ENVIRONMENTAL TRAINING
WETLANDS & WATERS
of U.S./Oregon

Region 2 Environmental Unit
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Oregon Department of Transportation
April 2, 2019
Today’s Presentation

- Applicable Federal & State Laws/Local Regulations
- Definition of Wetlands and Waters of U.S./Oregon
- Roles/Services of Wetlands/Permits Specialists
- Functions & Values of Wetlands/Waters
- Impacts/Permits/Wetland & Waters Mitigation
- Wetlands & Transportation Projects
- ODOT Project Example: N. Fork Siuslaw River Bridge Replacement Project: Maps, Photos, & Drone Videos
- Contact Info
Federal, State, Local Laws & Regulations
Federal and State Laws

**FEDERAL**
Clean Water Act

- Implementation
  U.S. Army Corps of Engineers

  - Section 10/404 Permit

**STATE OF OREGON**
Fill and Removal Law

- Implementation
  Oregon Department of State Lands

  - Fill & Removal Permit
The Federal Clean Water Act
33 U.S.C. §1251 (1972)
The history of the Clean Water Act begins with its predecessor, the Federal Water Pollution Control Act of 1948, which was the first major law to address water pollution in the United States.
Federal Pollution Control Act of 1948

- The original 1948 statute (Ch. 758; P.L. 845), the Water Pollution Control Act, authorized the Surgeon General of the Public Health Service, in cooperation with other Federal, state and local entities, to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. During the development of such plans, due regard was to be given to improvements necessary to conserve waters for public water supplies, propagation of fish and aquatic life, recreational purposes, and agricultural and industrial uses. The original statute also authorized the Federal Works Administrator to assist states, municipalities, and interstate agencies in constructing treatment plants to prevent discharges of inadequately treated sewage and other wastes into interstate waters or tributaries.
Cuyahoga River Fire
Cleveland Ohio 1969
Clean Water Act History

- Inspired by the 1969 river fire, Congress was determined to resolve the issue of land pollution, not just in Cleveland, but throughout the United States. The legislature passed the National Environment Policy Act (NEPA) which was signed into law on January 1, 1970. This act helped establish the Environmental Protection Agency (EPA) which would be given the duties to manage environmental risks and regulate various sanitary-specific policies. One of the first legislations that the EPA put-forth was the Clean Water Act (1972), which mandated that all rivers throughout the United States be hygienic enough to safely allow mass amounts of swimmers and fish within the water by 1983.
In the years following the introduction of the Federal Water Pollution Control Act, the American public became more concerned about controlling water pollution. In the early 1970s, two-thirds of the nation’s lakes, rivers, and coastal waters were unsafe for fishing or swimming, and untreated sewage was dumped into open water. Extensive, wide-ranging amendments to the Federal Water Pollution Act occurred in 1972, and because the law had changed so drastically, its name soon shifted as well. It became commonly known by the name that endures to this day, the Clean Water Act.
The 1972 amendments accomplished all of the following:
- Established a system to regulate pollutant discharges into the waters of the U.S.
- Granted the EPA the authority to implement pollution control programs
- Retained existing requirements to set water quality standards for all contaminants in surface waters
- Prohibited the discharge of a pollutant from a point source into navigable waters unless the person obtains a permit under the law’s provisions
- Funded the construction of sewage treatment plants
- Recognized the importance of planning when tackling critical issues caused by non-point source pollution
Navigable Waters: Section 10 of the Rivers & Harbors Act of 1899
Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable waters of the United States without a permit from the Corps of Engineers.
State of Oregon Removal-Fill Law (ORS 196.795-990)

- Oregon's Removal-Fill Law requires people who plan to remove or fill material in wetlands or waterways to obtain a permit from the Department of State Lands. ... The law applies to all landowners, whether private individuals or public agencies.
Oregon Removal & Fill Law 1967

- The purpose of the law, enacted in 1967, is to ensure protection and the best use of Oregon’s water resources for home, commercial, wildlife habitat, public navigation, fishing and recreational uses.

- In most cases, a permit is required if an activity will involve filling or removing 50 cubic yards or more of material in a wetland or waterway. For activities in state-designated Essential Salmonid Habitat, State Scenic Waterways and compensatory mitigation sites, a permit is required for any amount of removal or fill.
Local Regulations

- Wetland Land Use Notice
- County Comprehensive Plans
- City Comprehensive Plans
- Special Districts - such as the Columbia River National Scenic Area
Less Obvious Wetlands
Even Less Obvious Wetlands
Wetland: Basic Definition

A jurisdictional wetland has three characteristics:

- **Wetland hydrology** - Extended period of inundation or soil saturation during the growing season;

- **Hydric soils** - Soils characteristics that are associated with long periods of saturation or inundation;

- **Hydrophytic Vegetation** - Vegetation uniquely suited for growing in water or saturated soil conditions.
Roles/Services of the ODOT Wetland Specialists & Environmental Permit Coordinators:

- Determine presence of jurisdictional wetlands/waters of U.S./Oregon in project areas (Scoping/Baseline)
- Prepare wetland documentation including wetlands/waters delineations, functional assessments, impact/alternatives analyses, compensatory mitigation plans, and construction & monitoring of mitigation sites
- Help ODOT avoid and minimize project impacts and review alternatives with Project Team Members including Project Managers/Leaders & Roadway/Bridge Engineers/Designers
- Develop means to compensate for unavoidable wetlands/waters impacts
- Coordinate Wetlands/Waters Requirements with Regulatory Staff: USACE, ODSL, DEQ, NOAA/NMFS, USFWS, ODFW
- Prepare environmental permits (Section 404 Clean Water Act & Section 10 (USACE) & Removal-Fill Law (ODSL)
Wetland Delineation and Functions & Values Assessments
Wetland Mitigation Construction: Site Design & Monitoring
Wetland Functions/Values:

- Water Storage & Delay
- Sediment Retention & Stabilization
- Phosphorus retention
- Nitrate Removal & Retention
- Anadromous Fish Habitat
- Resident Fish Habitat
- Aquatic Invertebrate Habitat
- Songbird, Raptor, Mammal Habitat
- Water Cooling
- Native Plant Diversity
- Pollinator Habitat
- Organic Nutrient Export
- Carbon Sequestration
- Public Use
- Recognition
- Aesthetics
Wetlands/Waters Permits and Their Requirements:

**Section 10/404 Permit**  
Federal

**ODSL Permit**  
State

First: Avoidance of Wetland/Waters Resources, if at all possible;

Second: Minimization of Unavoidable impacts, including reviewing Alternatives; and

Third: Analyzation of Proposed Project Impacts to Wetlands/Waters resources & Replacing Functions & Values through Mitigation.
Avoidance & Minimization Measures

- Alternatives Analyses
- Roadway/Bridge Alignment modification/adjustment
- Use of clear span bridges, retaining walls, steepened slopes behind guardrails
- Fenced project wetlands/waters areas (no work zones)
Oregon Removal-Fill Permit Process

Removal-Fill Process Overview

- Wetland Land Use Notice
- Offsite or Onsite Wetland Determination
- Mapped wetlands and waters

Advance notice that wetlands may be present

If delineation report required need ~120 days +/- for review

Impacts avoided?

No Permit Required!

Project impacts wetlands or waters

Activity not exempt

Permitting alternatives:
- Timelines may run concurrently with delineation report review
- General Authorization 30 days
- General Permit ~70 days
- Individual Permit 120 days
Wetlands & Transportation Projects

Wetlands/Waters Resources identified within the Project Area should be incorporated into

- Project Development Timelines (including time of year to identify wetland hydrology for some wetland types)
- Project Design
- Project Development Costs/Budgets
- Construction Costs/Budgets
- Monitoring & Maintenance Costs/Budgets both short and long term
ODOT Project Example: OR 126 North Fork Siuslaw River Bridge Replacement

Wetland Baseline & Delineation

Avoidance and Minimization Measures of Identified Wetlands/Waters Resources

Compensatory Wetland Mitigation both on and off site

Drone Monitoring
OR 126 Bridge Replacement over North Fork Siuslaw River Estuary
Wetlands/Waters
Baseline & Delineation
NORTH FORK SIUSLAW RIVER BRIDGE REPLACEMENT
WETLANDS / WATERS LOCATION MAP LAYOUT
Lane County, Oregon
Key No. 11791

AREA OF POTENTIAL IMPACT BOUNDARY (API)
WETLANDS ARE DELINEATED AT HIGHEST MEASURED TIDE (EL 10.5')
Resource Impact Minimization through Project Design
On-Site Wetlands/Waters Resources Identified for Mitigation: Eelgrass Beds & Salt Marsh
Wetlands/Waters Impact Determination & Compensatory Mitigation
TABLE 5: PERMANENT IMPACTS TO WATERS OF THE STATE

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Area</th>
<th>Impact</th>
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<tbody>
<tr>
<td>Intertidal Salt Marsh</td>
<td>1.38 acres*</td>
<td>Fill</td>
</tr>
<tr>
<td>Intertidal Mud Flat</td>
<td>0.35 acre</td>
<td>Fill</td>
</tr>
<tr>
<td>Open Water Subtidal</td>
<td>0.025 acre</td>
<td>Fill, Bridge Bents</td>
</tr>
<tr>
<td>Eelgrass Beds</td>
<td>0.26 acre</td>
<td>Shading, Work Bridge Bents</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2.015 acres</strong></td>
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Compensatory Wetland Mitigation

- **0.71 acre Estuarine Intertidal wetland** consisting of 0.24 acre mud flats, 0.25 acre low salt marsh, 0.22 acre high salt marsh (based on Estuarine Mitigation: The Oregon Process)
- **4.2 acre of Estuarine Intertidal Forested/Scrub-Shrub Wetland**
- **0.39 acre Eelgrass Beds** (*Z. marina*) (no less than 1.5 to 1 ratio)
On-Site
Eelgrass Mitigation/Transplant
Off-Site Mitigation of Spruce Swamp five miles upstream

- Dike (remains in place, except for breach at Culvert A1)
- Pilot channel (to be excavated)
- Culverts A1 and A2: Breach dike and remove culverts
- Culvert B (remove, place log sill, and fill trench)
- Ditch A (remains in place)
- Ditch B (fill lower portion with material from dike breach)
- Ditch C (fill lower portion with material from dike breach)
- Culvert C (remove, place log sill, and fill trench)
- Upstream extent of dike is not determined

Legend:
- Solid line: Culvert (existing)
- Dashed line: Dike (existing)
- Dotted line: Ditch (existing)
- Dotted-dash line: Pilot channel (proposed)

UTM Zone 10 NAD83.
Existing features located by ODOT survey crew.
Drone Monitoring

022.MOV
Drone Monitoring
Spruce Swamp Mitigation

SpruceSwamp_Orbit1.mp4 - Shortcut (2).Ink
Drone Monitoring:
Spruce Swamp Mitigation

SpruceSwamp_Fly_Through.mp4
Growing as large as mythical giants, Sitka Spruce trees along the Oregon Coast stand as silent sentries to the passage of time.

Found only within a narrow ten-mile strip of the Pacific Ocean, from southern Oregon to Alaska, the Sitka Spruce grows farther north than any other conifer and is among the fastest-growing and largest trees in the world. Due to its strength and extensive root system, the Sitka can tolerate continuous coastal wind and dominates Oregon's rugged shoreline. Treasured as a resource for generations by coastal Native Americans, Sitka Spruce stand steadfast along the Stunning Oregon Coast, but only 1% remain in Oregon due to development pressure.
In Conclusion

- Wetlands/Waters of U.S./Oregon are valuable resources protected by both federal and state laws.
- Each project requires avoidance & minimization of wetlands/waters resources.
- Unavoidable impacts to wetlands/waters require evaluation of the best mitigation option, taking into consideration the potential costs of each option, including long-term responsibility.
- ODOT has a variety of options available to satisfy federal and state mitigation requirements.
Thank You!

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