.

For example, some wetlands may never have surface water or may dry out in the summer and do not really "look like wetlands." An informal evaluation of the property using the tools described in the *Wetlands in Oregon* fact sheet may be helpful in the identification of wetlands.. In some instances, DSL may conduct an off-site wetland determination upon request. If wetlands are suspected, a wetland consultant should be retained to conduct a formal wetland determination or delineation for DSL concurrence. Be sure the study area encompasses the entire project area, including site access, staging, areas that may be impacted if the project is modified, and areas that may be indirectly impacted by the project (such as change in wetland hydrology).

Voluntary habitat restoration projects may not require a delineation. DSL needs sufficient information to know if project benefits outweigh impacts. That may require a delineation, but for certain projects fewer data may be adequate, e.g., several data plots; NWI, topo, or soils maps; aerial photos, etc. It will be important to work closely with the Aquatic Resource Coordinator.

While most streams, lakes, and ponds (non-wetland waters) are easily identified, their jurisdiction may be complicated. For example, many “ditches” are actually channelized streams and are considered waters of this state. If a ditch is a true ditch, it may or may not be jurisdictional depending on certain characteristics. Refer to *Chapter 2: When is a Permit Required?* for more information on these. Aquatic Resource Coordinators may be available to determine the jurisdictional status of some of these more difficult non-wetland waters.

Determine the Jurisdictional Boundaries

In addition to identifying the presence of regulated waters in the project area, the jurisdictional boundary, or the area subject to removal fill permitting requirements, must be determined. For waterways, that boundary is the OHW elevation or HMT elevation in tidal areas. For wetlands, the boundary is determined by a wetland delineation study, conducted by a wetland consultant. Be sure the study area encompasses the entire project area, including areas that would likely be impacted if the project is modified. Doing so will help prevent project delays caused by additional delineation needs.

Jurisdictional Confirmation from *DSL*

The presence, or absence, of regulated wetlands and waters, as well as their jurisdictional boundaries, are not official until DSL makes a jurisdictional determination.

The jurisdictional determination of non-wetland waters, including the elevation of OHW or HMT may be confirmed by the Aquatic Resource Coordinator at the time of the removal fill permit application. Earlier confirmation may be obtained during a pre-application meeting. Contact the Aquatic Resource Coordinator to determine if a wetland delineation or determination report is required if the only impacts proposed are non-wetland waters. A wetland delineation or determination report concurrence may be required to show the impacts above OHW are upland.

For wetlands, jurisdictional determinations are made upon review of a wetland determination or delineation report. Wetland determination and delineation reports are reviewed separately from permit applications. Delineation work should be conducted before finalizing project designs and reports should be submitted to DSL at least six months in advance of a permit application. If non-wetland waters are also present on the project site, they should be included in the report and figures and DSL will include them in the jurisdictional concurrence at the time of the wetland report review.

In almost all cases, if a project involves removal or fill in wetlands, a wetland delineation report that meets the requirements of OAR 141-090 will be required.

There are three situations where DSL may waive the wetland delineation requirement:

The entire project area is wetland:
If the entire area of proposed ground alteration meets wetland criteria, there is no need to conduct a wetland delineation. In this situation, the Department will require compensatory wetland mitigation for all areas of impact and evidence that avoided areas are not converted to upland.

Only temporary impacts to wetlands are proposed:
Temporary impacts are defined as those that are rectified within 24 months of initiating the impact. A wetland delineation for temporary impacts may not be required if the entire removal-fill area is assumed to be wetland. Generally, when temporary impacts are approved, monitoring is required after the project to demonstrate that the acreage of wetland has been re-established. Therefore, it may be in the best interest of the applicant to have an approved wetland delineation to avoid having to re-establish more wetland acreage than what was originally present.

Voluntary habitat restoration projects:
DSL does not generally require a wetland delineation for voluntary habitat restoration projects unless there is a risk that wetlands may be converted to upland or open water habitat as a result of the project. For example, DSL may require a wetland delineation if:

- The project will add fill to the existing or original ground surface to create berms, dikes or other water control structures. In these cases, the Department may require a wetland delineation to determine the acreage of wetland conversion to upland and assess the mitigation obligation.
- The project includes hydrologic manipulation that may reduce the acreage of existing wetland. This can include direct effects to the wetlands being improved, as well as indirect effects to surrounding wetlands.
- The project involves hydrologic manipulation, construction of a water control structure, or excavation that may result in inundation greater than two feet. These projects may expand or create open water areas that do not meet wetland criteria. In this case, DSL may require a determination of any existing open water areas along with a post-project wetland delineation to determine the final acreage of open water areas.
- The project places excavated material on-site. In this case, DSL may require a wetland determination to show the proposed disposal area is upland.

Resources for Identifying Wetlands

Oregon's wetlands are as varied as its landscapes and are not always easily identifiable. They range from the typical cattail marsh to the seasonal wetlands that are very dry in the summer. Many wetlands have been greatly altered by activities such as farming and no longer "look like" wetlands, but still provide valuable ecosystem services. DSL provides information and tools to assist in early identification of wetlands in the *Wetlands in Oregon* fact sheet.

National Wetland Inventory (NWI) Maps

The US Fish and Wildlife Service (USFWS) developed the NWI maps using aerial photographs and the United States Geological Survey (USGS) 24K quads as base maps. NWI maps are based on interpretation of high-altitude aerial photographs mostly from the 1980s. Because of this, they have the following accuracy limitations and are not sufficient for permitting:

- Most wetlands on the map are not field verified; although the maps are very helpful, there are errors.
- The minimum required mapping resolution is two acres; many smaller wetlands will not appear on the map.
- The mapped wetland is the *approximate* wetland location with respect to geographic features such as roads.
- In most cases, no attempt was made to identify wetlands on agricultural lands.
- Many of the maps are old and may not reflect current conditions.

NWI maps are on the USFWS website. More information about the NWI can be found in the *About the National Wetlands Inventory* fact sheet.

State Wetland Inventory (SWI) Map

The SWI map is a compilation of wetland inventories and other natural resource mapping that identify approximate locations of wetlands and many waterways. Currently, the SWI includes NWI mapping, identification of areas with Local Wetland Inventories, USGS National Hydrography Dataset, and NRCS Soil Survey mapping. As a result, the SWI web map gives users the ability to review all the maps together. This reduces the probability of the SWI lacking a wetland or water that is present on the ground, sometimes called “giving a false negative result." The SWI is updated on a regular basis as new mapping becomes available.

Local Wetland Inventory (LWI) Maps

Many cities and a few counties have created LWIs for their urban growth boundaries or other limited study areas. These inventories provide much more accurate information about the presence of wetlands and waterways. But they also have accuracy limitations and are not sufficient for jurisdictional determinations and permitting requirements.

- Many wetlands are not field verified
- Wetlands smaller than one-half acre usually are not identified
- The boundaries and location are approximate
- Some maps may not reflect current conditions

More information about LWIs and how to use wetland inventories can be found here. Wetland mapping information is also available on the Oregon Wetlands Explorer.

National, state, and local maps should only be used as screening tools and not to determine wetland boundaries. Generally, if a wetland is shown on either one of these maps, it is very likely that a wetland is there or was once there. The maps cannot, however, be relied upon to determine that a wetland is *not* present.

Wetland Determinations Conducted by DSL

DSL provides an offsite wetland determination as a free service that may be helpful in identifying wetland presence or absence on a project site. The Wetlands and Waters Determination Request Form may be used to request that service. Also, upon submittal of an application for local land use approval, the local government planning office is required to submit a Wetland Land Use Notification (WLUN) to DSL. This gives the Department the opportunity to provide feedback to the property owner and the local government on the likelihood of wetlands. The WLUN is only required if the project might impact a wetland mapped on the NWI, SWI, or LWI. Both services provide information about the likelihood of wetlands on the property. Note that the off-site wetland determination and wetland land use notice are screening tools and are only preliminary jurisdictional determinations. While they are good tools for identifying the presence of wetlands, they are generally not conclusive in determining the absence of wetlands.

Wetland Studies Performed by Consultants

On-site wetland studies (determinations and delineations) are conducted by wetland consultants. Usually, only an onsite wetland study can determine with certainty if jurisdictional wetlands or other waters exist on a property and if so, their jurisdictional boundaries.

A determination or delineation is not an official jurisdictional determination until it is reviewed and concurred with by DSL. Initial review of delineation reports may take up to 120 days depending on the quality of the report and the complexity of the site.

Resources for Identifying Non-wetland Waters: Intermittent Streams and Ditches

Intermittent streams, ponds and ditches may require additional analysis to determine if they are jurisdictional waters of this state.

A jurisdictional intermittent stream has two characteristics: it flows during a portion of every year and provides spawning, rearing or food-producing areas for food and game fish. Generally, if an intermittent stream is shown on a USGS map, it is jurisdictional. If an intermittent stream is not shown on a USGS map additional analysis may be required to distinguish it from an ephemeral stream or storm water drainage. DSL uses several tools to make this distinction that are further explained in the intermittent streams discussion in *Chapter 2: When is a Permit Required?*.

Ditches are another area where the determination of jurisdiction is complicated. A waterway that looks like a ditch on the ground may really be a channelized jurisdictional stream. And, even if it is a ditch that was constructed, it may still be jurisdictional. To determine whether a ditch is a channelized stream requires evaluation of USGS maps and historical aerial photographs. Generally, if a waterway is identified on a USGS map, even if straightened and channelized, it is a stream and not a ditch. If the waterway is not shown on a USGS map and was constructed, it may still be a jurisdictional ditch.

Guidance on determining the jurisdictional status of ditches is provided in *Chapter 2: When is a Permit Required?.*

Retaining Professional Consultant Services

There are many types of consultants that offer their services to assist applicants through the wetland delineation and removal-fill permit process. Most projects require some level of assistance.

Why Hire a Consultant*?*

Depending on the scope of the project, consultant services may be needed for:

- **Identification of wetlands and their boundaries**: A wetland consultant has the expertise to conduct an onsite wetland determination and delineation of the project area. Conducting wetland determinations and delineations and producing the required technical report requires training in the US Army Corps of Engineers wetland delineation methods and detailed knowledge of DSL's administrative rules.

- **Identification of non-wetland waters and their boundaries:** Wetland consultants and engineers are generally the most qualified to identify the elevation of OHW and HMT. Consultants who are familiar with Oregon's regulations can also assist in the determination of jurisdictional intermittent streams, ditches, artificially created wetlands, and other unusual situations.

- **Engineered designs:** Engineering consultants may be needed to design all or portions of any given project. Project elements that frequently require engineering design include stormwater management systems, fish passage for in-water structures, large woody material placement and erosion control structures.

- **Mitigation plan preparation:** If impacts to wetlands or waterways are proposed, a mitigation plan must be included in the removal-fill permit application. Preparation of a mitigation plan involves an assessment of wetland and waterway functions and values anticipated to be lost by the removal-fill, preparation of a plan to replace those lost functions and values, evaluation of watershed needs, monitoring plans, and other elements. If a mitigation plan is required, it is highly recommended that a consultant be used as this requires a high level of expertise.

- **Removal-fill permit application preparation:** Consultants can assist with preparation of application forms for removal-fill permits. Depending on the complexity of the project, additional information may be required including mitigation plans, erosion and sediment control plans, functions and values assessments, and other studies.

How to Find a Consultant

DSL does not recommend or refer property owners to specific consulting firms, and, there are no certifications or licenses required to be a wetland consultant. There are, however, resources available to assist applicants with finding a consultant. DSL maintains a Wetland Delineation Consultants Summary that quantifies the agency's interactions with consultants. The fact sheet, *Wetlands in Oregon*, that provides some advice about working with wetland consultants. A list of certified Professional Wetland Scientists who work in Oregon and Washington is also available from the Society of Wetland Scientists - PNW Chapter.

The following tips may be helpful:

- Choose a consultant who has experience with project permitting in wetlands and waterways and is familiar with the rules and regulations specific to Oregon. DSL can tell you how many applications or wetland delineation reports the consultant has successfully completed and the timelines associated with those approvals.
- Ask the consultant for references and check them.
- Ask the consultant about recent continuing education. The regulations and methodologies change over time and a consultant who stays up to date on training will be better prepared to submit applications and report materials.
- Ask the consultants about their most recent submittals and the timelines associated with approvals.
- Ask the consultants about their working relationship with DSL. Although some professional disagreements are expected, excessive negative attitudes about DSL may be a sign that they have difficulty obtaining approvals.

Exploring Alternatives to Avoid and Minimize Impacts

In making a permit decision, DSL must consider the availability of practicable alternatives with lesser or no impact and determine that the proposed project is consistent with the protection, conservation, and best use of the water resource. Therefore, applications must include an alternatives analysis. During the project development phase, every reasonable opportunity to avoid and minimize impacts must be explored.

Before an applicant explores alternatives, it is very important to clearly articulate the purpose for the project and create a list of project criteria. Once the project criteria are developed, then alternative project locations, site layouts, and construction methods can be evaluated against the criteria to determine the practicable alternative with the least impact and still

The term "practicable" is defined in administrative rule to mean "capable of being accomplished after taking into consideration cost, existing technology and logistics with respect to the overall project purpose".

accomplish the project purpose. An alternative is “practicable” only if it meets the project criteria and includes the elements necessary to meet the project purpose and need.

It is very important that applicants record the decisions that led to the proposed project to support the preferred alternative presented in the application. A detailed description of how to conduct and document an alternatives analysis can be found in Removal-Fill Guide Appendix E: Preparing the Alternatives Analysis.

In addition to receiving a permit, there are other incentives for developing a thorough analysis of alternatives to minimize impacts:

- **Expedited permit may be available**: DSL has several General Authorizations and General Permits (see *Chapter 5: How to Apply for Authorizations*) for certain activities that involve minimal impacts and have expedited permit processing timelines.

- **Less mitigation is required**: Mitigation requirements are directly proportional to the level of impact and the quality of the resource that is proposed for impact. Alternatives with less impacts result in reduced costs for mitigation.

- **Less documentation is required**: Projects with less impact will often require commensurately less documentation of alternatives considered.

Exploring Alternative Project Locations

An applicant must explore available alternative project locations with less adverse impacts to waters that could meet the purpose and need of the project. Some projects are site-specific thus eliminating the need to consider alternative sites (e.g., repair of an existing structure already located in wetland or waterway). In general, for the following project types, alternative sites should be explored:

- Residential, commercial, and industrial developments
- New road crossings
- New recreational structures such as boat ramps and trails
- Gravel extraction
- New municipal utilities (e.g., water or wastewater facilities, substations)

Generally, it is *not* relevant to consider alternative sites for the following project types:

- Bank stabilization
- Replacement or improvement of existing in-water structures
- Transportation projects that involve realignment for safety or other site-specific reasons
- Voluntary restoration projects
- Maintenance dredging; however, it is appropriate to consider alternative sites for the disposal of the dredge material

Exploring Alternative Site Layouts or Configurations

Applicants must explore alternative site layouts that would reduce or eliminate impacts. This may involve reducing the impacts to avoid waters by:

- Reconfiguring or reducing the number of proposed building lots
- Re-aligning roads
- Re-aligning utilities and other infrastructure
- Re-orienting buildings
- Reducing the building or parking lot size
- Reducing the treatment area (for stream bank stabilization projects)
- Reducing the size of over-water structures, such as docks and boardwalks

In general, all project types, except for voluntary restoration projects and maintenance of existing structures, should have documented alternatives to reduce or eliminate impacts.

Exploring Alternative Construction Methods

Applicants must consider strategies that would result in further minimization of impacts by using methods such as:

- A bridge instead of a culvert for a stream crossing
- Bioengineering for bank stabilization, instead of rip-rap
- Directional boring instead of trenching for utility lines
- Boardwalks instead of asphalt for trails and other structures
- A suction dredge instead of a clamshell dredge for dredging

Other Helpful Hints for Exploring Alternatives

- **Use natural resource areas as an amenity:** Sometimes the project can be designed to include natural resources as an amenity to add value to the development.

- **Consider variances to address local ordinances:** Local ordinances may include certain elements, such as density requirements or road alignments in transportation plans. Frequently, wetlands and waterways were not considered in the development of these plans. While some of these requirements are mandatory, there is often some flexibility. Applicants should explore opportunities to obtain variances to local ordinances when appropriate. Layouts preferred by a local agency or shown on Master Plans may not be approved by DSL.

- **Document all the alternatives that are considered:** Applications for removal-fill permits must include documentation of all the alternatives that were explored and reasons why the proposed project is the practicable alternative with the least impacts. For this reason, it is very important to record all the decisions that are made during the development of the proposed project.

Planning to Mitigate for Unavoidable Impacts

Compensatory mitigation is required to compensate for those impacts to wetlands and waterways that are unavoidable. A mitigation plan must be developed to address the ecological characteristics (functions) and societal benefits (values) of the wetland or waters that will be lost. Functions and values assessments help to evaluate lost functions and values and develop a mitigation strategy to replace them. Compensatory Mitigation is detailed in Chapter 8 and provides direction, including a description of functions and values assessment methods and their application, for waterways and wetlands respectively.

Options for Providing Mitigation

The options include permittee-responsible on-site or off-site restoration, creation, or enhancement, and purchase of mitigation credits. In developing a mitigation strategy, the following must be addressed:

- Functions and values lost must be replaced
- Mitigation must provide local replacement for locally important functions and values
- Mitigation should be self-sustaining and minimize long-term maintenance needs
- Mitigation must be sited in an ecologically suitable location
- Mitigation must minimize temporal loss

If approved, mitigation sites must be monitored to document their successful establishment. Monitoring is usually for a period of five years or until the site is deemed successful.

Considerations for Permittee-responsible Mitigation

There are several things applicants should be aware of before choosing to do their own mitigation:

- Building, monitoring, and maintaining a mitigation site is expensive.
- The permittee is responsible for implementation and success of the mitigation unless the permit is officially transferred by DSL. Third-party arrangements to provide mitigation are not recognized by DSL. The mitigation obligation is not transferred through property transactions.
- The permittee is responsible for monitoring the success of the mitigation site until it is officially released by DSL, which is usually at least five years.
- The permittee must retain control of the property for monitoring, maintenance and conducting remedial actions, until the site is officially released by DSL.
- The permittee is responsible for making arrangements for long-term protection and stewardship of the mitigation site.
- Mitigation sites are required to meet certain performance standards. In approving a mitigation plan, DSL does not guarantee the success of mitigation. If the mitigation is not successful, the permittee will be obligated to correct it or conduct mitigation at a new location.

Pre-design Permit Scoping: Identifying Other Permits and Their Requirements

Almost always there are other local, state, and federal agencies that require permits or approvals for projects in wetlands or waterways. Each of these permits has their own set of requirements. It is highly advised that the applicant conduct research to identify all other permits and the requirements for each of those permits before designing the project. Conducting early scoping will:

- Eliminate surprises that cause project delays
- Reduce the costs of having to redesign a project
- Allow for more flexibility in the management of the various permit processes and their timelines
- Allow the applicant and others to understand the limitations posed by various permit requirements

The following list provides a short description of the agencies that may need to be contacted and the types of permits or approvals that may be needed for a project.

US Army Corps of Engineers

Generally, most projects that require a state removal-fill permit will also require a permit from the Corps. (Note: the Corps and DSL use the same joint application form for most projects but issue separate permits.) If a Corps permit is required, the following agencies may also be involved.

- **Oregon Department of Environmental Quality:** A Water Quality Certification from DEQ is required for most Corps permits.
- **National Marine Fisheries Service**: If there are federal Endangered Species Act (ESA) listed anadromous fish or marine mammals that may be affected, consultation with NMFS may be required as part of the Corps permit process.
- **US Fish and Wildlife Service:** If there are other federal ESA-listed plants or animals affected by the project, consultation with USFWS may be required as part of the Corps permit process. For non-ESA listed species, USFWS may provide additional, advisory input on the project through the Fish and Wildlife Coordination Act or the Migratory Bird Treaty Act.
- **Oregon Department of Land Conservation and Development:** If the project is located in the coastal zone, a coastal zone certification from DLCD may be required as part of the Corps permit.

Other State Agencies

The following state agencies may need to be contacted to address specific project components.

- **Oregon Department of Fish and Wildlife:** ODFW may be consulted to help assess project effects on fish and wildlife. If work in a stream that contains fish is

proposed, ODFW will need to confirm that fish passage requirements are met. Also, if isolation of the work area within a stream is required, a scientific take permit may be required for fish salvage. Approval for a passage plan may be required even if no removal-fill permit is required.

- **Oregon Department of Environmental Quality:** For ground disturbance of one acre or more, a National Pollution Discharge Elimination System (NPDES) permit may be required from DEQ to manage construction-related storm water at the site.
- **State Historic Preservation Office:** An archeological survey and sign-off from SHPO may be required for project sites that may have cultural resources.
- **Oregon Water Resources Department:** If storage or use of surface or ground water is proposed, a Water Right may be required from OWRD.
- **Oregon State Marine Board:** If the project involves a dock or other structure in the waterway, OSMB may need to be consulted to address boater safety requirements.
- **Oregon Parks and Recreation Department:** If the project involves activities on the beach, an Ocean Shore Permit may be required from OPRD. If a project is located in a State Scenic Waterway, a separate State Scenic Waterway review may be required.

The *Water-Related Permits User Guide* provides a more detailed description of other state water-related permit requirements.

Tribal Governments

The Department is committed to protecting cultural and natural resources, including engagement with the nine federally recognized Tribes in Oregon. All of Oregon is Indian Country and proposed project sites may have significance to one or more Tribes within Oregon. Removal-fill permit applicants may need to work with one or more of Oregon's Tribes may be needed to protect cultural and natural resources. This engagement may be initiated through an applicant's direct contact with Tribal cultural resources staff, as the result of a State Historic Preservation Office directed cultural resources survey, or as the result of a removal-fill application comment period.

Local Government Permits

Most projects need a permit from the governing city, county, or regional government. Each local government is different, but the following types of permits are usually required for the following situations:

- A grading permit is required for most ground disturbance
- A development permit is required for subdivision and commercial developments.
- A building permit is required for structures
- A floodplain or floodway permit is required if the project is within the floodplain or floodway
- Many communities have natural resource protection areas and may require some type of natural resource overlay permit

- Depending on whether the local government has a regional stormwater collection and treatment system, the applicant may be required to conduct a stormwater analysis and provide on-site stormwater treatment

Identify the requirements for all permits needed. Once the list of permits needed for a project is developed, it is important to identify all the requirements of those permits. An experienced consultant can assist with this task. The efforts expended on this step will avoid costly redesign and project delays.

Pre-application Meetings

As staff resources allow, DSL can offer pre-application meetings. These meetings are offered at no charge.

A pre-application meeting with DSL provides an opportunity:

- For DSL staff to become familiar with the project
- To identify alternatives with lesser impacts to wetlands or waterways
- For all agencies and the applicant to share information about the various application requirements and processes
- To identify the mitigation requirements

Types of projects where a pre-application meeting is recommended:

- Projects that will likely involve water-related permits from multiple agencies
- Projects that involve wetlands or waters with high resource value
- Projects with a high level of community interest
- Large projects with multiple impacts to natural resources
- Projects that involve permittee-responsible mitigation

DSL services that can be provided during a pre-application meeting:

- Identifying OHW or HMT (wetland boundaries are confirmed through review of the wetland delineation report)
- Identifying permit exemptions that may apply
- Determining which type of DSL permit is appropriate
- Explaining the application process and timelines
- Identifying issues that will need to be addressed in the application
- Reviewing alternative designs to minimize and avoid impacts
- Reviewing the conceptual mitigation plan

Where to meet: Pre-application meetings may take place at the project site or in an office, depending on the nature of the project and the agencies involved. Often DSL can efficiently perform pre-application meetings in an office or by phone. Contact the Aquatic Resource Coordinator to determine what is appropriate for your project.

When to request a pre-application meeting: If the project is in the very early stages, there may not be enough information to facilitate effective feedback from the agencies. Conversely, if the project design is locked in, the opportunity for effective input from the agencies regarding alternatives and other permitting criteria is lost. The pre-application meeting should be scheduled at the conceptual design stage: when the project purpose and need, criteria and the range of alternatives has been identified. Preferably, after the wetland and other waterways have been identified, and before the final design has been established.

What should the applicant bring: To get the most out of a pre-application meeting the applicant should be prepared to discuss:

- The purpose, need and criteria for the project
- Conceptual project and mitigation plan drawings
- Alternative designs and locations that were considered
- The location of the OHW or HMT and wetland boundaries

Who should be invited: DSL may suggest that other local, state, and federal agency staff attend the meeting, but it is ultimately up to the applicant to determine who will be invited. Arrangements for the meeting and inviting other agency staff are the responsibility of the applicant.

To assist applicants with large-scale permitting needs, the state and federal agencies involved in aquatic resources permitting have set up a schedule of regular monthly meetings. This service is intended to provide early coordination meetings for complex projects. The intent of the meetings is to provide meaningful comment and feedback to prospective applicants to inform their preparation of permit applications. More information on this service is available here.

Chapter 5: How to Apply for Authorizations

Chapter Overview

This section describes the different types of removal-fill authorizations available, how to choose and fill out the required application forms, and how to submit the application and required fees.

Types of Authorizations

There are several types of permits available to conduct work in waters of this state:

- **Individual Permits (IPs)** are issued for projects that do not qualify for a General Authorization or General Permit or have more than minimal impacts to wetlands or waterways.
- **General Authorizations (GAs)** are an expedited process for seven specific types of removal-fill activities that have minimal adverse effects.
- **Notification for Certain Voluntary Habitat Restoration Projects** are exempt activities that require notification to DSL at least 30 calendar days prior to commencing the activity. These activities are Ditch and Drain Tile Removal; Placement of Large Wood, Boulders and Spawning Gravels; and Other Activities Customarily Associated with Habitat Restoration in ESH.
- **General Permits (GPs)** authorize a group of activities that are substantially similar in nature, recurring or ongoing, and have predictable effects and outcomes. DSL currently has six GPs available for use by the public.
- **Emergency Permits (EPs)** are rapid-approval authorizations for emergencies that pose a direct and immediate threat to human health, safety, or substantial property, where prompt action is required to address the threat.
- **Permit Waiver (PW)** for DEQ sponsored remedial actions.

Completing the Application Forms

The Joint Permit Application form (JPA) is used to apply for IPs, GPs, and PWs. The Emergency Permit Application is for activities that qualify for EPs. The General Authorization Notification Form is used to apply for a GA. The Notification for Certain Exempt Voluntary Habitat Restoration Projects Form is used for the voluntary projects that require notification. The level of detail required for the application form will vary depending on the scope and nature of the impact to wetlands or waterways, level of public interest, and other factors that increase the complexity of the project.

Application Fees

Fees for IPs, GPs, and PWs are based on whether the applicant is a public, private or commercial entity and the volume of removal or fill according to a fee schedule. GAs sometimes require a flat fee of $250 if the volume is more than 50 cubic yards. Authorization for voluntary restoration and erosion-flood repair are free of charge, regardless of the authorization type.

Chapter 5: How to Apply for Authorizations

Types of Permits

DSL's administrative rules offer several permit types for authorizing projects in wetlands and waterways.

- Individual Permit (IP)
- General Authorization (GA)
- Notification for Certain Voluntary Habitat Restoration Projects
- General Permit (GP)
- Emergency Permit (EP)
- Permit Waiver (PW)

The type of authorization depends primarily on the scope and nature of the impact proposed.

Individual Permits

IPs are issued for projects that have the following characteristics:

- They have more than minimal adverse effects to waterways and wetlands
- They are more complicated and often involve more than one removal-fill activity
- The impacts may involve a substantial mitigation obligation
- They do not qualify for any of the GAs or GPs

To apply for an IP, the JPA must be submitted to DSL. The IP process can take up to 120 days. (See *Chapter 6: Processing the Removal-Fill Permit Application* for more information on the IP timelines.)

General Authorizations

GAs have been developed as an expedited process for seven specific removal-fill activities. GAs have the following characteristics:

- They are developed through administrative rule which lists the eligible activities, mandatory requirements, and conditions for authorization
- They are developed for activities that result in only minimal adverse effects to waters of the state
- They are not available for projects conducted in State Scenic Waterways (SSW)
- They are not available for projects conducted in Aquatic Resources of Special Concern, except for the Waterway Habitat Restoration GA and Wetland Ecosystem Restoration GA
- They are not available for projects conducted in the Willamette River between river miles 1.9 and 11.8

Other than for placer mining, to apply for a GA, submit the General Authorization

Notification Packet to DSL. Within 30 days of receipt of the notification form, DSL will determine if the notice is complete and whether the project is eligible for a GA.

(See *Chapter 6: Processing the Removal-Fill Permit Application* for more information on the GA timelines.)

Following is a brief description of each GA and a link to the administrative rules that contain more information on eligibility, mandatory requirements and authorization conditions. These descriptions are offered as summaries only. Before submitting a GA notice, applicants are advised to review the applicable administrative rule for all eligibility criteria, standards and conditions associated with the specific GA.

Minimal Disturbance within ESH	
What is it for?	• Investigative drilling and sampling • Scientific measurement devices • Surveys for historic resources • Maintenance and reconstruction of in-water structures • Beaver pond levelers and exclusion devices
Key eligibility criteria	The volume of removal-fill activity is limited to no more than four cubic yards at any individual site and cumulatively not more than 10 cubic yards for the entire project.
Application fee	$0
Additional resources	OAR 141-089-0660 *et seq.* for complete description of criteria, standards, and conditions

Over-Water Structures Fill and Removal	
What is it for?	Placement and removal of certain over-water structures, piling and anchors including: residential docks; existing non-residential docks; seasonal public recreation structures; navigational aids; and, derelict piling removal.
Key eligibility criteria	• Residential docks must be consistent with ODFW Residential Dock Guidelines • Existing non-residential docks are limited to replacement of no more than 10 piling and no increase in the dock's over-water footprint • Seasonal public recreation structures must be removed within 30 days of the end of the seasonal use; no more than 4 cy. of anchor • Navigational aids are limited to no more than 10 piling placed and 10 piling removed per project • Derelict piling removal is limited to no more than 50 piling per project

Application fee	$0 if less than 50 c.y.; $250 if greater than or equal to 50 c.y.
Additional resources	• OAR 141-089-0680 et seq. for a complete description of criteria, standards, and conditions. • ODFW Residential Dock Guidelines

Temporary Impacts to Wetlands and Waterways

What is it for?	Temporary placement or removal of material in tidal and non-tidal wetlands and waterways.
Key eligibility criteria	• Temporary impacts to non-tidal wetlands cannot exceed 0.5 acres; tidal wetland impacts cannot exceed 0.2 acres • Temporary impacts to wetlands must be rectified within 12 month or before expiration of the GA, whichever is first • Temporary impacts to waterways are limited to work area isolation (100 feet maximum length) and spud piles for over-water work platforms. • Temporary impacts to waterways must be rectified immediately upon project completion or before expiration of the GA, whichever is first • Submittal of a rectification monitoring report to DSL is required
Application fee	$0 if less than 50 c.y.; $250 if greater than or equal to 50 c.y.
Additional resources	OAR 141-089-0700 et seq. for a complete description of criteria, standards, and conditions.

Waterway Bank Stabilization Using Bioengineering

What is it for?	Stabilizing eroding waterway banks using natural materials.

Key eligibility criteria	• Activities may be conducted in tidal or non-tidal waterways
	• Bank stabilization techniques are limited to:
	  o Bank terracing, sloping, and reshaping
	  o Placement of large wood (downed trees and rootwads) on the bank
	  o Log toe placement
	• Large wood/log species must be native to the project area
	• Rip-rap and rock toes are not allowed
	• The activity cannot create new uplands or reestablish lost uplands resulting from the bank erosion event(s)

Application fee	$0
Additional resources	• OAR 141-089-0720 et seq. for a complete description of criteria, standards, and conditions. • Washington Integrated Streambank Protection Guidelines

Waterway Habitat Improvement

What is it for?	Activities with the effect of improving functions and values of aquatic habitat and facilitating species recovery in waterways
Key eligibility criteria	• Removal of artificial barriers ≤ 200 c.y., cumulative • Grade control structures that mimic natural material found in the system and ≤ 100 c.y. for every 0.5 miles of waterway • Fish and wildlife passage structures ≤ 100 c.y. for every 0.5 miles of waterway • Fish screening structures ≤ 100 c.y., cumulative; requires ODFW design criteria • Low-profile porous weirs ≤ 100 c.y. for every 0.5 miles of waterway and less than 40 percent of the channel width • Remove, modify, repair, or replace culverts and tidegates for fish passage (when not otherwise exempt) • Habitat logs, beaver dam analogs, and post-assisted log structures ≤ 100 c.y. for every 0.5 miles of waterway • Engineered log jams not more than 20 percent of waterway bankfull width • Maintenance and reconstruction of existing, man-made habitat structures
Application fee	$0
Additional resources	• OAR 141-089-0780 *et seq*. for complete description of criteria, standards, and conditions • Guide to Placing Large Wood and Boulders (DSL/ODFW 2010)

Wetland Ecosystem Improvement

What is it for?	To return natural or historical functions to a disturbed or altered wetland.
Key eligibility criteria	• The project purpose must be to repair or return natural historic functions, and not to augment functions that did not exist • The project must be compatible with watershed and water quality management plans • Evidence of wetland alteration or disturbance is required • Conversion of wetlands to uplands is not allowed • Must not convert of existing, functional wetland ecosystems to another aquatic use • The project does not introduce non-native plants • The hydrologic manipulation must approximate conditions before disturbance • Projects cannot be for compensatory wetland mitigation • When berms are combined with shallow excavations the maximum depth of inundation must not exceed two feet

Application fee	$0
Additional resources	• OAR 141-089-0800 *et seq*. for complete description of criteria, standards, and conditions

Non-motorized In-stream Placer Mining in ESH	
What is it for?	Non-motorized in-stream placer mining disturbing *<25* c.y. per year within ESH
Key eligibility criteria	• Only non-motorized methods are allowed. Non-motorized methods include gravity and siphon dredges • The activity may not occur within a State Scenic Waterway • If the operator was authorized in the preceding year, an In-stream Placer Mining Report must have been submitted • The inside diameter of any intake nozzle or hose must be ≤ 4 inches • Permanent dams may not be constructed; temporary dams cannot extend across more than 75% of the surface water and must be consistent with ODFW requirements • The activity is not allowed outside of the wet perimeter • Disturbing the streambank is not allowed • Undercutting or eroding banks and removal or disturbance of boulders, rooted vegetation or embedded woody material and other habitat structure from the bank is prohibited • Creation of new access routes that disturb or destroy woody riparian vegetation is not allowed • All piles must be leveled and furrows, potholes and depressions filled when done • Submittal of an annual report to DSL by February 28 of the following year is required • Freshwater mussels and Pacific lamprey must be avoided. Operation of any motorized equipment is prohibited below ordinary high water
Application fee	$0
Additional resources	• Navigate to Placer Mining Permits under: Step 3: Apply for a removal-fill permit • OAR 141-089-0820 et seq. for complete description of criteria, standards, and conditions

Notifications for Certain Voluntary Habitat Restoration Projects

Three types of habitat restoration activities are exempt from permitting but still require a submittal of a notification to DSL. See OAR 141-085-0534 for a complete description of these and all other exempt habitat restoration activities.

In addition to being limited to the activities as described, the following requirements must also be met:

- Not in State Scenic Waterways (except as allowed by ORS 390.835(5))
- Conducted during the ODFW recommended in-water timing guidelines (unless approved in writing by ODFW)
- Conforms to ODFW fish passage requirements (ORS 509.580 through 509.910),
- Will not convert waters of this state to uplands
- Will cause only minimal impact on waters of this state
- Will not result in flooding or other damage to property off the project site
- All necessary access permits and other approvals have been obtained

Ditch and Drain Tile Removal	
What is it for?	Disruption or removal of subsurface drainage structures (e.g., drain tiles) and plugging or filling of drainage ditches in wetlands
Key eligibility criteria	• Notification must be submitted at least 30 days before work
Fee	$0
Additional resources	• Notification Packet

Placement of Large Wood, Boulders and Spawning Gravels	
What is it for?	Placing large wood, boulders and spawning gravels for habitat
Key eligibility criteria	• Must be consistent with the Guide to Placing Large Wood and Boulders (DSL/ODFW 2010) If the project is in ESH or exceeds 50 cubic yards removal-fill, notification must be submitted at least 30 days before work
Fee	$0
Additional resources	• Notification Packet

Activities Customarily Associated with Habitat Restoration in ESH	
What is it for?	Habitat restoration activities in ESH
Key eligibility criteria	• Must be less than 50 cubic yards removal-fill • Must be consistent with the Oregon Aquatic Habitat Restoration and Enhancement Guide • Utilize materials naturally at the project site • Notification must be submitted at least 30 days before work
Fee	$0
Additional resources	• Notification Packet

General Permits

GPs authorize a group of activities that are substantially similar in nature, recurring or ongoing, and have predictable effects and outcomes. GPs have the following characteristics:

- They may be issued for a specific activity or multiple activities that are substantially similar in nature, recurring or ongoing
- Except for Maintenance Dredging GP, they may only be issued for a period of up to five years and are **not** renewable beyond five years
- The activities must have predictable outcomes and the adverse effects must be identified and accompanied by defined strategies for mitigation of those effects
- They have specific criteria and conditions
- They are issued by administrative rule and projects are given authorization for conducting the activity under the administrative rule

Following is a brief description of current GPs adopted by rulemaking with a link to the administrative rule that contain specific information on eligibility, mandatory requirements, and authorization conditions. These descriptions are offered as summaries only. Before applying for a GP, applicants are advised to review the applicable administrative rule for all eligibility criteria, standards and conditions associated with the specific GP.

A second type of GP is a General Permit issued by an Order of the agency. These GPs are issued to a specifically named applicant or group of applicants to cover activities that are substantially similar in nature, are reoccurring or ongoing, and have predictable effects and outcomes. They are not identified in administrative rule.

Transportation-Related Structures	
What is it for?	• Widening, replacing, expanding use, maintaining and removing existing roads, bridges, pedestrian paths, culverts, boat ramps, and airport runways and taxiways • Activities integrally related with existing roadway structures • Increasing scour protection associated with transportation-related structures • Restoring fluvial processes for stream health and fish and wildlife habitat/passage in conjunction with transportation-related structures • Installing associated grade control
Key eligibility criteria	• Projects must involve ≤ 5,000 cy of material filled, removed, or altered in non-wetland waters, including ≤ 1,000 cy for streambank stabilization • Wetland impacts are limited to ≤ 0.5 acre • Work area isolation required • Impacts to Aquatic Resources of Special Concern (see Appendix F) are excluded • Concurrence of the wetland boundary must be obtained before the application is submitted, unless otherwise approved by DSL • Compensatory mitigation must consist of bank credit purchase, in-lieu fee or payment in-lieu unless otherwise approved by DSL • Projects that meet certain requirements will not require compensatory mitigation, and the applicant may use best professional judgment to assess functions and values
Application fee	Current fee schedule
Additional resources	• OAR 141-93-0140 *et seq*. for complete description of criteria, standards, and conditions • *State Water-Related Permits User Guide* – Section 3.4

Minor Removal-Fill Impacts to Certain Non-tidal Wetlands	
What is it for?	Small removal-fill activity in certain non-tidal wetlands
Key eligibility criteria	• Removal-fill activity is limited to 0.2 acres within wetlands • Impacts to tidal wetlands not allowed • Impacts to non-wetland waters not allowed • Impact to wetlands in ESH and State Scenic Waterways is not allowed • Impacts to Aquatic Resources of Special Concern are excluded • Mitigation must consist of bank credit purchase, in-lieu-fee or payment- in-lieu unless otherwise approved by DSL
Application fee	Current fee schedule

Additional resources	• OAR 141-093-0155 *et seq*. for complete description of criteria, standards, and conditions

Vernal Pool General Permit

What is it for?	• Impacts to vernal pool wetlands, and other specific waters, located in Jackson County.
Key eligibility criteria	• Impacts to vernal pool wetlands and other waters must be less than two acres and no more than 15 acres of impact to a vernal pool complex (including the upland mounds between the pools). • Mitigation must be accomplished by either purchase of mitigation bank credits or permittee-responsible mitigation that involves protection or restoration. Wetland enhancement and creation are not allowed. • The amount of mitigation required to offset impacts depends on base mitigation ratios and multipliers related to the quality of the vernal pools to be impacted. • Mitigation site suitability is based on size, function, buffers. fairy shrimp presence, and the presence of an intact hardpan.
Application fee	Current fee schedule
Additional resources	• OAR 141-93-0180 *et seq*. for complete description of criteria, standards, and conditions • Vernal Pool General Permit Mitigation Performance Standards and Monitoring Methods

Maintaining Drainage to Protect Agricultural Land

What is it for?	• Removal of material from waterways for the purpose of maintaining drainage to protect agricultural land and, as necessary, disposal of material in adjacent converted wetlands.
Key eligibility criteria	• Land use must be agricultural land. • Excavation must be limited to the minimum amount necessary to maintain drainage. Channel relocation not allowed. • Up to 100 c.y. of fill • No more than 100 c.y. removal below ordinary high water line or highest measured tide line per landowner per calendar year. • Placement of excavated material in adjacent converted wetlands cannot result in permanent conversion from wetland to upland. • Cannot be used in State Scenic Waterways.
Application fee	$0
Additional resources	• OAR 141-93-0220 et seq. for complete description of criteria, standards, and conditions

Navigational Access Maintenance Dredging	
What is it for?	• Removal of material from waterways for the purpose of navigational access maintenance dredging.
Key eligibility criteria	• Must be for maintenance dredging. • Dredging was previously authorized and executed within the last 15 years. • Removal is limited to the previously authorized prism. • Fill is limited to temporary placement of equipment and disposal in the flowlane or in certain ocean locations. • Flowlane disposal is limited to areas with sufficient velocity and depth to disperse the material and not cause shoaling. • Removal of material must be by means of hydraulic pipeline dredge or closed bucket, unless otherwise approved • Cannot be used in State Scenic Waterways.
Application fee	Current fee schedule
Additional resources	• OAR 141-93-0250 et seq. for complete description of criteria, standards, and conditions

Certain Ocean Renewable Energy Facilities	
What is it for?	• Placement and removal of certain ocean renewable energy facilities for research or demonstration projects in the territorial sea.

Key eligibility criteria	• Must be for research project or demonstration project only
	• Must have a recommendation from the Joint Agency Review Team for processing under this General Permit
	• Must be located within a Territorial Sea Plan designated:
	  o Renewable Energy Facility Suitability Study Area;
	  o Renewable Energy Permit Area; or,
	  o Resources and Uses Management Area
	• Must not involve ocean offshore wind power generation
	• Removal and fill must be only within the territorial sea between extreme low tide elevation and three geographic miles
	• Must not exceed 53 contiguous acres per project, measured as the surface expression of a vertical column between the ocean surface and the ocean floor

Application fee	Current fee schedule
Additional resources	• OAR 141-93-0285 et seq. for complete description of criteria, standards and conditions

Emergency Permits

DSL may provide rapid permit approval for emergencies that pose an immediate and direct threat to human health, safety, or property where prompt action is required to address the threat. The proposed action must be the minimal amount necessary to address the threat and DSL may require modifications to the project after the emergency has passed. To apply for an Emergency Permit, use the Emergency Application form. See Chapter 7 for more detail about Emergency Applications.

Permit Waivers

Permit waivers are available for remedial actions conducted on a site selected or approved by DEQ and require removal-fill activity (ORS 465.315). The responsible party must notify DSL of the intended action using the Joint Permit Application form, pay applicable application fees, and comply with the substantive requirements provided by DSL in the waiver document.

JPAs for these projects generally do not require county signature, alternatives analysis, landowner signature, incumbency certificate, local land use signature, or identification of adjacent landowners. These items are not required because the project is reviewed under DEQ's over-arching authority and process. Typically, compensatory mitigation is not required for remedial actions since the objective of the project is environmental improvement. However, there may be cases where a compensatory mitigation requirement may be appropriate to offset adverse effects to aquatic habitat that the remedial action itself may cause (e.g., bed or bank hardening). A potential requirement for compensatory mitigation must be discussed with the DEQ project manager.

The waiver documentation is sent to the responsible party and the identified DEQ project manager for inclusion in DEQ's Record of Decision. The conditions contained in the waiver document remain enforceable by DSL. Annual renewal of waiver documents is not required after issuance.

Completing the Application Forms

Which Forms to Use

The following table lists which forms to use for the various types of permits. Application forms are found here.

Type of Permit or Authorization	Form to Use
Individual Permit (IP)	Joint Permit Application (JPA)
General Permit (GP)	Joint Permit Application (JPA)
General Authorization (GA) and Certain Voluntary Habitat Restoration Projects that Require Notification	GA Notification Form / Notification for Certain Exempt Voluntary Habitat Restoration Projects form
Placer Mining GA	On-line form

Emergency Permit (EP)	Emergency Permit Application
Permit Waiver (PW)	Joint Permit Application (JPA)

Level of Application Detail May Vary

The level of detail required for applications will vary depending on the degree of adverse impacts, the level of public interest, and other factors that increase the complexity of the project. The applicant is responsible for providing sufficient detail in the application to enable DSL to render the necessary determinations and decisions. For example, a greater level of application detail is typically warranted for projects with impacts to:

- High quality aquatic resources, in terms of locally important functions, and values, condition, or rarity
- Estuarine waters
- Large wetland areas (≥ 2 acres)
- Aquatic features with connectivity to other protected or special management natural resources
- Aquatic Resources of Special Concern
- Locally designated significant wetlands

Helpful Hints for Completing Applications

When preparing the application forms, the following points should be kept in mind to facilitate the process:

- It is important applicants always access the DSL website to use the most up-to-date application form.
- Information in the application must be presented so a person unfamiliar with the project or site can understand the proposed project.
- Not all items on the application form will apply to all projects (e.g., some projects may not require a disposal area).
- To facilitate review, the information should be presented in the required blocks on the application forms. If all the information does not fit in the block of the form, a summary should be inserted into the form and detailed information included as an attachment being sure to follow the application template. Supplemental or supporting documents, such as functions and values assessments or mitigation plans, should be included as attachments.
- Extraneous information slows the review process and should not be submitted as part of the DSL Removal/Fill application. Examples of extraneous information: copies of local comprehensive plans or ordinances, DSL regulation citations, wetland delineation report, biological assessments, archeological reports, stormwater calculations, geotechnical reports, marketing reports, contract agreements, applications for other agencies, contractor or construction specifications, extraneous drawings, and redundant information.
- Wetland delineation reports should be submitted separate from the application as indicated on the wetland delineation report cover sheet for review by the Jurisdictional Coordinator. If the delineation is already approved, attach only the concurrence letter with the approved map.

- Use tables and bullets whenever possible to display complicated information.
- Limit the area and volume calculations to the tables and figures.
- If submitting the application in paper form, do not bind or use section dividers. They are not necessary and require additional handling.
- The Joint Application Checklist - Completeness and Compensatory Mitigation Plan Checklist should be used as a final check of required items. The checklists can be found on here.

Electronic Submittal of Applications

The following application types and other supporting documents can now be submitted electronically. If submitting electronically, a paper copy should not be additionally submitted.

- Joint Permit Application for IPs and GPs
- Emergency Permit Application
- Notification for General Authorization
- Application for General Permit to Maintain Drainage for Protection of Agricultural Lands
- Notification for Certain Exempt Voluntary Habitat Restoration Projects
- Monitoring Reports

Instructions for submitting forms electronically can be found here.

Joint Permit Application Instructions

The following instructions are for filling out the JPA form.

Block 1: Types of Permits

Corps: Check the box that identifies the type of permit you are seeking from the Corps.

DSL: Check the box that identifies the type of permit you are seeking from DSL.

If you leave this section blank DSL will generally process your application as an Individual Permit.

Block 2: Applicant and Landowner Contact Information

Applicant: The applicant's name, official mailing address, phone numbers, fax, and e-mail address must be entered. The applicant must sign the permit application and become the permit holder. The person that is listed as the applicant must have full authority and responsibility to comply with the conditions of the permit.

- If the applicant is a partnership or corporation, the legal name of the entity (as registered with the Business Registry of the Secretary of State (SOS)) and the name of the individual who has authority to encumber the business entity must

be entered exactly as listed on the SOS website. In addition, the applicant must fill out and submit an Incumbency Certificate.

- If the applicant is a business, government agency, or other organization, the name, phone number and e-mail address of the contact person must be included.
- The person listed as the applicant or applicant's contact must also sign Block 13 of the JPA.

Authorized agent: The authorized agent (consultant or contractor) is someone who has the permission of the applicant to provide information to DSL and negotiate permit conditions on behalf of the applicant. DSL will work directly with the agent during the application review and permitting process to resolve technical issues. Formal correspondence will be sent to the applicant but informal correspondence to resolve technical issues may only be sent to the authorized agent. The authorized agent must also sign Block 13 of the JPA.

Authorized agents and permit compliance: Authorized agents are not responsible for complying with permits. It is very important that applicants and authorized agents communicate regarding all aspects of the permit process and permit conditions before implementing the project.

Property owner: If the applicant is not the owner of the property on which the project or mitigation is proposed, landowner information must be listed. Generally, landowner signature is required on the application unless there is an easement allowing the activity, or a written authorization is provided from the landowner consenting to the proposed project. However, applications for GPs do not require a landowner's signature in Block 13 of the JPA.

Linear facility projects: A "linear facility" includes any project from applicants with condemnation rights for railway, highway, road, pipeline, water or sewer line, communication line, overhead or underground electrical transmission or distribution line, trail or similar facility. Typically, a linear facility will involve alignments with multiple landowners and multiple removal-fill sites. For linear facilities, landowner signature is not required at any point in the process. However, for **new alignments**, all the landowners along the entire alignment must be identified in the application, regardless of whether the applicant has landowner permission or whether there are removal-fill activities proposed for that location. In addition, landowners whose land is adjacent to those properties within the alignment must be identified. For an **existing alignment**, only landowners directly affected by removal-fill activities and landowners adjacent thereto must be identified.

The Department will impose a permit condition that specifies the removal-fill activity cannot occur until the person obtains:

- The landowner's consent; or
- A right, title or interest with respect to the property that is sufficient to undertake the removal or fill activity; or
- A court order or judgment authorizing the use of the property

Mitigation site property owner information: If the applicant is not the owner of the mitigation site, an agreement between the applicant and owner must also be submitted. That agreement must clearly state that the applicant has permission to construct, maintain and monitor the mitigation site, and that the landowner is willing to establish permanent protection of the mitigation site as required in the permit. The property owner must also sign Block 13 of the JPA.

State-owned land: If the activity is proposed on state-owned (DSL managed) land, DSL will obtain the landowner signature which only allows the applicant to apply for a removal-fill permit. A separate proprietary approval from DSL's Proprietary Coordinator is usually required for project implementation. If a proprietary approval is required, a DSL Proprietary Coordinator will contact the applicant.

Block 3: Project Information

Project name: Provide the commonly used name for the proposed project.

Project address: The street address, if available, is required. If there is no street address, the nearest cross street, highway milepost, or other descriptive location information is required.

Latitude and longitude: The latitude and longitude (lat/long) of the project site in decimal degrees is required. Lat/long can be estimated using Google earth (click twice on the location), Google maps, or Bing maps. For projects with multiple locations, provide the lat/long for each location. For linear projects, provide the lat/long start and end points. For dredging, provide the lat/long for each corner of the dredging and in-water disposal boundaries.

City and county: The nearest city, along with the county is required.

Legal description: Township, range, section(s), and ¼, ¼ section should be entered. The tax map number and tax lot number should also be included. A tax lot map, with the project tax lots highlighted, must be attached as a drawing in the application. Tax lot numbers and maps can be found at the Oregon Map website.

For linear projects, all affected tax lots should be identified. For latitude and longitude, the start and stop points for the project should be identified.

Directions to the site: Directions to the removal-site should be of sufficient detail so that a person unfamiliar with the area can drive to the site.

Types of waterbodies or wetlands: Check as applicable all waterbody and/or wetland types located within the defined project area. Include waterbody(ies) name(s) and river mile, if any. If it is an unnamed tributary to a waterbody, "unnamed tributary of _____" should be entered.

6th field HUC: This is the numerical watershed that the proposed project is located within. This "Hydrologic Unit Code" (or HUC) should be entered as a 12-digit number. Use the HUC Map to identify the associated 6th field HUC number for your project site

Block 4: Project Description

Narrative description: Provide a description of the overall proposed project, including:

- All associated work with the project both outside and within waters of this state.
- Total area of impervious surfaces created or modified by the project.
- Each removal or fill activity proposed in waters or wetlands, as well as any construction or maintenance of in-water or over-water structures.
- The number and dimensions of in-water or over-water structures (i.e., pilings, floating docks) proposed within waters or wetlands.
- Construction methods: Describe how the removal and/or fill activities will be accomplished including construction methods, equipment to be used, where equipment will operate from, access and staging areas, etc. Also include measures you will use during construction to minimize impacts to the waterway or wetland. Examples may include isolating work areas, controlling construction access and using specialized equipment or materials. Attach work area isolation and/or erosion and pollution control plans, if applicable.
- Provide a description of the fill material and the source(s) of fill materials (if known).
- Locations for disposal area(s) for dredged material, if applicable. If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If using an upland disposal area that is not a DEQ-regulated landfill, a Solid Waste Letter of Authorization or a Beneficial Use Determination from DEQ may be required.
- Provide the anticipated start and end date for the project. If the project is expected to take more than one year to complete, a multi-year permit may be issued (up to five years). For multi-year permits, the applicant must pay the annual fees for each year it will be valid. The rate is the based on the current fees schedule. Except for Maintenance Dredging, GPs are not renewable after five years. (An entire new application, fees, public notice, etc. are required.)

Timing: Work within the jurisdictional area of waterways is typically limited to the ODFW recommended in-water work period.

Removal and fill volumes and dimensions: Summarize the dimensions, volume and type/composition of material being placed or removed in each waterbody or wetland. Describe each impact in a separate row. Add extra rows, if needed or include as an attachment.

Note: To calculate volume in cubic yards multiply length x width x height measured in feet and divide the total by 27.

Areas of removal and fill may or may not overlap. In this section of the application all removal and fill volumes and areas must be included. In other parts of the application clarify how much total acreage is impacted. At a minimum include the total area of impact in the project description and mitigation sections of the application.

Block 5: Project Purpose and Need

All projects must have a defined purpose(s) based on documented need(s). The purpose is typically the "what," which is then followed by the need statements, the "why."

The purpose and need statements are critical because they become the foundation of the alternatives analysis. Good purpose and need statements help define the reasonable range of alternatives to be considered and become a key criterion to determining which alternatives are practicable and which are not.

Further guidance on developing the purpose and need statement and the alternatives analysis, is provided in preparing the Alternatives Analysis Appendix.

The following items are required by DSL, as applicable:

- A description of any public need for the proposed removal or fill and any social, economic, or other public benefits likely to result from the removal or fill.
- A description of whether the applicant is a public body and that public body has made findings regarding local public need and benefits.
- A description of any anticipated economic costs to the public if the proposed removal or fill is not accomplished.
- If the project involves fill in the estuary for a non-water dependent use, explain how the project is for public use and/or satisfies a public need.
- If the project is located within a marine reserve or marine protected area, explain how the project is needed to study, monitor, evaluate, enforce, or protect the designated area.
- If the project is for an Ocean Renewable Energy Facility, DSL will only authorize a removal-fill activity that complies with the criteria described in applicable parts of the Territorial Sea Plan.

Block 6: Description of Resources in Project Area

Territorial Sea: For activities in the Territorial Sea (mean lower low water elevation seaward to 3 statutory miles), provide a separate evaluation of the resources and an effects determination. The Territorial Sea Plan Part 2 Checklist is available for completing these analyses. An application for a permit related to marine resources or removal-fill in the territorial sea must include all of the information required by the applicable Part of the Territorial Sea Plan.

For each wetland, include:

- Whether the wetland is freshwater or tidal, and the Cowardin and Hydrogeomorphic (HGM) class and subclass
- Dominant plant species by layer (herb, shrub, tree).
- A functions and values assessment of the wetland to be impacted, including hydrologic, water quality, fish habitat, aquatic habitat and ecosystem support functions (for impacts greater than 0.2 acre, DSL requires use of ORWAP), should be attached as a separate document
- Identify any Aquatic Resources of Special Concern in or near the project area (see Appendix F)
- Describe existing uses, including fish and wildlife use (type, abundance, period of use, significance of site)

It is important that a summary of the **biological and physical characteristics** of the wetland or waterway be included in Block 6 of the application. Just referencing a wetland delineation report or biological assessment does not provide enough information for reviewers.

Voluntary habitat restoration projects may have the requirement for a functions and values assessment waived on a case-by-case basis at the discretion of the Department. Pre-application coordination is recommended.

For rivers, streams, other waterways, lakes and ponds, include a description of, as applicable:

- Streamflow regime (e.g., perennial year-round flow, intermittent seasonal flow, ephemeral event-driven flow). If flow is ephemeral, provide Streamflow Duration Assessment Method for Oregon (SFAM) data sheet or other information that supports your determination.
- Identify any Aquatic Resources of Special Concern in or near the project area (see Appendix F)
- A functions and values assessment of the water to be impacted, including hydrologic, geomorphic, biological and water quality functions (for wadeable non-tidal rivers and streams DSL requires use of SFAM) should be attached as a separate document
- Field indicators used to identify the ordinary high water mark
- Channel and bank conditions
- Type and condition of riparian (streamside) vegetation
- Channel morphology (structure and shape)
- Stream substrate
- Fish and wildlife (type, abundance, period of use, significance of site)

Existing navigation, fishing, and recreational uses: Describe any known use of the wetlands or waterbodies within the project area for navigation, fishing, or public recreation.

Function and value assessments for voluntary habitat restoration projects:
At its discretion and on a case-by-case basis, the Department may waive any permit application requirements for a voluntary habitat restoration project (141-085-0550 (8)). Pre-application meetings or discussions are encouraged to determine what requirements may be waived.

The Department may require the information provided in a functions and values assessment to reach a permit decision for some projects. Example include when:

- Some areas may be converted to upland or open water as a result of the project,
- The project may convert the type or class of the water of this state, and
- The project may degrade existing functions and values.

Block 7: Project Specific Criteria and Alternatives Analysis

DSL will only approve the proposed project that represents the practicable alternative that would have the least impact on the waters of this state. The alternatives analysis is how the applicant and DSL determine that alternative. There are three steps to an alternatives analysis:

- A list of project-specific criteria to accomplish the stated purpose (from Block 5) is developed.
- A range of alternative project locations and layouts, including those with lesser impact, that could meet the project purpose are identified.
- Each alternative is evaluated against the project criteria to derive the practicable alternative with the least impacts.

If the project involves fill in an estuary for a non-water-dependent use, a description of alternative non-estuarine sites must be included.

The range of alternatives to achieve the project purpose should include realistic alternative project locations, layouts, and construction methods. Each alternative discussed must have an explanation of why it was or was not chosen. See Appendix E on preparing an alternatives analysis for more guidance.

Block 8: Additional Information

Indicate “yes”, “no” or “do not know” for each question listed in Block 8. The application form provides internet resources to help answer each question.

Other DSL and/or Corps actions: Provide all information known to you regarding any previous actions (permits, violations, wetland delineations) associated with the project site.

Block 9: Impacts, Restoration/Rehabilitation, Compensatory Mitigation

Unavoidable environmental impacts: Describe the unavoidable environmental impacts that are likely to result from the proposed project. Include permanent and temporary impacts, and direct and indirect impacts. Provide a written analysis of potential changes the project may make to hydrologic characteristics of the affected wetlands or waterbodies and an explanation of measures taken to avoid or minimize any adverse effects of those changes, such as: impeding, restricting or increasing flows; relocating or redirection flow and potential flooding or erosion downstream of the project, changes to water velocity up or downstream, change in frequency of inundation and saturation of wetlands, etc.

Provide a table summarizing permanent and temporary impacts by HGM and Cowardin classifications. This should include direct and indirect impacts.

Site restoration: For temporary disturbance of soils and/or vegetation in waterways, wetlands, or riparian (streamside) areas, discuss how you will restore the site after construction. This may include the following:

- Grading plans to restore pre-existing elevations
- Planting plans and species list (native species only) to replace vegetation
- Maintenance and monitoring plans to document restoration to wetland condition and/or vegetation establishment
- Associated erosion control for site stabilization

Compensatory mitigation: Describe your proposed compensatory mitigation approach or explain why you believe compensatory mitigation is not required. If proposing permittee-responsible mitigation for permanent impact to waters of this state, see OAR 141-085-0705 and 33 CFR 332.4(c) for plan requirements.

Note: In situations where the project affects wetlands, but does not convert wetland to upland, compensatory wetland mitigation may still be required to offset the loss of function.

Block 10: Adjacent Property Owners for Project and Mitigation Site(s)

Names and addresses for properties that are adjacent to the project site and permittee responsible mitigation site (if applicable), are required. “Adjacent” means those properties that share or touch upon a common property line or are across the street or

For linear facility projects on <u>new</u> alignments, the applicant must provide mailing addresses (or mailing labels if more than five) of all landowners along the entire alignment, regardless of whether the applicant has permission to use the property or whether there are removal-fill impacts. In addition, addresses (or labels) must be provided for all landowners whose land is adjacent to those properties within the alignment. For an **existing alignment**, addresses (or labels) are only required for landowners directly affected by removal-fill activities and landowners adjacent thereto.

stream. If more than 5, attach pre-printed labels. A list of property owners may be obtained by contacting the county tax assessor's office.

Block 11: City/County Planning Department Land Use Affidavit

This section is to be completed and signed by the local city or county planning office. The purpose of the affidavit is to identify whether the proposed project is consistent with the local comprehensive plan and zoning ordinances and to identify the types of local approvals that will be required. The project does not need local approvals before the local planning official completes the affidavit. DSL may delay or deny an application that requires a zone change or comprehensive plan amendment. DSL may seek clarification from a local planning official if the information in the affidavit is unclear or unknown.

Block 12: Coastal Zone Certification

The certification statement must be signed by the applicant for all projects located in the Coastal Zone (generally, west of the coast range summit).

Block 13: Signatures

The applicant and agent must sign the application. If the consultant listed in Block 2 is not acting as the agent, the consultant does not have to sign the application. If the project or mitigation site is not owned by the applicant, the landowner must also sign the application, unless there is an easement allowing the activity, or a written authorization is provided from the landowner consenting to the project. Applications for GPs or projects that fit the definition of "linear" do not require landowner signature other than DSL's.

By signing the application, the applicant becomes the responsible party for compliance with the permit and any associated mitigation obligation. Also, the signature verifies the applicant attests to the accuracy of the information contained in the application. Failure to provide complete and accurate information in the application may be grounds for denial, suspension or revocation of the permit.

If the project site contains state-owned lands, DSL staff will forward the application to the Proprietary Coordinator. The Proprietary Coordinator will review the application to determine whether an easement or lease is required from DSL and will sign the application as the landowner. The Proprietary Coordinator signature only gives permission for the applicant to apply for a removal-fill permit. It does not give permission to construct the project on state-owned land. A separate proprietary approval (easement or lease) is usually required.

Block 14: Attachments

Include the documents listed in Block 14, as applicable. The following guidance is offered for selected attachments.

Project drawings: Paper size up to 11" x 17" may be used. If more than one sheet is necessary to illustrate the project, match-lines should be provided and a key to the match sheets of the entire project included. All drawings must include a scale bar, legend, and north arrow**.** All figures must be clearly reproducible by both scanning and photocopying (i.e. yellow and light gray lines do not reproduce well). All text should be clear and large enough to be legible. All line types should be clearly identified and easily distinguishable. Turn off layers that do not apply to DSL's application review.

The following drawings must be provided:

- **Location map**: The location map should be of sufficient scale and detail to allow someone who is unfamiliar with the area to drive to the site from the nearest city, town or major highway intersection. The location map should show the nearest main road and intersections. The location map should also show the boundaries of the *entire project* (i.e. staging, construction access, mitigation), not just the impact site. Location maps for off-site mitigation areas must also be included. Typically, Bing or Google maps serve as the best location maps.

- **Tax lot map:** Attach a tax lot map(s) with the project site and mitigation site (if applicable) boundaries clearly delineated. Label the tax lots on the map.

- **Site Plan drawings**: The site plan drawings must be clear enough so a person unfamiliar with the project can understand where the waterway and wetland resources are and how they will be impacted by the removal-fill activities. The site plan drawings must include:
    - Tax Lot boundaries
    - The entire project (including roads, buildings, utilities, etc.)
    - Existing and proposed contours, as applicable
    - Location of ordinary high water, wetland boundaries or other jurisdictional boundaries
    - Jurisdictional boundaries by resource type (i.e., wetland boundary by Cowardin and HGM class and location of OHW)
    - Stormwater outfalls, if applicable
    - Clear identification of the areas proposed for all removal-fill activities and impacts (temporary and permanent). Cross-hatching should be used to distinguish various types of impacts. If there is more than one removal-fill site, identifiers should be assigned (wetland A, B, etc.) and referenced in the narrative description of the project and mitigation plan.
    - Staging areas and equipment or construction access
    - Location of the cross sections
    - Compensatory mitigation areas
    - Scale bar, north arrow and legend

Site plan drawings should not contain so much detail that it interferes with the ability to understand the drawing. To reduce clutter on engineered drawings, the applicant should review the drawing for clarity and turn off any layers that are unnecessary.

    - Date. If drawings are updated or resubmitted, the date should also be updated.

- **Cross section drawing(s):** Cross section drawings are required to illustrate the vertical extent of removal and fill activities relative to existing elevations. To be meaningful, the location of cross sections on the plan view should be in the area of greatest extent of removal-fill activity. Cross sections must be of a scale sufficient to evaluate proposed removal-fill activities and must include:
    - A vertical and horizontal scale bars
    - The existing and proposed ground elevations
    - Jurisdictional boundaries (e.g., OHW or wetland boundary)
    - The proposed water elevation, if applicable
    - Any structures or construction limits
    - Clearly identification temporary, permanent, direct and indirect impact areas within waterbodies or wetlands
    - Date. If drawings are updated or resubmitted, the date should also be updated.

Resubmitted applications should contain original drawings to avoid submitting copies of copies, rendering the drawing illegible.

Recent aerial photo: At least 1":200', or the highest resolution available that provides a clear view of the entire site with the project boundaries identified. There are numerous aerial photo services available online from Google, Bing and others.

Site rehabilitation for temporary impacts: If there are temporary impacts, a rehabilitation plan is required. Temporary impacts are those that are rectified within 24 months of initial impact and are typically associated with utilities and equipment access roads. The rehabilitation plan should be designed to:

- Re-establish the pre-existing contours of the site
- Re-establish the pre-existing vegetation community
- Provide for rapid site stabilization to prevent erosion
- Hatch the planting area to clearly show what species will be planted in what areas.

The rehabilitation plan should include a grading plan and a list of plants, as applicable. A monitoring plan (including monitoring method, criteria and duration) must also be included to confirm successful re-establishment of the wetland and vegetation.

Mitigation plan and functions and values assessments: If there are permanent impacts a mitigation plan is required. Functions and values assessments for the impacted wetland, stream, or other waters and for the proposed mitigation site must be conducted to determine if the mitigation site meets the eligibility requirements and to complete the mitigation accounting calculation. The following mitigation documents must be provided:

- **Eligibility and Accounting Worksheet:** A completed eligibility and accounting spreadsheet and the matching quick guide(s) (from the eligibility and accounting worksheet) is required to document that the proposed mitigation plan meets the eligibility requirements, to demonstrate what the minimum mitigation area requirements are, and to convey to the reviewer how the assessments were compared and determined to provide replacement of lost functions and values.

- **Functions and values assessments:** A completed functions and values assessment for the impact and proposed mitigation site is required to determine mitigation eligibility and to document what functions and values will be lost at the impact site and replaced at the mitigation site. The parts of the functions and values assessments that need to be included as attachments are:
    - Cover pages
    - Score sheets
    - ORWAP OF, F or T, and S Forms
    - SFAM PA, PAA, and EAA forms
    - ORWAP and SFAM Reports
    - Assessment maps
        - For ORWAP – soils, topo, assessment area, contributing area
        - For SFAM – aerial photo site map, topo site map. Both should document the PA, PAA, and EAA

  In addition, the excel file for each assessment should be sent to (emailed) to the DSL Aquatic Resource Coordinator reviewing the application.

- **Mitigation Plan:** A mitigation plan describes in detail the proposed mitigation site; how it will be constructed, monitored, and maintained. Details on the information required to be included in a mitigation plan can be found in Chapter 9 below.

General Authorization Notification Instructions

Applicants seeking eligibility under one or more of DSL's GAs must submit a GA Notification Form to DSL at least 30 days in advance of starting the removal-fill activity.

In evaluating what type of authorization is appropriate for a project, DSL considers the entire project. If a project involves any removal-fill activity that is not eligible for a GA, the Joint Permit Application must be used to apply for an Individual Permit or General Permit.

Block 1: Responsible Person Contact Information

Provide all requested contact information for the person that will be responsible for complying with the conditions of the GA.

Block 2: Landowner Information

If the owner of the land where the removal-fill activity will occur is different than the "responsible party," then include all landowner contact information here. GAs do not authorize trespass on the land of others. The responsible party must

obtain all necessary access permits or rights-of-way before entering lands owned by another. Landowner signature on the GA Notification Form is not required.

Block 3: Project Location Information

All requested information regarding the location of the proposed removal-fill activity must be provided. See the guidance document on determining the latitude/longitude.

Block 4: Project Information

Provide the anticipated start and completion dates (month/year) for the removal-fill activity. DSL may use this information to schedule a permit compliance site visit.

Block 5: Activities for the Project

Check the box(es) for the GAs for which eligibility is sought. The notification may involve more than one GA eligible activity for a ***single project***. However, the GA for Minimal Disturbance in ESH, the GA for Removing and Disposing of Sediment Behind Tide Gates, and the GA for Recreational Placer Mining in ESH ***cannot*** be combined with any other GA.

For each activity checked, the appropriate supplemental page must also be attached to the notification.

Resource Gains and Losses Sheet

The resource gains and losses sheet must be completed for the Waterway Habitat Restoration GA, Wetland Ecosystem Restoration GA, Waterway Bank Stabilization GA and Temporary Impacts to Non-Tidal Wetlands GA. This information is used by DSL to help track aquatic resource gains and losses as part of our reporting obligations to the state legislature.

Supplemental Activity Pages

For each GA activity that applies to the project, a supplement page(s) must be completed and attached to the notification package. Each supplemental page lists specific fee and information requirements that allow DSL to confirm eligibility.

Attachments

For each GA activity, the required attachments are indicated on the supplement pages. See guidance for project drawings above.

Notice for Certain Voluntary Habitat Restoration Activities Page

This page is completed only if the project will additionally include any of the following three permit-exempt habitat restoration activities:

- Ditch and drain tile removal
- Placement of large wood, boulders, and spawning gravels
- Other activities customarily associated with habitat restoration in Essential Salmonid Habitat waters

In this case, submittal of the GA notification form will also serve as the notification requirement associated with those exempt activities.

If you are only conducting exempt activities that require a notice, please use the Notification for Voluntary Habitat Exemptions form found here.

Block 6: Signature Page

The responsible party indicated in Block 1 must sign and date the notification form. Landowners, if different than the responsible party, are not required to sign the notification form. Before signing, the responsible party must review the pre-conditions listed in Block 6; by signing the form, the responsible party is acknowledging their understanding of them.

The Placer Mining GA application information and the online form. There are also links on the form to important information about areas of closure and other permitting that may be required

For projects on DSL-owned submerged or submersible lands**,** DSL staff will forward the notification package to the DSL Proprietary Manager to obtain the appropriate signature.

Submitting the Notification Package

Completed notifications may be submitted electronically or in paper form. If in paper form, they must be submitted to the DSL office serving the area where the project is proposed. For projects located in counties east of the Cascades, applications should be submitted to the office in Bend. For projects located in counties west of the Cascades, applications should be submitted to the Salem office. Addresses are listed on the application form.

Emergency Permit

Please see the section on Emergency Permits under Chapter 7. Emergency forms can be found on DSLs website.

Permit Waivers

Applications for permit waivers (for remedial actions conducted on a site selected or approved by DEQ) are made on the JPA form. However, the items below are generally not required for a complete application. Check with the Resource Coordinator for your area.

- Signed Land Use Compatibility Statement
- Alternatives analysis
- Signature of landowner if different than applicant (except for permitee responsible CM)
- Identification of adjacent land owners

Application Fees

For DSL to determine that an application is complete, it must include the correct application fee. An exception is application fees for emergency permits, which **are due within 45 days** of receiving the emergency permit.

No-fee project types: The following project types do not require an application fee regardless of the type of authorization:

- Erosion-flood repair or streambank stabilization
- Voluntary restoration projects
- Any GA involving less than 50 c.y. of removal and fill
- Applications resulting in a “No State Permit Required” determination

GA fees: GAs involving more than 50 c.y. of removal and fill require a flat fee of $250. There is no fee for the Waterway Habitat Restoration GA, Bank Stabilization GA, and Wetland Ecosystem Restoration GA)

All other application fees: The fee is calculated according to applicant type and volume of removal and/or fill according to the current fee schedule.

Making payment: Application fees may be paid by check or with credit card. Checks must be made payable to the **Oregon Department of State Lands** and should accompany the application.

Payment by credit card may be accepted after an application has been submitted and assigned a file number by DSL. The applicant will need the application number and the correct fee amount. Credit card payments must be made online on the DSL website.

All application fees received by DSL are deposited in the Common School fund for use by DSL in administering the Removal-Fill Law.

Chapter 6: Processing the Removal-Fill Permit Application

Chapter Overview

Processing General Authorizations (GA)
Projects that qualify for a General Authorization, will be reviewed within 30 days of receipt to confirm that an application is complete and eligible.

Processing Individual Permit (IP) and General Permit (GP) Applications

- Step 1: Application Completeness Review**:** (30 days for IPs/15 days for GPs) The application is reviewed for completeness and applicable permit type. A completeness review letter is sent to the applicant documenting the review. If the application is deemed incomplete, a revised application in entirety is required.
- Step 2: Public Review Period**:** (30 days for IPs/15 days for GPs) If the application is deemed complete, the public review period is initiated. A notice is sent to other agencies, adjacent property owners, and other interested parties inviting comment on the application.
- Step 3: Final Review: (60 days for IPs/ a total of 40 days from the receipt of a complete application for GPs) Consideration is given to comments received which are relevant to the decision-making process. The applicant is invited to address relevant comments and any unresolved technical issues by providing additional information or revising the project.
- Step 4: Permit Decision**:** The entire record is evaluated against the criteria for permit issuance and a permit is approved or denied. If more time is needed to address issues, the applicant may request an extension of the decision deadline.

Term and Expiration
Permits may be issued from one to five years. GAs are issued for three years.

Renewal and Transfer
Permits may be renewed upon request. Before an IP expires, DSL will notify the permittee of the opportunity to renew the permit. Except for Maintenance Dredging, GPs cannot be renewed beyond 5 years. GAs are not renewable.

Modifying the Permit
Modification of a permit may be requested by the permittee or initiated by DSL.

Special Permitting Situations
By law, state correctional facilities, solid waste landfills, and certain energy generation facilities follow a removal-fill permit process that is different than the standard process.

Permit-Related Appeals
A permit or authorization decision may be appealed by the applicant or third parties that are “aggrieved” or “adversely affected” by the authorization decision. Applicants may appeal an incompleteness determination. Appeals are adjudicated through the contested case hearing process.

Chapter 6: Processing the Removal-Fill Permit Application

Intake and Initial Handling

When an application or notification is received by DSL, the Department does several things to prepare the document for review and processing.

Date stamping: The application or notification is date stamped to record the start of the processing timelines.

Data entry: Within approximately three days of receipt, the information is entered into the DSL database. Before data entry, basic information about the applicant and the location are verified and corrected if necessary. The agency's database is queried to determine if:

- The project is connected to an expired permit that was previously authorized.
- There are any unresolved compliance issues at the site.
- A wetlands determination or delineation for the site has been submitted and if there is delineation concurrence.
- There is a compensatory mitigation site on the project site.
- The project is located on state-owned land administered by DSL or is in designated Essential Salmon Habitat (ESH) or a State Scenic Waterway.

Landowner signature on state-owned land: For every application and notification, an electronic notice is sent to DSL's Proprietary Coordinator to determine if the project is located on DSL land. If yes, the Proprietary Coordinator for the area will sign the application as the property owner. A signature from the Proprietary Coordinator only allows the applicant the permission to apply for a removal-fill permit. The Proprietary Coordinator will follow up with the applicant if a lease or easement is required for the project.

Scanning and posting on the DSL Website: Applications and notifications are scanned (if paper form) and posted to the DSL website for public viewing. Prior to scanning, non-essential information such as regulation citations, copies of wetland delineation reports and excerpts from local government zoning ordinances are removed from the package. While such information is not scanned and posted on the website, it remains part of the official record and available for review upon request.

Fee Handling: During the completeness review, staff will determine the fee amount and notify the applicant with the completeness determination.

Payment by credit card: Payment by credit card may be accepted after an application has been submitted and assigned a file number by DSL. The applicant will need the application number and the correct fee amount. Credit card payments may be made online at the DSL website.

No State Permit Required Determinations
To receive official confirmation that a permit is not required for a specific project, an application must be submitted to DSL for review. The Department does not typically require a "complete" application for this determination; information must, however, be sufficient for DSL to determine removal-fill jurisdiction or exemption status. Please contact the Aquatic Resource Coordinator in your county to determine what information is required. If it is determined that a removal-fill permit is not required for the proposed activity, the Department will issue a "No State Permit Required" letter within 30 days of receipt of the application. There is no application fee for this service. Application fees will be refunded to the applicant.

Overpayments, underpayments, and refunds: Overpayments or payments for permits that do not require a fee will be refunded to the applicant within 60 days after permit issuance. Underpayments will be identified in the application completeness review letter. Refunds are not provided when applications are withdrawn, are denied, or for permits that are not implemented.

Processing General Authorization Notifications(GA)

To confirm project eligibility under one of the GAs, the GA Notification Form must be submitted to DSL.

The GA Completeness and Eligibility Review

The following is for all GAs except placer mining. Within 30 calendar days of receipt, the Aquatic Resource Coordinator will review the GA notification package for completeness and eligibility using a General Authorization Notification Checklist. The standards that are applied are listed in the administrative rules for the GA (OAR 141-089).

If a GA notification is deemed complete and eligible, DSL will return the notification with the:

- "Eligible" box checked
- Timing for work within the jurisdictional area indicated
- Expiration date
- Signature of the Aquatic Resource Coordinator
- General and activity specific conditions
- Short Term Access Agreement, if one is required for work on DSL-owned submerged or submersible lands.

If DSL does not review the GA notification within 30 days of receipt, the notification will automatically change to "eligible" status and the applicant may commence the removal-fill activity.

If the notification is found to be incomplete, an incompleteness letter will be sent to the responsible party, identifying the missing information. A new 30-day review period is initiated upon receipt of a revised notification package. DSL may elect to close the file if the revised package is not received within 120 days.

If a notification is determined to be ineligible, a letter describing the reason for ineligibility will be sent to the applicant. The applicant will then have the option to either modify the project to meet the GA requirements or have the application processed as a GP or IP. In either case, a revised notification or application package will need to be submitted within 120 days to continue processing.

DSL reserves the right to require an IP or GP for a project that might otherwise qualify for a GA, if DSL determines that the activity may cause more than minimal adverse effects or might result in long-term harm to waters of this state.

Term of GAs, Renewal and Revision

All GAs, except for the Placer Mining GA, are issued for three years and cannot be renewed. Placer Mining GAs are issued for up to one calendar year and expire on December 31. To renew Placer Mining GAs, an annual report must be submitted to DSL.

Revision to an approved GA may be requested by submitting a revised notification. If the revision is determined complete and eligible, the new determination will be sent to the responsible person for posting at the worksite

Processing Individual Permit and General Permit Applications

Step 1: Reviewing IP and GP Applications for Completeness

Review Standards

DSL conducts a completeness review within 30 days of receipt of an IP application and within 15 days for a GP.

A complete application is one that contains sufficient information for DSL and the public to make an informed evaluation of the project's effects, the availability of alternatives, and whether the mitigation is sufficient to offset the anticipated adverse effects. The Aquatic Resource Coordinator will use the Joint Permit Application (JPA) Completeness and Mitigation Plan Checklist (if applicable) for conducting the completeness review of the JPA.

In conducting the completeness review, DSL addresses four questions:

- Does the application contain all the required information?
- Is the information accurate?

- Is the level of detail sufficient?
- Is the information in the application consistent with administrative rules?

Does the Application Contain All Required Information? The information required for permit applications is listed in the Joint Permit Application (JPA) Completeness and Mitigation Plan Checklist. Not all items on the checklists apply to all projects.

Is the Information Accurate? The Aquatic Resource Coordinator will review the application to evaluate the accuracy of the information in the application. For example, if the fill volumes are not reported consistently throughout the application, the Aquatic Resource Coordinator will ask the applicant for clarification.

If the inaccurate information is something that requires a minor correction, the Aquatic Resource Coordinator may make the correction on the application by hand and initial the change. An example is correcting an erroneous latitude and longitude for the project site location.

The Aquatic Resource Coordinator will check the Secretary of State's Business Registry to confirm the business entity name matches exactly and the business's status.

Is the Level of Detail Sufficient? The application must contain sufficient detail to allow DSL to make the necessary determinations and decisions (see below) regarding the permit. The level of detail required is dependent on factors including, but not limited to the:

- Area of resource impact
- Level of potential interference to navigation, fishing or public recreation
- Functions and values of the affected resource
- Uniqueness of the affected resource
- Anticipated level of public interest

The issue of sufficient detail is often discussed in the context of the need to demonstrate avoidance and minimization of impacts to waters of this state. For example, an application for a project proposing to impact two acres of forested wetlands would need a more robust alternatives analysis than an application proposing a one-tenth acre of wetland impact.

There is no formula to determine the required level of detail for any given project because there are many factors involved. The applicant's goal is to provide enough detail and supporting information to allow DSL to fully evaluate the application. DSL has the discretion to request additional detail if deemed appropriate.

Is the Information in the Application Consistent with Administrative Rules? Another purpose of the application review process is to alert the applicant if any part of the application is inconsistent with administrative rules. Inconsistencies may lead to a determination of incompleteness, and some may be resolved later in the permit

process, depending on how the correction would change the ability of the public to review the project.

For example, a wetland mitigation plan may be determined "complete" because the plan contains performance standards as required by administrative rule. However, DSL may believe those standards are insufficient to accurately measure the success of the mitigation. In this case, the mitigation plan may still be deemed complete, but the technical issue will be flagged for further evaluation and discussion with the applicant as part of the final review period.

For GPs: DSL determines if the project is eligible under OAR 141-093 for the specific type of GP. GPs have specific eligibility requirements set forth in those rules.

In contrast, if the proposed mitigation involves wetland enhancement that does not meet the criteria specified in the administrative rules, the application would be deemed incomplete because the mitigation would need to be substantially revised and therefore affect the public's ability to effectively review the project.

The Aquatic Resource Coordinator reviews the application to address the questions above and DSL determines if the application is complete. An application must be determined "complete" by DSL to proceed to the public review period. The completeness review step confirms that sufficient information is present in the application, in contrast to the Technical Review Period, which is the point in the process where DSL staff evaluates all the information, including public comments, to make the final decision.

Not all application deficiencies lead to an incomplete determination. Sometimes deficiencies are minor enough that they do not affect the public's understanding of the scope and effect of the project. Thus, it can be easily corrected or addressed later during the final review phase of the process.

Administrative Rule Changes and Timing of Application Submittal: The date the complete application is received by the Department is important because the administrative rules that are in effect on that date are the ones that apply. For instance, if an application is received right before a change in the administrative rules and it is determined to be complete, the previous administrative rules are used as the standard for processing the permit application (even if the completeness review does not occur until after the rule change). If that application is deemed incomplete, and the administrative rules change before the application is resubmitted, the new rules will apply.

The Application Completeness Review Letter

The results of the completeness review are communicated to the applicant via email.

If the application is deemed complete, including the fee, the applicant will be advised of the following:

- The application is sufficient to proceed to the public review period

- Any issues that do not make the application incomplete, but should be addressed prior to the permit decision
- Any other routine items that need to be addressed before the permit decision, such as mitigation bank credit purchase

If the application is deemed incomplete, the email will include a copy of the checklist with the missing or deficient information identified. At this point, the application is changed to "awaiting application revision" status on the DSL website.

An *entire* new application package must be re-submitted, referencing the DSL application number. Addenda or individual pages should not be submitted unless directed by the Aquatic Resource Coordinator. Re-submittal of an application will initiate a new completeness review period. If a revised application is not submitted within 120 calendar days from the date of the completeness review letter, DSL may close the file and retain the application fee. The applicant will then need to reapply for a permit and submit a new application fee.

For GPs: If an applicant requests that the application be processed as a GP and DSL determines it is ineligible, the applicant will be informed of this decision in the review letter. The application will be then processed as an IP.

Step 2: The Public Review Period

Once the application has been deemed complete, the application is made available for comment on the DSL website under the section titled "Applications Available for Comment".

The public review period allows DSL to solicit the input of interested parties on the proposed removal-fill activity. Input received by DSL is used to make a permit decision and develop permit conditions necessary to protect Oregon's water resources.

Public Review Period Timelines

The public review period for IPs is 30 days and 15 days for GPs.

DSL has the discretion to shorten the public review period, upon manager approval, for a given application but will do so only in rare circumstances. Situations that may warrant a shortened public review include, but are not limited to:

- A project with resource benefits when expediting the permit is necessary to meet grant deadlines or in-water work periods.
- DSL has made a mistake in the application review step which caused unnecessary project delays.

A date to remember: The "end of the comment period" is important to remember so applicants are prepared to respond to comments in a timely manner.

Invitation to Comment

DSL will notify adjacent property owners (as identified in the permit application), affected local government planning departments, state and federal natural resource

agencies, tribal governments, watershed councils, and other public interest groups in the geographic area affected by the permit of the opportunity to review and comment on permit applications. Parties may request to be added to the public review list by contacting DSL.

Notification is sent by U.S. mail or e-mail and states that the application is available for review and comment on DSL's website.

For those without internet access, a paper copy of the application may be requested by contacting the assigned Aquatic Resource Coordinator. DSL may charge a copying fee for this service.

The comment period deadline is stated on the website and in the notification. To assure comments are considered, they must be received at the DSL office no later than 5:00 p.m. on the day of the deadline. Deadlines falling on a non-business day are ***not*** extended to the next business day.

Commenting on Applications

Comments must be submitted in writing to be considered in the permit decision. There are three ways in which comments may be submitted to DSL.

- **Online**: Reviewers are encouraged to use the online comment submission form. From there, internet users may also view comments submitted online by others.
- **By mail:** Reviewers may submit comments by mail to the Aquatic Resource Coordinator assigned to the application. The application number must be referenced in the correspondence.
- **By e-mail:** Reviewers may submit comments by e-mail to the Aquatic Resource Coordinator assigned to the application. The application number must be referenced in the correspondence.

DSL will only consider comments relevant to the Removal-Fill Law. Because DSL's authority is limited to effects to waters of this state, it is important comments focus on aspects of the project that relate to the conservation, protection and best uses of the water resource.

Examples of topics DSL may consider in the permit decision include:

- Effects to the flow or reach of waters on adjacent properties
- Effects to water quality
- Effects to aquatic habitat
- Availability of other alternatives with lesser adverse impacts to waters of this state
- Adequacy of the proposed mitigation to offset adverse effects to waters of this state

Comments from state agencies: DSL relies on comments from other state agencies as experts. For example, DSL will rely on comments from ODFW regarding project effects to fish habitat, DEQ regarding effects to water quality, and the Marine Board regarding effects to recreational boating.

Examples of topics that DSL cannot consider are:

- Traffic, noise, dust, and air pollution concerns
- Aesthetic concerns
- Local land use decisions

Step 3: The Technical Review Period

The timeline for the final technical review is 60 calendar days after the comment period closes for IPs and 10 calendar days after the comment period closes for GPs. The technical review is for:

- DSL to consider comments received during the public review period
- The applicant to address public comments
- The applicant to resolve any remaining technical issues, including submittal of bonds or confirmation of mitigation bank credit purchase

DSL Review and Handling of Comments

The Aquatic Resource Coordinator will review all comments and forward them to the applicant, identifying those relevant to the Removal-Fill Law. Any remaining technical issues previously identified in the completeness review letter will be listed if they have not yet been addressed**.**

Addressing Public Comments by the Applicant

Response to comments must be in writing and submitted to DSL and the commenting party. The response can be in the form of additional information or project revisions, as appropriate. For IPs the response to comments should be submitted within 25 days of receiving the comments; for GPs, within several days or the applicant must coordinate with the Aquatic Resource Coordinator to extend the decision deadline. This will allow the Aquatic Resource Coordinator enough time to review the materials, resolve issues and draft the permit decision.

If the response to comments has not been received by the stated deadline, the Aquatic Resource Coordinator may alert the applicant. However, DSL will not be responsible for reminding applicants and consultants of their pending deadlines. In the absence of a written extension request, DSL will make the permit decision by the established deadline.

Comments fall into two categories: comments that are informational and do not need a response from the applicant; and those that require a response from the applicant, and potentially others. The Aquatic Resource Coordinator will identify which comments should receive a response.

If an applicant chooses not to respond to comments, DSL will evaluate the record to make a permit decision. If the applicant does not intend to respond to the comments, it is helpful to advise the Aquatic Resource Coordinator, so a permit decision is not delayed.

Resolving Remaining Technical Issues

An application may have technical issues to be resolved before the final decision by DSL. Such issues typically include:

- Technical issues identified in the application completeness letter
- A fish passage compliance determination from ODFW
- Last-minute requirements for compensatory mitigation, such as the financial security or mitigation bank credit purchase certificate

Recirculating an application for public review: If an application is significantly modified after the public review process, DSL may elect to conduct an additional public review. Generally, modifications in favor of conserving and protecting water resources or that result in a less than 10 percent increase in the wetlands/waterway impact will not require an additional public review period.

During the final review, DSL may elect to solicit additional input from specific agencies or conduct interagency meetings to resolve issues, as appropriate.

Because the application is attached to the permit, any changes to the application made after the public review period must be incorporated into a final updated application before permit issuance.

Public hearings and meetings: DSL has the discretion to hold public hearings and public informational meetings, if needed, to obtain input on a proposed activity or facilitate awareness of a proposed project. Public hearings are rare and are generally held only if information cannot be obtained by other methods, and there is substantial public interest.

Step 4: The Permit Decision

Absent a deadline extension request from the applicant, DSL must make a permit decision within 60 calendar days from the end of the public review period for IPs, and within 10 calendar days from the end of the public review period for GPs.

Extension of the Permit Decision Deadline

If more time is needed to respond to comments or satisfy other requirements, the applicant may request, and DSL may agree to, an extension to:

- Respond to comments received during the public review period
- Arrange the financial security for mitigation
- Make project modifications to address public comments
- Resolve land use compatibility issues
- Address compensatory mitigation concerns

It is the applicant's responsibility to provide information to support the application. DSL has the authority to request any information that will enable the Department to make a permit decision.

While there is no limit on the length of time or the number of extensions that may be requested by an applicant, both the applicant and DSL must agree to the extension.

In general, DSL will allow extensions for one year from the date of complete application. Beyond one year, DSL will evaluate evidence of need for the project and whether changes in the administrative rules or program requirements would necessitate a new application.

Generally, requests should extend for at least one month beyond the time needed to provide the required items to DSL. This will give DSL enough time to consider additional information submitted, ask follow-up questions, and prepare the permit decision. If information to support the application is submitted less than one month from the permit decision deadline, the Aquatic Resource Coordinator may ask the applicant to request an extension.

For ocean renewable energy facilities, the permit decision deadlines may be extended unilaterally by DSL if it is determined necessary to coordinate the issuance of a proprietary authorization decision and a removal-fill permit decision.

Considerations and Determinations for the Permit Decision

DSL is required by statute to make two affirmative ***determinations*** to approve a removal-fill permit:

- The project is consistent with the protection, conservation, and best uses of the waters of this state.
- The project does not unreasonably interfere with preservation of waters for navigation, fishing, or public recreation. If interference is identified, then DSL must determine whether that interference is reasonable or unreasonable using the considerations described below, and most particularly, whether the identified public need or other public benefits of the project outweigh that interference.

DSL is required to ***consider*** nine factors in making those two determinations:

- **The public need for the proposed fill or removal and the social, economic or other public benefits likely to result from the proposed removal or fill:** DSL will consider whether a public need has been demonstrated in the application and what benefits the public may derive from the proposed removal-fill activity. When the applicant is a public body (including federal, state or local government agency, port, or other entity defined in ORS 174.109) DSL will generally accept the public body's rationale as to local public need and benefit without further consideration.

- **The economic cost to the public if the proposed fill or removal is not accomplished:** DSL will consider the scope and nature of any economic costs to the public if the removal-fill activity is not allowed.

- **The availability of alternatives to the project for which the fill or removal is proposed:** DSL will consider what alternative designs and construction methods were evaluated to avoid and minimize impact to waters of this state. DSL must be able to conclude that the proposed project represents the practicable alternative with the least impact to waters of this state.

- **The availability of alternative sites for the proposed fill or removal:** DSL will consider whether there were alternative sites reasonably available to the applicant for the proposed project that would have lesser impacts to waters of this state.

- **Whether the proposed fill or removal conforms to sound policies of conservation and would not interfere with public health and safety:** DSL will consider how the proposed action incorporates appropriate protection of and conservation measures for waters of this state. Sound policies of conservation are considered at the project scale and within the landscape. For example, a mitigation site should be in an area that connects wildlife corridors, because that is a known conservation policy. DSL will also consider the potential positive and negative effects of the removal-fill on public health and safety. For example, positive effects might include removal-fill to protect a sewer line. Negative effects might include increased flood risk to nearby properties.

- **Whether the proposed fill or removal conforms with existing public uses of waters and with uses designated for adjacent land in an acknowledged comprehensive plan and land-use regulations:** DSL will consider the intended purpose of the removal-fill activity and its potential effect on existing uses of the waters proposed for impact, as well as effects of the removal-fill activity on designated uses of adjacent lands (e.g., whether the action significantly impairs, reduces or damages existing and designated land uses).

- **Whether the proposed fill or removal is compatible with the acknowledged comprehensive plan and land use regulations for the area where the proposed fill or removal is to take place or can be conditioned on a future local approval to meet this criterion:** DSL will consider the local planning department's response to the land use compatibility statement (Block 11 of the JPA) and any additional information regarding land use compatibility gathered through the application process. In the event the project requires a conditional use permit or other local development permit, DSL may issue the removal-fill permit with a condition requiring the specified local approval be issued before starting. If a project is identified as *not* being consistent with the local comprehensive plan, DSL will not authorize the project until a plan amendment or zone change is secured.

- **Whether the proposed fill or removal is for streambank protection:** ORS 196.805(2) identifies streambank protection as a beneficial use of waters.

- **Whether the applicant has provided all practical mitigation to reduce the adverse effects of the proposed fill or removal.** For compensatory mitigation, DSL will consider the extent to which the proposed mitigation maximizes the principal objectives for CM (see *Chapter 8: Compensatory Mitigation Planning for Aquatic Resources*).

Additional Considerations for Estuarine Impacts

If the project involves fill or removal activity in waters subject to the tide for a "non-water dependent use," the following additional criteria must be satisfied:

- The removal-fill activity must be for a public use (that is, a publicly owned project or privately owned project available for use by public)
- The removal-fill activity satisfies a public need that outweighs any harm to navigation, fishing, and recreation

The term "non-water-dependent use" is defined as a use that does not require location on or near a waterway to fulfill its basic purpose. For example, fill in waters subject to the tide to develop a home site would be considered a non-water dependent use, whereas most coastal port operations, marinas, and docks would be water-dependent uses.

Documenting the Permit Decision

Individual and General Permit decisions (approval or denial) are documented in the form of a proposed order of the agency and contain up to five parts as described below. The proposed order automatically becomes a final order after 20 days if the permit decision is not contested.

Part One is the proposed order that describes:

- whether the permit is approved or denied
- the basic facts of the application process
- the statutory determinations and considerations leading to the permit decision and,
- the applicant's contested case hearing and other legal rights

Part Two (if permit is approved) is the permit "face page" which will identify the:

- Permit number and type (removal, fill or both)
- Wetlands or waterway and the county in which removal-fill activity is authorized
- Expiration date of the permit
- Name of the permittee (the entity responsible for adherence to the permit conditions)
- Permit notifications or "disclosures" that relate to liability, the requirement to obtain other permits and other issues
- DSL authorizing signature

Part Three (if permit is approved) is the "Attachment A" which lists the special conditions for the permit. The special conditions are usually broken down into four categories:

- **Base conditions** identify the routine conditions for all projects, such as responsible party, description of the authorized removal-fill activity and authorized work period.

- **Pre-construction conditions** typically include a requirement for local government approval, a stormwater permit from DEQ, flagging of avoided resource areas, and other items required before construction starts.

DSL has the discretion to include any condition that is related to protection of water resources, even if the condition involves a non-jurisdictional area. For example, even though vegetation removal is not regulated, DSL can require that riparian vegetation be avoided or replaced to protect the waterway.

- **Construction conditions** vary widely but will always include requirements for toxic and waste material handling, cultural resource protection, erosion control methods and other conditions that relate to construction operations.

- **Monitoring and/or Mitigation conditions** include requirements for site construction, monitoring and reporting, performance standards, financial security and mitigation credit purchase, if applicable.

The Aquatic Resource Coordinator will prepare a draft of the special conditions and may offer it to the applicant for review. The applicant may request an extension in the permit decision deadline if necessary to allow adequate time to review the draft conditions.

Part Four (if the permit is approved) is the "Attachment B" which consists of site location maps and project site plan.

Part Five is a copy of the final, updated application including any changes made during the application process.

Issuing the Decision

Once the relevant parts of the proposed order are assembled, the Aquatic Resource Coordinator will:

- Make sure all the documents are in the file
- Make sure the application has been updated to reflect any changes made during processing
- Complete the Resource Gains and Losses Form
- Complete the Intent to Issue Form
- Complete any regional specific forms

For IPs the decision documents are forwarded to the regional manager for final review and signature. For GPs the Aquatic Resource Coordinator may sign authorizations. Once signed, the decision documents are uploaded to the DSL website and a link to the decision documents is sent to the permittee via e-mail. Notice of the decision documents is also sent to the local government. For projects located in the Coastal

Zone, a notice is provided to the Department of Land Conservation and Development as part of their Coastal Zone Management Act consistency determination.

Term and Expiration of the Permit

IPs and GPs are issued for a period of one to five years, based on construction timelines indicated in the application, or requested by the applicant. Except for Maintenance Dredging, GPs are not renewable after five years. An entire new application may be required after the five-year period to assess any changes in site conditions or the project proposal. DSL encourages issuance of multi-year permits if it will require more than one year to complete the removal-fill activity. Obtaining a multi-year permit:

- Provides certainty for the permittee
- Eliminates possible failure to renew the permit
- Reduces the administrative work of permit renewal

For commercial gravel operations, however, DSL can only issue a multi-year permit when it determines both of the following:

- There is a sufficient aggregate resource or annual recharge (for in-stream operations) to allow the proposed volumes to be removed
- The permittee has, for at least one-year preceding a pending renewal, conducted removal in accordance with the permit conditions

For multi-year permits DSL will assess a one-time fee at the rate in effect at the time of the application. The one-time fee will include the application fee and any applicable annual fees for the term of the permit.

A permit must remain in effect until the removal-fill activity is complete. If the permittee anticipates removal-fill work will be necessary beyond the expiration date of the IP, a permit renewal must be secured.

There is no need to keep a permit active if only mitigation monitoring is being conducted. The permit is specifically to authorize the removal-fill activity and once that is complete, the permit can be expired. The mitigation conditions will remain in effect until the mitigation site is released by DSL, even after permit expiration.

Permit Renewal and Transfer

This section describes the process for renewing a permit when the removal-fill activity will not be completed by the expiration date and the process for transferring a permit to another party.

Permit Renewal

The Renewal Notice

Generally 90 days before the expiration of an IP or GP, a renewal notice and renewal fee invoice will be sent to the permittee. Permit waivers and facility siting permits (see Special Situations, below) do not expire; therefore they do not need to be renewed. The notice must indicate the status of the project and returned:

- **The project is completed. Do not renew my permit.** If all authorized removal-fill activity is complete, this box should be checked. DSL will expire the permit. The permittee will still have an obligation to complete any required mitigation and submit annual monitoring reports if stipulated in the permit.

- **I/we have decided not to do this project. Do not renew my permit.** This box should be checked if the authorized removal-fill activity was never started and the applicant wishes to expire the permit.

- **The project has not been started. Please renew my permit.** This box should be checked if the authorized removal-fill activity has not started but is still expected to occur. Upon payment of the renewal fee, DSL will process the renewal request. If the application is 5 years old, DSL may require a complete updated application and may request the applicant to reassess the "need" for the project.

- **The project has been started, but not completed. Please renew my permit.** Check this box if the authorized removal-fill activity has started but is not completed. Upon payment of the renewal fee, DSL will process the renewal request. In this case, the response must include a letter describing the status of both the authorized removal-fill activity and required mitigation. For IPs, if the application is 5 years old, DSL may require a complete updated application that clearly reflects what work has been completed and what work remains. GPs cannot be renewed after 5 years.

- **The scope of the project has changed. Please renew my permit**. This box should be checked if there are any changes to the authorized removal-fill activity. The response must include a letter describing changes to the removal-fill activity. DSL will evaluate the changes to determine if an updated application and permit modification is required. If there are substantial changes, DSL may send the application out for public comment.

The renewal response must be signed by the permittee and sent with the renewal fee to DSL as indicated on the notice. Fees can be paid online. The renewal fee is calculated as the current base fee for the permitted activities.

If the expiration date on an IP is more than five years from the original permit issuance date, DSL may request a complete updated application that clearly describes what work has been completed and what work remains. If construction has not begun, DSL in certain circumstances may require an updated wetland delineation. The updated application or wetland delineation must be completed according to the standards in effect at the time of the submittal, and the application must be on a current application form. GPs cannot be renewed after 5 years.

If the permittee fails to respond to the renewal notice 45 days before the permit expiration date, DSL may presume the project is complete and expire the permit. Once a permit is expired, no further removal-fill activity is authorized. Expired permits cannot be re-activated.

Processing the Renewal Request

Upon receipt of the renewal request, the Aquatic Resource Coordinator will review the permit according to the administrative rules and standards in effect at the time of the renewal request. If there has been a change in the administrative rules or standards since the last renewal or original authorization, the Aquatic Resource Coordinator may:

- Request additional information from the permittee to confirm the project's compliance with current rules
- Conduct a public review period
- Modify the permit conditions to conform to the new rules or standards

For permits being renewed within the initial 5-year period, re-evaluation of the wetland is generally not necessary. However, if DSL becomes aware the boundaries have changed and the project has not begun after 5 years, DSL staff may investigate to determine if the permit requires modification. DSL may also consider whether the permit renewal is appropriate if the project has not begun after 5 years.

After reviewing the renewal request, along with any updated information or public comments, DSL will either issue a renewed permit or deny the renewal request. If denied, the permittee will be informed in writing of the reasons for the denial. Permittees may request a contested case hearing to appeal a denial.

Permit Transfer

Authorizations are issued to specific persons for a specific project and are not automatically transferred through property or other business transactions. The party named on the permit is responsible for compliance with all conditions of the permit unless the permit is officially transferred to another party.

Third party or co-applicant arrangements are not recognized by DSL. Only one entity may be listed as the permittee and they are the sole responsible party for compliance with the permit.

Permit transfer requests are made by submitting either the transfer form for individuals or the permit transfer form for corporations. The transfer form must be signed by the permittee (the transferrer) and the receiving party (the transferee). The permit transfer form must be accompanied by a new financial security instrument, issued to the transferee, if one was required in the permit. If the transferee is a business, the business must be registered with the Oregon Secretary of State Corporation Division and an Incumbency Certificate is also required.

Once received, the transfer form is signed by the DSL Manager. There is no fee for permit transfer.

If the permit has not expired, a modified permit is issued to the transferee. If the permit is expired, but there are remaining mitigation obligations, DSL will issue a letter confirming that the mitigation obligation has been transferred to the new party.

Important items to consider related to permit transfer:

- The transferee must be willing to accept, and be legally capable of fulfilling, all conditions of the authorization, including any mitigation obligation.
- The transferee must be the landowner or person authorized by the landowner to conduct the removal-fill activity and any required mitigation.
- Partial transfer of a permit is not allowed. The project-related conditions cannot be transferred to one party and the mitigation-related conditions to a second party.

Modifying a Permit

Permit modification may be requested by the permittee or initiated by DSL.

Permittee-Initiated Modification

Circumstances may arise after the permit is issued that necessitate a modification of the permit. Examples include, but are not limited to:

- Changes in the project design
- Changes in impact volume or area
- Implementation of a particular permit condition is found to be unfeasible

Permit modifications must be requested in writing. If the modification is significant, DSL may:

- Require a revised application or additional information
- Circulate the revised application for public review

Examples of "significant" modifications are:

- Increase in impact footprint by 10 percent or more
- Change in the proposed method, scope or location of mitigation
- Any change that would alter the findings contained in the Order authorizing the project

Requests for in-water work extensions: Requests for in-water work extensions must be in writing (typically via e-mail) and include the reason for the extension. Fill out and include the In-Water Work Period Variance Request. DSL will coordinate with ODFW to consider the request. If approved by DSL, the extension may include additional permit conditions. In-water work extensions must be posted at the work site.

DSL will consider new information, input from the public review, and the effect on waters of this state to determine if a permit modification is appropriate. If approved, DSL will issue a revised permit (if the permit is active) or a modification letter (if the permit has expired but mitigation monitoring is ongoing). If a proposed modification is so substantial that it changes the project purpose or the range of alternatives that could be considered, DSL reserves the discretion to deny the request and require that a new permit be applied for.

Agency-Initiated Modification

There are circumstances where DSL may modify existing conditions or add new conditions to a permit. Examples include:

- Any time unanticipated adverse effects to waters of this state are identified
- During renewal, or at the anniversary date of issuance of a multi-year permit, if changes in the administrative rule, standards, or DSL policy warrant modification of the permit
- DSL receives new or additional information

If DSL finds a permit modification is necessary, the Aquatic Resource Coordinator will contact the permittee to explain the nature of and rationale for the modification. The permittee may have the opportunity to provide input before the modified permit is issued.

Special Permitting Situations

Projects governed by the following state and federal siting authorities are handled differently than the standard removal-fill application process:

- Energy-Related Projects (above a certain size) – Oregon Department of Energy (Energy Facility Siting Council (EFSC))

- Solid Waste Landfills – Oregon Department of Environmental Quality (Environmental Quality Commission)
- Correction Facility Siting – Oregon Department of Corrections (Corrections Facilities Siting Authority)
- Ocean Renewable Energy Facilities see section above under General Authorizations under Chapter 5

Energy-Related Projects (EFSC):
The permitting process is controlled and dictated by DOE. A removal-fill application is to be submitted to DSL through the lead agency and at their direction.

JPAs for EFSC projects do not require county signature, alternatives analysis, landowner signature (except for permitee responsible compensatory mitigation), incumbency certificate, local land use signature, or identification of adjacent landowners. These items are not required because the project is reviewed under an overarching process as shown below:

- **Notice of Intent**: The applicant submits a Notice of Intent to the siting authority. The siting authority sends the notice to DSL and other state agencies for review. DSL determines if a removal-fill permit is required and if other information, such as a wetland delineation, is required as part of the removal-fill permit application.

- **Application for certification**: The applicant applies for approval or site certification to the siting authority. If a removal-fill permit is required, the application to the siting authority contains a Joint Permit Application and all the required attachments. DSL conducts a completeness review of the JPA in a timeframe that meshes with the process of the siting authority. The results are provided to the siting authority.

- **Public notice**: Once a complete application is received, the siting authority conducts their certification process, which includes a public notice.

- **Comments**: Comments received during the public notice conducted by the siting authority are forwarded to DSL. DSL provides input to the siting authority if there are comments relative to the removal-fill permit that need to be addressed by the applicant.

- **Removal-fill permit conditions**: DSL provides permit conditions to the siting authority. The siting agency includes those conditions in their approval documentation which includes a requirement that DSL issue a permit with the exact conditions.

- **Removal-fill permit: A** final removal-fill permit is issued to the applicant within the timeframe specified by the siting authority. The final permit must contain the exact conditions as those provided to the siting authority previously.

- **Permit expiration:** The permit is not subject to expiration through DSL's process. However, conditions in the permit may have requirements that are time sensitive.

- **Enforcement authority:** DSL will retain over the removal-fill permit conditions.

Oregon Department of Corrections and Solid Waste Landfills
For projects approved under these authorities, a removal-fill permit must be applied for and DSL is obligated to issue a permit. A complete application and delineation (including fees) must be submitted to Department of State Lands.

Consult with the approving authorities project manager early in the process to identify the exact process that must be followed. JPAs for these projects generally do not require county signature, alternatives analysis, landowner signature (except for permitee responsible compensatory mitigation), incumbency certificate, local land use signature, or identification of adjacent landowners. These items are not required because the project is reviewed under an overarching process. A public review period will be provided by DSL.

Permit-Related Appeals

Appeals by the Applicant

An applicant may request a contested case hearing if:

- The application has been deemed incomplete
- The GA notification has been determined ineligible
- A permit has been denied
- There is an objection to any conditions contained in the permit

Appeals by Third Parties

Persons that are "aggrieved" or "adversely affected" by a permit decision or a condition therein can request a hearing. (There is no opportunity for third party appeals in GA eligibility determinations.)

A person is "aggrieved" if they provided timely comment stating the merits of the proposed removal-fill during public review of permit applications.

A person is "adversely affected" if they have a legally protected interest that would be harmed, degraded, or destroyed by the authorized project.

The Hearing Request

Requests for a contested case must be submitted in writing to DSL, within 21 calendar days of the associated DSL decision. The request must identify the specific reasons for the appeal. It is important to note that only those issues raised in the request will be considered during the hearing.

Generally, DSL will respond to the request for a contested case hearing within 30 days of receipt of the request for hearing. The response will include a determination of whether the contested case hearing is granted, and if so, notification that the matter was referred to the Office of Administrative Hearings. The response will also include a notice of the appealing party's rights and responsibilities and a general description of the contested case hearing process.

The Office of Administrative Hearings will contact the party requesting the hearing to schedule a pre-hearing conference, often conducted by telephone. At the pre-hearing conference, the administrative law judge will set a date for hearing.

DSL may suspend a permit pending a contested case hearing. Petitions to suspend a permit must be submitted to DSL in writing. A permit will not be suspended unless the aggrieved or adversely affected party makes a showing, by clear and convincing evidence, that implementation of the permit would cause irremediable damage or would be inconsistent with ORS 196.600-196.990.

Chapter 7: Emergency Permits

Chapter Overview

What is an Emergency?

Within the context of the Removal-Fill Law, an emergency is a circumstance that poses an immediate and direct threat to public health, safety, or substantial property. If the actions necessary to alleviate the threat involve 50 cubic yards or more of removal or fill below a waterway's ordinary high water (OHW) elevation or in wetlands, or any amount of removal or fill in designated Essential Salmonid Habitat (ESH), State Scenic Waterway (SSW), or mitigation site, a DSL permit is required and may be authorized as an expedited emergency permit (EP).

The Procedure for Obtaining an Emergency Permit

- **Step 1:** The applicant must provide information including location, nature and cause of the threat, the condition of the waters of this state, and what action is necessary to alleviate the immediate threat. Remedial actions must be limited to the minimal amount of impacts necessary prevent irreparable harm, injury or damage to persons or property.
- **Step 2:** Contact DSL to initiate the EP process.
    - **During Business Hours**: 503-986-5200 (west of Cascades) or 541-388-6112 (east of Cascades)
    - **After Business Hours**: Oregon Emergency Response: 1-800-452-0311
- **Step 3:** Submit the EP application materials as directed by the DSL Aquatic Resource Coordinator and as time allows. DSL may conduct a site visit or ask another designated agency, such as ODFW, to do so.
- **Step 4:** Qualifying activities will be issued a written permit as soon as key information is provided. DSL can issue a verbal approval in advance of the written approval where it is necessary to protect public health, safety, or property.

After the Emergency

DSL staff may visit the site upon completion of the emergency work and may require the project be modified or require mitigation to compensate for any impacts to the affected wetland or waterway. A subsequent permit may be required to conduct remedial work.

Chapter 7: Emergency Permits

What is an Emergency?

Oregon Administrative Rule defines an emergency as natural or human-caused circumstances that pose an immediate threat to public health, safety, or substantial property, including cropland. DSL will use this definition and apply all the following considerations to assess whether an activity in wetlands or a waterway is eligible for an Emergency Permit (EP):

- Does the emergency pose a direct threat to public health or safety or substantial property, including but not limited to a dwelling, transportation structure, farm, or cropland?

- Does the nature of the threat allow enough time to obtain some other form of permit or is prompt action required to reduce or eliminate the threat?

- Is the proposed project the minimal amount necessary to reduce or eliminate the threat and minimizes, to the extent practicable, adverse impacts to waters of this state?

The Procedure for Obtaining an Emergency Permit

Step 1: Before Contacting DSL - the Emergency Situation Must be Documented

To support a determination an emergency exists and to facilitate approval of the emergency action, the applicant should be prepared to provide the following information during the first contact with DSL:

- The type of property at risk
- The cause of the threat
- The reason prompt action is necessary and why there is not enough time to obtain another type of permit
- The location, including township, range, section, tax lot, and latitude and longitude
- The date the damage or threat was first observed or the date of the event that precipitated the threat
- The nature of the habitat being affected (e.g., if bank erosion, the slope and soil texture of the bank, types, and extent of vegetation in the vicinity)
- What action(s) are necessary to alleviate the immediate threat, including: volumes and area of removal or fill, construction methods, construction timeline and other project specific information to allow DSL to understand the proposed emergency work
- Photos of the damage and proposed treatment area

- The name and contact information of consultants or engineers working on the emergency project
- Property owner information, including permission to conduct the emergency work

Actions must be limited to what is necessary to alleviate the emergency: Because the purpose of an EP is to alleviate the emergency situation, it is important the project be the least amount of work needed to alleviate the threat and minimize adverse effects to waters of this state. Additional removal or fill activities beyond that necessary to alleviate the immediate threat are not allowed under an EP.

Some emergency actions may be exempt from a DSL permit requirement: Two exemptions are commonly applied in emergency situations:

- Emergency repair to currently serviceable roads, bridges, and other transportation-related structures
- Maintenance of certain water control structures

Exemptions are further discussed in *Chapter 3: What Activities Are Exempt?* It is recommended that the exempt status of a proposed action be confirmed with a DSL Aquatic Resource Coordinator before proceeding.

Step 2: Contacting DSL

Once the emergency situation has been documented, DSL should be contacted as soon as possible.

During Business Hours: Normal business hours are Monday – Friday, 8:00 a.m. to 5:00 p.m. Requests for EPs are initiated by calling the Salem office (503-986-5200) on the west side of the Cascades; and the Bend office (541-388-6112) on the east side. The Aquatic Resource Coordinator serving the appropriate county will handle the EP request.

After Business Hours: If the nature of the emergency is such that waiting until regular business hours is not possible, the Oregon Office of Emergency Management (Oregon Emergency Response System) should be contacted (1-800-452-0311). The operator will take information regarding the emergency and contact the appropriate agency for immediate follow-up.

Response from DSL upon Contact: DSL will provide the following guidance during the initial contact:

- Determine if a permit is required from DSL for the proposed action and if the action is eligible for an EP
- Discuss what other information may be needed to process the request
- Explain the process and timeframe for making a final decision
- Provide an EP application form
- Arrange for a site visit as time allows and as necessary
- Determine if we will issue a verbal approval during the first contact

If there is sufficient time to prepare an application, the applicant will be asked to do so. If there is not sufficient time, and an emergency has been confirmed, DSL can issue a verbal authorization. If DSL issues a verbal authorization, a written authorization will be issued within five calendar days. The application should be submitted as soon as possible after the emergency work, generally the next day.

Aquatic Resource Coordinators will document the verbal authorization in the EP file, including volumes of removal or fill, design of the emergency work and construction methods authorized. To avoid enforcement action, the application must reflect what was authorized verbally.

Depending on the nature of the emergency and the scope of the proposed action, DSL staff may conduct a site visit or request local ODFW staff to visit the site to verify the emergency situation, evaluate the appropriateness of the proposed action, and develop site-specific EP conditions that may be warranted.

Contacting Other Agencies: DSL will typically contact the local ODFW office to get input on the emergency situation and what changes may be incorporated into the proposed action to limit impacts to waters of this state. Applicants may contact the ODFW field office directly to get input on the proposed action.

The emergency work may require approval from the Army Corps of Engineers, which may be contacted at 503-808-4373 (Portland office) or 541-465-6877 (Eugene office).

Step 3: Submitting the EP Application

Submittal Requirements: The emergency application form is available on the DSL Website (Forms) and by e-mail or fax upon request. The emergency application must be filled out completely and sent back to the appropriate DSL office by mail or electronically. The information required by DSL on the application includes:

- Applicant name, address phone number, fax, and e-mail
- Entity responsible for performing the activities
- Landowner permission (if different from the applicant)
- Project location (Township, range, section, tax lot, and latitude and longitude) and driving directions
- Date the threat (for example, erosion or landslide) occurred
- The need for the project including an explanation the nature of the direct threat to public health, public safety, or property
- Specific description of the proposed project (dimensions, amount of material to be removed and/or filled in wetlands or waterway)
- A determination if the project is a permanent or temporary solution
- Construction schedule
- Construction plan (how the work will be accomplished, equipment used, site access, etc.)
- Drawings including a location map, plan view, and cross section view

- Photos

Timelines for Processing the Emergency Application: State law and administrative rules do not establish a timeline by which DSL must make a decision for an EP. DSL understands that time is of the essence when an emergency exists and will act as promptly as possible to provide a timely decision.

Application Fees: The EP may be subject to an application fee according to the current fee schedule. If a fee is applicable, the amount will be identified in the permit. Payment is due within 45 days of the permit issuance date.

Step 4: Receiving Approval

Verbal and Written Approvals: If the nature of the emergency is such that an immediate approval is necessary to protect public health, safety or substantial property, DSL may issue a verbal approval as soon as sufficient information is provided to make an informed decision. At the time a verbal approval is provided, the Aquatic Resource Coordinator will explain the location and volumes of removal or fill being authorized and any special conditions required to protect the aquatic environment.

If a verbal approval is given, it will be followed up with a written approval within five days. A written approval will include:

- The party authorized and responsible for the work
- The location and types and volumes of material authorized for removal-fill
- Best management practices to minimize effects on the waterway
- Other permit conditions specific to the site
- ODFW pre-action notification requirement
- Any post project reporting requirements
- Expiration date
- Permit conditions for follow-up work

If DSL determines that the situation or the proposed action does not qualify for an EP, the applicant will be informed of the reason(s) why. The applicant may apply for approval through DSL's standard permitting options.

Conditions of Approval: The person identified on the EP is responsible for complying with the permit conditions, including, but not limited to:

- Use of certain erosion control methods
- Planting requirements
- Post-project reporting
- Mitigation for adverse impacts
- Project modifications post construction
- Requirement to apply for a removal-fill permit once the emergency situation has subsided
- Other practices and conservation measures necessary to protect the aquatic environment

A site visit does not eliminate the permittee's responsibility to provide a post-construction report stipulated in the EP.

Expiration of the Emergency Permit: The term of the EP will be limited to the time necessary to reasonably complete the proposed action. EPs are typically valid for no more than 60 days. The expiration date will be clearly identified in the written permit. If the work cannot be completed by the expiration date, a new permit must be obtained.

After the Emergency

Because the review of emergency application is expedited and there is usually not the opportunity for agency input, certain follow-up actions are usually required.

Site Visit

DSL staff may visit the project site upon completion of the emergency work. The purpose of such a visit will be to determine if:

- The project was conducted as authorized in the EP
- Any project modifications are needed to minimize effects to the wetland or waterway
- There are permanent effects that require mitigation
- If further site monitoring is required

Additional Work May Be Required

DSL may require the project be modified after the initial emergency work is completed. If the emergency work is determined to be non-sustainable or to present an unacceptable level of impact to the aquatic environment, a modification of the emergency work may be required. For example, if riprap is allowed under an EP, the applicant may have to remove the riprap, slope the river bank and plant woody vegetation as a more permanent solution to the erosion problem with less adverse effects. This work may require a separate authorization and would need to be done in the next in-water work period.

If impacts incurred from an emergency action are allowed to remain, the applicant may be required to provide compensatory mitigation. Mitigation actions may include purchase of credits from a mitigation bank, planting riparian vegetation, or other actions necessary to offset the adverse effects of the emergency work. Depending on the nature of the required mitigation, a separate DSL approval may be required.

Chapter 8: Compensatory Mitigation Planning for Aquatic Resources

Chapter Overview

When applying for a permit to impact waters of this state, the applicant is required to "mitigate" these impacts. Mitigation is a process to reduce the effects of the proposed project and includes avoidance and minimization. This chapter assumes that all possible steps have been taken to avoid and minimize the impacts and the applicant now needs to replace or "compensate" for the ecological characteristics (functions) and societal benefits (values) that will be permanently lost.

The success of a mitigation project depends upon multiple factors including appropriate siting, a sound project design and monitoring plan, the site's ability to be self-maintaining, and long-term protection. Compensatory mitigation will normally require the assistance of trained professionals (such as environmental consultants) to assure that projects are successful and that plans and reports contain sufficient detail to satisfy the Department's requirements.

This chapter covers the key topics for planning a successful compensatory mitigation site, including:

- Evaluating project impacts based on acreage/linear feet, impact type, and functions and values of impacted waters of the state
- Selecting the appropriate compensatory mitigation that will best offset those impacts
- Using the eligibility and mitigation accounting protocols
- Special considerations for Aquatic Resources of Special Concern, minor wetland impacts, and buffers
- Generating credits at a new mitigation bank or in-lieu fee site
- Mitigation scenarios that illustrate the application of the eligibility and accounting protocols

This guidance is applicable to compensatory mitigation for unavoidable impacts to both wetlands and waterways.

Chapter 8: Compensatory Mitigation Planning for Aquatic Resources

Evaluating Project Impacts

If a removal-fill permit is required, then, during the application process the applicant should evaluate both the direct and indirect impacts to waters of this state that are proposed to occur due to the project. Below are examples of indirect impacts:

- The project changes the direction of surface flow or cuts off water flow to wetlands resulting in draining wetlands
- A project increases hydrology discharged to a wetland converting it to open water (e.g., pond)
- A bridge is constructed that shades the waters of this state

Wetlands and waterways at the project site will be evaluated based on the area, location, and type (class, flow permanence, size, ESH designation) as well as the functions and values they provide. As discussed later in this chapter, this information is necessary to determine whether the proposed mitigation is eligible to compensate for the impacts proposed. Compensatory mitigation must provide an ecological match to the impacted waters of this state. The eligibility determination will result in improved environmental outcomes and supports achieving a watershed-based approach by establishing minimum ecological standards for mitigation site approval prior to determining the resource impact and replacement ratios (e.g. credits/debits) associated with the proposed impact and mitigation sites.

Selecting the Appropriate Compensatory Mitigation

Compensatory mitigation (CM) involves activities conducted by a permittee or third party to create, restore, enhance, or preserve the functions and values of the waters of this state. The goal of CM is to compensate for adverse impacts to waters of this state that occur during authorized removal-fill activities or through resolution of unauthorized removal-fill activities.

Forms of Compensatory Mitigation

There are several forms of compensatory mitigation that are available to the public:

- **Using a mitigation bank**: Purchase of mitigation bank credits from a DSL and Corps' approved wetland mitigation bank or in-lieu fee program.

- **Using advance mitigation:** Use of credits from a previously developed, permittee-responsible CM site. DSL must have pre-approved the credits for use by the applicant or one additional named party.

- **Permittee-responsible mitigation**: CM constructed by the permittee, or their agent, as a condition of removal-fill permit to offset authorized impacts. Permittee remains responsible for mitigation site performance for the duration of the monitoring period. Permittee-responsible mitigation may be on-site or off-site.

- **Using the payment-in-lieu mitigation program:** Payment to DSL in-lieu of mitigation by any other means described above. Note that this is not a Corps approved program and will not satisfy federal mitigation obligations. Restrictions may apply. For proposed impacts greater than 0.2 acres, payment-in-lieu mitigation is the CM method of last resort and should only be used when no other method is practicably available. DSL may use evidence presented by the applicant, public, or its own investigations to determine whether other practicable CM methods exist

Using The Principal Objectives

The goal of the principal objectives is to direct CM to the appropriate place(s) and ecosystem processes that will result in successful and meaningful mitigation. Rather than applying a strict hierarchy of mitigation forms, the applicant is asked to consider the specific proposed effects of their removal-fill project and select the mitigation opportunity(ies) that will best offset those effects (i.e., maximize the principal objectives).

The applicant should consider the principal objectives in the early stages of their mitigation planning and focus the CM plan on the option(s) that best address the objectives. DSL does not intend for the objectives to be used as a hierarchy or in a pass-fail manner. In most cases there is no single mitigation option that will maximize all objectives concurrently. Some forms of mitigation are inherently better suited to meeting a particular objective. For example, banking options will usually best serve to minimize temporal loss whereas permittee responsible mitigation can often better provide for local replacement of locally important functions.

DSL does not intend that these principal objectives lead to conflicting mitigation directives or requirements between the state and federal mitigation programs. DSL believes the principal objectives are compatible with the 2008 federal mitigation rule (33 CFR) and expects consistency between the two regulatory programs as it relates to preferences for the most appropriate CM method(s) for a given project.

CWM proposals for projects involving 0.2 acres or less of wetland impacts may use mitigation banks, in-lieu fee, or payment in-lieu mitigation without addressing how the selected CM method addresses or maximizes the principal objectives. There is no threshold for impacts to non-wetlands or Aquatic Resources of Special Concern (ARSC).

The principal objectives of compensatory mitigation are to:

- **Replace functions and values lost at the removal fill site:** This is considered and documented by means of a functions and values assessment of the proposed impact site and predicted (post-CM project) conditions at the CM site, at minimum. Guidance on how to complete assessments of existing and predicted conditions can be found in the ORWAP User's Manual and the SFAM User's Manual.

- **Provide local replacement for locally important functions and values, where appropriate:** This is considered and documented by showing how on- or near-site mitigation opportunities have been maximized when locally important wetland functions are anticipated to be lost at the impact site. "Locally important" may be informed by: significance determinations by the community as part of locally adopted Goal 5 work; high values scores as determined by the functions and values assessment method being applied; needs identified in an adopted watershed management plan; input from ODFW considering that agency's habitat mitigation policy; and input received during the public review process.

- **Enhance, restore, create, or preserve waters of this state that are self-sustaining and minimize long-term maintenance needs:** Proposed CM should be shown to be self-sustaining with a minimum of long-term intervention needs (e.g., artificial hydrology inputs, structure maintenance and repair, etc.).

- **Ensure the siting of CM in ecologically suitable locations**: A foundation of successful CM is the selection of a site with characteristics that will support the restoration, creation and enhancement of self-sustaining and ecologically relevant wetland functions and services. Site suitability considerations for selecting and evaluating a CM site are provided below. These considerations should not be used as mandatory criteria nor viewed as an all-inclusive listing, rather, they are offered as a good starting point for CM sites' evaluation. Spatial data that supports many siting considerations is available on Oregon Explorer in the Aquatic Mitigation topic page and the Mitigation Planning Map Viewer.

- **Minimize temporal loss:** To the extent that a CM method can provide for mitigation site development in advance of a function and value loss at the impact site, temporal loss is reduced. Temporal loss should become a significant consideration where substantial time is anticipated to recreate the lost (permanently impacted) functions and values of state waters (e.g., forested wetlands).

CM Siting Considerations

When evaluating sites for the purposes of compensatory mitigation development, there are some important considerations to make to help ensure a successful mitigation effort.

- Consider the watershed position:
  - Position of the site in the watershed relative to the functions and services targeted for replacement
  - Position of the site in the watershed where target wetland type would be expected to occur naturally
  - Position of the site relative to other waters to ensure federal jurisdiction under Section 404 of the Clean Water Act.

- Consider watershed processes within the site's watershed that have been historically degraded and could be improved by CM development. Some sources of information can be found in Appendix A.

- Consider the site's connectivity to other protected habitats. For example: designated parks, refuges, special management areas, or conservation easement protected areas.

- Consider the site's ability to support the restoration, creation, or enhancement of wetland or waterway types that will replace functions and values lost or impaired at the impact site.

- Consider the proximity of CM site to the impact site where relevant to replace locally important wetland functions.

- Consider the suitability of the physical characteristics presented by the site including the reliability and availability (e.g., water right) of hydrological sources and suitable soil or geologic characteristics for the target waters type or class.

For proposed impact to tidal waters, CM must be located within the same estuary unless the Director of DSL determines that it is environmentally preferable to forgo this limitation.

- Consider whether the site supports local watershed needs or priorities (e.g., as documented in a local watershed management plan) and/or local, regional or statewide conservation strategies (e.g., location of the site relative to a mapped

"Conservation Opportunity Area" as defined in ODFW's "Oregon Conservation Strategy").

- Consider the extent to which site characteristics will minimize significant long-term maintenance needs beyond the monitoring period to maintain functionality. (For example, consider long-term management issues such as invasive species control when seed sources are nearby, or the need for water control structures that will require regular/long-term maintenance).

- Consider the extent and functionality of upland buffers adequate to support and protect functionality of the mitigation site.

- Consider the presence of conflicts and stressors:
  - Extent of human disturbance that would reduce the site's viability as a functionally sustainable site (e.g., presence of contaminants; pollutant or sediment runoff into the site; or recreational uses that would reduce the benefits to wildlife habitat).
  - Presence of any legal constraints or restrictions that would conflict with the site's development as CM or the establishment of a legal protection instrument for the CM.
  - Presence of any adjacent or other nearby land uses or land use designations that could have an adverse effect on CM functionality or sustainability.
  - Presence of any adjacent or other nearby land uses or land use designations that could be adversely affected by CM development.

- Consider the site's ability to achieve multiple natural resource goals (e.g., address an established TMDL; accommodate state and/or federal threatened and endangered species recovery efforts).

Timing of CM Implementation

As a condition of the removal-fill permit, DSL will typically require that the CM be performed prior to, or concurrent with, the proposed impact (i.e., fill or removal in waters of this state). This means that at a minimum, earthwork at the CM site must be completed within the same construction season (typically spring-summer-fall) as the authorized impact. Where necessary, a phased approach to CM may be conducted. For example, if 50% of the authorized impact is to be done in one construction season, then 50% of the mitigation (considering the mitigation ratios) must have completed earthwork in that same season. "Earthwork" includes all manipulations of the land proposed in the CM Plan such as excavation, grading, ditch plugging, dike breaching, and sub-surface drain interruption.

DSL may approve non-concurrent CM if the applicant can demonstrate, to the satisfaction of DSL, sufficient rationale for the delay or sufficient evidence that there is a benefit to the aquatic resource by performing the CM non-concurrent to impacts. Non-concurrent CM may only be approved by DSL with compelling rationale (e.g., site

preparation) and for the shortest practicable time. Administrative rules allow for an increase in the mitigation obligation to account for the construction delay (OAR 141-085-0692(4)(f)). Generally, DSL will start with a minimum 25% increase in the mitigation ratio for each construction season of delay with the potential for greater increase if the impacted wetland supports particularly high function(s) or value(s). For example, using the 25% multiplier, a mitigation site with a calculated ratio of 1.5 (acres of impact) x 1.25 (1:1 minimum mitigation ratio with 25% multiplier added) = 1.875:1 for one construction season of delay; 2.25:1 for two construction seasons of delay; etc. Generally, increases to the mitigation ratio due to non-concurrent CM execution should not exceed double the originally calculated mitigation ratio if the mitigation site is fully constructed within 5 years or less of project impacts.

Special Requirements

Restoration as CM

Restoration is defined as the re-establishment of a former water of this state (and will most often refer to wetlands). In many places throughout Oregon, former wetlands have been either filled, drained, or converted to unvegetated, perennially open water. Historically, waterways have been re-routed away from their historic flow-paths and riparian corridors. CM plans using restoration must provide documentation demonstrating that the site was formerly a wetland or waterway. To demonstrate that a wetland or waterway existed in the past, provide the following types of evidence, as applicable:

- A current delineation showing the area is not now a wetland or waterway. Follow the delineation guidance to describe evidence of past impacts affecting remaining wetlands or waterways.
- An NRCS soil survey map showing hydric soils at the site (for wetlands). Soil survey mapping is typically at a much coarser scale than is required for delineation, so onsite soil data is typically needed to verify the presence and /or boundaries of relict hydric soils. The soil sampling should demonstrate the presence of relict hydric soil indicators according to the Delineation Manual and Supplements. Alternatively, a qualified soil classifier may present evidence that the soils match the profile of a soil map unit recognized as hydric.
- If hydric soils have been buried beneath fill material, sample pits at the perimeter of the fill, or a test pit excavated or augered through the fill may be needed. If soils have been deep ripped or otherwise highly altered, relict hydric soil indicators may be absent altogether, in which case the existence of former wetlands may not be provable.
- Historic photos showing a strong photo signature of wetlands or waterways prior to evident filling, draining, or impoundment. Provide the dates of each photo.
- Topographic maps showing that the site is in a landscape position conducive to the occurrence of wetlands or waterways. Comparison to existing nearby wetlands in the same landform, if any, can be helpful.
- Evidence that the water sources that previously contributed to wetlands or waterways were diverted or drained via manipulations such as tiling, ditching, or diking. Provide the approximate date that the hydrology manipulation took place.

Map the locations of all known tile lines and outfalls, and distinguish known from speculative tile locations.

Enhancement as CM

Enhancement means to improve the condition and increase the functions and values of an existing degraded wetland or other water of this state. Existing wetlands or waterways as CM may only be accepted if ***all*** the following conditions are met:

- Is conducted only on degraded wetlands or other waters of this state
- Results in a net gain in functions and values
- Does not replace or diminish existing wetland or waterway functions and values with different ones; unless the applicant sufficiently justifies that this replacement or diminishment is ecologically preferable
- Does not consist solely of the conversion of one HGM or Cowardin class to another
- Identifies the causes of wetland or waterway degradation and reverses, minimizes, or controls those causes as part of the CM plan
- Does not consist solely of removal of non-native, invasive vegetation and replanting or seeding of native plant species
- Is not for the replacement of eelgrass habitat

When evaluating a potential CM site, first determine whether the wetlands or waterways are degraded. By definition, “Degraded” refers to a water of this state with diminished functions and values. For wetlands, degradation must include hydrologic manipulation (such as diking, draining, and filling) that demonstrably interferes with the normal functioning of wetland processes. Simply having a high cover of non-native or invasive vegetation does not qualify the site as degraded. There must have been hydrologic manipulation, and it must have been significant enough to have permanently affected the condition of the area being proposed for enhancement.

To qualify for enhancement, the cause of degradation must be identified, and the mitigation strategy must reverse the cause of degradation. The following activities cause hydrologic degradation:

- Excavation of drainage ditches
- Drain tiling (lined or tiled subsurface drainage)
- Diking to exclude water
- Placement of fill
- Diversion of water source
- Drowning (addition of unnatural water source/depth/duration)
- Obstructions to tidal regime

For these types of activities, DSL may assess the *zone of influence* – the area hydrologically degraded by the activity. For example, a ditch along one edge of a wetland in high clay soils may have a narrow zone of influence.

Activities that do not result in significant hydrologic degradation are:

- Grazing
- Compaction
- Leveling
- Plow lines
- Logging
- Subsoiling (practice to temporarily fracture soils)
- Moling (unlined subsurface drainage)
- Roadside ditches

While **moling** can cause hydrologic degradation of the site, the effective life of these channels varies. The applicant should document when the moling occurred and document that they continue to affect drainage at the site.

If the site is degraded, determine whether the cause of degradation can be reversed, minimized, or controlled such that a net gain in functions and values can be accomplished. The net gain is the difference between the predicted function and values and those that currently exist at the site. Enhancement applies only to the area that is clearly affected by the reversal of the cause of degradation.

Preservation as CM

Preservation as CM relies on preventing the decline of, and threat to, the exceptional ecological features of existing water of this state. Preservation represents a net loss of area and functions of waters of this state in the near term in exchange for long term protection and maintenance through implementation of appropriate legal and physical mechanisms. Preservation is the preferred CM option (after all practicable avoidance and minimization measures have been sufficiently implemented during the removal-fill application process) when the aquatic resource type is exceptionally difficult to replace (such as an ARSC).

Applicants must demonstrate that the aquatic resource proposed for preservation is under threat of destruction or adverse modification (including zoning that allows for a land use that could result in significant modification or adverse effect to existing functions and values). The preservation site must also meet at least **one** of the following to demonstrate the exceptional ecological features of the aquatic resource:

- The site supports a significant population of rare plant or animal species. Oregon's list of rare, threatened and endangered species is maintained by the Oregon Biodiversity Information Center.
- The site is a rare type with a state rank of S1 or S2. Rankings are maintained by the Oregon Biodiversity Information Center and are based on rare plant associations. Types are listed on the Oregon Wetlands Explorer National Resources Digital Library.
- The preservation site is an ARSC.
- The preservation site, with existing and ongoing management, is in good condition and is highly functioning (as determined using a DSL-approved assessment method). Preservation must also accomplish at least one of the following:
    - Serves a documented watershed need; or

- Preserves wetland types disproportionately lost in the watershed.

Watershed needs may be found in documents such as local watershed assessments, (e.g. Oregon Watershed Enhancement Board Restoration Priorities), and water quality management plans (e.g. Oregon Department of Environmental Quality). Sources of information regarding historically and disproportionately lost wetland types in Oregon may be found at the Oregon Wetlands Explorer.

A suggested outline of materials required for a mitigation plan using preservation is found in Appendix C. A long-term management plan, funding mechanism, and long-term protection instrument must be in place prior to permit issuance for projects involving preservation as CM.

Protocol for Eligibility and Mitigation Accounting

DSL requires a two-step eligibility and accounting process for proposing CM:

- **Step 1:** Demonstrate that a proposed mitigation site is eligible to offset the proposed impacts.
- **Step 2:** Quantify mitigation requirements (in acres for wetlands) using an accounting worksheet. DSL is still in process of developing an accounting method for stream impacts.

Information from the Oregon Rapid Wetland Assessment Protocol (ORWAP) for most wetland impacts, and the Stream Function Assessment Method (SFAM) for stream impacts, will be used to inform decision-making at both eligibility and mitigation accounting steps. Outputs representing categories of functions and values, organized into thematic groups, will be used to inform eligibility, ensuring that functional groups at the impact site can be replaced at the proposed mitigation site. Outputs representing specific functions and values will inform the amount of mitigation required, ensuring that the accounting process reflects the degree to which finer-scale functions and values are replaced. There are some exceptions to this approach for ARSCs and for minor wetland impacts that are detailed later in this chapter.

When no Department-approved assessment method is applicable to the aquatic resource, best professional judgement, using the functions and values outlined in ORWAP or SFAM, as appropriate, will be used to assess the group-level functions and values for determining eligibility.

Step 1: Eligibility

Standard Approach

In this step, it is demonstrated that an existing or proposed CM site meets criteria to provide an ecological match for the impact.

First, the CM site must be located within the same 4th field Hydrologic Unit Code or within a service area of a bank or in-lieu fee covering the impact site. Impacts to tidal waters must be replaced in the same estuary, unless DSL determines that it is environmentally preferable to forgo this limitation. DSL may direct applicants to more localized (e.g., 5th field HUC or smaller watershed) mitigation opportunities when warranted as a result of: application of the principal objectives for CM; impact site functions and values assessment that identifies wetland service(s) of high function and value; input from public review process; or a watershed management plan or other locally adopted plan that identifies wetland services critical for retention within a smaller landscape.

For wetlands and tidal waters[1] an ecological match also means:

- Same wetland or tidal water type(s);
    - Hydrogeomorphic (HGM) class and subclass, and
    - Cowardin system and class (discretion is allowed; the Department could choose to approve a mismatch if the applicant can demonstrate satisfactory rationale for a difference in Cowardin class); and
- Group-level function & value replacement. The applicant must demonstrate that impacted functions and values are replaced, at the group level, by the functions and values at the mitigation site (see Figure 8-1).

Figure 8-1. Example of comparison of ORWAP groups. All function and value group ratings at the impact site are sufficiently replaced by the function and value group ratings at the proposed mitigation site. Assuming that this mitigation site also provides a class match (HGM and Cowardin) to the impact sites, it is eligible to offset the authorized impacts.

	IMPACT SITE				PROPOSED MITIGATION SITE				
GROUPS	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	Match? (yes/no)
Hydrologic Function (WS)	High		Low		High		Moderate		Yes
Water Quality Support (SR, PR, or NR)	High		Moderate		High		Moderate		Yes
Fish Habitat (FA or FR)	Low		Low		Low		Low		Yes
Aquatic Habitat (AM, WBF, or WBN)	Moderate		Moderate	LM	Moderate		Low		Yes
Ecosystem Support (WC, INV, PD, POL, SBM, or OE)	Moderate		High		High		High	MH	Yes

[1] *Tidal waters* are the areas in estuaries, tidal bays and tidal rivers located between the highest measured tide and extreme low tide (or to the elevation of any eelgrass beds, whichever is lower), that is flooded with surface water at least annually during most years. Tidal waters include those areas of land such as tidal swamps, tidal marshes, mudflats, algal and eelgrass beds and are included in the Estuarine System and Riverine Tidal Subsystem as classified by Cowardin (ORS 141-085-0510(23))

Group-level replacement is achieved when the function and value ratings of ORWAP groups at the mitigation site match or exceed those at the impact site. The Rating Break Proximity output on the ORWAP score sheet provides notification to permit applicants and reviewers when a score is within the repeatability error of a break between rating categories. This notification indicates that replacement may be achieved even if ratings do not explicitly match. "LM" indicates that the score is within the repeatability error of the break between Low and Moderate ratings, while "MH" indicates that the score is within the repeatability error of the break between Moderate and High ratings.

For waterways, an ecological match also means:

- Same stream type(s):
    - Flow permanence match (intermittent or perennial),
    - Stream size class (small, medium, or large as defined by Oregon Department of Forestry in OAR 629-635-0200(13) and (14)), and
    - Essential Indigenous Anadromous Salmonid Habitat (ESH) designation, if the impact is to an ESH stream; and
- Group-level function & value replacement. The applicant must demonstrate that impacted functions and values are replaced, at the group level, by the functions and values at the mitigation site (see Figure 8-2).

Figure 8-2. Example of comparison of SFAM groups. All function and value group ratings at the impact site are sufficiently replaced by the function and value group ratings at the proposed mitigation site. Assuming that this mitigation site also provides a stream type match to the impact sites, it is eligible to offset the authorized impacts.

	IMPACT SITE		MITIGATION SITE	
GROUPED FUNCTIONS	Function Group Rating	Value Group Rating	Function Group Rating	Value Group Rating
Hydrologic Function (SWS, SST, FV)	Moderate	Moderate	Higher	Moderate
Geomorphic Function (SC, SM)	Moderate	Lower	Moderate	Moderate
Biologic Function (MB, CMH, STS)	Moderate	Moderate	Moderate	Higher
Water Quality Function (NC, CR, TR)	Lower	Moderate	Lower	Moderate

Group-level replacement is achieved when the function and value ratings of SFAM groups at the mitigation site match or exceed those at the impact site.

Exceptions for Watershed Priorities

While the above approach for CM would be the standard approach (in-kind), in some circumstances, depending on the nature of the impact and the quality of the proposed CM, a project may meet exceptions for replacement by class and functions and values being impacted. To be approved for an exception to the standard eligibility criteria, the applicant must demonstrate that the proposed mitigation site (out-of-kind) addresses local or watershed needs or priorities that provide significant benefit compared to what

would be lost at the impact site. This exception is not an option when an impact site is considered an ARSC and may not be appropriate where an impact site has high-functioning, locally important functions and/or values. Pre-application correspondence is highly recommended.

To be approved for an exception to use the watershed priority approach to CM, the applicant will need to demonstrate in a proposed mitigation plan, to the satisfaction of agency staff, that the proposed mitigation site meets the following two criteria:

- Addresses a watershed priority, as identified in a planning or assessment document, report, or other data that considers one of the following:
    - How specific types/locations of the project will provide identified priority aquatic function for the watershed
    - Habitat requirements of important aquatic-resource dependent species
    - Loss or conversion trends of aquatic resource habitats
    - sources of watershed impairment
    - Current development trends that adversely affect aquatic resources or necessitate the presence of aquatic resource functions
    - Requirements of other regulatory and non-regulatory programs that affect the watershed.
- Provides a high level of the functions and values that are relevant to the targeted priority (either currently or post-construction).

Mitigation plans must include all the following elements to demonstrate that the proposed mitigation site meets the two aforementioned watershed priority exception criteria:

- **Description of the planning or assessment document(s), report(s), or data upon which their mitigation plan is based:** The description will include when, how, and by whom the analysis was completed, the geographic area covered by the analysis, and a summary of any public and private stakeholder involvement in the analysis, including any coordination with federal, state, tribal, and local aquatic resource management and regulatory staff;

- **Description of the specific priority targeted in the mitigation plan and the reasoning behind it being considered a priority:** The description will include a summary of the historic loss, causes for the loss, and ongoing threats; and

- **Description of how the location, type, functions, and values provided by the proposed CM site address the targeted priority:** The description will include an appropriate level of field documentation, including a function and value assessment, data collected at the site, mitigation drawings and specifications, and any letters from consultation with local agency representatives (e.g., ODFW, DEQ).

Step 2: Mitigation Accounting

In this step, an applicant with an eligible mitigation site will estimate the amount of CM required. The amount is dependent on (1) the degree to which the specific functions and values impacted are replaced at the proposed mitigation site and (2) mitigation plan components that may affect the replacement and/or sustainability of functions and values. For wetland impacts, the applicant will use a worksheet to calculate numerical values and the total mitigation required. For non-wetlands, the sections and factors may be used qualitatively to help determine the appropriate amount of CM.

There are five sections in the accounting worksheet. More than one worksheet may be used when a variety of mitigation plan components apply at the impact site or mitigation site.

Section 1: Minimum Acreage Requirements (wetlands only)

The minimum acreage requirement ensures that acreage replacement is addressed. Minimum acreage requirements for wetlands are solely dependent on the proposed mitigation method. Minimum requirements for waterways are not specified, but generally should not go below 1:1 until an accounting method is developed. The applicant must select from:

- **Restoration/creation:** recognizes replacement of acreage.
- **Enhancement**: recognizes that there will be a net loss of wetland acreage but that a net gain in wetland functions and values allows the agencies to achieve other programmatic mitigation goals (i.e., an increase in functioning on the watershed level).
- **Preservation**: recognizes that there will be a net loss of wetland acreage, function, and value. The purpose of preservation is to prevent a future loss of an intact/high-value resource that is under threat of development. As per current practice, regulatory staff will be able to apply case-by-case discretion when determining the minimum acreage requirement for preservation.
- **Credit purchase**: includes purchases from mitigation banks or payments to an in-lieu fee (ILF) program. *Note: The mitigation method is accounted for when the credits for a proposed bank/ILF site are calculated.*

Section 2: Increase Factors

Any adjustments applied in this step would result in an increase in the amount of mitigation required due to two factors: (1) differences between the functions/values lost at the impact site and the functions/values expected to be produced by the CM project; and, (2) temporal losses of functions.

- **Factor 1: Specific function and value replacement**
  State and federal regulations specify that CM should replace lost functions of aquatic resources. Beyond demonstrating ecological match at the group level, applicants are encouraged to locate and design mitigation sites that offset as many specific functions and values impacted as possible. Adjustments to the

mitigation acreage requirement will be applied to reflect the degree of ecological match that was achieved (as demonstrated by ORWAP or SFAM outputs).

The applicant will select either:

- **"Not applicable"**. Sites approved under the exception for watershed priorities, or when a Department-approved method is not applicable, are not subject to adjustments based on degree of ecological match.

  OR,

- **The specific number of functions and values matched.** Applicants must compare each specific function and value between the impact and mitigation sites to determine the number for which replacement was achieved (see Figure 8-3 for a wetland example using ORWAP). The adjustment factor increases as the number of unmatched functions/values increases.

Figure 8-3. Example of comparison of ORWAP specific functions and values. Fourteen of the impacted specific functions and values are sufficiently offset by the functions and values at the proposed mitigation site.

ORWAP SPECIFIC FUNCTION AND VALUE COMPARISON (for the accounting step)

	IMPACT SITE				MITIGATION SITE				
SPECIFIC FUNCTIONS & VALUES	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	**Match?**
Water Storage & Delay (WS)	High		Low		High		Moderate		Yes
Sediment Retention & Stabilization (SR)	Moderate		Moderate		High		Moderate		Yes
Phosphorus Retention (PR)	High		Moderate		Moderate		Moderate		No
Nitrate Removal & Retention (NR)	Moderate	MH	Moderate		High		Moderate		Yes
Anadromous Fish Habitat (FA)	Low		Low		Low		Low		Yes
Resident Fish Habitat (FR)	Low		Low		Low		Low		Yes
Amphibian & Reptile Habitat (AM)	Moderate		Moderate	LM	Low		Low		No
Waterbird Nesting Habitat (WBN)	Low	LM	Low		Moderate		Low		Yes
Waterbird Feeding Habitat (WBF)	Moderate		Low		Low		Low	LM	No
Aquatic Invertebrate Habitat (INV)	Moderate		Low		Moderate		Moderate		Yes
Songbird, Raptor, Mammal Habitat (SBM)	Low		Low		Moderate	MH	Moderate		Yes
Water Cooling (WC)	Low		Low		Low		Moderate		Yes
Native Plant Diversity (PD)	Moderate		High		High		High	MH	Yes
Pollinator Habitat (POL)	Moderate		High		High		High	MH	Yes
Organic Nutrient Export (OE)	Low				Low				Yes
Carbon Sequestration (CS)	Low				Moderate				Yes
Public Use & Recognition (PU)			Moderate				Moderate		Yes

Specific function and value replacement is achieved when the ORWAP ratings of both a function and its associated value at the mitigation site match or exceed the ratings for that same function and value at the impact site. The Rating Break Proximity output on the ORWAP score sheet provides notification to permit applicants and reviewers when a score is within the repeatability error of a break between rating categories. This notification indicates that replacement may be achieved even if ratings do not match.

- **Factor 2: Function temporal loss**
  Temporal loss is a factor to compensate for the time required for a mitigation site to fully replace functions that are lost at the impact site. Two major causes underlying temporal losses during the mitigation process have been identified: (1) the time lag associated with replacement of the vegetation community and (2) the time lag for development of hydric soil structure and characteristics at wetland mitigation sites.

  A vegetation adjustment factor is applied according to the vegetation community[2] that will be lost at the impact site, reflecting different development timescales required to replace different plant communities, as classified in Figure 8-4. A soil adjustment factor is applied if the soils at the wetland mitigation site will require an extended period of time to develop the structure, composition, and characteristics of hydric soils. Temporal loss adjustment factors are based on a general estimation of years-to-functionality multiplied by 3% per year. This percentage is a discount rate that has been widely-used in natural resource accounting methods (see text box on the next page).

  The applicant must select only the <u>first</u> applicable adjustment factor from the list below (which will represent the longest-lasting cause of function temporal loss):

  - Impact site is dominated by an evergreen forested wetland community
  - Impact site is dominated by a deciduous forested wetland community
  - Impact site is dominated by emergent or shrub vegetation (excluding cropped wetlands[3])
  - CM site is predominantly (a) upland soils which were not historically hydric or (b) hydric soils that will be disturbed during mitigation construction;
  - None of the above.

  The soil adjustment will not apply to (1) mitigation sites where native hydric soils are buried under fill when that fill will be removed without disturbing the native soils, or (2) when mitigation credits are being purchased. For the latter, the soil adjustment factor will be applied to the number of credits awarded to a mitigation bank or ILF project.

  The vegetation community adjustments will not typically apply if the CM method is preservation, if the impact site is dominated by cropped wetlands, or if living vegetation (except pioneer species) covers less than 30% of the substrate at the impact site.

[2] Vegetation communities, with the exception of cropped wetland, will be determined using the terms and definitions in Classification of Wetlands and Deepwater Habitats of the United States by Cowardin et al. (FWS/OBS 79/31, December 1979).

[3] *Cropped wetland* is converted wetland that is regularly plowed, seeded, and harvested in order to produce a crop for market. Pasture, including lands determined by the Natural Resources Conservation Service to be "farmed wetland pasture," is not cropped wetland. Converted wetlands are defined in OAR 141-085-0510(22).

Accounting for temporal loss of function in wetland mitigation

What is temporal loss?
Temporal loss is the time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site.

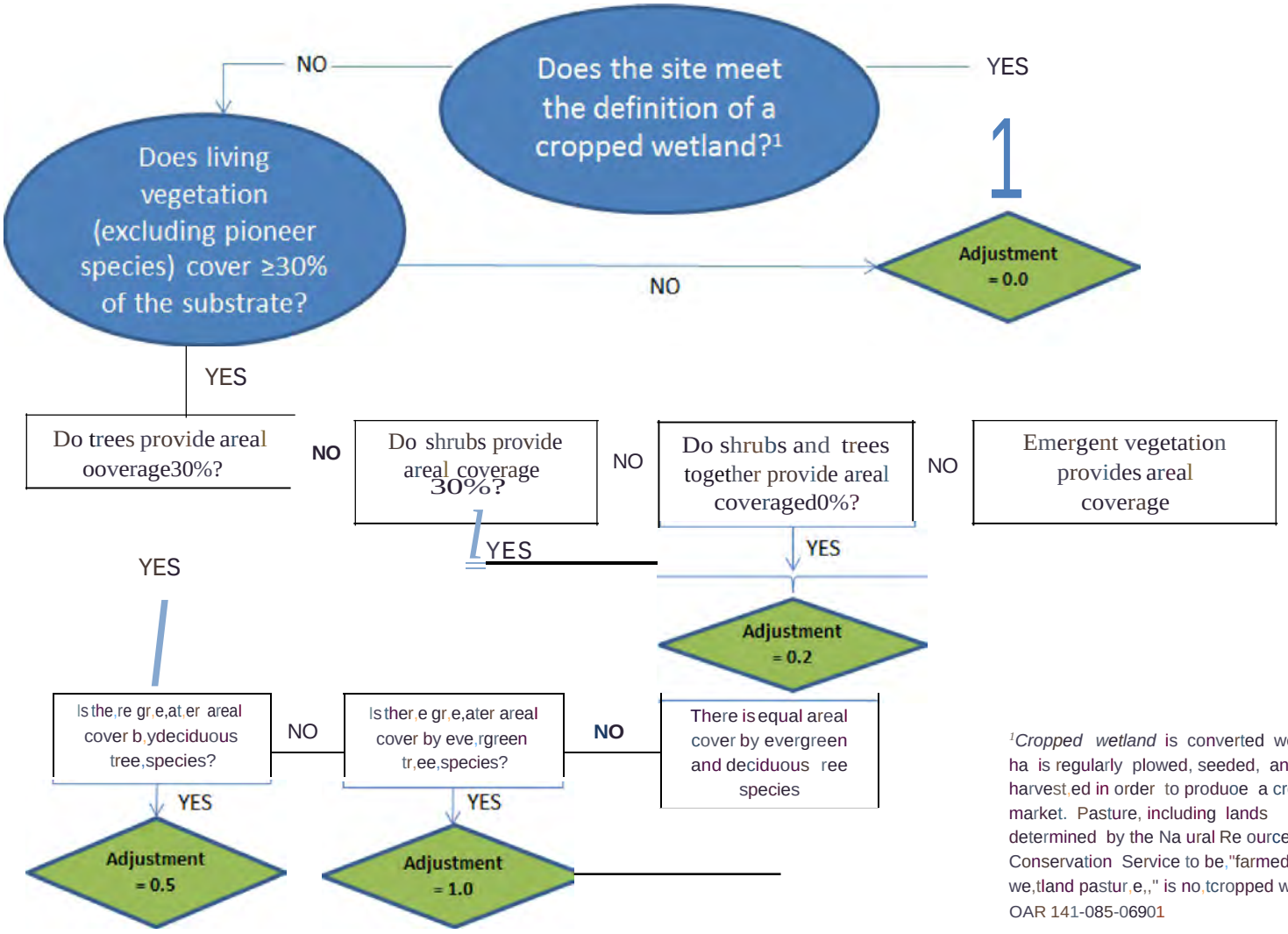
How can temporal losses be accounted for?
The required mitigation amount may be higher to compensate for situations in which temporal losses in function are occurring. This concept is incorporated in many resource accounting protocols, several of which require a standard 3% discount rate per year of functional loss. This means that for every year it takes to replace a specific amount of service, an amount of habitat capable of producing an additional 3% of the lost service must be provided. The concept is derived from the economic theory of discounting, which assumes that there is greater value in services that are provided in present time than on services that are put off to the future.

Temporal losses from vegetation community development
Loss of established vegetation communities at impact sites results in periods of function loss due to the delay time for vegetation community development at mitigation sites. The adjustment factors in this protocol consider the estimated time required for the vegetation at the mitigation site to fully replicate the size and age class of the vegetation lost at the impact site. An evergreen forested community is assumed to have a development time of 30+ years, while a deciduous forested community develops in ~20 years, and an emergent/shrub community develops in ~7 years. Cropped wetlands are excluded from the emergent vegetation category given that the level of function commensurate with what is provided by cropped wetland is assumed to develop in less than 2 years. The temporal loss of functions related to vegetation is applied based on the impacted site since it represents an impact on the wetland resource and is not related to the type of mitigation being proposed.

Temporal losses from soil development
Development of hydric soils (when they are not already present) and removal or disturbance of hydric soils (O and A horizons) results in extended periods of function loss due to the delay time to ecological maturity. The timeline for soil development can be lengthy, with some studies showing that while biomass and litter accumulation in created wetlands can reach near-natural levels after several decades, soil organic matter takes much longer to match natural levels, if it ever does. Various studies have demonstrated that biogeochemical functioning in restored wetlands, driven primarily by the soil structure, carbon content, and microbial activity, is often significantly lower than in reference wetlands even decades after restoration efforts occur. Given that it is difficult to assign a general estimate of “years to functionality,” this protocol applies a conservative adjustment (representing a timeline of a couple decades) to represent the development time for basic hydric soil structure and characteristics. The temporal loss of functions related to soil development are applied based on construction plans at the mitigation site since it is related to the type of mitigation proposed.

Figure 8-4:

!Function Temporalloss: Classification ofvegetation community at the impact site



[1]*Cropped wetland* is converted wetland ha is regularly plowed, seeded, and harvest,ed in order to produoe a crop for market. Pasture, including lands determined by the Na ural Re ources and Conservation Service to be,"farmed we,tland pastur,e,," is no,tcropped wetland. OAR 141-085-06901

Section 3: Decrease Factors

Any adjustment applied in this step would result in a decrease in mitigation requirements down to, but never below, the minimum acreage requirements established in the first section. That is, a decrease factor can counteract any increase factors but will never cause the amount of mitigation required (per acre of impact) to be less than the established minimum acreage requirements. There are two factors that may lead to a decrease in mitigation requirements.

- **Factor 1: High level of function replacement**
  If the CM site exceeds at least 80% of the specific functions being lost at the impact site, a decrease factor of 20% will be applied to counteract any increase factors. For ORWAP, ≥13 functions must be exceeded beyond an overlapping rating break proximity. The rating break proximity represents repeatability error, and to qualify for this decrease factor the mitigation site rating must be a higher rating and outside of the repeatability error of impact. For example, when a score is within the repeatability error between "Lower" and "Moderate" scores, the rating break proximity is automatically labeled as "LM" on the ORWAP Scores sheet, and a "Moderate" score at the mitigation site would not qualify as exceeding (see Figure 8-5).

- **Factor 2: Mitigation site protection & stewardship**
  Legally binding site protection instruments and assurances for long-term management are required for wetland mitigation sites to ensure that the land and aquatic resources are protected in perpetuity. Similar instruments may be required by the Department for protection of non-wetland mitigation sites. The agencies have outlined the minimum site protection requirements for both permittee-responsible mitigation and mitigation banks/ILF projects. There is no adjustment applied when minimum requirements are met, but an applicant can obtain a reduction in their total mitigation requirements if they provide a level of stewardship beyond what is minimally required, either at a permitee-responsible mitigation site or by purchasing credits from a bank/ILF site that has enhanced stewardship. This adjustment is designed to incentivize strengthened site protection and long-term maintenance financial arrangements to help ensure the long-term sustainability of CM sites. The applicant must indicate whether the protections in place are:

    - **Minimum requirements.** Administrative rule (OAR 141-085-0695) requires that protection instruments prohibit any uses of the CM site that would violate conditions of the removal-fill authorization or otherwise adversely affect functions and values provided by the CM site. Minimum administrative requirements are public ownership with an approved management plan, or a deed restriction. Sites that are not in public ownership must also include a right of entry or an access easement, conveyed to the regulatory agencies. Long-term maintenance plans must

describe how the applicant anticipates providing for ongoing maintenance of the CM site to ensure its sustainability.

OR,

- **Enhanced stewardship**. There are a variety of legal instruments and mechanisms that can provide protections beyond the minimum requirements, including conservation easements or land ownership by a qualified land conservation organization. Strengthened assurances for management and maintenance may include an approved long-term management plan with a financing mechanism, such as a non-wasting endowment or trust. Banks/ILFs typically provide this higher level of stewardship.

Section 4: Mitigation Requirement Calculations

Figure 8-6 provides step-by-step instructions for calculating mitigation requirements based on the answers provided previously. The process is designed to ensure that the final per-acre mitigation requirements never drop below the per-acre minimum.

Section 5: Buffer Calculations

A buffer is the area immediately adjacent to or surrounding a water of this state that may be necessary to protect against conflicting adjacent land use and to support ecological functions (OAR 141-085-0510(11)). This section of the accounting worksheet is only used if buffers will be required as part of the mitigation plan. Management and long-term protection of the buffer will typically be required. Buffer credits will be determined case-by-case by the Department and credit will only be given for actions taken above and beyond other legal requirements (e.g., Oregon Forest Practices Act, local ordinances, Oregon Department of Agriculture). The credits awarded per acre of buffer will generally be lower than for restoration, creation, or enhancement of waters of this state.

Figure 8-5. Example of high level of function replacement (when mitigation site *exceeds* 80% of functions lost at impact site).

	IMPACT SITE		PROPOSED MITIGATION SITE		
Specific Functions:	Function Rating	Rating Break	Function Rating	Rating Break	Mitigation site exceeds function rating at impact site?
Water Storage & Delay (WS)	Lower	LM	Moderate		✗
Sediment Retention & Stabilization (SR)	Lower		Moderate		✓
Phosphorus Retention (PR)	Moderate		Higher		✓
Nitrate Removal & Retention (NR)	Moderate	LM	Higher		✓
Anadromous Fish Habitat (FA)	Lower		Moderate		✓
Resident Fish Habitat (FR)	Lower		Moderate		✓
Amphibian & Reptile Habitat (AM)	Moderate		Lower	LM	✗
Waterbird Nesting Habitat (WBN)	Moderate		Higher		✓
Waterbird Feeding Habitat (WBF)	Moderate		Higher		✓
Aquatic Invertebrate Habitat (INV)	Moderate		Higher		✓
Songbird, Raptor, Mammal Habitat (SBM)	Moderate		Higher		✓
Water Cooling (WC)	Lower		Moderate		✓
Native Plant Diversity (PD)	Lower		Moderate	MH	✓
Pollinator Habitat (POL)	Higher	MH	Higher		✗
Organic Nutrient Export (OE)	Moderate		Higher		✓
Carbon Sequestration (CS)	Lower		Moderate		✓
Public Use & Recognition (PU)	Lower		Moderate		✓

Figure 8-6. Routine Compensatory Mitigation Accounting Worksheet

A) MINIMUM ACREAGE REQUIREMENT (per one acre of impact)

Mitigation method	Restoration/creation/ credit purchase/waterways 1.0	Enhancement 3.0	Preservation *case-by-case 10.0

B) INCREASE FACTORS (as percentage of minimum)

Specific function and value replacement	Number of matched specific wetland functions in ORWAP (requiring match of BOTH function and value):						
	N/A *(watershed priority/BPJ used)* 0.0	≥ 13 0.0	11-12 0.1	9-10 0.2	7-8 0.3	5-6 0.4	< 5 0.5

Function temporal loss	Select the first applicable adjustment factor: NOTE: factor with an asterisk (*) is not applicable to credit purchases		
		Impact site is dominated by evergreen forested community	1.0
		Impact site is dominated by deciduous forested community	0.5
		Wetland mitigation site has (a) upland soils that were not historically hydric or (b) hydric soils that will be disturbed*	0.5
		Impact site is dominated by emergent or shrub vegetation (excluding cropped wetlands)	0.2
		None of the above	0.0

C) DECREASE FACTORS (as percentage of minimum)

High level of function replacement	≥13 ORWAP functions exceeded 0.2	Not applicable 0.0
Mitigation site protection & stewardship	Minimum requirements 0.0	Enhanced stewardship 0.2

D) MITIGATION CALCULATIONS

A	Minimum acreage requirement		
B	Sum of increase factors (Section B)		
C	Sum of decrease factors (Section C)		
D	Line B - Line C (if < 0, enter 0)		
E	Line A × (1+ Line D)		
F	Total acreage impacted		**Mitigation requirement with no ← buffer requirement**
G	Line E × Line F		

E) BUFFER CREDITS (if applicable)

H	Acres of buffer		
I	Buffer credit ratio (case-by-case)		
J	Buffer credits		**Adjusted mitigation requirements ← with required buffer**
K	Line G - Line J		

Special Considerations

Aquatic Resources of Special Concern

The Department identifies some waters of this state as Aquatic Resources of Special Concern (ARSCs). ARSCs provide functions, values and habitats that are limited in quantity because they are naturally rare or have been disproportionately lost due to historic impacts. ARSCs include alkali wetlands and lakes, bogs, cold water habitat, fens, hot springs, interdunal wetlands, kelp beds, mature forested wetlands, native eelgrass beds, off-channel habitats (alcoves and side channels), ultramafic soil wetlands, vernal pools, wet prairies, wooded tidal wetlands, and others as determined by the Department. Appendix F provides a complete description of these ARSCs.

Impacts to ARSCs do not qualify for many of the exceptions in rule that promote permit application streamlining. CM for impacts to an ARSC will follow a slightly different eligibility protocol (described below). The purpose of applying specific regulations to ARSCs is to ensure that rare habitat types and the functions and values they provide are replaced in-kind on a landscape scale.

- **Mitigation site eligibility:** The CM must involve the ARSC type being impacted. Replacement by class group-level function/value replacement is not explicitly required as the requirement to match resource type is already more stringent than what is routinely required. The exception for watershed priorities is not an option where an impact site is considered an ARSC.

- **Mitigation accounting:** All the routine accounting worksheet sections will apply.

Minor Wetland Impacts

Impacts that are less than0.20 acres to non-tidal wetlands may be able to use a streamlined eligibility and accounting process. The streamlined process is not applicable to impacts to ARSCs, regardless of size, as those impacts are subject to the protocols outlined in above. Applicants may choose to use either ORWAP or best professional judgement to provide an assessment of functions and values at the impact site. A function assessment is not required for the compensatory mitigation site when mitigation is proposed to be fulfilled by credit purchase. When using best professional judgement, conclusions must include a rating (i.e., low, moderate, or higher) for each of the group-level functions and values, and a written discussion of the basis of that rating. Group-level functions and values assessed must include, but are not limited to, those outlined in ORWAP or SFAM, as appropriate.

CM for minor wetland impacts will follow slightly different eligibility and accounting protocols (described below). The purpose of maintaining a streamlined eligibility and accounting process for minor impacts is to: (1) minimize time and expense for applicants, (2) encourage applicants to minimize their impacts, (3) encourage applicants

to pursue credit purchases over permittee-responsible mitigation; and, (4) minimize regulatory staff time required to review applications.

- **Mitigation site eligibility:**
    - For credit purchases: Applicants must demonstrate eligibility by either meeting an abbreviated set of eligibility criteria that requires HGM class and subclass match, and Cowardin system and class match (but does not require group-level function and value matching), or by meeting exception criteria for watershed priorities.
    - For permittee-responsible mitigation: Applicants must demonstrate eligibility of the proposed CM site using either the standard eligibility criteria (HGM and Cowardin match and group function/value match) or by meeting the exception criteria for watershed priorities.

- **Mitigation accounting:**
    - For credit purchases: Applicants will purchase credits at a rate of 1 credit per 1 acre of impact. There are no further adjustments applied to this acreage requirement. Minimum acreage requirements are factored into the number of credits awarded to the bank/ILF project.
    - For permittee-responsible mitigation: increase and decrease factors based on the specific function/value replacement do not apply. All other adjustments of the routine accounting worksheet sections may apply.

Buffers

A buffer is the upland or wetland area immediately adjacent to or surrounding a wetland or other water that is set aside to protect against conflicting adjacent land use and to support ecological functions. This section deals only with buffers for compensatory mitigation sites. Buffers may be proposed by the applicant or required by DSL to maximize the principal objectives.

The presence of conflicts and stressors near the CM project should be part of the siting considerations process. However, outstanding issues with surrounding land uses and replacement or sustainability of functions and values of the CM project may be addressed using buffers. Waters of this state will almost always benefit from a natural buffer at the upland or project boundary, and DSL encourages all CM sites to have a buffer dominated by native vegetation.

Buffers approved as part of a permit authorization become part of the CM site and are subject to the same rules governing these areas, including performance standards, long term protection, financial surety for the buffer areas, and the removal-fill volume threshold of zero cubic yards.

To determine if a buffer is appropriate, the existing and potential future land uses surrounding the proposed mitigation site should be assessed. Future land use may be based on zoning, known development plans, existing land uses in the area, and topography. Activities associated with these land uses, and the likelihood they could cause stress or harm to the CM's ecological functions, should be considered. Particular attention should focus on

potential stressors to highly valued services at the site, as determined by a functions and values assessment (e.g. water storage, water quality, wildlife habitat support). Table 8-1 provides examples of conflicting land uses or ecological concerns as well as the objectives and functions that buffers could serve in those situations.

DSL does not have standard buffer requirements because each CM project is unique. Instead, the permit applicant (or consultant) should refer to technical documents that discuss design elements for specific buffer objectives and include the design specifications and reasoning in the CM section of the permit application. One good example of a buffer-related technical document is "Conservation Buffers: Design Guidelines for Buffers, Corridors, and Greenways".

Applicants may work with the DSL Aquatic Resource Coordinator for their county to determine the best buffer design for the project. Other federal, state and local agencies could be consulted to determine appropriate and effective buffer designs and goals. Local ordinances should be reviewed when designing the buffer. For example, some cities require dry vegetation to be mowed to reduce fire hazards, thus requiring a mowed buffer.

Table 8-1. Examples of Buffer Needs, Objectives and Targeted Functions

Current or Potential Conflicting Land Use	Buffer Objectives	Buffer Functions
Surface runoff into the wetland that delivers sediment, nutrients, or other pollutants	Reduce runoff of sediment, nutrients, and other potential pollutants	Slow water runoff and enhance infiltration Trap pollutants
Proximity to agricultural operations may expose the wetland to spray drift	Protect from wind Control air pollutants	Reduce wind energy Filter air pollutants
Urban sites prone to transient camps, or dumping of yard waste, pet waste and litter Sites adjacent to roads that may get hazmat spills or off-road vehicle trespass	Reduce pollutants Create a safe environment Promote nature-based recreation	Trap pollutants in surface runoff or subsurface flow Separate human activities Reduce hazards Protect natural areas Protect soil, plant resources
Human or domestic animal activity and noise near wetland may reduce native animal use	Control noise levels Enhance terrestrial habitat Enhance aquatic habitat	Screen undesirable noise Separate human activities Protect natural areas
Floodplain sites may get continual input of weed species and erosive action; other wetlands may get weed invasion from adjacent uplands	Protect from flood waters Enhance terrestrial and aquatic habitat	Reduce flood water levels and erosion Reduce bank erosion Protect soil, plant resources

Current or Potential Conflicting Land Use	Buffer Objectives	Buffer Functions
Unmarked mitigation site boundaries may have trespass from overzealous landscapers, gardeners, grazers or other agricultural users	Enhance terrestrial and aquatic habitat Enhance visual quality Create a safe environment	Protect natural areas Reduce hazards Separate human activities Enhance visual interest
The site is located upstream of a temperature-limited stream	Enhance aquatic habitat	Shade stream or wetland to maintain temperature
A natural corridor would connect the water resource to a nearby habitat area	Enhance terrestrial and aquatic habitat	Restore connectivity Increase natural area Provide a corridor for movement
Sediment and phosphorus removal is highly valued at the site, but water is delivered quickly to the site from the contributing area	Reduce runoff of sediment, nutrients, and other potential pollutants	Slow water runoff and enhance infiltration Trap pollutants in surface runoff
Land directly upslope of the wetland/upland boundary is not in natural cover, and aquatic or terrestrial support is valuable at the site	Enhance terrestrial and aquatic habitat Increase biological control of pests	Restore connectivity Increase habitat area Enhance habitat for predators of pests

Generating Credits at a New Mitigation Bank or In-Lieu Fee Site

The number of mitigation bank (Bank) and in-lieu (ILF) site credits that will be generated from a project must be known in advance of sales to offset specific impacts. Bank and ILF sponsors rely on this information to base business decisions upon and for some perspective for their credit pricing. DSL and the Corps of Engineers need credit information for Bank and ILF project approval, credit ledger management, and to efficiently implement our regulatory programs. Applicants benefit from publicly available credit information because this information adds consistency on credit tracking and availability during the application and permitting processes. For each Bank and ILF project, the agencies approve an estimated number of credits in an Instrument. This number of potential credits is assessed as the site achieves performance standards. Credit adjustments may be needed for banks or ILF sites depending on site performance measures.

Credit calculations at new Banks and ILF site will be based on: 1) the mitigation method being used at the site, and 2) for wetlands, whether the site is starting with upland soils, or with hydric soil that will be disturbed during construction. Buffers may also generate credits. Bank sponsors can use the crediting worksheet (Figure 8-7) to estimate the total number of credits their proposed bank will generate. More than one worksheet may be used when a variety of mitigation methods and credit decrease factors will apply at the Bank or ILF site.

Figure 8-7. Crediting Worksheet for Mitigation Banks & In-Lieu Fee Projects

A) MINIMUM ACREAGE REQUIREMENT (per one acre of impact)			
Mitigation method Pg. 7	Restoration/creation/waterways 1.0	Enhancement 3.0	Preservation *case-by-case 10.0

B) CREDIT DECREASE FACTORS (as percentage of minimum)		
Function temporal loss Pg. 9-10	Area has (a) upland soils that were not historically hydric or (b) hydric soils that will be disturbed,	0.5
	Area has hydric soils that will not be disturbed or the project does not include wetlands	0.0

C) MITIGATION CREDIT CALCULATIONS			
A	Minimum acreage requirement		
B	Credit decrease factor		
C	Line A × (1+ Line B)		
D	Applicable site acreage		
E	Line D ÷ Line C		← Potential credits
D) BUFFER CREDITS (if applicable) Pg. 12			
F	Acres of buffer		
G	Credit ratio (case-by-case)		
H	Buffer credit		
I	Line E + Line H		← **Adjusted mitigation credits**

Mitigation Scenarios

Four example scenarios have been developed to illustrate the process for determining mitigation site eligibility and mitigation credit accounting. The four scenarios are:

- Scenario 1: Permittee Responsible Wetland Mitigation
- Scenario 2: Mitigation Bank Crediting
- Scenario 3: Credit Purchase for a Wetland Impact
- Scenario 4: Stream Mitigation

Scenario 1: Permittee Responsible Wetland Mitigation

Proposed impact: Fill 0.86 acres of Flats (HGM), palustrine emergent (Cowardin), wetlands (see photo below).

Proposed compensatory mitigation: The site provides opportunity to enhance, restore and create wetlands. In this scenario, the applicant proposes enhancement of up to 5.52 acres of the existing palustrine emergent (Cowardin), Flats (HGM) wetlands for mitigation. The site is publicly owned, and a management plan will be developed. Funding for site management will come from the city budget. DSL requires a 0.5-acre buffer adjacent the roads that will be maintained as a public trail, which will be credited at 20:1. *(Air photo below shows the mitigation site ~10 years after construction)*

Step 1: Determine Eligibility

✓ HGM class and subclass match (Flats)

✓ Cowardin system and class match (paluestrine emergent)

Group-level functions and values match:

	IMPACT SITE				PROPOSED MITIGATION SITE				
GROUPS	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	Match?
Hydrologic Function (WS)	Moderate	LM	Higher		Moderate		Higher		✓
Water Quality Support (SR, PR, or NR)	Moderate	LM	Higher		Moderate		Higher		✓
Fish Habitat (FA or FR)	Lower		Lower		Lower		Lower		✓
Aquatic Habitat (AM, WBF, or WBN)	Higher		Moderate		Higher		Moderate		✓
Ecosystem Support (WC, INV, PD, POL, SBM, or OE)	Higher	MH	Moderate		Moderate		Higher		✓

Note that Ecosystem Support function is replaced because the function rating at the impact site could be considered either Higher or Moderate based on the rating break proximity (MH).

Step 2. Accounting

INSTRUCTIONS: This accounting worksheet is used to estimate a permittee's wetland mitigation requirements, specific to a particular impact and proposed mitigation site. The minimum requirements will be determined on a case-by-case basis by the agency but should not go below a 1:1 minimum ratio. Requirements are based on (1) the mitigation method, (2) the function/value replacement achieved, (3) function temporal loss factors, and (4) stewardship and site protection plans. Enter data in red boxes only. Yellow boxes will populate automatically. A separate column must be used for each mitigation method used (e.g., if a mitigation site includes both restoration and enhancement, the mitigation method for those distinct areas must be calculated in separate columns). A separate column may also be used to allow different function temporal loss factors to be applied to different acreages, even if the mitigation method being used on that acreage is the same.

Factor		Method 1	Method 2	Method 3	Notes
Mitigation method	What method(s) of mitigation is proposed? ▪ *Select an option from drop-down list.*	Enhancement			If purchasing credits, ILF or PIL, select "credit purchase." Minimum requirements for preservation and non-wetland waters are case-by-case, as determined by the Department.
	MINIMUM MITIGATION REQUIREMENT (acres of mitigation required per acre of impact)	3.00			
Note: Adjustments do not apply to non-tidal wetland impacts ≤0.2 acres purchasing credits as mitigation; select "Not applicable" for each factor.					
Specific function and value replacement *(increase factor)*	How many specific functions and values from the impact site are replaced at the mitigation site? ▪ *Compare ORWAP or SFAM scores between the impact site and the mitigation site (predicted scores) to determine this. Select an option from drop-down list.*	≥13 matches + 0%			Select "Not applicable" if the mitigation site is approved/seeking approval as an exception to in-kind replacement under a watershed priority approach, or best professional judgement was used to assess functions and values.
Function temporal loss *(increase factor)*	Which factor, if any, will cause the greatest temporal loss of function?	Emergent/shrub impacted			Soil adjustment factors are not applicable to credit purchases or removal of

	▪ *Select **first** applicable option from drop-down list.*	+	20%					historic fill. Vegetation and soil adjustments may not apply when the mitigation method is preservation.
High level of function replacement *(decrease factor)*	Does the CM site exceed at least 80% of the specific functions being lost at the impact site? ▪ *Compare ORWAP function ratings between the impact site and the mitigation site (predicted scores) to determine this. Select an option from drop-down list.*	Not applicable						"Exceed" means replaced beyond an overlapping rating break proximity.
			- 0%					
Mitigation site protection & stewardship *(decrease factor)*	What level of site protection and stewardship is proposed for the mitigation site? ▪ *Select an option from the drop-down list.*	Minimum requirements						Mitigation banks and ILFs typically have enhanced stewardship.
		-	0%					
	Total adjustment (percent increase)	+ 20%						
	ADJUSTED MITIGATION REQUIREMENT (acres of mitigation required per acre of impact)	3.6						
		Method 1		**Method 2**		**Method 3**		**Notes**
	Acreage of impact	0.86						Insert the area of unavoidable permanent impact

	MITIGATION ACREAGE REQUIRED (adjusted mitigation requirement * impacted acreage)	3.10			
	TOTAL MITIGATION REQUIRED WITHOUT BUFFERS	3.10	**This is the mitigation required if a buffer is not required by DSL**		

This section is only used if DSL requires a buffer at the compensatory mitigation project. This section does not apply to credit purchases.

Factor		Method 1		Method 2		Method 3		Notes
Credit for DSL Required Buffers	Buffer acreage	0.5						Use multiple methods only if more than one ratio will be applied to the buffer.
	Buffer credit ratio	10						DSL will determine the credit ratio for required buffers. Enter the acres of buffer required per credit (e.g. for 10:1, enter 10).
	Buffer Credit	+	0.05		0.00		0.00	
	Total Buffer Credit		0.05					
	TOTAL MITIGATION REQUIRED WITH BUFFER CREDITS APPLIED	3.05		**This is the mitigation required if buffers are required by DSL**				

	IMPACT SITE				PROPOSED MITIGATION SITE				
Specific Functions or Values:	Function Rating	Rating Break	Values Rating	Rating Break Proximity	Function Rating	Rating Break	Values Rating	Rating Break	Match?
Water Storage & Delay (WS)	Moderate	LM	Higher		Moderate		Higher		✓
Sediment Retention & Stabilization (SR)	Lower		Higher		Moderate		Higher		✓
Phosphorus Retention (PR)	Moderate		Moderate	LM	Moderate		Moderate		✓
Nitrate Removal & Retention (NR)	Moderate	LM	Higher		Moderate		Higher		✓
Anadromous Fish Habitat (FA)	Lower		Lower		Lower		Lower		✓
Resident Fish Habitat (FR)	Lower		Lower		Lower		Lower		✓
Amphibian & Reptile Habitat (AM)	Moderate		Moderate	MH	Moderate	MH	Lower		✗
Waterbird Nesting Habitat (WBN)	Higher		Moderate		Higher		Moderate		✓
Waterbird Feeding Habitat (WBF)	Moderate		Moderate		Higher		Moderate		✓
Aquatic Invertebrate Habitat (INV)	Lower		Lower		Moderate	LM	Moderate		✓
Songbird, Raptor, Mammal Habitat (SBM)	Lower		Moderate		Moderate	LM	Moderate		✓
Water Cooling (WC)	Lower		Higher		Moderate		Higher		✓
Native Plant Diversity (PD)	Moderate		Lower	LM	Moderate	MH	Moderate	MH	✓
Pollinator Habitat (POL)	Higher	MH	Moderate		Moderate		Higher		✓
Organic Nutrient Export (OE)	Moderate				Moderate				✓
Carbon Sequestration (CS)	Lower				Moderate				✓
Public Use & Recognition			Moderate		Public Use & Recognition		Lower		✗

Scenario #2: Mitigation Bank Crediting

In this scenario the mitigation site is proposed as a mitigation bank. The site is 9.5 acres of wetland, plus 1.11 acres of upland buffer. The site provides opportunity to enhance, restore and create wetlands. The mitigation plan primarily includes plugging ditches and removing fill from berms, however 3.76 acres of upland soils will be excavated to create wetlands. *(Air photo shows the mitigation site ~10 years after construction)*

Credit Determination Form for Mitigation Banks or In-Lieu Fee Projects

INSTRUCTIONS: This accounting worksheet is used to estimate credits for a mitigation bank or in-lieu fee project. Final credits and requirements will be determined by the agency. Credits are based on (1) the mitigation method, (2) function temporal loss factors, and (3) buffers. Enter data in red boxes only. Yellow boxes will populate automatically. A separate column must be used for each mitigation method used (e.g., if a mitigation site includes both restoration and enhancement, the mitigation method for those distinct areas must be calculated in separate columns). A separate column may also be used to allow different function temporal loss factors to be applied to different acreages, even if the mitigation method being used on that acreage is the same.

Factor		Method 1		Method 2		Method 3		Notes
Mitigation method	What method(s) of mitigation is proposed? ▪ *Select an option from drop-down list.*	Enhancement		Restoration		Creation		Use multiple methods if more than one ratio applies. Credits for preservation are case-by-case, as determined by the Department and may be adjusted.
		3.00		1.00		1.00		
Function temporal loss *(increase factor)*	Which soil factor, if any, will cause temporal loss of function? ▪ *Select **first** applicable option from drop-down list.*	None of the above		None of the above		Upland soils at wetland mitigation site		Soil adjustment factors are not generally applicable to removal of historic fill, or mitigation through preservation.
		+	0%	+	0%	+	50%	
	ADJUSTED MITIGATION RATIO (acres per credit)	3.00		1.00		1.50		

	Applicable site acreage	1.84		0.22		2.51		
		0.61		0.22		1.67		
	POTENTIAL MITIGATION CREDITS WITHOUT BUFFERS	2.51						
This section is only used if DSL approves a buffer at the compensatory mitigation project								
Credit for Buffers	Buffer acreage	1.11						Use multiple methods if more than one ratio applies
	Buffer credit ratio	10						DSL will determine the credit ratio for required buffers. Enter the acres of buffer required per credit (e.g. for 10:1, enter 10)
	Buffer Credit	+	0.11		0.00		0.00	
	POTENTIAL MITIGATION CREDITS WITH BUFFER CREDITS	2.62						

Scenario #3: Credit Purchase for a Wetland Impact

Proposed impact: Fill 0.86 acres of palustrine emergent (Cowardin), Flats (HGM) wetlands.

Proposed compensatory mitigation: Purchase credits from the mitigation bank approved in Scenario #2. The site is publicly owned but a conservation easement with a funding endowment will be held by a qualified conservation organization. *(Air photo shows the mitigation site ~10 years after construction)*

Step 1: Determine Eligibility

✓ HGM class match

✓ Cowardin class match

Function and value match:

	IMPACT SITE				PROPOSED MITIGATION SITE				
GROUPS	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	Function Rating	Rating Break Proximity	Values Rating	Rating Break Proximity	Match?
Hydrologic Function (WS)	Moderate	LM	Higher		Moderate		Higher		✓
Water Quality Support (SR, PR, or NR)	Moderate	LM	Higher		Moderate		Higher		✓
Fish Habitat (FA or FR)	Lower		Lower		Lower		Lower		✓
Aquatic Habitat (AM, WBF, or WBN)	Higher		Moderate		Higher		Moderate		✓
Ecosystem Support (WC, INV, PD, POL, SBM, or OE)	Higher	MH	Moderate		Moderate		Higher		✓

Step 2. Accounting

INSTRUCTIONS: This accounting worksheet is used to estimate a permittee's wetland mitigation requirements, specific to a particular impact and proposed mitigation site. There are no minimum requirements defined for waterways. Final requirements will be determined by the agency. Requirements are based on (1) the mitigation method, (2) the function/value replacement achieved, (3) function temporal loss factors, and (4) stewardship and site protection plans. Enter data in red boxes only. Yellow boxes will populate automatically. A separate column must be used for each mitigation method used (e.g. if a mitigation site includes both restoration and enhancement, the mitigation method for those distinct areas must be calculated in separate columns). A separate column may also be used to allow different function temporal loss factors to be applied to different acreages, even if the mitigation method being used on that acreage is the same.

Factor		Method 1	Method 2	Method 3	Notes
Mitigation method	What method(s) of mitigation is proposed? ▪ *Select an option from drop-down list.*	Credit purchase			If purchasing credits, ILF or PIL, select "credit purchase." Minimum requirements for preservation and non-wetland waters are case-by-case, as determined by the Department.
	MINIMUM MITIGATION REQUIREMENT (acres of mitigation required per acre of impact)	1.00			
Note: Adjustments do not apply to non-tidal wetland impacts ≤0.2 acres purchasing credits as mitigation; select "Not applicable" for each factor.					
Specific function and value replacement *(increase factor)*	How many specific functions and values from the impact site are replaced at the mitigation site? ▪ *Compare ORWAP or SFAM scores between the impact site and the mitigation site (predicted scores) to determine this. Select an option from drop-down list.*	≥13 matches + 0%			Select "Not applicable" if the mitigation site is approved/seeking approval as an exception to in-kind replacement under a watershed priority approach, or best professional judgement was used to assess functions and values.
Function temporal loss *(increase factor)*	Which factor, if any, will cause the greatest temporal loss of function?	Emergent/shrub impacted			Soil adjustment factors are not applicable to credit purchases or removal of historic fill. Vegetation

	▪ *Select **first** applicable option from drop-down list.*	+	20%					and soil adjustments may not apply when the mitigation method is preservation.
High level of function replacement *(decrease factor)*	Does the CM site exceed at least 80% of the specific functions being lost at the impact site? ▪ *Compare ORWAP or SFAM function ratings between the impact site and the mitigation site (predicted scores) to determine this. Select an option from drop-down list.*	Not applicable						This decrease factor can counteract any increase factors but will not cause mitigation requirements to be less than the established minimum based on the mitigation method. For ORWAP, "exceed" means replaced beyond and overlapping rating break proximity.
		-	0%					
Mitigation site protection & stewardship *(decrease factor)*	What level of site protection and stewardship is proposed for the mitigation site? ▪ *Select an option from the drop-down list.*	Enhanced stewardship						This decrease factor can counteract any increase factors but will not cause mitigation requirements to be less than the established minimum based on the mitigation method. Mitigation banks and ILFs typically have enhanced stewardship.
		-	20%					
	Total adjustment (percent increase)	0%						
	ADJUSTED MITIGATION REQUIREMENT (acres of mitigation required per acre of impact)	1.00						
		Method 1		**Method 2**		**Method 3**		**Notes**
	Acreage of impact	0.86						Insert the area of unavoidable permanent impact

	MITIGATION ACREAGE REQUIRED (adjusted mitigation requirement * impacted acreage)	0.86			
	TOTAL MITIGATION REQUIRED WITHOUT BUFFERS	0.86	**This is the mitigation required if a buffer is not required by DSL**		

	IMPACT SITE				PROPOSED MITIGATION SITE				
Specific Functions or Values:	Function Rating	Rating Break	Values Rating	Rating Break Proximity	Function Rating	Rating Break	Values Rating	Rating Break	Match?
Water Storage & Delay (WS)	Moderate	LM	Higher		Moderate		Higher		✓
Sediment Retention & Stabilization (SR)	Lower		Higher		Moderate		Higher		✓
Phosphorus Retention (PR)	Moderate		Moderate	LM	Moderate		Moderate		✓
Nitrate Removal & Retention (NR)	Moderate	LM	Higher		Moderate		Higher		✓
Anadromous Fish Habitat (FA)	Lower		Lower		Lower		Lower		✓
Resident Fish Habitat (FR)	Lower		Lower		Lower		Lower		✓
Amphibian & Reptile Habitat (AM)	Moderate		Moderate	MH	Moderate	MH	Lower		✗
Waterbird Nesting Habitat (WBN)	Higher		Moderate		Higher		Moderate		✓
Waterbird Feeding Habitat (WBF)	Moderate		Moderate		Higher		Moderate		✓
Aquatic Invertebrate Habitat (INV)	Lower		Lower		Moderate	LM	Moderate		✓
Songbird, Raptor, Mammal Habitat (SBM)	Lower		Moderate		Moderate	LM	Moderate		✓
Water Cooling (WC)	Lower		Higher		Moderate		Higher		✓
Native Plant Diversity (PD)	Moderate		Lower	LM	Moderate	MH	Moderate	MH	✓
Pollinator Habitat (POL)	Higher	MH	Moderate		Moderate		Higher		✓
Organic Nutrient Export (OE)	Moderate				Moderate				✓
Carbon Sequestration (CS)	Lower				Moderate				✓
PublicUse & Recognition			Moderate		PublicUse & Recognition		Lower		✗
					Number of matched specific functions				15

Scenario #4 Stream Mitigation

Proposed impact: Impact 0.23 acres of Gales Creek for a bridge project. This reach of Gales Creek is a perennial stream and is classified as a large stream by Oregon Department of Forestry (ODF). Gales Creek is designated as Essential Indigenous Anadromous Salmonid Habitat (ESH).

Proposed compensatory mitigation: Add large wood to a 0.3-mile section of Gales Creek ~1 mile upstream of the impact location. This reach of Gales Creek is perennial, is classified as a large stream by ODF, and is designated ESH.

Step 1: Determine Eligibility

✓ Flow permanence match (perennial)

✓ Same stream size (Large)

✓ Essential Indigenous Anadromous Salmonid Habitat (ESH) designation (Yes)

Function and value match:

	IMPACT SITE			MITIGATION SITE			
GROUPED FUNCTIONS	REPRESENTATIVE FUNCTION	Function Group Rating	Value Group Rating	REPRESENTATIVE FUNCTION	Function Group Rating	Value Group Rating	Match?
Hydrologic Function (SWS, SST, FV)	Flow Variation	Moderate	Moderate	Flow Variation	Higher	Moderate	√
Geomorphic Function (SC, SM)	Substrate Mobility	Lower	Moderate	Substrate Mobility	Moderate	Moderate	√
Biologic Function (MB, CMH, STS)	Create & Maintain Habitat	Moderate	Higher	Create & Maintain Habitat	Higher	Higher	√
Water Quality Function (NC, CR, TR)	Thermal Regulation	Moderate	Higher	Thermal Regulation	Moderate	Higher	√

Step 2: Accounting

There is no minimum mitigation amount determined for stream mitigation. DSL will evaluate whether the proposed mitigation project compensates for the impact.

Chapter 9: Develop a Mitigation Plan

Chapter Overview

This chapter provides a section-by-section description of the content for a compensatory mitigation plan and is drawn from the content requirements described in administrative rule (OAR 141-085-00705).

- Section 1: CM Plan Overview: An executive summary of the CM plan
- Section 2: CM Site Ownership and Location Information
- Section 3: Description of How the CM Addresses the Principal Objectives: How the chosen method of CM (mitigation bank, advance mitigation, payment-in-lieu, or permittee responsible) best addresses the Principal Objectives as a whole.
- Section 4: CM Existing Site Conditions: An overview of what the site currently looks like and what resources are available that support the site being used for CM
- Section 5: Functions and Values Assessment: Summary of Expected gains and losses
- Section 6: CM Construction Maps and Drawings
- Section 7: Monitoring Plan: Proposed performance standards and monitoring methods
- Section 8: Long-term Protection and Financial Security Instruments
- Other Requirements: For compensatory mitigation proposed on behalf of a closely held corporation, limited partnership (LP), Limited Liability Company (LLC), or trust
- CM for Linear Projects in Multiple Watersheds
- Special Considerations for Eelgrass Bed Mitigation

Chapter 9: Develop a Mitigation Plan

Introduction

A CM Plan is required for permittee-responsible CM and should have a level of detail commensurate with the size and complexity of the proposed mitigation. A CM plan is not required for proposed CM using approved bank credits, advance mitigation credits, in-lieu fee program credits, or payment in-lieu, however the principal objectives must still be addressed in the permit application for impacts greater than 0.2 acres. Guidance is provided in Section 3 below.

The CM plan should usually develop in a specific sequence:

Goals ⟶ Objectives ⟶ Performance Standards ⟶ Monitoring Plan

There should be an increasingly detailed progression from the goals that state *what* is aimed for, to more detailed objectives telling *how* goals will be accomplished, to performance standards that provide specifics on *how many*, *how much*, or *what types* of quantifiable items (e.g. 60% cover of native herbs each year of monitoring) will be provided.

A suggested outline for CM Plans using permittee-responsible mitigation is outlined below. For CM plans using preservation, see Appendix C.

CM Plan Outline

Section 1: CM Plan Overview
1.1 Ecological Goals and Objectives
1.2 Description of CM Concept
1.3 Summary of CWM Acreages by Mitigation Method and Wetland Class(es)
1.4 Summary of CNWM Acreage and Linear Feet of Channel by Mitigation Method and Type
1.5 Summary of Function & Value Gains and Losses

Section 2: CM Site Information
2.1 Site Owner Information
2.2 Physical Location Information

Section 3: Description of How the CM Addresses the Principal Objectives
3.1 Function and Value Replacement
3.1.1 Justification for Out-of-kind Mitigation (if applicable)
3.2 Local Replacement of Locally Important Functions and Values
3.3 Self-sustaining/Minimum Maintenance Needs
3.4 Siting Considerations
3.5 Minimize Temporal Loss

Section 4: CM Existing Site Conditions
4.1 Wetland Delineation or Determination Results
4.2 Existing HGM, Cowardin, and Stream Types On-site

4.3 Description of Existing and Proposed Hydrology
4.4 Existing Plant Communities
4.5 Site Constraints or Limitations
4.6 Factors Leading to Degraded Condition (enhancement proposals only)
4.7 Means for Reversal of Degradation (enhancement proposals only)
4.8 Documentation of Former Wetland Condition (restoration proposals only)

Section 5: Functions and Values Assessment
5.1 Summary of Change at the Impact Site
5.2 Summary of Change at the CM Site
5.3 Replacement Summary

Section 6: CM Construction Maps and Drawings
6.1 Site Plan/Grading Plan/Cross Sections
6.2 Planting List
6.3 Construction Schedule

Section 7: Monitoring Plan
7.1 Proposed Performance Standards
7.2 Monitoring Method(s)
7.3 Monitoring Schedule
7.4 Rationale for Plot and Photo-documentation Locations

Section 8: Long-Term Protection and Financial Security Instruments
8.1 Proposed Protection Instrument
8.2 Proposed Financial Security Instrument
8.3 Long-term Maintenance Plan

Other Requirements
Joint and Personal Guarantee (if required)

The following tables and figures list identifies the key tables and figures appropriate for most CM plans. It is not intended to be an all-inclusive listing. Applicants should include any additional tables/figures necessary to clearly and concisely present the elements of their CM proposal.

Tables:
Impact and Mitigation Acreages Summary Table
Functions and Values Assessment Replacement Summary
“Coverpg” and “FinalScores” Sheets for Impact & Mitigation Sites (if using ORWAP)
Plant List by HGM & Cowardin Class

Figures:
CM Site Location Map
Wetland Delineation Map for CM Site
Site plan(s)
Cross-section Plan(s)
Water Control Structure Schematic(s)
Monitoring Plot/Transect Location Map

Appendices:
Functions and values assessment Data Forms, Maps, Aerial Photos (mitigation site)
Legal Agreement between Applicant and Landowner (if applicable)
Other appendices as necessary

Section 1: CM Plan Overview

Section 1 serves as an executive summary of the CM plan and should include:

- The ecological goals and objectives
- The general CM concept including how replacement is achieved
- For CWM, the mitigation site acreage by method(s) of mitigation proposed, and by proposed HGM and Cowardin classification for each method
- For CNWM involving a channel, the mitigation site acreage, and linear feet of channel by method(s) of mitigation proposed
- A summary of the proposed losses and gains of functions and values

Tables 8-2 and 8-3 serve as examples of how gains and losses can be summarized. For linear projects in multiple watersheds, there should be summary charts for each 4th field hydrologic unit showing attributes for each "special" wetland site individually, plus the predominant wetland condition for remaining wetlands, and the corresponding information for each mitigation site.

Table 8-2: Example Format for JPA Reporting of Functions and Values

Group Functions and Values		**Impact Site**		**CM Site**		**Attribute Replaced?**
		Existing Rating	Rating Break Proximity (ORWAP)	Predicted Rating	Rating Break Proximity (ORWAP)	
Attribute 1	Function					
	Value					
Attribute 2	Function					
	Value					
Attribute 3	Function					
	Value					
Attribute …	Function					
	Value					

Table 8-3: Wetland Mitigation Summary Table for CM Plan

Impact Site				**CM Site**					
Wetland ID	HGM	Cowardin	Acres	Mitigation Method	Acres	HGM	Cowardin	Mitigation Ratio*	Credits Gained
A	DCNP	PEM	0.40						
B	Flat	PEM	0.50						
C				Create	0.60	DCNP	PEM	1.5:1	0.4
D				Restore	0.28	Flat	PEM	1.1:1	0.25
				Enhance	1.13	Flat	PEM	4.5:1	0.25
Total			0.90		2.01				0.90

*The Mitigation Ratio will be calculated using the CM Eligibility and Accounting Worksheet. In this example, the proposal is to mitigate for impacts to wetlands A and B at the impact site using wetlands C and D at the CM site. The CM site may be at the same location as the impact, or off-site.

Section 2: CM Site Ownership and Location Information

Include the name address and phone number of the CM landowner. If the applicant is not the landowner, provide a copy of legal agreements that grant permission to conduct the CM and the willingness of the landowner to provide long-term protection. Keep in mind that the applicant will retain responsibility for the CM site until the monitoring period is complete. Location information should include a legal description (township, range, quarter and quarter-quarter section and tax lot(s), and the site location on a USGS or similar map relative to the impacted site, longitude and latitude, physical address, and road milepost.

Section 3: Description of How the CM Addresses the Principal Objectives

Describe how the chosen method of CM (mitigation bank, advance mitigation, payment-in-lieu, or permittee responsible) best addresses the Principal Objectives as a whole.

Principal Objectives:

- Replace functions and values lost at the impact site. If the group-level functions and values will not be replaced by the proposed CM, the application must provide justification that an exception should be approved because the alternative meets a watershed priority.
- Provide local replacement for locally important functions/values where appropriate
- Enhance, restore, create, or preserve waters of this state that are self-sustaining and minimize long-term maintenance needs
- Ensure siting of CM in ecologically suitable locations considering: local watershed needs and priorities; appropriate landscape position for the wetland types, functions and values sought; connectivity to other habitats and protected resources; and the absence of contaminants or conflicting adjacent land uses that would compromise wetland functions
- Minimize temporal loss

Projects involving 0.2 acres or less wetland impacts and proposing the purchase of credits from a bank, in-lieu fee project, or advance mitigation site, or payment in-lieu are not required to address the Principal Objectives. Any proposal for a project involving tidal waters impacts must address the Principal Objectives.

Section 4: CM Existing Site Conditions

This section should provide an overview of what the site currently looks like and what resources are available that support the site being used for CM. A delineation should be performed at the CM site to document the acreage of existing wetlands. The delineation may also document the presence and extent of hydric soils if wetland restoration is proposed. The HGM and Cowardin class(es) and subclass(es) of any existing wetlands present should be listed by acreage. If channels exist describe whether they are intermittent or perennial, the stream size class (small, medium, or large) as defined by Oregon Department of Forestry, and whether the channel is ESH. The approximate location of all water features (e.g. wetlands, streams, lakes) on or within 500 feet of the CM site should also be documented. The availability of water to support the CM project, and the potential threats to the long-term success of the project are important considerations.

When describing the plant community, describe the distribution of major plant communities present at the CM site and in buffer and riparian areas, including the abundance and distribution of non-native and invasive species. If CM includes enhancement, describe why these areas qualify as degraded and how the plan will reverse and sustain the reversal of the causes of degradation. Provide a general description of the existing and proposed water source, duration and frequency of inundation or saturation, and depth of surface water for wetlands on the CM site. Include identification of any water rights necessary to sustain the CM site. When a water right is required, the applicant must provide documentation prior to permit issuance that the water right has been secured.

There is a misconception that **invasive weeds** can somehow be locked out of a site. In fact, invasives pose a serious threat to the sustainability of many wetland functions. Consideration of siting criteria, target plant communities, and long-term monitoring and maintenance is important to manage invasives.

Be sure to describe any known constraints or limitations of the site (e.g. buried lines, easements, liens) and how these were addressed in the CM plan.

Section 5: Functions and Values Assessment

For the purposes of documentation in the joint permit application, Section 5 of the CM Plan must include a summary table of the functions and values that will be lost by the project and the predicted functions and values at the CM site based on the CM design (see Table 8-4 for example format). Applicants should include all completed data forms, maps, and aerial photos used to conduct the assessment as an Appendix to the CM plan. Photographs of the assessment area, while helpful, are not required.

Table 8-4: "Replacement" Example Using Enhancement and ORWAP

Functions and Values		Impact Site		CM Site			Function and Value Replaced ?
		Existing Rating	Rating Break Proximity	Existing Rating	Predicted Rating	Rating Break Proximity	
GROUPS							
Hydrologic Function	Function						
	Value						
Water Quality Support. . .	Function						
	Value						
Specific Functions and Values							
Water Storage & Delay	Function						
	Value						
Sediment Retention & Stabilization …	Function						
	Value						

Generally, a change in the value rating for a given attribute should not be expected between the existing state and the predicted state of the CM site since value is driven primarily by conditions offsite from the CM (i.e., in the contributing area and downslope area). Therefore, the value score at the CM site is simply compared to the value score at the impact site.

When using ORWAP, be sure to consult the appendix in the ORWAP users manual titled "Guidance for Using the Oregon Wetland Rapid Assessment Protocol (ORWAP) in the State and Federal Permit Programs" for assistance in interpreting and presenting the assessment results in the CM Plan.

Section 6: CM Construction Maps and Drawings

This section should provide the proposed schedule for constructing the CM site. Drawings and specifications should show:

- Scaled site plans that show the property boundary and project boundary; t; existing and proposed wetland and waterway boundaries, including which areas will qualify for the minimum ratio types; the location and width of buffers; existing and proposed contours; cross section locations; scale bar; north arrow; construction access location(s); and staging areas
- Scaled cross sections showing existing and proposed contours, wetland and waterway boundaries, proposed water depths, and scale bar(s)
- Schematic of any proposed water control structures or other constructed features
- For CM sites with tidal waters, plan views and cross-sections that show relevant tidal elevations relative to mean lower low water (MLLW) using the nearest local

tidal datum. The elevation of MLLW should be referenced to the North American Vertical Datum 1988 (NAVD88).
- A plant list for each wetland habitat type (forested, shrub-dominated, herbaceous, and upland buffers) by species and wetland indicator status, with spacing and density (mitigation areas only)

Section 7: Monitoring Plan

Proposed Performance Standards

Performance standards are used to demonstrate that the site goals and objectives are being met and provide DSL and permittee a way to track site progress. Because performance standards are tied to financial security release, there is incentive for the permittee to assure that the agreed-upon actions outlined in the CM plan are actually taken, and they also provide the permittee with some assured times where they can expect financial security release to occur, provided that the standards are being met.

Performance standards should meet the following goals:

- Address the proposed ecological goals and objectives specific to the CM project
- Be objective and measurable in a practicable and repeatable manner, per the methods detailed in the monitoring plan
- Provide a timeline for achievement of each performance standard, which may be tied to financial security release or credit release schedules
- Performance standards should address achievement of:
  - Wetland acreage requirements
  - Hydrology that is within design parameters and similar to natural systems of the same wetland HGM type
  - Wetland vegetation that is dominated by wetland plants
  - Vegetation diversity
  - Dominance by native species
  - Control of invasive species
  - Upland buffers adequate to protect the CM project from adjacent land uses

Routine Performance Standards

DSL has developed “routine” performance standards for CWM that may be used across a wide variety of wetland types (Table 8-5). The performance standards represent the best professional judgment of DSL staff of the vegetative conditions that should be present at a site before it is released from further regulatory oversight. Each performance standard should be met annually for a minimum of five years, unless stated otherwise. Generally, DSL will use these performance standards for all CM.

Table 8-5. Routine Performance Standards for Area and Vegetative Monitoring

Area of Wetland Achieved (all permits)
The CM site will have a minimum of x acres of {HGM or Cowardin class} wetland by year 5, as determined by a delineation during spring of a year when precipitation has been near normal.
Herbaceous Wetlands
1. The cover of native herbaceous species is at least 60%. 2. The cover of invasive species is no more than 10%. A plant species should automatically be labeled as invasive if it appears on the current Oregon Department of Agriculture noxious weed list, plus known problem species including *Phalaris arundinacea, Mentha pulegium, Holcus lanatus, Anthoxanthum odoratum,* and the last crop plant if it is non-native. Non-native plants should be labeled as such if they are listed as non-native on the USDA Plants Database. Beginning in Year 2 of monitoring, DSL will consider a non-native plant species invasive if it comprises more than 15% cover in 10% or more of the sample plots in any habitat class and increases in cover or frequency from the previous monitoring period. 3. Bare substrate represents no more than 20% cover. 4. By Year 3 and thereafter, there are at least 6 different native species. To qualify, a species must have at least 5% average cover in the habitat class **and** occur in at least 10% of the plots sampled. 5. Prevalence Index is <3.0.
Shrub-dominated and Forested Wetlands
1. The cover of native herbaceous species is at least 60%. 2. The cover of invasive species is no more than 10%. A plant species should automatically be labeled as invasive if it appears on the current Oregon Department of Agriculture noxious weed list, plus known problem species including *Phalaris arundinacea, Mentha pulegium, Holcus lanatus, Anthoxanthum odoratum,* and the last crop plant if it is non-native. Non-native plants should be labeled as such if they are listed as non-native on the USDA Plants Database. Beginning in Year 2 of monitoring, DSL will consider a non-native plant species invasive if it comprises more than 15% cover in 10% or more of the sample plots in any habitat class and increases in cover or frequency from the previous monitoring period. Plants that meet this definition will be considered invasive for all successive years of monitoring. After the site has matured to the stage when desirable canopy species reach 50% cover, the cover of invasive understory species may increase but may not exceed 30%. 3. Bare substrate represents no more than 20% cover. 4. By Year 3 and thereafter, there are at least 6 different native species. To qualify, a species must have at least 5% average cover in the habitat class **and** occur in at least 10% of the plots sampled $^{\alpha}$. 5. Prevalence Index total for all strata is <3.0$^{\alpha}$. 6. The density of woody vegetation is at least 1,600 native plants (shrubs) and/or stems (trees) per acre, or the cover of native woody vegetation on the site is at least 50%. Native

species volunteering on the site may be included, dead plants do not count, and the standard must be achieved for 2 years without irrigation.
Upland buffers
1. The cover of native species is at least 60%. 2. The cover of invasive species is no more than 10%. plant species should automatically be labeled as invasive if it appears on the current Oregon Department of Agriculture noxious weed list, plus known problem species including *Phalaris arundinacea, Mentha pulegium, Holcus lanatus, Anthoxanthum odoratum,* and the last crop plant if it is non-native. Non-native plants should be labeled as such if they are listed as non-native on the USDA Plants Database. Beginning in Year 2 of monitoring, DSL will consider a non-native plant species invasive if it comprises more than 15% cover in 10% or more of the sample plots in any habitat class and increases in cover or frequency from the previous monitoring period. Plants that meet this definition should be considered invasive for all successive years of monitoring. After the site has matured to the stage when desirable canopy species reach 50% cover, the cover of invasive understory species may increase but may not exceed 30%. 3. The density of woody vegetation is at least 1,600 live native plants (shrubs) and/or stems (trees) per acre OR the cover of native woody vegetation on the site is at least 50%. Native species volunteering on the site may be included, dead plants do not count, and the standard must be achieved for 2 years without irrigation.

An applicant may propose alternative performance standards for wetlands, and DSL may require alternative standards, if the routine standards are not appropriate for the site. Performance standards for CNWM should be proposed by the applicant, and DSL reserves the right to approve alternate performance standards. Performance standards proposed by the applicant should have supporting documentation, and the standards proposed should reflect the goals and objectives of the CM plan. Marshall et al. (2007) provides methodology to use reference sites to help plan and evaluate vegetation performance of mitigation sites.

In some cases, it is appropriate to include performance standards to show that specific targeted functions have been attained at the CM site. Examples may be when DSL approves out-of-kind replacement, or when regional conservation initiatives such as Total Maximum Daily Load's for water quality limited waters, or Endangered Species Act requirements apply at the impact or CM site. Applicants may then propose, or DSL may require, performance standards for targeted functions based on reference conditions. Some suggestions are given in Appendix D.

Special Guidance for CM Using Tidal Waters

Tidal waters include a diverse range of vegetated and nonvegetated subtidal to intertidal habitat types including eelgrass beds, algal beds, mudflats, low marsh, high marsh, and tidal swamps controlled predominantly by elevation relative to tidal regime. (For classification and descriptions of tidal waters see Estuarine System and Riverine Tidal subsystems in Cowardin's Classification of Wetlands and Deepwater Habitats of the United States). Due to the rarity of permitted impacts and diversity of Cowardin classes found within tidal waters, mitigation plans, and specific performance standards will be determined by DSL on a case-by-case basis. Use of consultants with prior experience restoring tidal waters is recommended. In all cases, the following must be considered:

If a project involves the **excavation of tidal mudflats** to create a subtidal condition, then CM may be required. The mitigation requirement will be waived if the removal site was previously permitted and mitigated for.

- Many historically tidal areas have been hydrologically altered due to diking, ditching, and installation of tidegates. Thus, restoration and enhancement mitigation involving the reestablishment of tidal regime are relatively easy and have the potential for a high probability of success.

- Observations of elevation, plant communities, salinity regime, hydroperiod over at least a full tidal cycle, and fluvial geomorphology of a nearby undisturbed reference sites will be needed to design a self-sustaining restored/enhanced condition.

- Given that the presence of a particular Cowardin class in tidal waters is contingent upon elevation with respect to tidal regime, the grading plan will be a fundamental component of any mitigation plan. On a case-by-case basis, performance standards will be developed for elevation and slope with respect to relevant tidal data and referenced to a geodetic datum.

- In marine-sourced low and high marshes, reestablishment of desired native species will likely happen naturally without planting because propagules will exist in the seed bank or will be brought in by the tides. However, for River-sourced tidal waters such as scrub-shrub and forested wetlands, planting and monitoring of species appropriate to the salinity and hydroperiod will be required. Eelgrass mitigation will also require planting. Performance standards for cover for desired native species will be developed on a case-by-case basis. Monitoring may also be required for donor sites to make sure of their recovery.

- Invasive species of concern in estuarine tidal swamps, high marsh, and low marsh are *Spartina alterniflora, Spartina patens, Lythrum salicaria, Iris pseudacorus, and Phalaris arundinacea* (all are salt tolerant except *Phalaris*). In eelgrass beds and subtidal habitats, *Zostera japonica* (Japanese eelgrass) and *Carcinus maenas* (European green crab) are invasive species of concern (see pages 51-52) of the Estuary Assessment.

- All estuaries are designated essential salmonid habitat and support threatened and endangered species such as Coho. ODFW should be consulted for appropriate in-stream work windows, and consultation with the National Marine Fisheries Service may be necessary if any of the proposed activities fall outside of SLOPES.

Monitoring Methods

Describe the specific methods that will be used to monitor the CM, as they relate to the proposed performance standards. For vegetation monitoring, DSL's Routine Monitoring Guidance may be referenced. If the Routine Monitoring Guidance will be altered, or another vegetation monitoring method used, the applicant should describe these methods in this section of the CM Plan using the guidance below.

Section 8: Long-term Protection and Financial Security Instruments

Description of Proposed Protection Instrument

The wetlands, riparian areas, uplands, and buffers that comprise the entire wetland mitigation site must be provided long-term protection. Waterways often present unique considerations for long-term protection, and applicants should work with DSL to determine the appropriate protection method for those sites. The CM Plan should describe the type of protection instrument that will be in place for the CM site and provide a draft of the instrument as an appendix. For CM sites not owned by a public entity, appropriate administrative protection instruments include conservation easements, deed restrictions, or other restrictive covenants that place limitations on use of the property, even if the property sells, and are in perpetuity. In addition, an access easement, conveyed to DSL, must be recorded on the deed, using a template provided by DSL.

Deed restrictions are covenants placed on a property by the property owner that prohibit certain actions or uses on the property. Conservation easements, on the other hand are "interests", such as development rights, that are actually conveyed to another party. Both are recorded on the deed to the property.

For the purpose of long-term protection, the term of deed restrictions and conservation easements must be in perpetuity. Also, deed restrictions must contain a clause that requires Department approval prior to any amendments or extinguishment. Conservation easements must provide DSL with a third party right of enforcement.

Generally, conservation easements are more protective because they involve conveyance of a property interest or property right to a specific entity. However, that right entails a certain level of responsibility for monitoring compliance with the easement. Potential easement holders are selective and often require an endowment to provide for future monitoring and maintenance of the conservation easement provisions. (While eligible to hold conservation easements, DSL is not willing to be the holder of

such property interests.) Consequently, generally only the large CM projects are attractive candidates for this form of protection.

Conservation easements are non-possessory interests in the property and may only be held by qualified parties ("holder") outlined in ORS 271. These are currently:

- The state, any county, metropolitan service district, soil and water conservation district, city or park and recreation districts, and certain county service districts
- A charitable corporation, charitable association, charitable trust that are authorized to retain or protect values of real property and have as a purpose to retain or protect the natural, scenic, or open space values of property
- Recognized Indian tribes

Individuals, private businesses (corporations, partnerships, LLCs, etc.), or charitable organizations with purposes inconsistent with the conservation easement statute ORS 271 may not hold conservation easements.

Whichever form of long-term protection is used, documentation should include prohibited uses and activities. Generally, any activity that would alter hydrology of the site, remove vegetation other than that required for maintenance (e.g. weed treatments or tree thinning for habitat improvements), or remove or place material into the wetland is explicitly prohibited. Hunting and seed collecting are generally permissible.

The protection instrument must include a surveyed boundary of the protected area as an attachment or in the body of the instrument, and must be recorded on the property deed at the County Assessor's office. In most cases, the protected areas of a CM site within a subdivision must be established in a separate tax lot(s) and not within lots that will be sold to individual owners. The boundary of the protected area must be identified in the approved plat. Permit conditions normally dictate that the instrument be recorded prior to any impacts and a copy of the recorded instrument submitted to DSL.

For publicly owned CM sites, long-term protection may be provided through an adopted management plan or integrated natural resources management plan. Management plans should provide for appropriate protection of the CM site, including outlining prohibited uses as outlined above. DSL should be provided the opportunity to review the protection clauses of the management plan prior to adoption, and prior to modification.

Description of the Proposed Financial Security Instrument

Financial security is required for all permittee-responsible CM projects, except those conducted by government agencies. This requirement may be waived at the discretion of DSL for impacts less than 0.2 acres. The purpose of a financial security instrument is to guarantee the performance of the mitigation and provide to DSL financial resources to conduct the mitigation in the event of default of the mitigation obligation. Describe the type of financial instrument(s) that is proposed for the CM site and provide a draft of the instrument as an appendix using the appropriate form from DSL. Complete and submit the Payment to Provide spread to determine the amount of surety required. A final signed financial security instrument will be required prior to permit issuance.

The general terms and conditions of financial security instruments are:

- Financial security instruments must be issued by an institution licensed to do business in Oregon. A list of financial institutions licensed to do business in Oregon can be found at Oregon Division of Financial Regulation. A list of insurance companies authorized to issue bonds in Oregon can be found at Oregon Consumer and Business Services.
- Instruments will be in the amount determined by DSL as provided in OAR 141-85-0700 (6) and must be made payable to the "Oregon Department of State Lands".
- The original financial security instrument should be provided to DSL prior to authorization, or prior to credit release for mitigation banks, unless otherwise approved by DSL. The instrument must be on the appropriate DSL template.
- The financial security instrument must be conditioned upon meeting the conditions of the removal-fill permit.
- Liability period. The permit holder's liability under the financial security instrument must be for the duration of responsibility for the CM, as set out in the approved removal-fill permit. The term begins at the time of authorization, or prior to credit release for mitigation banks, and must be renewed without lapse until the CM has been released by DSL from further monitoring.
- Release schedule: In most cases, the permit will specify an incremental financial security release schedule based on meeting performance standards at specific intervals. Upon request, if the CM site is meeting the required performance standards, DSL will provide a financial security release letter to the permittee (and copy the financial institution.) The permittee will need to supply a replacement instrument in the reduced amount within 45 days of the financial security release letter.

The types of financial security instruments and appropriate templates are:

- **Surety bonds**: Must be provided specifically for the purpose of guaranteeing CM site performance and executed by the permit holder and a corporate surety licensed to do business in Oregon. Surety bonds are generally issued for one year and the permittee is responsible for keeping the bond active as long as the CM obligation exists. The surety bond template provided by DSL must be used.

- **Certificates of deposit**: Must be issued by a bank licensed to do business in Oregon, assigned to DSL, and upon the books of the bank issuing such certificates.

- **Letters of credit:** Are subject to the following conditions:
  - The letter may only be issued by a bank authorized to do business in the state of Oregon.
  - The letter must be irrevocable prior to release by DSL.

- The letter must be payable to the "Department of State Lands" in part or in full upon of a notice of forfeiture issued by DSL in accordance with OAR 141-085-0700.

- **Other financial security instruments:** As may be approved by DSL.

DSL will make all reasonable attempts to work with the permittee to bring an out-of-compliance CM site into compliance. Situations that may lead to forfeiture of the financial security instrument include failure to conduct CM, failure to provide appropriate long-term protection of the CM site, or failure of a CM site to meet the performance standards. In these situations, DSL may, at its sole discretion, declare forfeiture on part or all of the financial surety. A declaration of partial forfeiture may occur where only a portion of a CM site has failed to meet performance standards. A declaration of full forfeiture may occur where the CM site has failed to conduct the CM, where most or all of the CM site has substantially failed to meet performance standards, or where the permittee has failed to meet other substantive permit conditions related to the CM site. A declaration of forfeiture does not automatically release a permittee from its CM obligations. DSL will issue written notice to the permittee informing them of the declaration, the reasons for such, and what, if any, CM obligations still remain in effect after the declaration. At its discretion, DSL may use security funds to correct deficiencies at the CM site, if feasible, or deposit funds into the State's Removal-Fill Mitigation Fund.

Long-term Maintenance Plan

Most CM sites will require some form of maintenance past the monitoring period to ensure its sustainability. This may include tasks such as maintenance of water control structures, weed management, litter pick-up, fence maintenance, and vandalism repair. A maintenance plan should outline the anticipated party responsible for long-term maintenance and how these activities will be funded. The party responsible may be an interested conservation organization (typically for larger sites), donation of the property to a city or county, a private landowner, or a Home Owners Association arranged by a developer at the time of local permitting and platting.

Other Requirements

For compensatory mitigation proposed on behalf of a closely held corporation, limited partnership (LP), Limited Liability Company (LLC), or trust, there must be a joint and personal guarantee (*using Department provided form*) from all shareholders/members that secures compliance with mitigation obligations and outlines requirements to make all reasonable efforts to maintain the business entity in active status until all mitigation obligations have been satisfied. A "closely held corporation" is one in which all shares are held by less than five individuals. If your corporation's shares are held by 5 or more individual, state that in the CM Plan if a personal guarantee is not provided.

CM for Linear Projects in Multiple Watersheds

Linear projects such as pipelines, roads, power lines, etc. that have permanent impacts to waters of this state in multiple watersheds present a challenge for CM. It may not be practicable or ecologically desirable to create numerous, and potentially very small, CM sites along such corridors extending for 10's or 100's of miles. Applicants with linear projects should work closely with the DSL mitigation specialists to determine the appropriate mitigation. DSL offers the following additional guidance when planning CM for linear projects in multiple watersheds:

- Any proposed permanent impacts to Aquatic Resources of Special Concern (see Appendix F of this document) are subject to the standard CM requirements.
- For all other proposed permanent impact to wetlands, CM may be combined at the 4th field HUC level with the mitigation requirement interpreted to mean replacement of the predominant wetland condition being impacted in that watershed.

Special Considerations for Eelgrass Bed Mitigation

Native eelgrass (*Zostera marina*) occurs naturally in many Oregon estuaries. The eelgrass plants are rooted in soft sediments, and they frequently form expansive beds or meadows within intertidal tideflats, or fragmented patches of discontinuous vegetation along the edges of deeper tidal channels. Eelgrass beds typically occur in shallow estuarine areas where water circulation is sufficient to ensure cool temperatures and an adequate supply of nutrients. Information from Dr. Steve Rumrill (South Slough National Estuarine Research Reserve) indicates that the primary environmental factors that control eelgrass growth are:

- Depth (depth range of +3 to -8.0 ft MLLW)
- Light availability (minimum PAR of 300 µM m^{-2} s^{-1} for 3 hrs. day^{-1} during spring and summer)
- Substratum composition (medium to fine sands, sandy-mud, gravel with 0.5 to 15.0% organic content and low sediment sulfide toxicity)
- Temperature (optimal 7 to 12 ºC; tolerate 4 to 24 ºC)
- Salinity (optimal 20 to 34 ppt; tolerate 3 to 35 ppt)
- Inorganic nutrients (tolerate C:N:P ratio of 500:20:1)
- Waves and currents (minimum 3 cm^{-1} to maximum 180 cm s^{-1}; burst velocities up to 80 cm s^{-1})

It is important that candidate eelgrass mitigation sites be evaluated against these criteria to better ensure ultimate success.

CM for eelgrass is primarily by means of restoration and creation by removing existing fill material (or native uplands) near existing eelgrass beds to establish elevations and a hydrologic regime suitable for supporting eelgrass beds. Generally, enhancement of existing eelgrass beds is not a desirable form of mitigation because the planting of unvegetated mudflat areas simply converts one high value estuarine habitat for another.

Also, if eelgrass is not already growing in a particular area, it is very likely that there are physical conditions present that make that area not conducive to eelgrass growth.

Eelgrass is very sensitive to changes in the estuarine environment. In creating or restoring eelgrass beds, it must be expected a significant portion of the mitigation site will not sustain plants at a density sufficient to function as an eelgrass bed (at least 20 shoots per square meter). Literature on the subject suggests eelgrass mitigation efforts should plan on a successful re-establishment rate of no more than about 40% to 60%.

Eelgrass beds will normally have a high degree of density variability within a given estuarine environment. Within intact beds there can be substantial variation in density, referred to as “patchiness,” where bare or thin spots should be expected. Density will vary by location and elevation. Elevation will play a role but in one location deeper areas may be denser, in another shallower areas may be denser. The minimum density for an eelgrass area to be considered a “functioning bed” is 20 shoots per sq. meter but may be as high as 300 shoots per square meter.

DSL will normally have an average density performance standard that is the greater of: 1) 100% of the density of eelgrass beds at the impact site; or, 2) 80% of the density at the nearest eelgrass reference site. Applicants should anticipate needing substantially more acreage than what the DSL minimum ratios would otherwise dictate to be sure acreage and density requirements are met by the end of the monitoring period.

Eelgrass beds generally have a narrow window of water velocity tolerance. Excessive velocities may continually remove sediment thus impacting eelgrass establishment. Velocities too low may result in excessive sedimentation and/or algae build-up that may smother eelgrass beds. Monitoring of grade stakes is likely required in the mitigation area to measure rates of sedimentation or erosion and to make visual observations of algae build-up. A good mitigation plan will include contingency measures in the event of excessive erosion or sedimentation.

The height or length of eelgrass leaves is a good indicator of growth rates and biomass production. A representative sample of plant height at the reference bed should be measured to determine target plant heights for the mitigation site. A performance standard could be set at a percentage of the reference metric. If the standard is not met after a few years, it could trigger an evaluation of site selection or other factors that may or may not be easily remedied.

Both the native eelgrass (*Z. marina*) and non-native eelgrass (*Z. japonica*) can be found in Oregon’s estuaries. The non-native eelgrass tends to be present at a much shallower depth but otherwise may be functionally similar. Generally relative cover of non-native eelgrass species (*Z. japonica*) should be no more than 15%.

Eelgrass transplants sources will sometimes be the impact site doomed to direct impact or shading, in which case all plants may be salvaged for use at the mitigation site. For other sites it is recommended that only 10% of the density of the donor bed be

“harvested” to minimize disturbance of the eelgrass community. Location of the transplant source area within the donor bed should be GPS-located and documented in the monitoring report. Donor beds should be monitored for three years to document recovery. If additional transplants are needed, only 10% of a new donor bed may be harvested, and this source location documented as well.

Land ownership is an important consideration before any site is selected for eelgrass mitigation. Ownership of Oregon’s tidelands was granted to the state at statehood. Many, but not all, tideland areas remain in state ownership today and are managed by DSL. Early coordination with DSL’s proprietary staff is important. Proprietary staff can determine if the land is state owned, and if state owned, identify what other encumbrances may already exist at the site, whether mitigation may be allowed at the site, and, if so, what easements are required to encumber the land with eelgrass mitigation. Permanent easements can involve significant compensation payment to DSL and require Land Board approval. That approval process can take substantially longer than the removal-fill permit process.

Chapter 10: Monitoring the Compensatory Mitigation Site

Chapter Overview

Monitoring a compensatory mitigation (CM) site allows DSL to determine whether the site is meeting the goals, objectives and performance standards outlined in the CM plan and required in the permit.

This chapter provides guidance on collecting and analyzing the field data necessary to prepare a CM monitoring report, including:

- Monitoring methods for vegetation and determining the area of wetland achieved
- Data analysis standards for evaluating field data against the established performance standards for the site
- The types and content of mitigation monitoring reports that may be required; and,
- The duration of the monitoring period

Chapter 10: Monitoring the Compensatory Mitigation Site

Purpose

Monitoring of a CM site allows DSL to determine whether the site is meeting the goals, objectives and performance standards outlined in the CM plan and required in the permit. Therefore, monitoring requirements will need to be tailored to the individual project under consideration. General information on collecting and analyzing the field data necessary to report on performance standards is provided here.

DSL has developed Routine Monitoring Guidance for Vegetation that will satisfy Department requirements for CM monitoring for the routine performance standards for wetlands and buffers. However, there may be situations where the methods outlined are not appropriate to the site, or the investigator has developed alternate methods that s/he is comfortable with. Alternative methods may be used provided that DSL's monitoring standards are met and DSL has approved the alternative methods.

If permit conditions conflict with proposed methods or standards in CM or monitoring plans, the permit will control. It is very important to review permit conditions prior to project implementation or monitoring to ensure a clear understanding of the CM obligations. The permit is considered a "contract" and the conditions are in full force and effect upon implementation of the authorized activity. The Department is under no obligation to consider requests to revise conditions or objections to conditions after commencement of work in waters of this state.

Monitoring Methods

Area of Wetland Achieved

To demonstrate wetland acreage achieved, a delineation should be conducted in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual and Regional Supplements. For the purposes of mitigation site reporting, certain shortcuts will be allowed—see the insert box below for additional information on delineation light. General wetland delineation resources are available on DSL's website. If hydric soil indicators are not readily apparent in your mitigation site please follow the guidance in the Regional Supplements to Corps Delineation Manual. In the Arid West Manual Supplement, see page 87 (#4) for why recently developed wetlands may have problematic hydric soils, and follow the procedure on pp. 87-93. In the Western Mountains Supplement, see page 111 (#5) for why recently developed wetlands may have problematic hydric soils, and follow procedure on pp.112-115.

Delineation Light for Mitigation Monitoring

Objective: This guidance provides minimal standards for defining the acreage of wetland achieved in mitigation sites. The mitigation monitoring light delineation is treated as an amendment to the formal delineation (following OAR 141-90) prepared for the pre-project CM site. The delineation light should not repeat any of the background information from the pre-project CM delineation, except as outlined below. Some mitigation site delineations will follow the "atypical" delineation protocols because of the recent disturbance of the mitigation activities. Please include the original authorization number associated with the permit and mitigation.

Sample plots: The number of plots will depend on the size & complexity of the site. Characterization plots are not needed, as other vegetation data will be collected. Paired plots should be located along all topographic boundary lines, plus additional plot pairs on any high points in the topography or areas where water enters or leaves the site at a higher or lower contour. Use the wetland determination data forms (Western Mountains, Valleys, and Coast Region or Arid West Region) for each plot and provide these as an appendix to the report. CM sites with soil alteration need not meet hydric soil field indicators—because these features may take years to develop—but they may still meet the definition of a hydric soil if indicators of hydrophytic vegetation and wetland hydrology are present. These "problematic hydric soils" include recently developed wetlands. Follow the supplement procedure in Chapter 5 of the supplements to determine if hydric soil criteria for problematic hydric soils are met.

Map requirements: The map(s) should include the tax lot lines, study area boundary, as-built topography, and pre-and post CM wetland boundaries for each habitat type. Map and label buffers, target habitat types, and/or treatment type areas (restoration, creation, enhancement), sample points, and photo-points. Wetland boundaries and plot location mapping precision should be **one meter** (3.3 feet) for most sites. Vegetation monitoring transects & data points should be on a separate map of the same scale.

Timing: Delineation plot data should be collected in the early growing season of a normal precipitation year, and additional site visits may be needed to identify late-maturing plants. Refer to OAR 141-090-0035(12)(c) which explains what is required for precipitation data. The delineation needs to be done once but must be received with or before the fifth year monitoring report. Vegetation performance monitoring needs to be done annually and should be done in mid-summer so that most plants are readily identifiable.

DSL Staff Review: This delineation will be reviewed as part of the monitoring report. There is no additional review fee, nor separate concurrence provided.

The delineation should be received by DSL no later than the fifth year monitoring report, but may be conducted any time after grading and planting is substantially completed, during spring of a year when precipitation has been near normal. The monitoring report should provide a table with acreages of actual restoration, creation and/or enhancement achieved by both HGM subclass and Cowardin class, to the nearest tenth of an acre, and correspond with mapped boundaries and labels. In some cases, avoided wetlands may also require monitoring to show that wetland criteria continue to be met. Pre-existing wetlands at the site that were not approved for conservation or enhancement, and non-wetland areas (e.g. upland areas greater than 0.01 acres not including

microtopographic features like hummocks) within the larger CM wetland boundary should be excluded from area calculations and designated on maps of the CM site.

Vegetation and Bare Substrate Standards

Vegetation monitoring will normally occur and be reported annually so that progress toward meeting performance standards can be evaluated and adaptive management implemented, if necessary. For slow developing habitats, such as forested wetlands, a ten-year monitoring period with monitoring every other year may be proposed. Sampling should be conducted the same season each year, during the growing season when vegetation is more easily identifiable. Sites that are seasonally under water may need to be sampled at a separate time than the rest of the site, or alternative sampling methods proposed.

All vegetation monitoring should:

- **Separate habitat types for sampling procedures and performance assessment.** To ensure correct sampling procedures and performance assessment, areas of different Cowardin classes (actual or targeted) that are 0.25 acres or larger should be stratified into separate monitoring units.

- **Be representative of the site.** Any monitoring protocol used should be able to estimate the population mean with a confidence level of 80%. The maximum acceptable confidence interval (precision) is ±10. A sufficient number of samples should be taken using a random approach. Field inspections by DSL may be used to verify that plot data fairly represents the site.

- **Be verifiable.** All sample plots should be clearly marked or otherwise locatable in the field (e.g. distance along a permanently monumented transect) so that data reported can be checked during DSL visits, if necessary.

Visual estimates of percent cover observed during the growing season are generally sufficient for mitigation monitoring, although other methods may also be used. Area not covered by vegetation should be recorded as bare substrate. Include and make note if the bare substrate is open water, litter, duff, wood, bare soil or rock. For woody plant density, it may be difficult to determine what constitutes an individual plant for some species such as rose or huckleberry. The person counting should describe how these species were counted (e.g. stem clusters greater than 1’ away from other stem clusters were counted as one plant). For shrubs and tree cover, the crowns are projected vertically and distinct holes in the canopy should be subtracted from the estimate. Plants overhanging into the sample plot, but that are rooted in an area that does not represent plot conditions, should also be subtracted from cover estimates (e.g. rooted outside the wetland boundary).

Steps for Visually Estimating and Recording Aerial Cover for Routine Performance Standards

The following procedure may be used to record data for projects using the routine performance standards (see Table 6 for example):

Use a plot frame or a handful of flags to mark the perimeter of your plot and divide the plot into 4 quarters to improve accuracy of estimates.

1. First, estimate the percent of the whole plot area that is **bare substrate**, which includes all areas of the plot in which, when viewed from above, the ground surface is not obscured or by live plant material. Include and make note if the bare substrate is open water, litter, duff, wood, bare soil or rock. This is the number to compare to the percent bare substrate performance standard.
2. Next, list **each** plant species observed in the plot by strata. Include plants that are rooted outside the plot but extend into the plot. (Exception – do not include cover of plants that are rooted on a different topographic surface, that do not reflect conditions in the plot itself. Cover by moss should not be recorded.)
3. Record the **absolute cover** of each listed plant in the plot – the percent of the whole plot area occupied by that species. Include foliage that is layered over by some other species.
4. Total the percent vegetative cover. In dense vegetation, this total can exceed 100%, even if there is also some bare ground.

Native/Invasive Species Standards

A plant species should automatically be labeled as invasive if it appears on the current Oregon Department of Agriculture Noxious Weed list, plus known problem species including *Phalaris arundinacea, Mentha pulegium, Holcus lanatus, Anthoxanthum odoratum,* and the last crop plant if it is non-native. Non-native plants should be labeled as such if they are listed as non-native on the USDA Plants Database. Two known exceptions are *Alopecurus geniculatus*, which Oregon Flora Project calls native, so DSL will consider it native; and *Alisma plantago-aquatica*, which according to USDA plants database, is a European species that occurs in Alaska & Washington, not Oregon. Because the USDA Plants database also lists *Alisma triviale* as native in Oregon and many other states, and says *A. triviale* is a synonym of *A. plantago-aquatica*. DSL considers it most likely that Oregon plants are the native *Alisma triviale*. The Oregon Vascular Plant Checklist is currently being developed by Oregon State University's Oregon Flora Project and may be a better regional resource in the future.

Beginning in year 2 of monitoring, DSL may consider a non-native plant species invasive if it comprises more than 15% cover in 10% or more of the sample plots in any habitat class and increases in cover or frequency from the previous monitoring period. Plants that meet this definition should be considered invasive for all successive years of monitoring.

Diversity Standards

Diversity standards should include the number of native species to occur with a minimal cover and at a minimal frequency. For example, the routine performance standard outlines that a species must have an average of at least 5% cover in the habitat being sampled, ***and*** that species must occur in at least 10% of the plots sampled (e.g. be present in 2 out of 20 plots).

Prevalence Index

The prevalence index of each plot may be calculated using methods outlined in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual Supplements. It is also automatically calculated using DSL's Vegetation Monitoring Spreadsheet. Analysis of the wetland status of vegetation should use the updated *List of Plant Species That Occur in Wetlands: Northwest (Region 9)* Plant Lists).

Follow the U.S. Army Corps of Engineers Wetlands Delineation Manual Supplements in determining how to treat plant species with NO (no known occurrence in the region at the time the list was compiled) or NI (reviewed but given no regional indicator). For species that are listed as NO or NI, apply the indicator status in the nearest adjacent region. If no adjacent regional indicator is assigned, do not use the species to calculate the prevalence index. See the Routine Monitoring Guidance document for instructions on calculating the prevalence index as a performance standard.

Data Analysis Standards

Data collected from compensatory mitigation projects may be entered into DSL's Vegetation Monitoring Spreadsheet or any similar spreadsheet or database and analyzed for the performance standards.

Data analysis calculations for the routine performance standards are included in the Routine Monitoring Guidance. Monitoring reports should include the DSL's Vegetation Monitoring Spreadsheet, or similar spreadsheet tallying all vegetation and substrate data by plot for each wetland habitat type as described in Routine Performance Standards (see *Section 8: Compensatory Mitigation Planning for Wetlands and Tidal Waters*). Values for performance standards should be reported as the sample mean with a confidence interval. This is shown as Mean ($CI_x = Y_1$-Y_2), where:

- CI = confidence interval
- x = 80% confidence level
- Y_1 = low estimate
- Y_2 = high estimate

For example, an estimated cover by native herbaceous species reported as 30% ($CI_{80\%}$ = 27-33%) means that you are 80% confident that the true cover value is between 27% and 33%. DSL will assume that cover values reported represent absolute cover.

Monitoring Reports

Absolute Cover refers to the percentage of the ground surface that is covered by the aerial portions (leaves and stems) of a plant species when viewed from above. The sum of absolute cover values for all species in a community or stratum may exceed 100 percent. Absolute cover values are used to calculate the Prevalence Index.

Relative Cover is calculated as the absolute cover divided by the sum of all covers (vegetation only or vegetation plus substrate) in the plot. Relative cover values may be used to report on mean cover, but not used to calculate the prevalence index.

The routine reporting schedule is outlined in Table 9-2. All reports should be unbound without report folders covers or dividers and should omit boilerplate background information and other extraneous material, such as rule citations and recitations of the 1987 COE wetland delineation manual. Follow the report format guidance below.

Table 9-2: Routine Schedule

Report	Requirements	Schedule	Financial Surety Release Schedule
Post-Construction	(1) Post Construction Report (2) Recorded Protection Instrument	90 days after completion of grading or revegetation	
1st Annual Report	Establishment of permanent monitoring locations Vegetation performance standards Demonstration that wetland hydrology has been accomplished Evidence that water rights are secured, or are not required	After one growing season of all proposed plantings	25% upon approval of the first annual monitoring report and post-construction report: site in compliance with performance standards, and hydrology confirmed. Site protection instrument recorded.
2nd Annual Report	Vegetation performance standards	After two growing seasons	
3rd and 4th Annual Reports	Vegetation performance standards Actual acreage achieved by HGM and Cowardin class$^{\alpha}$.	After three and four growing seasons, respectively. A “light delineation” should be completed during spring of a year when precipitation has been near normal and no irrigation has been in	Up to 25% of original amount upon achieving wetland acreage confirmed by delineation of wetland hydrology and wetland vegetation, and

Report	Requirements	Schedule	Financial Surety Release Schedule
		use during the previous two years	meeting all applicable performance standards
5th Annual Report (or final report if the monitoring period has been extended)	Vegetation performance standards Functions and values assessment[1,2].	After five growing seasons	Final 50% release upon meeting all performance standards. The performance standards must be met for the final two consecutive years without corrective or remedial actions (such as irrigation, significant weed/invasive plants treatment or replanting)

[1] These requirements may be fulfilled any time during the monitoring period but must be received by DSL no later than the fifth year of monitoring.

[2] Functions and values assessments shall meet the standards and requirements in 141-085-0685. The same assessment method used for the pre-mitigation site functions and values assessment should be used for monitoring purposes, unless otherwise approved by DSL.

Post Construction Report

The post construction report should include the as-built and a copy of the recorded protection instrument if not submitted previously. The post construction report is due no later than 90 calendar days from the date of completion of grading or revegetation at the CM site.

The as-built report must include the final surveyed grades, photos, and a brief narrative explaining any changes that were made from the approved plan. The as-built drawing should be labeled with permit number, the date of grading completion, and have any changes in grading clearly identified. If there were no changes from the approved plan, a statement on the plan should state this.

The recorded protection instrument (deed restriction or conservation easement) must be identical to the draft approved prior to permit issuance, unless otherwise approved by DSL. It must contain a stamp from the County Assessor's office, indicating that it was recorded and the date of recordation.

Annual Monitoring Report Format

Monitoring reports should be submitted to DSL annually to present the results of that season's monitoring. Monitoring reports shall include all data necessary to document compliance with permit conditions, and success in meeting the CM goals. The report should follow the following report format:

1. **Cover Sheet:** The cover sheet consists of a completed and signed Mitigation Monitoring Report Cover Sheet. All the permit specific performance standards must be listed on the Report Cover Sheet, using the exact language found in the permit, along with a determination of whether or not the site is meeting each standard.

2. **Supporting Information:** Describe any changes to monitoring methods if they differ from those outlined in the approved CM Plan. For performance standards or financial security releases that evaluate hydrology, include the precipitation on the day of and immediately preceding (approximately 1 to 2 weeks) the date(s) of the field investigation(s), percent of normal rainfall for the water year to date, and monthly percent of normal precipitation (using the appropriate NRCS WETS table) for each of the three months preceding the field investigation.

   DSL offers two tools to help permittees prepare their annual mitigation monitoring reports:

   - **Mitigation monitoring report template** (Word format)
   - Mitigation reporting spreadsheet template for vegetation monitoring (Excel format)

   If the monitoring year included a determination of the area of wetland achieved, provide an update to the summary table provided in the approved CM Plan here, and provide the delineation light report as an appendix.

   If the monitoring year included a function and values assessment, provide an update to the summary table provided in the approved CM Plan here and provide the assessment information and documentation as an appendix. Remember that the same assessment method and version used to assess the CM site in the planning phase (predicted condition) must be used to assess the post-condition. DSL will maintain all previous versions of the functions and values assessment methods.

3. **Summary Data:** Summary data should be provided to substantiate the success and/or potential challenges associated with the CM project. A spreadsheet, database report or table should summarize data. If the site and accompanying data is large, a data summary for each wetland type should be provided here, and the summary data for sample units and plots included as an Appendix. Data summaries should:
   - Give each sample plot a unique identifier that relates the data to the plot location on a map
   - Include the full Latin botanical name of all plant species listed;
   - Include the wetland indicator status and a native/non-native/invasive designation for each plant species listed
   - Show data for each sample plot
   - Calculate the performance standards for each sample unit and wetland type as required. Summarize the data for each wetland type and report on performance standards

4. **Maps:** Maps should be at a scale suitable for the study area size and for legibility. For most purposes, an appropriate scale is 1 inch = 100 feet. For large study areas, a scale of 1 inch = 200 feet may be sufficient. Each map should be formatted to print on a standard 8 ½" x 11" piece of paper. Map(s) should at a minimum include:
    - The boundaries of the entire tax lot
    - The project site boundary in relation to the tax lot boundaries
    - All water features and their boundaries
    - Pre-existing wetlands and waterway on the site (use boundaries from the pre-project wetland delineation)
    - The wetland and waterway boundaries after the post-project wetland delineation has been completed
    - Sample plots/units labeled to correspond to monitoring data
    - Photograph locations and direction of view
    - North arrow and scale bar
    - Mitigation boundaries, including buffer

5. **Conclusions and Recommendations:** A general statement should be included that describes the conditions of the compensatory mitigation project. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed, including a timetable, must be provided. DSL will ultimately determine if the CM site is successful for a given monitoring period. This section may also include a request for release of all or part of a financial security instrument. DSL will authorize release of the financial security instrument as the CM meets the requirements of the CM plan and the condition of the permit. The request should include (if not provided elsewhere in the report, or if submitted separately from the monitoring report):
    - The precise location of the CM area
    - The permit holder's name
    - The permit number and the date it was approved
    - The amount of the financial security instrument filed, and the proportion proposed for release
    - A description of the results achieved relative to the permit holder's approved CM plan and permit conditions

6. **Appendices:** Photo documentation, as required in the grant agreement or to support the findings and recommendations referenced in the monitoring report, should be provided. Photos should be formatted to print on 8 ½" x 11" piece of paper and be labeled with a unique identifier to correspond to the mapped photo location point (see maps below).

    Appendices may also include items such as data summary sheets not included in the main report, information on reference site conditions, the post-project wetland delineation light, an evaluation of the functions and values achieved, and/or the final long-term maintenance plan.

Monitoring Duration

Monitoring will generally be required annually for a minimum of five years, beginning one growing season after planting is completed (e.g. if the site is planted in January, the first monitoring report would normally be due by November of that same year with monitoring performed at the end of summer or early fall), unless an alternative monitoring schedule was approved as part of the CM plan. If performance standards, replacement acreage requirements, or functions and values replacement requirements are not being met, the permit holder may work with DSL to modify the CM plan. Actions may include, but are not limited to, requiring remedial actions to be taken, requiring additional mitigation, and/or requiring additional monitoring.

When the CM complies with the conditions of the removal-fill permit, DSL will notify the permit holder in writing that additional monitoring is not required.

Appendix A: Information Sources to Guide CM Site Selection

Additional information sources are:

- Mitigation Planning Map Viewer available on the Oregon Explorer's Aquatic Mitigation topic page. The spatial information made available in the tool will help facilitate a watershed approach to aquatic mitigation using data that describes watershed characteristics, processes, and strategic areas.
- Oregon Department of Fish and Wildlife biologists
- Local watershed councils have conducted watershed assessments for many areas of the state. Contact the local watershed council for additional information or updates to the assessment.
- Soil and Water Conservation Districts
- Natural Resource Conservation Service
- Tidal Waters:
    - Green Point Consulting has published restoration prioritizations for the Nehalem, Yaquina, Alsea, Siuslaw, Umpqua, Smith.
    - The Lower Columbia River Estuary Partnership has developed restoration priorities for the Columbia River estuary.
    - The Tillamook Estuary Partnership is a helpful resource for identifying potential mitigation sites in Tillamook Bay.
    - A GIS-based resource titled "Oregon Coastal Watershed GIS Tidal Wetland Assessment" is available for download from the Oregon Coastal Atlas. This map classifies tidal wetlands in Oregon's estuaries (excluding the Columbia River) into three HGM subclasses for Tidal wetlands, maps areas of fill, and identifies potential Restoration Consideration Areas.
    - A historical vegetation GIS layer that could be used to identify areas that were historically tidal marsh and tidal swamp is available from the Oregon Biodiversity Information Center.

Appendix B: Cowardin and Hydrogeomorphic Wetland and Tidal Waters Classification

Cowardin Systems and Classes (Cowardin et al. 1979).

System	Subsystem	Class	Abbreviation
Estuarine (E)	Subtidal (1) Intertidal (2)	Rock Bottom (RB)	E1RB
		Unconsolidated Bottom (UB)	E1UB
		Aquatic Bed (AB)	E1AB, E2AB
		Reef (RF)	E1RF, E2RF
		Streambed (SB)	E2SB
		Rocky Shore (RS)	E2RS
		Unconsolidated Shore (US)	E2US
		Emergent (EM)	E2EM
		Scrub Shrub (SS)	E2SS
		Forested (FO)	E2FO
		Open Water/Unknown (OW)	E1OW
Riverine (R)	Tidal (1) Lower Perennial (2) Upper Perennial (3) Intermittent (4) Unknown Perennial (5)	Rock Bottom (RB)	R1RB, R2RB, R3RB, R4RB, R5RB
		Unconsolidated Bottom (UB)	R1UB, R2UB, R3UB, R4UB, R5UB
		Streambed* (SB)	R1SB, R4SB
		Aquatic Bed (AB)	R1AB, R2AB, R3AB, R4AB, R5AB
		Rocky Shore (RS)	R1RS, R2RS, R3RS, R4RS, R5RS
		Unconsolidated Shore (US)	R1US, R2US, R3US, R4US, R5US
		Emergent (EM)	R1EM, R2EM
		Open Water/Unknown Bottom (OW)	R1OW, R2OW, R3OW, R4OW, R5OW

Cowardin Systems and Classes (Cowardin et al. 1979)cont.

System	Subsystem	Class	Abbreviation
Lacustrine	Limnetic (1) Littoral (2)	Rock Bottom (RB)	L1RB, L2RB
		Unconsolidated Bottom (UB)	L1UB, L2UB
		Aquatic Bed (AB)	L1AB, L2AB
		Rocky Shore (RS)	L2RS
		Unconsolidated Shore (US)	L2US
		Emergent (EM)	L2EM
		Open Water/Unknown Bottom (OW)	L1OW, L2OW
Palustrine	No Subclasses	Rock Bottom (RB)	PRB
		Unconsolidated Bottom (UB)	PUB
		Aquatic Bed (AB)	PAB
		Unconsolidated Shore (US)	PUS
		Moss-Lichen (ML)	PML
		Emergent (EM)	PEM
		Scrub-shrub (SS)	PSS
		Forested (FO)	PFO

HGM Classes and Subclasses (Oregon Department of State Lands 2001)

Class	Subclass	Abbreviation
Estuarine Fringe	Marine Sourced High	EMH
	Marine Sourced Low	EML
	River-Sourced	ERS
Riverine	Flow-Through	RFT
	Impounding	RI
Depressional	Closed Permanently Flooded	DCP
	Closed Nonpermanently Flooded	DCNP
	Outflow	DO
	Alkaline	DA
	Bog	DB
Slope	Headwater	SH
	Valley	SV
Flats	No Subclasses	Flat
Lacustrine Fringe	Headwater	LFH
	Valley	LFV

Appendix C: Suggested Outline for CM Plans Using Preservation

Section 1: Preservation Plan Overview
1.1 Description of CM Concept
1.2 Summary of CM Acreage
1.3 Summary of Function & Value Gains and Losses

Section 2: CM Site Information
2.1 Site Owner Information
2.2 Physical Location Information

Section 3: Preservation Site Conditions
3.1 Wetland Delineation or Determination Results
3.2 Proposed Mitigation Ratio and Rationale
3.3 Existing HGM, Cowardin, and Stream Classes On-site
3.4 Description of Existing Hydrology
3.5 Existing Plant Communities
3.6 Functions and Values Assessment
3.7 Threat of Development
3.8 Additional Rationale for Preservation (must address at least one)
- Significant Population of Rare Plants or Animals
- Rare Wetland or Tidal Waters Type
- Native, Mature Forested Wetland
- Serves a Documented Watershed Need or Preserves Wetland Type
- Disproportionately Lost

3.9 Surrounding Land Uses and Likely Effects
- Measures to Minimize Likely Effects

Section 4: Monitoring Plan
4.1 Proposed Performance Standards
4.2 Monitoring Methods
4.3 Monitoring Schedule
4.4 Rationale for Plot and Photo-Documentation Locations

Section 5: Long-term Protection, Management and Funding
5.1 Description of Proposed Protection Instrument
5.2 Long-term Management Plan
- Description of Long-Term Maintenance Actions
- Entity Responsible for Maintenance
- Funding Mechanism for Monitoring and Long-Term Management

The following tables and figures list identifies the key tables and figures appropriate for most CM plans. It is not intended to be an all-inclusive listing. Applicants should include any additional tables/figures necessary to clearly and concisely present the elements of their CM proposal.

Tables:

Impact and Mitigation Summary Table
Functions and values assessment Summary
"Coverpg" and "FinalScores" Sheets for Impact & Mitigation Sites (if using ORWAP)
Monitoring Schedule

Figures:

Preservation site location map
Wetland delineation map for preservation site
Monitoring site locations

Appendices:

Functions and values assessment Data Forms, Maps, Aerial Photos (impact and mitigation site)
Draft Long-term Protection Instrument
Draft Funding Instrument for Monitoring and Long-term Maintenance
Others appendices as necessary

Appendix D: Optional Performance Standards Based on Targeted Functions

Applicants may propose, or DSL may require, performance standards for targeted functions. Examples of when this may be required are when DSL approves out-of-kind functional replacement or converts one HGM or Cowardin class of wetland to another, or when regional conservation initiatives such as TMDL's or Endangered Species Act requirements apply at the impact or CM site.

Table D-1 outlines parameters that are important to wetland functions (Oregon Department of State Lands 2001) and that meet the purposes of performance standards. These standards should be developed based on reference site conditions, and/or be developed with help from experts such as DSL mitigation and wetland staff, or external experts such as ODFW biologists. Wording of the standards is important, because lack of clarity will cause disputes over their meaning, and therefore debate as to when they are achieved. Performance standards must meet the general goals outlined above and must be enforceable. To be enforceable, a standard must be specific, observable, and measurable.

Hydroperiod
CM sites should have natural hydroperiods and little acreage with static high water levels. Piezometers or shallow wells may be placed in specific locations as necessary to demonstrate the hydroperiod at a site. In areas with permanent water proposed, use of water level gauges may be appropriate.

1.1 Duration: Permanent and Seasonal Water Zones
The areas of the CM site that contains surface water even during times of biennial low water are permanent zones. These areas can be important for attracting amphibians. Alternatively, seasonal zones where sediments become periodically unsaturated are important for water storage and delay, suspended sediment retention, and phosphorus adsorption.

Permanent water can also attract bull frogs, which complete with native frog species. Therefore, DSL may provide a standard requiring mitigation sites to completely dry out for at least a portion of the summer to help support the native frog habitat.

Sample Performance Criteria: "The wetland area will be dry at the surface in late summer of each of the first 5 years that have total precipitation with 30% of average. This standard will be documented by a representative on-site photo showing the ground surface in each of the planting zones. Place temporary poles or flags to clearly identifying the created wetland/pond boundary in the photographs. This is to clearly show if inundation is within the pond area or the creation area. The poles and flags must be removed at the end of monitoring."

1.2 Water level fluctuations
Water level fluctuations can indicate level of function for water storage and delay and nitrogen removal (anoxic/oxic conditions). Severe fluctuations can reduce reproductive success of many fish species that lay their eggs in shallow areas, amphibians that lay eggs in water on vegetation, and waterfowl that make their nests along the water's edge. Both the absence of fluctuation and the occurrence of excessive fluctuation can limit plant species richness. Fluctuations may be represented as the difference between biennial high and low spatially predominating water levels by categories, or vertical increase in surface water level (ft) in most of the seasonal zone.

Sample Performance Criteria: "The vertical increase in the surface water level in the seasonal zone during an average year (2-year peak flow recurrence interval) will be at least 2 feet," or "The difference between biennial high and low predominating water levels will be no more than 2 classes as defined in Oregon Department of State Lands (2001)."

Vegetation
2.1 Vegetation in the Seasonal Zone
Increased cover of vegetation increases roughness and the capacity to slow water long enough for some infiltration, evapotranspiration, and sediment deposition to occur.

Sample Performance Criteria: "The percent of the seasonal zone that is bare during most of the dry season is no more than 20% greater than reference conditions by year 5."

Vernal pools/shorebird scrapes and mud flats are important for many species of waterbirds for feeding and/or resting. These areas meet all of the following criteria (Oregon Department of State Lands 2001):

a. Herbs are generally shorter than 4 inches and comprise <80% ground cover during winter or early spring, and
b. topography is generally flat, and
c. inundated to a depth of less than 6 inches for 2 or more continuous weeks, and
d. are never shaded by trees, shrubs, or buildings, and
e. are not entirely a constructed ditch

Sample Performance Criteria: "The annual extent of vernal pools, shorebird scrapes and mudflats is at least 100 square feet."

Fish benefit from a relatively open canopy that allows solar inputs to support invertebrate communities, although this must be balanced with water temperature requirements. "Canopy" relates to shading of the water surface by vegetation and is not restricted to forested systems.

Sample Performance Criteria: “The percent of the seasonal zone that contains a closed canopy will be between 20-80% by year 5.”

2.2 Shading in Permanent Zone
Shading by woody or aquatic plants can provide thermoregulation functions that are in turn important for fish habitat and water quality.

Sample Performance Criteria: “The percent of the permanent zone shaded by woody or aquatic plants is 80% that at the reference site by year 5.” The rate of canopy closure in forested sites may also be used.

Physical and Chemical Characteristics
3.1 Shore Slope
Gradually sloping shorelines provide more area for fish spawning, amphibian habitat, and waterbird habitat.

Sample Performance Criteria: “The CM site shall have side slopes of 15:1 or shallower for the first 15 meters measured perpendicular from the upland edge for 50% or more of the perimeter, as reflected in the post construction report.”

3.2 Open Water Interspersion
Sites in which unvegetated open water areas are well-interspersed with stands of emergent vegetation can increase function of the site for primary production, and for amphibians and waterbirds if the site is larger than ~1 acre and wider than 100 feet.

Sample Performance Criteria: “During a year of normal precipitation, at least 30% of the site contains non-contiguous, unvegetated pools during the growing season.”

3.3 Water Quality
Support of wildlife and growth of characteristic vegetation requires good water quality. This may include temperature, turbidity, dissolved oxygen, pH, and low levels of toxics.

Sample Performance Criteria:

Soil and Sediment Characteristics
Organic content and nutrient concentrations in the soil may be important to ensure vegetation targets, especially for wetland creation sites or in areas where organics and nutrients in the soil are known to be limiting.

4.1 Organic Content
Organic matter supports prolific microbial communities that are key to most nutrient cycling. Accumulated soil organic matter also indicates depositional conditions that imply sediment and nutrient retention (Oregon Department of State Lands 2001). Soil organic matter is also important for plant growth at the site, although large amounts of organic content can indicate that carbon is not being cycled effectively and primary

production is lower. Site managers may elect to augment the soil with organic matter during construction of the site.

Sample Performance Criteria: “The median values of soil/sediment organic content at the CM site shall be equal to the minimum value at the reference site prior to planting,” or “The median values of soil/sediment organic content shall be equal to the minimum value at the reference site by year 5.”

4.2 Soil Nutrients

Nutrient content in the soil increases plant production and ultimately soil organic content. Site managers may elect to augment the soil with fertilizer during construction of the site, during planting, or as part of vegetation maintenance.

Sample Performance Criteria: “The soil shall be augmented with fertilizer as recommended by a soil nutrient analysis prior to planting.

Table D-1: Possible Monitoring Parameters for Targeted Non-tidal Functions (DSL 2001).

Parameters to Monitor	Functional Characteristics										
	Water Storage and Delay	Sediment Stabilization	Phosphorus Retention	Nitrogen Removal	Thermoregulation	Primary Production	Anadromous Fish	Resident Fish	Amphibian Habitat	Waterbird Habitat	Characteristic Native Vegetation
Geographical											
Actual acreage by habitat class	x	x	x	x	x	x	x	x	x	x	x
• Permanent water									x		
• Seasonal water	x	x	x								
• Seasonal area - vegetated		x									
• Seasonal area w/woody veg.	x	x									
Biological											
Species, % cover, and native/non-native status in seasonal and permanent zones of:											
• Herbs		x	x	x	x	x	x	x	x	x	x
• Woody		x	x	x	x	x	x	x	x	x	x
• Bare (dry season)/mud flat										x	
Open water interspersion						x			x	x	
Rate of canopy closure					x		x	x			
Percent of permanent zone shaded					x		x	x			
Physical											
Shore slope								x	x	x	
Water depth (max. and classes) and distribution during low water					x		x	x	x	x	
Water depth (max. and classes) and distribution during high water	x	x	x	x						x	

Parameters to Monitor	Functional Characteristics										
	Water Storage and Delay	Sediment Stabilization	Phosphorus Retention	Nitrogen Removal	Thermoregulation	Primary Production	Anadromous Fish	Resident Fish	Amphibian Habitat	Waterbird Habitat	Characteristic Native Vegetation
Water level fluctuation (annual high & low predominating)	x			x				x	x	x	x
Duration (Connection to other waterbody, or duration of water presence)	x						x	x	x		
Chemical											
Water Quality							x	x	x		x
Soil/Sediment											
Organic content		x	x	x		x					
Nutrient levels						x					

Appendix E: Preparing the Alternatives Analysis

Introduction

Oregon Administrative Rule (OAR 141-085-0550(5)(o)) requires that applications for removal-fill permits include "an analysis of alternatives to derive the *practicable* [emphasis added] alternative that has the least reasonably expected adverse impacts on waters of this state". *Practicable* means it can be accomplished after taking into consideration cost, existing technology, and logistics with respect to the overall project purpose. The alternatives analysis is a tool to help identify the practicable alternative with the least impact, and as such, should be introduced early in project design. It should not be used as a means to justify what has already been decided.

A good alternatives analysis is built on four foundations:

- Clearly documented project purpose (project objectives)
- Project-specific criteria used to evaluate alternatives
- A clearly articulated range of alternative locations and site designs that avoid and minimize impacts
- Documented evaluation of each alternative location and site design against the project criteria

Applicable Statutes and Rules

DSL is required by statute (ORS 196.825 (1)) to make two determinations in issuing a removal-fill permit:

1. The project described in the application must be consistent with the protection, conservation and best uses of the waters of this state.
2. The project does not unreasonably interfere with preservation of waters for navigation, fishing and public recreation.

The terms "consistent," "best uses" and "reasonableness" allow DSL considerable discretion in decision-making.

Additionally, DSL is required (ORS 196.825 (3)) to consider certain factors in making determinations related to an application:

1. The public need for the proposed fill or removal and the social, economic or other public benefits likely to result from the proposed fill or removal. When the permit applicant is a public body, DSL may accept and rely upon the public body's findings as to local public need and local public benefit.
2. The economic cost to the public if the proposed fill or removal is not accomplished.
3. The availability of alternative locations to the project for which the fill or removal is proposed.
4. The availability of alternative site designs for the proposed fill or removal.

5. If the proposed fill or removal conforms to sound policies of conservation and would not interfere with public health and safety.
6. If the proposed fill or removal is in conformance with existing public uses of the waters and with uses designated for adjacent land in an acknowledged comprehensive plan and land use regulations.
7. If the proposed fill or removal is compatible with the acknowledged comprehensive plan and land use regulations for the area where the proposed fill or removal is to take place or can be conditioned on a future local approval to meet this criterion.
8. If the proposed fill or removal is for streambank protection.
9. If the applicant has provided all practicable mitigation to reduce the adverse effects of the proposed fill or removal in the manner set forth in ORS 196.800.

The statute does not tell DSL how to include such considerations into its permit decision-making. The agency has considerable discretion to exercise its judgment in addressing these considerations provided it is in line with the general policy of the statute and any final decision on a permit conforms to the determinations set forth above.

Purpose and Need Statements

All projects must have a defined purpose(s) and an articulated need for the proposed removal-fill activity. The purpose (the "what") is typically described first, followed by the need statement (the "why"). When the project is inherently a removal-fill activity (e.g., a streambank stabilization project), the need for some level of removal-fill activity may be self-evident. When the removal-fill activity is ancillary to the project purpose (e.g., wetland fill to create a commercial development), the need for the removal-fill activity will likely not be evident without further analysis.

Purpose

The purpose statements are critical because they become the foundation of the alternatives analysis. Good purpose statements help define the reasonable range of alternatives to be considered. The purpose becomes a key criterion to determining which alternatives are practicable and which are not. Why? Because an alternative that does not substantially meet the overall project purpose is not a practicable alternative.

Purpose statements should not be overly narrow or too broad. The problem with too narrow is it precludes any other alternative but the selected one. The problem with too broad is it creates too many alternatives. Consider the following examples:

- A too-narrow purpose statement: *Construct 25 single family homes on 5 acres at 1313 Mockingbird Lane, in Marshland, OR.* This is a statement of the proposed project, not a purpose statement. The problem with this statement is that it excludes any other alternatives from being considered.

- A too-broad purpose statement: *Build new homes.* The range of alternatives that could meet this statement is virtually endless.

- An appropriate purpose statement: *Construct a 25-unit residential project to meet demand for entry-level workforce housing in Marshland, OR.*

Good purpose statements put sideboards on the range of alternatives to be considered without unduly constraining reasonable alternatives.

Another way that purpose statements define the scope and range of alternatives is by clearly defining the nature of the operation. For example, consider the following purpose statement: *Construct a food-processing factory*. It seems this operation could be done on any suitably zoned land. Now consider a more clearly articulated purpose statement: *Construct an unloading and processing factory for fresh-caught seafood*. This is clearly a marine-dependent use that suggests limiting alternatives to those that are on the waterfront.

Need

DSL does not evaluate the need for a *project*, but rather the public need for the proposed removal-fill activity to accomplish the project. Are there ways to accomplish the project without any removal-fill action? If no, are there ways to accomplish the project with a lesser amount of removal-fill or otherwise in ways that minimize adverse effects on waters of this state? These questions should be evaluated and answered by the alternatives analysis.

As directed by the Removal-Fill Law, DSL may accept and rely upon a **public body's** findings as to local public need. However, such applicants must still consider alternatives with potentially lesser impact

Unless the entire project is the removal-fill activity, the removal-fill activity will typically be ancillary to accomplishing the project purpose. In these cases, there will not be a public need for the removal-fill, per se. There may, however, be social, economic and other public benefits resulting from the proposed removal-fill since it will facilitate project development. Thus, an application may identify no public need for the removal-fill but may still describe public benefits that will be derived from the removal-fill. Removal-Fill Law does not require that all removal-fill permit applications demonstrate a public need, but DSL staff will consider and weigh any such identified public needs or benefits in permit decision-making.

Note that a compatible zoning designation does not, by itself, constitute a justification of need for a proposed removal-fill action. While a community's land use designations are based on long-term projections of need for various land use types, they are generally insufficient to solely justify a project or site-specific need for removal-fill activity.

Project Criteria and Objectives

The applicant should use specific project criteria when considering how and where to build a project. The applicant's task is to get those criteria clearly articulated so that the practicability of various alternatives may be equally assessed.

Whenever possible, project criteria should be quantitative. For example, project criteria might include:

- The ability of the alternative to substantially accomplish the project purpose
- Physical site suitability factors: parcel size, shape, slope, soil characteristic requirements, natural resources, etc.
- Availability of appropriately sized infrastructure: power, water flow, wastewater capacity, highway access, etc.
- Logistical: needed proximity to target labor force, suppliers, shipping port or airport
- Local land use consistency
- Other regulatory limitations

Range of Alternatives

Once the project proponent clearly articulates the purpose for the project, alternatives can be explored to meet the project criteria and objectives. The range of alternatives should consider, depending on the type of project and magnitude of impact, the following: alternative locations, alternative layouts and configurations, and alternative construction methods.

Alternative Project Locations

Are there other project locations available to the applicant that can substantially meet the purpose and project criteria with fewer or no adverse impacts to waters of this state? Some projects are site-specific, thus eliminating the need to consider alternative locations, e.g., repair of an existing structure already located in a wetland or waterway.

In general, the following project types should include alternative site consideration:

- Residential, commercial and industrial developments
- Transportation projects that involve new crossings
- New recreational structures such as boat ramps and trails
- Gravel extraction
- New municipal utilities (e.g., water or wastewater facilities, substations)

In general, it is not relevant to consider alternative sites for the following project types:

- Bank stabilization
- Replacement or improvement of existing in-water structures
- Transportation projects that involve realignment at a specific location for safety or other reasons
- Voluntary restoration projects
- Maintenance dredging; however, it is appropriate to consider alternative sites for the disposal of the dredge material

The following information should be included in the application:

- The identification of alternative project locations that were considered during the site selection process

- Why the alternative locations were dismissed with respect to cost, existing technology, logistics and project-specific criteria (see “Evaluation of Alternatives”)
- If no alternative project locations were considered, the application should indicate that and why

Alternative Site Layouts or Configurations

Can re-orientation or re-configuration of the basic components of the project provide for fewer or no impact to waters of this state? If so, consideration should be given to an alternative layout. In general, the following project types should include alternative layout or configuration consideration:

- Residential, commercial and industrial developments
- Transportation projects that involve new crossings or re-alignment of existing structures
- New recreational structures such as boat ramps and trails
- Gravel extraction, especially as it relates to removal area access
- New or existing docks and piling placement
- Utility alignments

In general, it is not relevant to consider alternative site layouts or configurations for the following project types:

- Existing transportation structure replacement, widening or expansion
- Bank stabilization, unless the area of treatment can be reduced
- Voluntary restoration projects

The following information should be included in the application:

Avoidance and minimization that prioritizes aquatic resources exhibiting characteristics of importance, for example:

- High function, value and/or scores resulting from functions and values assessment
- Aquatic resources that are difficult to replace
- Aquatic Resources of Special Concern
- Aquatic resources that will incur large temporal losses if impacted (e.g., forested wetlands)
- Designated locally significant wetlands
- Wetlands associated with water quality impaired (e.g., 303d listed) streams
- Wetlands providing hydrologic connectivity between other wetlands
- Wetlands providing habitat connectivity between other important adjacent habitats
- Aquatic resources with high ODFW habitat classification (rating of 1 or 2)
- Tidal wetlands or waters
- Aquatic resources of high value as identified by another natural resource agency or conservation entity
- Aquatic resources containing rare species

Consideration and discussion of the long-term viability of avoided aquatic resources on the site, for example:

- Effect of new stressors on avoided wetlands
- Likelihood of increased human intrusion/degradation/"maintenance"
- Likelihood of water quality impairment from surrounding development
- Connectivity to other habitats (degree of isolation)
- Degree of structure and edge simplification
- Degree of habitat fragmentation
- Buffers from adjacent conflicting uses
- Opportunity for stewardship

Alternative Construction Methods

Are there construction methods or designs that would have lesser impacts? In general, applications for all types of projects should include consideration of alternative methods. This is particularly important for the following project types:

- Bank stabilization, minimizing treatment area and/or using bio-engineering
- Existing in-water structure replacement or improvement, including transportation structures, boat ramps, trails
- Maintenance dredging
- Gravel extraction

With the exception of voluntary restoration and bank stabilization projects, all applications should include a no-impact alternative and at least one reasonable alternative with less impact than that of the preferred site. Beyond that, the project's purpose and the nature of the proposed impact are the defining factors. Evaluation of the no-build alternative may be appropriate when written findings are required for the permit decision because statute requires DSL to make a finding as to the economic cost to the public if the project is <u>not</u> accomplished. In general, however, a no-build alternative is not an appropriate substitute for providing realistic alternatives to avoid and minimize impacts.

Evaluation of Alternatives

The last step of the alternatives analysis is to evaluate all the alternatives against the project-specific criteria to identify the practicable alternative(s) with the least impact. The removal-fill permit application should clearly document why the preferred option was selected and why each of the other options was dismissed.

The following information should be included in the application:

- How each alternative measures up to the established project criteria. This information is often best displayed in a matrix format.
- The project criteria should be consistently applied to all of the alternatives.
- Reasonable conclusion(s) based on the evaluation.

The following examples do not, by themselves, constitute reasonable rationale for dismissing an alternative:

- The layout is not consistent with the local jurisdiction's transportation system plan. Many times local governments lay out a road grid without the baseline information to consider the location of waterways and wetlands. Thus, avoidance and minimization of impacts was not considered in the development of the transportation plan.
- The number of lots is the minimum required by local zoning. Many times, variances to density requirements can be obtained in order to avoid and minimize impacts.
- A reduced number of lots won't pencil out. Project cost is not a paramount consideration for practicability.

Generally, the level of analysis in the alternatives analysis should be commensurate with the *nature and the size of impact*; however, there are no quantified thresholds in Administrative Rule. If the project involves impacts to aquatic resources with characteristics of "importance" (see examples above), a more detailed and careful analysis is warranted.

Special Considerations for the Alternatives Analysis

Mitigation Considerations

The alternatives analysis process is separate from compensatory mitigation. The suitability of mitigation is only considered after the practicable, least impacting alternative has been identified through the alternatives analysis.

Industrial, Commercial and Residential Subdivision Projects

It is important for DSL to know when a proposed project is being developed for a specific tenant or in advance of a tenant because it changes the nature of the avoidance/minimization conversation. When there is a known user(s), avoidance, minimization and alternatives analysis considerations can be made based on what the purpose, needs and flexibilities are for that specific user.

When tenants/end users are not known, then those considerations for avoidance, minimization and the alternatives analysis must be made from a different, broader perspective. In this case, the analysis should look at:

- What local or regional market forces are driving/justifying the lot sizes and configurations for the development type being proposed?
- What local land use requirements are constraining the development of the site?
- What are the opportunities from the master or total site plan perspective to work around important aquatic resource features?

DSL can authorize removal-fill without knowing the end user, but the applicant must understand that it may result in having to be more flexible with the site plan, and justifying necessary impacts using broader community and market factors.

Community Comprehensive Plans and Zoning

A factor that makes the alternatives analysis process more complicated in Oregon is the statewide land use planning program. As part of the comprehensive plan process, communities have to provide a 20-year supply of land for commercial, residential and industrial uses. The designation of urban growth boundaries and urban land uses may give communities and property owners the expectation that appropriately zoned lands will someday develop in a way that fulfills the community's adopted vision established in the comprehensive plan. Nonetheless, local land use planning and zoning do not preclude the applicant's requirement to consider project alternatives with lesser impacts on wetlands and waterways.

Appendix F: Aquatic Resources of Special Concern

Aquatic Resources of Special Concern (ARSC) means waters of this state that provide functions, values and habitats that are limited in quantity because they are naturally rare or have been disproportionately lost due to prior impacts. Impacts to ARSCs do not qualify for many of the exceptions in rule that promote permit application streamlining, and mitigation for unavoidable impacts must involve the same ARSC. Mitigation projects that target ARSCs may qualify for out-of-kind replacement for impacts if the ARSC is a priority recognized in that watershed. ARSCs include:

Multiple waters types

Cold Water Habitat includes two designations as defined by Oregon Department of Environmental Quality:
Core Cold Water Habitat are waters expected to maintain temperatures within the range generally considered optimal for salmon and steelhead rearing, or that are suitable for bull trout migration, foraging and sub-adult rearing that occurs during the summer (OAR 340-041-0002 [13]). Waters with a seven-day Average Maximum temperature ≤16°C (~61°F) are considered Core Cold Water Habitat, which have been mapped by DEQ and are available on the Mitigation Planning Map Viewer.

Cold Water Refugia are those portions of a water body where or times during the diel temperature cycle when the water temperature is at least 2°C (3.6°F) colder than the daily maximum temperature of the adjacent well mixed flow of the water body (OAR 340-041-0002 [10]).

Rivers & Streams

Off-Channel Features- bodies of water adjacent to a main stream or river channel that have surface water connections to the main river channel at summer discharge levels.

> **Alcoves:** water bodies that maintain a downstream connection to the main channel at summer low flow but have no upstream connection during low flow.
>
> **Side Channels:** flowing water bodies with clearly identifiable upstream and downstream connections to the main channel.

Estuary & Marine

Eelgrass Beds- beds of the submerged aquatic plant, *Zostera marina*, occur in intertidal and shallow subtidal areas of estuaries and bays where substrate, turbulence, and salinity conditions fit its range of tolerance. Eelgrass beds are

recognized as extremely productive habitats providing food, shelter, and velocity refuge for fish, shellfish, and invertebrates, particularly in their juvenile stages. Eelgrass is a preferred spawning substrate for herring, and the leaves are eaten by migrating geese. Spreading rhizomes of eelgrass stabilize sediment and capture nutrients. *Z. marina* beds may also contain the non-native eelgrass, *Zostera japonica*, which provides similar functions. The density of eelgrass beds is naturally variable from year to year. To identify the bed boundary, proceed in a linear direction and find the last shoot that is within 1 meter of an adjacent shoot along that transect. The bed boundary (edge) is defined as the point 0.5 meter past that last shoot, in recognition of the average length of the roots and rhizomes extending from an individual shoot.

Kelp Beds: beds of a bull kelp (*Nereocystis luetkeana*), or other macroalgae that generally grow from the seafloor to the ocean surface. Kelp beds grow on rocky substrate in shallow subtidal areas between 5 and 25 meters deep. Kelp is anchored to rocks by a holdfast, and the canopy is kept afloat by gas-filled bladders in the blades. Kelp beds provide food and structure important to many marine species. Kelp beds are relatively scarce habitats in Oregon's waters, covering less than one percent of the nearshore area. The strip of coast from Cape Arago south contains approximately 92 percent of Oregon's kelp beds.

Wooded Tidal Wetlands- a wetland in which trees and shrubs have an aerial cover of 30% or more, and that is inundated at least once annually by tides. The plant species may include Sitka spruce, crabapple, or willows. Because tidal swamps occur at the upper edge of the estuary, they were readily logged and converted to agriculture, and therefore are one of the wetland types most disproportionately lost.

Wetlands

Alkali Wetlands and Lakes- these wetlands or seasonal waters in Eastern Oregon include playas or "salt flats", and alkaline lakes with saline or alkaline soils and fluctuating water levels. Vegetation is adapted to saline or alkaline conditions. They may support large populations of plants and animals found nowhere else in arid regions, and in Oregon they are particularly well known as breeding or foraging sites for vast quantities of migrating birds.

Alkali wetlands and lakes that support S1 or S2 alkali wetland plant communities, as identified by the Oregon Heritage Program, will be considered an Aquatic Resources of Special Concern by the Department. Oregon Explorer's Wetlands topic page Alkaline Wetlands identifies the following communities and provides links to more information:

1. *Allenrolfea occidentalis* Wet Shrubland Iodine bush
2. *Artemisia cana ssp. bolanderi* / *Eleocharis palustris* Wet Shrubland (Silver sagebrush / common spikerush)

3. *Artemisia cana* (*ssp. bolanderi*, *ssp. viscidula*) / *Leymus cinereus* Wet Shrubland (Silver sagebrush / giant wildrye)
4. *Leymus cinereus* Bottomland Wet Meadow (Giant wildrye)
5. *Leymus triticoides* - *Poa secunda* Wet Meadow (Creeping wildrye - alkali bluegrass)
6. *Lepidium davisii* Playa [Provisional] (Davis pepperweed) (ODA species profile)
7. *Puccinellia lemmonii* - *Poa secunda* Wet Meadow Vegetation (Lemmon's alkali grass - Curly bluegrass)
8. *Sarcobatus vermiculatus* / *Leymus cinereus* Wet Shrubland (Black greasewood / giant wildrye playa)
9. *Spartina gracilis* Wet Meadow (Alkali cordgrass)
10. *Spartina pectinata* Western Wet Meadow (Prairie cordgrass)

Bogs- wetlands characterized by constant saturation, accumulation of peat, low nutrient availability, acidic soil (pH <5.5), and vegetation that tolerates these conditions. Bogs typically have sphagnum moss, shrubs in the heath family, and if present, evergreen trees tend to be stunted. Some rare species have adapted to these unusual habitats. Bogs form so slowly they cannot easily be replaced.

Fens- peat soil wetlands with mineral-rich groundwater or surface water sources, and soil pH generally higher than 5.5. Fens occur in landscape depressions such as interdunal swales, headwater basins, floodplains, and landslide slumps, and are normally small in area. Fens may support rare plants. Like bogs, fens form slowly in areas with unique hydrology and cannot easily be replaced.

Hot Springs- a wetland where discharging groundwater in summer is >10°F warmer than the expected water temperature.

Interdunal Wetlands- wetlands in the dunal system along the Oregon coast may occur in the deflation plains, depressions, swales or low areas. They are typically seasonally inundated, usually without a naturally occurring inlet or outlet, and often with significant cover of the following native plant species: *Carex obnupta, Argentina egedii, Juncus lesueurii, J. nevadensis, J. falcatus, Sisyrinchium californicum* and/or *Salix hookeriana*.

Mature Forested Wetlands- wetlands in which trees have an aerial cover of 30% or more and either the average diameter at breast height of a minimum of 10 trees exceeds 18 inches, the average age of trees exceeds 80 years, or there are >5 trees/acre with diameter >32 inches.

Ultramafic Soil Wetlands- low-elevation wetlands occurring mainly in southwestern Oregon, usually with a sponge-like organic soil layer, in an area with exposed serpentine or peridotite rock, and/or in soils with very low Ca:Mg ratios.

Vernal Pools- seasonally inundated depressions underlain by an impermeable claypan or hardpan layer. A vernal pool is usually a closed depression without a naturally occurring inlet or outlet that ponds water in the cool, low evaporation periods of winter and spring in regions with cool moist winters and dries out during the hot dry summers.

> **Vernal Pools (Willamette Valley):** a seasonally inundated wetland, underlain by hardpan or
> claypan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and with native plant species distinctly different from those in slightly higher areas, and often including the following plant species: *Downingia elegans, Isoetes nuttallii, Triteleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys figuratus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Lasthenia glaberrima , Cicendia quadrangularis, Gnaphalium palustre,* and/or *Callitriche spp.*
>
> **Vernal Pools (Medford area):** a seasonally inundated acidic wetland, underlain by hardpan, with hummocky micro-relief, usually without a naturally-occurring inlet or outlet, and having concentric rings of similar native vegetation, often including the following plant species: *Downingia vina, Isoetes nuttalli, Pilularia americana, Triteleia hyacinthina, Eleocharis spp., Eryngium petiolatum, Plagiobothrys brachteatus, Plagiobothrys scouleri, Grindelia nana, Veronica peregrina, Alopecurus saccatus, Lasthenia californica, Deschampsia danthonioides,* and/or *Callitriche spp.*
>
> **Vernal Pools (Modoc basalt & Columbia Plateau):** a seasonally inundated wetland, usually without a naturally occurring inlet or outlet, located on shallow basalt bedrock and often having the following plant species*: Blennosperma nanum, Camassia quamash, Epilobium densiflorum, Callitriche marginata, Cicendia quadrangularis, Eryngium vaseyi, Psilocarphus brevissimus,* and/or *Sedella pumila.*

Wet Prairies – These wetlands occur on valley floors where clay-rich soils create a perched water table. Wet prairies usually dry out by late spring, although depressions may retain water longer. They require periodic fire or mowing to keep shrubs and trees from invading. Native herbaceous plants found in wet prairies may include *Deschampsia caespitosa, Danthonia californica, Camassia quamash, Triteleia hyacinthina, Carex densa, C. aperta,* and *C. unilateralis*; but even in relatively undisturbed wet prairies there may be significant cover on non-native plants. In the Willamette Valley, only 1% of historic wet prairies remain, and these remnants are key to dependent species such as grassland birds and several federally listed rare plants. Restoration of former wet prairies is encouraged as a watershed priority.

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