



Oregon

Theodore R. Kulongoski, Governor

Department of State Lands

775 Summer Street NE, Suite 100

Salem, OR 97301-1279

(503) 378-3805

FAX (503) 378-4844

www.oregonstatelands.us.

May 15, 2006

State Land Board

Theodore R. Kulongoski
Governor

Bill Bradbury
Secretary of State

Randall Edwards
State Treasurer

Mayor Ralph Hesgard
City of Cascade Locks
140 SW WaNaPa
P.O. Box 308
Cascade Locks, OR 97014

Re: Approval of the City of Cascade Locks Local Wetlands Inventory and Assessment

Dear Mayor Hesgard:

I am pleased to notify you that the Department of State Lands has approved your Local Wetlands Inventory (LWI) and assessment. The LWI meets the requirements established in rule (OAR 141-86-180 to 240); the final inventory requirement is for the city to notify property owners with wetlands mapped on their property within 120 days of this approval. Please provide us with a copy of the landowner notification, indicating the date of notification, when notification has been completed.

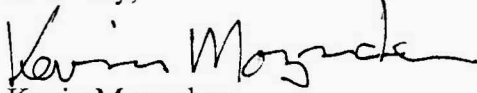
Approval by the Department means that the LWI becomes part of the Statewide Wetlands Inventory. The LWI must now be used by the city instead of the National Wetlands Inventory for the Wetland Land Use Notification Process (ORS 227.350). The LWI and functional assessment also form the foundation for your remaining wetland planning tasks under Statewide Planning Goal 5, and the LWI must be adopted by the city per the Goal 5 requirements. Please note that wetlands that do not meet the Locally Significant Wetland criteria for Goal 5 planning and local protection are still subject to state permit requirements.

While Pacific Habitat Services, Inc. has made a considerable effort to accurately identify all wetlands within the study area, the Department's approval does not guarantee that all regulated wetlands have been mapped. Also, exact wetland boundaries have not been identified and surveyed, and there are inherent limitations in mapping accuracy. Therefore, the Department advises that persons proposing land alteration on parcels containing or abutting mapped wetlands first contact the Department, or obtain a wetland boundary delineation by a qualified consultant and submit it to the Department for approval prior to the land alteration.

We are pleased that the City of Cascade Locks has conducted a thorough wetlands inventory and

has made wetland planning a high priority. Please contact Janet Morlan at extension 236 with any questions you may have.

Sincerely,



Kevin Moynahan
Acting Assistant Director
Wetlands & Waterways Conservation Division

cc: John N. Morgan, AICP
Bob Willoughby, City Administrator, City of Cascade Locks
Gary Fish, DLCD
John van Staveren, Pacific Habitat Services
Yvonne Vallette, EPA
Jim Goudzwaard, Corps of Engineers
Patty Snow, ODFW
Bill Kirchner, FWS Regional Office
Jevra Brown, DSL

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1.0 INTRODUCTION

The City of Cascade Locks (City), through a grant from the Department of Land Conservation and Development (DLCD), hired Pacific Habitat Services, Inc. (PHS) to conduct a Local Wetlands Inventory (LWI) within the City's Urban Growth Boundary. The 1,394-acre study area is in Hood River County (Township 2 North, Range 8 East and Township 2 North, Range 7 East, Sections 5, 6, 7, 8, 12, and 13) and includes Moody Creek, portions of Dry Creek and Herman Creek, and the Columbia River. Figure 1 illustrates the location of the study area. Figures are in Appendix A.

The goal of the study is to address the requirements of Statewide Planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces), and Oregon Administrative Rule (OAR) Section 660, Division 23. The objective of Goal 5 is to "protect natural resources and conserve scenic, historic and open space resources for present and future generations." Specifically, the City hired PHS to determine the location and extent of wetlands; assess the quality of the wetlands; and determine which of these wetlands are significant according to the requirements of Goal 5.

This report begins by discussing the definitions used in the report and inventory (Section 2), followed by the methodology used to conduct the field work for the LWI, the wetland assessment methodology, and the methodology used to produce the maps for the inventory (Section 3). Cartography for the project is outlined in Section 4; Section 5 outlines staff qualifications of individuals at PHS who worked on the project; Section 6 discusses the study area characteristics, such as the climate, topography, soils and vegetation; Section 7 discusses the Local Wetlands Inventory results, including wetland distribution, acreage, and Cowardin classification, as well as the results of the *Oregon Freshwater Wetland Assessment Methodology*; Section 8 discusses the determination of significant wetlands according to Goal 5; Section 9 provides a project summary; and Section 10 includes references.

There are six appendices to the report. Appendix A contains the Figures. Appendix B contains the wetland characterization sheets for each wetland, organized by wetland code. The characterization sheets note wetland location, tax lots, acreage, Cowardin classification, soil series, wetland vegetation, adjacent upland vegetation, and other notes related to adjacent wetlands or hydrology. This form was completed for each wetland unit, regardless of whether it was an on-site or off-site determination.

Appendix C contains the wetland determination data forms. These forms document the sample points taken for the on-site wetlands. Hydrology, soils, and dominant vegetation are recorded for each sample point in order to determine whether it is wetland or upland.

Appendix D is the *Oregon Freshwater Wetland Assessment Methodology* data and summary for each wetland unit. Each wetland's functions and conditions are assessed according to an established state methodology. The results and rationale are also summarized for each wetland unit. In addition, a determination of significance for each wetland unit is included in Appendix E. Appendix F contains a non-comprehensive listing of plant species encountered or expected within the project area.

2.0 DEFINITIONS

These terms helped define the methodology used for the City of Cascade Locks Local Wetlands Inventory and may be referred to in this report.

1987 Manual

The Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1.
(Environmental Laboratory 1987)

This manual is used by the Corps and DSL to document the location of wetlands within the State of Oregon. The 1987 manual provides technical criteria, field indicators, and recommended procedures to be used in determining whether an area is a jurisdictional wetland. Undisturbed areas require three criteria for them to be classified as wetland. These criteria are hydric soils, a dominance of hydrophytic vegetation, and wetland hydrology.

Cowardin Wetland Classification

The classification of wetlands as defined by plants, soils and the frequency of flooding is described in "Classification of wetlands and deepwater habitats of the United States." (Cowardin, et. al. 1979) See Palustrine System.

Goal 5

Goal 5 (OAR 660, Division 23) is intended "to protect natural resources, and conserve scenic and historic areas and open spaces." (DLCD, 1995)

Growing Season

"The portion of the year when soil temperatures at 19.7 inches below the soil surface are higher than biological zero (41° Fahrenheit, 5° Celsius)." (COE, 1987)

The growing season for any given site or location is determined from Natural Resource Conservation Service (NRCS, formerly the U.S. Soil Conservation Service SCS) data and information. The length of the season can be approximated from frost free days, based on air temperature.

Hydric Soils

"Soils which are ponded, flooded, or saturated for long enough during the growing season to develop anaerobic conditions." (USDA, SCS, 1985)

Periodic saturation of soils causes alternation of reduced and oxidized conditions, which leads to the formation of redoximorphic features (gleying and mottling). Mineral hydric soils will be either gleyed or will have bright mottles and/or low matrix chroma.

The redoximorphic feature known as gley is a result of greatly reduced soil conditions, which result in a characteristic grayish, bluish or greenish soil color. The term mottling is used to describe areas of contrasting color within a soil matrix. The soil matrix is the portion of the soil layer that has the predominant color. Soils that have brightly colored mottles and a low matrix chroma are indicative of a fluctuating water table.

Hydric soil indicators include: organic content of greater than 50% by volume, sulfidic material or "rotten egg" smell, and/or presence of redoximorphic features and dark soil matrix, as determined by the use of a Munsell Soil Color Chart. This chart establishes the chroma, value and hue of soils based on comparison with color chips. Mineral hydric soils usually have a matrix chroma of 2 or less in mottled soils, or a matrix chroma of 1 or less in unmottled soils.

Hydrogeomorphic (HGM) Wetland Classification

A method of assessing wetlands using the physical, chemical, and biological functions of wetlands. It is based on the relationship of geomorphic setting, water source, and hydrodynamics. (Brinson, 1993)

Hydrophytic Vegetation

"Plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content." (National Resource Council, 1995)

The U.S. Fish and Wildlife Service, in the *National List of Plant Species that Occur in Wetlands*, has established five basic groups of vegetation based on their frequency of occurrence in wetlands. These categories, referred to as the "wetland indicator status," are as follows: obligate wetland plants (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL).

Local Wetlands Inventory (LWI)

An inventory of all wetlands greater than 0.5 acres in size within a local jurisdiction using the standards and procedures of OAR 141-86-110 through 141-86-240.

In 1989, the Oregon state legislature authorized DSL to develop a statewide wetlands inventory for planning and regulatory purposes. Accordingly, DSL established Local Wetlands Inventory (LWI) standards and guidelines under ORS 196.674. An approved LWI replaces the National Wetlands Inventory maps and is incorporated into the statewide wetlands inventory.

An LWI is conducted using color or color infrared aerial photographs taken within 5 years of the inventory initiation and at a minimum scale of 1 inch = 400 feet (1" = 400'). Wetlands are located using the on-site option where access to property is allowed, or off-site where access is denied. Wetlands can be mapped off-site by using information such as topographic and National Wetlands Inventory maps, aerial photographs, and soils surveys.

The approximate location of wetlands is placed on a parcel-based map. The parcel-based map allows the property owner, the local jurisdiction, and DSL, to know which tax lots may contain wetlands.

The maps and documents produced for the LWI are intended for planning purposes only. Mapped wetland boundaries are more accurate than NWI mapped wetland boundaries; however, there may be unmapped wetlands that are subject to regulation. In all cases, actual field conditions determine wetland boundaries.

Palustrine System (P--)

"All nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens and all such wetlands that occur in tidal areas where salinity is less than 0.5%. This includes areas traditionally called swamps, marshes, fens, as well as shallow, permanent or intermittent water bodies called ponds." (Cowardin et. al. 1979)

- **Emergent Wetland (PEM)**

These wetlands have rooted herbaceous vegetation, which stand erect above the water or ground surface.

- **Scrub-shrub Wetland (PSS)**

Wetlands dominated by shrubs and tree saplings that are less than 20 feet high.

- **Forested Wetland (PFO)**

Wetlands dominated by trees that are greater than 20 feet high.

- **Aquatic Bed (PAB)**

Wetlands and deep water habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years.

Water Resource

"An intermittent or perennial stream, pond, river, lake and including their adjacent wetlands." (DSL, 1998)

Waters of the State

Natural waterways including all tidal and nontidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and nonnavigable. Natural waterways are defined as: waterways created naturally by geological and hydrological processes, and waterways that would be natural but for human-caused disturbances (e.g. channelized or culverted streams, impounded waters, partially drained wetlands or ponds created in wetlands). (ORS 196.800-196.990, 2001)

Wetland

"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." (Federal Register 1982).

Wetland Assessment

Determining the relative quality of a wetland by assessing its functions and conditions. The methodology generally used to determine the relative quality of wetlands for purposes of an LWI is the Oregon Freshwater Wetland Assessment Methodology. (Roth, et. al. 1996)

Wetland Classification

The classification of wetlands as defined by plants, soils and the frequency of flooding is described in "Classification of wetlands and deepwater habitats of the United States." (Cowardin, et. al. 1979) See Palustrine System.

Wetland Condition

"The integrity of a wetland's physical and biological structure. This determines the ability of the wetland to perform specific functions, as well as its resilience and enhancement opportunities." (Roth et al., 1996)

Wetland Function

"A characteristic action or behavior associated with a wetland that contributes to a larger ecological condition such as wildlife habitat, water quality and/or flood control." (Roth, et. al. 1996)

Wetland Hydrology

"Permanent or periodic inundation or prolonged soil saturation sufficient to create anaerobic conditions in the upper soil profile." (COE, 1987)

Wetlands Regulation

Wetlands in Oregon are regulated by the Division of State Lands (DSL) under the Removal-Fill Law (ORS 196.800-196.990) and by the U.S. Army Corps of Engineers (Corps) through Section 404 of the Clean Water Act.

3.0 PROJECT METHODOLOGY

3.1 Public Involvement

Prior to beginning the inventory, the City of Cascade Locks mailed letters to landowners who had National Wetlands Inventory mapped wetlands or suspected wetland areas on their property. The letter was a notice requesting permission for site access. Landowners were requested to grant site access, deny site access, or grant access by appointment. A parcel-based map of the Urban Growth Boundary of Cascade Locks was prepared showing those parcels where access was approved, denied or an appointment was requested. These property boundaries were transferred to an aerial photo base map by PHS staff for use during the inventory.

A public meeting was held on March 31, 2005, to introduce the project to the residents of Cascade Locks. This meeting was held prior to the date required for return of the access request letters to answer any questions affected landowners may have had for representatives of the City and PHS.

Landowners were requested to mark a box on the access notice, either granting site access, denying site access, or granting access by appointment. If there was no response, individual landowners may have been contacted directly by either the City or PHS. One-hundred and five (105) notices were mailed to landowners, with access allowed to 45 (43%).

A second public meeting was held on June 22, 2005, to present the draft results of the wetland inventory to the residents of Cascade Locks.

3.2 Local Wetlands Inventory Methodology

3.2.1 Routine Off-site Determination

Prior to beginning field work, off-site mapping was conducted to determine the approximate location of wetland boundaries based on available information. This information included the USGS topographic quadrangles, the National Wetlands Inventory maps, and June, 2003 color aerial photographs at a scale of 1 inch = 400 feet

If access to land was allowed, the wetland boundaries were verified in the field (see Section 3.2.2). If access was not granted, the boundaries were based on the mapping conducted in the office, and on observation of wetland boundaries from adjacent roads or properties.

In addition, off-site potential wetlands less than 0.5 acres in size were marked on the map and coded with a "PW" for potential wetland. Ponds and streams were also marked on the map as other potentially jurisdictional waters.

3.2.2 Routine On-site Determination

Where property access permission had been granted, on-site observation and inspection of soils, vegetation, and hydrology were made using the Routine On-site method of the 1987 manual. Soil pits were excavated up to a depth of approximately 18-inches in selected locations. The soil profiles were examined for hydric soils and wetland hydrology field indicators. A visual percent-cover estimate of the dominant species of the plant community for a maximum 30-foot radius was conducted at each sampling location. Sampling locations were chosen to document a change in the wetland boundary and a particular plant community visible on an aerial photograph. Data was recorded in the field and transferred to computer-generated wetland delineation data sheets in the office.

Field work for the inventory was conducted between April 2005 and June 2005. No wetland boundaries were staked or flagged in the field.

3.3 Wetland Quality Assessment

3.3.1 The Oregon Freshwater Wetland Assessment Methodology

The quality of wetlands in the study area were assessed using the *Oregon Freshwater Wetland, Assessment Methodology* (OFWAM) (Roth et al. 1996). OFWAM was developed by an interagency committee to assess the relative quality of wetlands primarily for planning and educational purposes. Copies of the methodology are available from DSL for a fee. OFWAM does not assign a numeric ranking to the wetlands, but does determine the relative quality of six functions and three conditions for each of the wetlands. A description of each of the functions and conditions is included below.

Wetland Functions

Wildlife habitat: Evaluates the habitat diversity for species usually associated with wetlands, without emphasizing one particular species. Wetlands assessed by OFWAM can provide diverse habitat for wildlife, habitat for some wildlife species, or does not provide habitat.

Fish habitat: Evaluates how a wetland contributes to fish habitat in streams, ponds or lakes associated with a wetland. The questions are suitable for both warmwater and coldwater fish and no particular species is emphasized. Wetlands assessed by OFWAM can have fish habitat function intact, impacted or degraded, or lost or not present.

Water Quality: Evaluates the potential of a wetland to reduce the impacts of excess nutrients in storm water runoff on downstream waters. A wetland's water quality function can be assessed by OFWAM as intact, impacted or degraded, or lost or not present.

Hydrologic control: Evaluates the effectiveness of a wetland to reduce downstream flood peaks and store floodwaters. A wetland's hydrologic control functions can be assessed by OFWAM as intact, impacted or degraded, or lost or not present.

Education: Evaluates the suitability of a wetland to provide educational opportunity and act as an "outdoor classroom." A wetland assessed by OFWAM can have educational uses, have the potential to provide, or not be appropriate for educational uses.

Recreation: Evaluates the suitability of a wetland and associated watercourses for non-powered boating, fishing, and similar recreational activities. Wetlands assessed by OFWAM can provide, have the potential to provide, or not provide recreational opportunities.

Wetland Conditions

Sensitivity to Future Impacts: Evaluates the wetlands ability to sustain itself and its ability to recover from future impacts. It is an indication of risk to the wetland because of future changes in the watershed and surrounding land. A wetland can be assessed by OFWAM as sensitive to future impacts, potentially sensitive to future impacts, or not sensitive to future impacts. An undisturbed forested wetland is more sensitive to future impact than a wetland that has already been disturbed, such as agricultural wetland.

Enhancement Potential: Evaluates the suitability of a degraded wetland for enhancement. A wetland providing this condition does not provide one or more of the functions assessed by OFWAM. A wetland fulfilling this condition, therefore, would be of lower overall quality than a wetland providing wildlife habitat, fish habitat, etc. Wetlands that provide diverse wildlife habitat were not assessed in this section, as per the revised OFWAM. Wetlands are assessed as high enhancement potential, moderate enhancement potential, or little enhancement potential.

Aesthetic quality: Evaluates the visual and aesthetic quality of the wetland. Wetlands can be considered pleasing, moderately pleasing, or not pleasing.

3.3.2 Wetlands of Special Interest for Protection

The first filter in OFWAM is to determine whether the wetland is in a management plan, is a mitigation site protected by a deed restriction, is protected by regulatory rules or statutes, or is uncommon in Oregon. Ten questions are answered for each wetland and a "yes" answer to any of the questions puts the wetland into the "special interest for protection" category. If the wetland falls into this category, it is noted on the wetland characterization sheet.

3.3.3 Field Methodology

During the process of determining the boundaries for the LWI, data were also collected for the process of determining its relative quality. Data collected for this purpose are explained in the Wetland Characterization section of OFWAM. Data collected in the field included the Cowardin classes, the types of disturbance (if any) in the wetland area, the hydrology of the wetland area (e.g. the location of constrictions, connections to other wetlands), the presence of fish, large woody debris, the degree of vegetative cover, and other information necessary to complete the assessment of the wetland in the office.

If the wetland determination was off-site, the OFWAM section and wetland characterization was based on review of the aerial photographs and knowledge of other similar or adjacent wetlands.

3.3.4 Office Assessment

Subsequent to the field work, the data collected for each wetland were used to answer questions for each function and condition. Additional information on the wetlands, the landscape and the general area were gathered in the office. The answers within each function and condition section of the methodology were entered into a computer spreadsheet, which automatically displays the results of the assessment methodology.

Certain criteria were established for the OFWAM assessment prior to beginning. The following is a list of certain standards or assumptions that were used in answering the assessment questions:

Water Quality: Dry Creek and the Columbia River are both listed as water quality-limited on the Oregon Department of Environmental Quality 303(d) list (ODEQ, 2002). Dry Creek is listed for temperature, while the Columbia River is listed for temperature, PCB's, DDT, Polynuclear Aromatic Hydrocarbons, and Arsenic. Moody Creek and Herman Creek have not been listed by ODEQ. This information was used in the following questions in OFWAM: Wildlife, question 7; Fish Habitat, question 4; Water Quality, question 6; and Sensitivity to Future Impacts, question 3. It is also used in the determination of Locally Significant wetlands, as wetlands within ¼ mile of a listed stream and having intact or impacted water quality function would meet the criteria for a Locally Significant wetland

Fish Habitat: DSL maps Herman Creek as Essential Salmonid Habitat (ESH). Stream Net identifies fall and spring Chinook runs, as well as winter and summer Steelhead in this tributary to the Columbia River. Chinook (fall, spring, and summer runs), Coho, Steelhead (winter and summer runs), Sockeye, Sturgeon, and Bull Trout may all be present in this reach of the Columbia River. This information was used to answer Fish Habitat, question 6.

Floodplains: A 100-year floodplain is mapped along both the Columbia River and Herman Creek. Question 1 in Hydrologic Control was answered using this information.

Land Use: The City provided a zoning map of properties within city limits, for the study area. Questions 6 and 7 in Hydrologic Control and question 5 in Sensitivity to Future Impacts were answered based on this information.

Enhancement Potential: The enhancement potential section was not required if the wetland was assessed with "diverse wildlife habitat", as per OFWAM directive. In addition, question 3 was specifically directed towards wetlands whose primary source of hydrology was surface water. If this was not the case, question 3 was not answered.

4.0 CARTOGRAPHY

Color aerial photographs were obtained for use in the field. These true color photos are from June, 2003, with a scale of approximately 1 inch = 400 feet. Aerial photos and maps were drawn on directly in the field to provide preliminary wetland boundaries and data point locations. In addition, areas within the project area where permission to enter was denied were drawn on the acetate overlays. The wetland boundaries and approximate affected tax lot boundaries were then transferred to a digital format and inserted into a computer-based map based on the aerial photos provided by Hood River County, Public Works Department.

Additional layers added to the AutoCAD base map included watershed basin boundaries, streams from the USGS, additional geographic names, wetland codes, and sample point locations. A hydrologic basin refers to the drainage area for an individually named stream or creek. There is one hydrologic basin within the study area, namely the Columbia River Basin.

Each wetland was assigned a code beginning with the three letter watershed designation and a wetland number (e.g. COL-1 for Columbia River, MOO-1 for Moody Creek, HER-1 for Herman Creek, and DRY-1 for Dry Creek. Tax lots with no access (i.e. off-site determinations) were outlined differently on the maps.

In addition to the base map, PHS generated a series of maps including the project boundary (Figure 1), and the National Wetlands Inventory map (Figure 2). The soils maps for Cascade Locks are not available, as well as preliminary soil data from the NRCS. In addition, the National Wetlands Inventory maps are at different scales and levels of detail.

5.0 STAFF QUALIFICATIONS

The inventory was conducted by wetland scientists with extensive experience in wetland inventories and the Goal 5 process. The following summarizes the project team experience.

John van Staveren: President/Natural Resources Division; Senior Scientist;
Professional Wetland Scientist

Project Role: Project Manager

Project Responsibility: Contract negotiations, monthly billing
Wetland and riparian inventory field work and assessment
Public presentations
Quality control
Project coordination

John van Staveren has managed over 600 wetlands-related projects, including 26 large-scale wetland inventories; conducted hundreds of wetland delineations; testified at numerous public hearings; and provided expert witness testimony. He served as technical advisor to two Citizen Advisory Committees responsible for establishing criteria for the determination of significant wetlands for purposes of Goal 5 and the determination of significant natural resources for purposes of Goal 17.

John van Staveren served on two Oregon Department of State Land's Technical Advisory Committees (TACs) responsible for developing statewide policy on wetlands. These TACs are to establish statewide criteria for determining locally significant wetlands for Goal 5 and to establish a payment option for wetland mitigation. He was a Wetlands Expert team member providing analysis of the OFWAM, and was a reviewer for the last revision to the methodology.

Fred Small: Wetland Scientist, Botanist

Project Role: Wetland Scientist

Project Responsibility: Wetland and riparian inventory field work and assessment

Fred Small has worked on a dozen Local Wetland Inventories. He has delineated several hundred wetlands and prepared numerous mitigation plans for wetland fill permit applications. He has also conducted mitigation monitoring at dozens of sites, and surveyed for sensitive and nuisance plants across Oregon.

Amber Wierck: Wetland Scientist

Project Role: Wetland Scientist

Project Responsibility: Wetland and riparian inventory field work and assessment
Report writing

A student from Oregon State University working on her masters in Environmental Science. She has field experience in plant community identification, soil surveying, and endangered plant surveys. The Cascade Locks Wetlands Inventory is a project that once completed, Amber will do additional work with the GIS maps to fulfill her degree program and graduate in Fall 2005.

Tom Rodgers: AutoCAD and Arc-Info Specialist

Project Role: Cartographer

Project Responsibility: Mapping, Graphics

Tom Rodgers has prepared graphics for eight Local Wetlands Inventories. He is proficient with AutoCAD Map, Arc-View and Arc-Info programs. His experience includes close coordination with Planning Departments and Council of Governments to ensure that map products and digital information is compatible with local operating systems.

Jane Le Blanc: Technical Editor

Project Role: Technical Editor

Project Responsibility: Graphics
Report editing, formatting and layout
Data input

Jane Le Blanc is a technical editor and provides permitting support for PHS. Her duties include formatting and editing wetland reports, proposals, and letters as well as data input. She has reviewed and formatted numerous Local Wetland Inventories while at Pacific Habitat Services.

6.0 STUDY AREA CHARACTERISTICS

6.1 Existing Land Uses

The study area is limited to the City of Cascade Locks Urban Growth Boundary (UGB), which includes an urban commercial center, an industrial zone (primarily along the Columbia River), both urban and rural residential areas, and undeveloped, mostly forested open spaces. The undeveloped areas are predominantly in the hilly terrain south of Interstate 84.

6.2 Geographic Setting

The City of Cascade Locks is located on the south bank of the Columbia River, within the Columbia River Gorge National Scenic Area approximately 40 miles east of Portland, Oregon. The Columbia River provides the only low elevation route through the Cascade Range in both Oregon and Washington, making Interstate-84 an especially crucial regional transportation route.

Landforms within the UGB have been largely shaped by geologic forces, including extensive lava flows, catastrophic floods, and major landslides. The rock cliffs in the Cascade Locks area are primarily comprised of numerous layers of Columbia River basalt, which is often distinctive due to vertical columns formed as the lava cooled. A series of catastrophic floods during the most recent ice age (10-12,000 years bp) effectively shaped the lower slopes of the Cascade Range within the Gorge, steepening the gorge sidewalls and scouring lower elevation terraces. More recently, a large landslide originating from mountains on the Washington side blocked the river at Cascade Locks, contributing to the Indian legend of "The Bridge of the Gods." The river eventually downcut through the slide materials, resulting in a cascading series of falls and rock outcrops that severely restricted river travel until locks were constructed in the late 1800's. The Cascade Locks were inundated following construction of Bonneville Dam in the 1940's. Much of the town has been constructed on the old slide material.

The steep mountain slopes south of town have additionally contributed to the complex, hummocky terrain through erosion and smaller landslides in some areas. Elevations range from approximately 74 feet NGVD along the Columbia River shoreline, up to approximately 500 feet NGVD (Northwest Power and Conservation Council, 2004) in the gorge foothills to the south and east of the city limits.

6.3 Hydrology

6.3.1 Hydrologic Features of the Cascade Locks Study Area

The main hydrologic features within the Cascade Locks UGB are the Columbia River, Herman Creek, Dry Creek, Moody Creek (Crystal Spring), and a series of large ponds at the base of steep Cascade foothills south of Interstate-84.

The Columbia River represents the largest water body in the study area; however, its direct influence is felt primarily in the bottomlands north of I-84 in the eastern reaches of the study area. Government Cove, an embayment formed by a peninsula and Government Island, includes a fringe of bottomland wetlands directly influenced by river level fluctuations.

Several creeks originate from the mountains to the south. The largest is Herman Creek, which reaches the Columbia River just west of Government Cove. Dry Creek feeds to the River immediately west of the Cascade Locks State Airport. Moody Creek originates from Crystal Spring, located east of I-84 near the Bridge of the Gods.

The large ponds along Frontage Road to the south of the freeway are fed by a series of smaller drainages and springs. A few of the ponds feed westward into the Dry Creek drainage, while several springs and an impoundment associated with the Oxbow fish hatchery feed eastward into Herman Creek. The network of springs and lack of clear watershed boundaries is likely a result of extensive cracks in the steep basalt flows above, as well as inconsistencies in the old landslide materials at the base of the slopes. The following table summarizes the extent of each drainage within the study area (not including the pond acreages);

Table 1. Extent of Drainages within the Cascade Locks LWI Study Area

Name	Extent of Drainage
Columbia River floodplain	25,206 linear feet
Herman Creek	7,212 linear feet
Dry Creek	4,798 linear feet
Moody Creek (Crystal Spring)	2,305 linear feet

6.3.2 Watershed Designation

The study area was divided into four watershed units: Columbia River bottomlands, Herman Creek, Dry Creek, and Moody Creek. The watershed boundaries were based on topography and observations of drainage patterns in the field. The watersheds and their sizes are listed in Table 2:

Table 2: Watersheds and Acreages for the Cascade Locks LWI

Watershed	Area (acres)
Columbia River bottomlands (COL)	223.03
Herman Creek (HER)	318.69
Dry Creek (DRY)	508.71
Moody Creek (MOO)	343.40
Total Project Acreage	1393.83

6.3.3 Hydrologic Indicators

Direct indicators of hydrology observed during the inventory included soils saturated at or near the surface, inundation, wetland drainage patterns and/or a shallow water table. Indirect indicators included oxidized rhizospheres with living roots, algal mats, and water stained leaves.

6.4 Soils

No comprehensive soil survey has been published to date for the study area by the Natural Resources Conservation Service (formerly the Soil Conservation Service). This is likely due to the area's limited value for agriculture, as well as the highly complex nature of soil development in areas subject to recent disturbances on a geologic scale. As such, a variety of soil types were sampled during field visits; surface features are described on data sheets in Appendix C. Hydric soil indicators observed during the survey included low chroma soils, both with and without mottling, and an aquic moisture regime in some locations.

6.5 Vegetation

6.5.1 Overview

Vegetation communities in the Columbia Gorge have been shaped by both natural forces and human activities for centuries. Large scale disturbances (including catastrophic floods, landslides, and wildfire) have strongly shaped the prevailing growing conditions. More recently, Native Americans likely used certain plants for shelter, food, and tools, and may have used fire to shape communities to a limited extent. Euro-American settlement in the mid-19th century further altered the composition of plant communities in the area, especially at lower elevations along the river. Extensive logging to support the local demand for lumber and firewood likely cleared most of the immediate area of mature trees, necessitating the need to import timber from more and more remote locations. Development of relatively flat ground near the river for industrial and residential uses has continued to influence plant communities, and even those more steeply sloping areas that appear to retain native vegetation communities have been subject to fire suppression, clearing, and logging activities over the years.

The mid-Columbia Gorge is within the Western Hemlock floristic zone, which comprises a group of plant associations typically found throughout much of NW Oregon and SW Washington at lower elevations west of the Cascade Range. Though most forest stands in the area are not dominated by western hemlock (*Tsuga heterophylla*), this species is able to reproduce under a closed canopy and is considered the climax species for this zone. In actuality, these stands are typically dominated by Douglas fir (*Pseudotsuga menziesii*), with codominants such as bigleaf maple (*Acer macrophyllum*) becoming common in mixed stands.

Further discussion of plant communities within the Columbia Gorge can be found in *Natural Vegetation of Oregon and Washington* (Franklin and Dyrness 1973).

6.5.2 Vegetation Communities

Plant communities encountered within the Cascade Locks study area include upland coniferous forest, mixed conifer/deciduous forest, riparian forest, pastureland, disturbed/urban, and wetland. Wetland communities can be further distinguished as palustrine/open water, palustrine/emergent, palustrine/scrub-shrub, and palustrine/forested, following the Cowardin classification system developed for the US Fish and Wildlife Service (Cowardin, et al. 1979). Each of the above communities is described in the sections below. In addition, a non-comprehensive list of plants for the area is included in Appendix F.

Upland Coniferous Forest

This community is present primarily on the steepening slopes south of town, where patches of second to third growth conifers are interspersed with access roads, power lines, and dispersed residences. The dominant tree in these stands is Douglas fir, with western hemlock, grand fir (*Abies grandis*) and western red cedar (*Thuja plicata*) also present. Understory shrubs include vine maple (*Acer circinatum*), Indian plum (*Oemleria cerasiformis*), western hazelnut (*Corylus cornuta*) snowberry (*Symphoricarpos albus*) and Oregon grape (*Berberis aquifolium*). Common groundcover species include sword fern (*Polystichum munitum*), fringe-cup, waterleaf, wood violet, and trillium.

Upland Mixed Conifer/Deciduous Forest

This community is found both as patches among pure conifer stands, and in the more recently impacted areas closer to the River. Many of the same species found in pure stands are present, along with co-dominants in the overstory such as bigleaf maple. Oregon white oak and red alder may also be present.

Riparian Forest

Riparian forests are located in narrow bands along drainages. Species such as red alder (*Alnus rubra*), black cottonwood (*Populus trichocarpa*), and bigleaf maple may co-dominate with Oregon white oak and Douglas fir.

Understory species may include vine maple, redosier dogwood (*Cornus stolonifera*), Pacific ninebark (*Physocarpus capitatus*), willows (*Salix spp.*), and others.

Wetland

Wetland areas are generally transitional between upland and truly aquatic areas, which have permanent open water. The wetland may occupy a position where the groundwater table remains at or near the surface for an extended period during the growing season, however, surface inundation may or may not be present. Many of the wetlands in the study area are permanently saturated or inundated with water. Vegetation varies depending on the extent of saturation or inundation.

Palustrine forested wetlands in the area are dominated by trees such as red alder, bigleaf maple, and other plant species such as vine maple, Indian plum (*Oemleria cerasiformis*), water parsley (*Oenanthe sarmentosa*), giant horsetail (*Equisetum telmateia*), and Fendler's water leaf (*Hydrophyllum fendleri*).

Palustrine scrub/shrub wetlands often include saplings of the above tree species, along with such shrubs as clustered rose (*Rosa pisocarpa*), willows (*Salix* spp.), and herbaceous species such as reed canarygrass (*Phalaris arundinacea*), and bitter-sweet nightshade (*Solanum dulcamara*).

Palustrine emergent wetlands in the study area are commonly dominated by species such as soft rush (*Juncus effusus*), small-fruit bulrush (*Scirpus microcarpus*), and wetland grasses, such as tall mannagrass (*Glyceria elata*). Additional plant species present were marsh and American speedwell respectively, (*Veronica scutellata*, *Veronica americana*), and common cattail (*Typha latifolia*).

Palustrine open water wetlands included dominate plant species such as red osier dogwood (*Cornus stolonifera*), skunk cabbage, (*Lysichiton americanum*), stinging nettle (*Urtica dioica*), and Cooley's hedgenettle (*Stachys cooleyae*). Additionally, submerged or floating plant species observed were yellow cow lily (*Nuphar luteum*) and Mexican water fern (*Azolla mexicana*).

Developed-Urban

This type of landscape is located in the commercial city center and the denser residential areas. Species are often of horticultural origin or weedy in these areas. Commercial and residential parking lots, roads, parks, and sidewalks all represent unvegetated or landscaped areas. Unpaved areas subject to frequent disturbance generally remain as open spaces dominated by weedy grasses and forbs.

6.5.3 Wetland and Upland Indicator Species

Species lists of commonly encountered plants, along with their status as indicators of wetland conditions, have been prepared for all regions of the country by the USFWS (1988). The status of a particular plant, as discussed in Section 2.0, is the probability of that plant occurring in a wetland. Many plants, however, are found in transitional areas between wetlands and uplands. These areas are usually characterized by flat to gradually sloping terrain where the species composition may not reflect true wetland boundaries. In such areas, a species with a status of FACU may extend into the wetland areas, just as FACW species may also be present in upland areas. Table 3 summarizes the wetland indicator codes.

Table 3. Wetland Indicator Codes and Status

Indicator Code	Status
OBL	Obligate wetland. Estimated to occur almost exclusively in wetlands (>99%)
FACW	Facultative wetland. Estimated to occur 67-99% of the time in wetlands.
FAC	Facultative. Occur equally in wetlands and non-wetlands (34-66%).
FACU	Facultative upland. Usually occur in non-wetlands (67-99%).
UPL	Obligate upland. Estimated to occur almost exclusively in non-wetlands (>99%). If a species is not assigned to one of the four groups described above it is assumed to be obligate upland.
NI	Has not yet received a wetland indicator status, but is probably not obligate upland

A non-comprehensive listing of plant species encountered or expected within the project area, and their wetland indicator status is included in Appendix F.

7.0 LWI DISCUSSION AND CONCLUSIONS

7.1 U.S. Fish & Wildlife Service National Wetland Inventory

The U.S. Fish and Wildlife Service, as part of the National Wetlands Inventory (NWI) program, have mapped wetland in the study area (Figure 2). The study area has been mapped on two 7.5-minute scale maps (1:24,000) (Bonneville Dam and Carson quadrangles). The NWI maps were generated primarily on the basis of interpretation of relatively small-scale color infrared aerial photographs (e.g., scale of 1:58,000) with limited "ground truthing" conducted to confirm the interpretations.

As shown on the maps, very few areas of wetlands were mapped within the Cascade Locks city boundary. The largest area wetlands encompass are south of the frontage road, where the Palustrine Aquatic Beds (NWI mapped as Palustrine Open Water) wetlands exist, and near Government Cove along the Columbia River where river fluctuations occur to produce the wetland bottomlands.

7.2 Local Wetlands Inventory Results

7.2.1 Wetland Acreage and Distribution

A total of 8 wetland units were identified within the four watersheds during the LWI with a total acreage of 26.07 acres. The Columbia River watershed has the highest percentage of wetlands with (5.85%), and the Dry Creek watershed the next highest (2.34%). The Moody Creek watershed has the smallest percentage (.09%). Table 4 summarizes the wetland acreage and distribution in the study area. Sheets 1-3 shows the wetlands for the LWI.

Table 4: Wetland Areas Within Each of the Watersheds for the Cascade Locks LWI

Watershed	Area (acres)	Wetland (acres)	Percent of watershed that is wetland
Columbia River (COL)	223.03	13.05	5.85
Herman Creek (HER)	318.69	.82	.26
Dry Creek (DRY)	508.71	11.89	2.34
Moody Creek (MOO)	343.40	.31	.09
Total Project Acreage	1393.83	26.07	

7.2.2 Wetland Classification

Each wetland was classified according to the Cowardin system. Palustrine Aquatic Bed (PAB) and Palustrine Emergent (PEM) are the dominant (44% and 32%, respectively), wetland type in the study area. Both Palustrine Aquatic Bed and Palustrine Emergent wetlands are dominated by herbaceous plant species. Palustrine Scrub-Shrub (PSS) wetlands were the third most prevalent wetland class (20%), followed by Palustrine Forested (4%). Palustrine Forested wetlands and Palustrine Scrub-Shrub are dominated by tree or shrub plant communities.

Table 5 is a summary of wetland classifications for the Cascade LWI study area. Table 6 (pages 19) is a classification table listing each wetland. Appendix B includes a wetland characterization sheet for each inventoried wetland that summarizes the plant communities, hydrology, location, and any general notes about adjacent upland areas.

Table5. Wetland Classifications found within the Cascade Locks LWI

Wetland Classification	Area (acres)	Percent
Palustrine forested (PFO)	1.13	4.33
Palustrine scrub-shrub (PSS)	5.22	20.02
Palustrine emergent (PEM)	8.26	31.68
Palustrine Aquatic Bed, (PAB)	11.46	43.97
Total	26.07	100

Table 6. Cowardin classification of wetlands identified in the Cascade Locks LWI

Wetland Code	USFWS Wetland Classification				Total Acreage
	PFO	PSS	PEM	PAB	
COL-1		5.22	7.83		13.05
HER-1	.82				.82
DRY-1				3.76	3.76
DRY-2			.43		.43
DRY-3				1.87	1.87
DRY-4				5.83	5.83
MOO-1	.082				.082
MOO-2	.23				0.23
TOTAL	1.13	5.22	8.26	11.46	26.07

7.3 Oregon Freshwater Wetland Assessment Methodology Results

7.3.1 Wetlands of Special Interest for Protection

Each of the wetlands was assessed according to the ten questions in this section of OFWAM. These questions are regarding the presence of federal or state listed threatened, endangered or sensitive species, existing management plans, conservation plans, protected mitigation areas, critical habitat, wetland reserve areas and the presence of uncommon wetland plant communities in Oregon. These questions were answered "no" for all the wetlands.

7.3.2 Wetland Quality Assessment

An assessment of the quality for each of the wetlands identified through the inventory was conducted using the *Oregon Freshwater Assessment Methodology* (OFWAM) (Roth et al, April 1996). OFWAM assesses 6 functions and 3 conditions, as described in Section 3.3.1.

Appendix D contains all of the results for each of the wetlands assessed by the methodology along with summary sheets of the functions and conditions assessed by the methodology and the rationale for the results.

Although OFWAM provides qualitative information on the relative value of wetlands and does not have a numerical ranking, numbers were assigned to the assessment criteria to easily compare the results. Table 7 is a key to the numbers assigned to the assessment criteria for each of the functions and conditions. A number 1 was assigned to wetlands receiving the highest function or condition result (e.g. intact, diverse), a number 3 was assigned to the wetlands receiving the lowest result (lost or not present, not appropriate), and a number 2 was assigned to the results which do not fit the other criteria (potential, impacted or degraded).

Table 8 (pages 21) shows the results of the quality assessment conducted on all of the wetlands identified through the inventory. Some functions or conditions were not applicable to certain wetlands. For instance the methodology states that if a wetland receives an assessment of "diverse wildlife habitat" then the enhancement potential assessment is not applicable. In addition, if there was no likelihood of fish habitat in the wetlands the fish habitat assessment was not applicable.

Table 7. Key to the Oregon Freshwater Wetland Assessment Methodology Numerical Ranking

Wildlife Habitat	<ol style="list-style-type: none"> 1. <i>Wetland provides diverse wildlife habitat</i> 2. <i>Wetland provides habitat for some wildlife species</i> 3. <i>Wetland does not provide wildlife habitat</i>
Fish Habitat	<ol style="list-style-type: none"> 1. <i>Wetland's fish habitat function is intact</i> 2. <i>Wetland's fish habitat function is impacted or degraded</i> 3. <i>Wetland's fish habitat function is lost or not present</i>
Water Quality	<ol style="list-style-type: none"> 1. <i>Wetland's water-quality function is intact</i> 2. <i>Wetland's water-quality function is impacted or degraded</i> 3. <i>Wetland's water-quality function is lost or not present</i>
Hydrologic Control	<ol style="list-style-type: none"> 1. <i>Wetland's hydrologic control function is intact</i> 2. <i>Wetland's hydrologic control function is impacted or degraded</i> 3. <i>Wetland's hydrologic control function is lost or not present</i>
Sensitivity to Impact	<ol style="list-style-type: none"> 1. <i>Wetland is sensitive to future impacts</i> 2. <i>Wetland is potentially sensitive to future impacts</i> 3. <i>Wetland is not sensitive to future impacts</i>
Enhancement Potential	<ol style="list-style-type: none"> 1. <i>Wetland has high enhancement potential</i> 2. <i>Wetland has moderate potential for enhancement</i> 3. <i>Wetland has little enhancement potential</i>
Education	<ol style="list-style-type: none"> 1. <i>Wetland has educational uses</i> 2. <i>Wetland has potential for educational use</i> 3. <i>Wetland is not appropriate for educational use</i>
Recreation	<ol style="list-style-type: none"> 1. <i>Wetland provides recreational opportunities</i> 2. <i>Wetland has the potential to provide recreational activities</i> 3. <i>Wetland is not appropriate for or does not provide recreational opportunities</i>
Aesthetic Quality	<ol style="list-style-type: none"> 1. <i>Wetland is considered to be pleasing</i> 2. <i>Wetland is considered to be moderately pleasing</i> 3. <i>Wetland is not pleasing</i>

Table 8. Oregon Freshwater Wetland Assessment for the Cascade Locks LWI

WETLAND FUNCTION	WETLAND CODE							
	COL-1	HER-1	DRY-1	DRY-2	DRY-3	DRY-4	MOO-1	MOO-2
Wildlife Habitat	2	2	2	2	2	2	2	2
Fish Habitat	2	2	3	3	2	2	1	2
Water Quality	1	2	2	2	2	2	2	2
Hydrologic Control	3	2	2	3	2	2	2	2
Sensitivity to Impact	2	2	2	2	2	2	2	2
Enhancement Potential	1	1	1	1	1	1	2	1
Education	1	2	3	1	3	3	2	3
Recreation	1	2	3	1	3	3	2	2
Aesthetic Quality	1	3	3	3	3	2	3	3

All of the wetlands provided wildlife habitat for some species. The wetlands that provided some habitat were in residential, developed areas. Diverse wildlife habitat was not present in all of the wetlands in Cascade Locks due to disturbance and or road activity near the wetland.

All 8 wetlands were assessed for the fish habitat function. Only 1 (12%) of the wetlands was determined to have intact fish habitat due to perennial surface water, shade, and direct connection to a creek. This wetland is a small forested wetland connected to Moody Creek (MOO-1). The other 7 (88%) wetlands lacked perennial surface water or connection to surface water; therefore, this function was determined to be impacted, degraded, or lost or not present.

The water quality function was assessed as impacted or degraded in all of the wetlands except COL-1, due to the primary source of hydrology being groundwater and the dominant existing land use is developed or open space. The rationale is that wetlands which are groundwater-driven or surrounded by open space may not play as significant a water quality function as wetlands derived from surface water or surrounded by developed lands. Additionally, hydrologic control was assessed as impacted or degraded (75%), or lost or not present (25%) due to dominance of emergent vegetation, surrounding development and unrestricted outflow.

Most of the wetlands have high enhancement potential except one wetland, MOO-1, which has moderate enhancement potential. Recreational and educational functions were generally considered not appropriate in many of the wetlands due to the lack of public access and safety concerns associated with public access and handicap access. In addition, the aesthetic quality of many of the wetlands was impaired by the presence or noise of major roads and the lack of vegetation diversity.

8.0 SIGNIFICANT WETLANDS DETERMINATION

8.1 Locally Significant Wetlands Criteria

On September 1, 1996, the Land Conservation and Development Commission adopted a revised Statewide Planning Goal 5. Goal 5 is the planning goal for natural resources, scenic and historic areas, and open spaces. Its purpose is to "protect natural resources, and conserve scenic and historic areas and open spaces". The goal requires local jurisdictions to inventory the natural resources covered under the goal, determine the significance of these resources, and develop plans to achieve the goal. In other words, local jurisdictions must adopt land use ordinances regulating development in and around significant areas.

Local jurisdictions determining significant wetlands must use the criteria recently adopted by the Oregon Department of State Lands (ORS 197.279(3)(b)). This criteria identifies Locally Significant Wetlands. The significance criteria is divided into three sections, as described in Table 9.

Table 9. Criteria for Determining Goal 5 Locally Significant Wetlands

<p>Exclusions: A wetland cannot be designated as significant if the answer to any Of the criteria below is "Yes".</p>
<ol style="list-style-type: none"> 1 Is this wetland artificially created entirely from upland and: <ol style="list-style-type: none"> a. created for the purpose of controlling, storing, or maintaining storm water b. is used for active surface mining or as a log pond c. is a ditch without a free and open connection to natural waters of the state d. is less than 1 acre and created unintentionally from irrigation or construction e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard 2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)
<p>Mandatory Locally Significant Wetland Criteria: A wetland is locally significant if "Yes" is the answer to any of the criteria below.</p>
<ol style="list-style-type: none"> 1 Does the wetland provide <i>diverse wildlife habitat</i>? 2 Is the wetland's <i>fish habitat function intact</i>? 3 Is the wetland's <i>water quality function intact</i>? 4 Is the wetland's <i>hydrologic control function intact</i>? 5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i>? 6 Does the wetland contain a rare plant community? 7 Is the wetland inhabited by any species listed federally as threatened or Endangered, or state listed as sensitive, threatened or endangered? 8 Does the wetland have a direct surface water connection to a stream segment Mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i>?

Table 9, continued

Optional Locally Significant Wetland Criteria: local governments may	
Identify a wetland as significant if "Yes" is the answer to the criteria below	
1	Does the wetland represent a locally unique native plant community <u>and</u> Provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> Has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> Has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> Has a <i>intact, or impacted or degraded hydrologic control function</i> .
2	Is the wetland publicly owned and used by a school or organization <u>and</u> Does the wetland provide <i>educational uses</i> ?

8.2 Applying Significant Wetland Criteria to the LWI Study Area

The locally significant wetlands criteria were applied to the 8 wetlands within the study area. Seven (7) wetlands satisfied the criteria for significant wetlands. The majority of these met the criteria due to Criteria #5 which is related to distance to a 303(d) listed stream. The results of applying the criteria are included in Appendix E and are summarized in Table 10.

Table 10. Locally Significant Wetlands (LSW) in the Cascade Locks LWI

COL-1	MOO-1
DRY-1	HER-1
DRY-2	
DRY-3	
DRY-4	

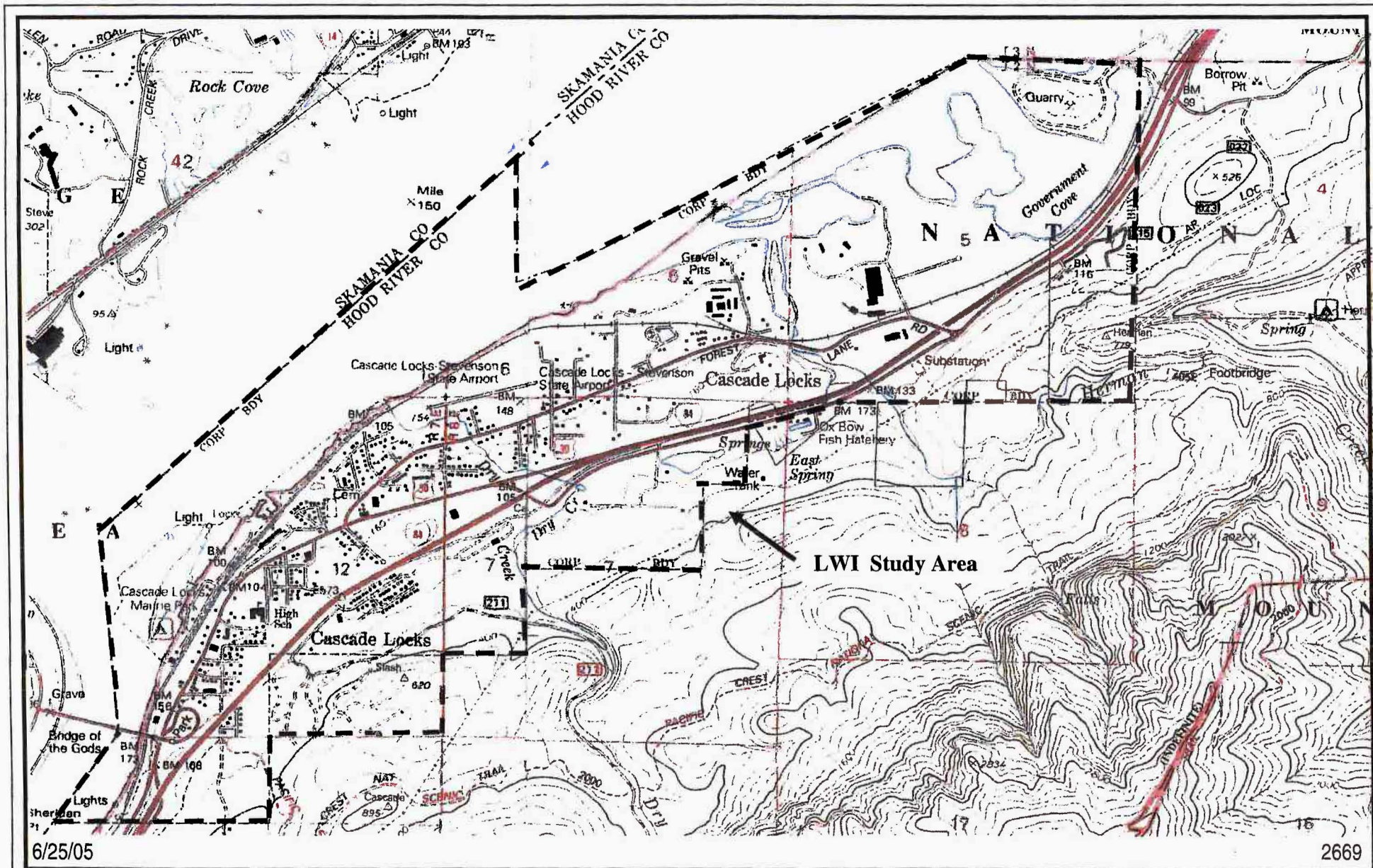
Therefore, based on the criteria wetlands 7 (88%) were determined to be significant: 4 in the Dry Creek watershed, 1 in the Moody Creek watershed, 1 in the Herman Creek watershed, and 1 in the Columbia River watershed. The majority of the wetlands that met the criteria for significance were within ¼ mile of a 303(d) listed stream and had impacted or degraded water quality function or they had a direct surface water connection to a stream where the fish habitat was intact. Although one wetland within the study area (MOO-2) is valuable for some of the functions, it did not satisfy the mandatory significant wetlands criteria.

9.0 PROJECT SUMMARY

- The City of Cascade Locks hired Pacific Habitat Services, Inc. (PHS) to conduct a Local Wetlands Inventory (LWI) for areas within the City's Urban Growth Boundary.
- The project area is approximately 1394 acres, including portions of four watersheds; Dry Creek, Moody Creek, Herman Creek and the Columbia River.
- Field work was conducted between April 2005 and May 2005. Each wetland unit was assigned a unique code based on the watershed. A wetland characterization and wetland assessment was completed for each wetland unit. The wetland assessment was based on the *Oregon Freshwater Wetland Assessment Methodology*.
- In addition to the determination and wetland assessment, Locally Significant Wetlands were identified based on Oregon Administrative Rules.
- Herman Creek and the Columbia River are Essential Salmonid Habitat streams, according to ODFW and DSL.
- Dry Creek and the Columbia River are both listed as water quality-limited on the Oregon Department of Environmental Quality 303(d) list (ODEQ, 2002). Dry Creek is listed for temperature, while the Columbia River is listed for temperature, PCB's, DDT, Polynuclear Aromatic Hydrocarbons, and Arsenic. Moody Creek and Herman Creek have not been listed by ODEQ.
- A total of 8 wetland units were identified in the project area, with a combined acreage of approximately 26.07 acres.
- Most of the wetlands can be classified as Palustrine Aquatic Bed (44%), followed by Palustrine Emergent (32%), Palustrine Scrub-Shrub (20%) and Palustrine Forested (4%).
- Eight (8) of the 9 wetlands met the criteria for Locally Significant Wetlands, primarily for being within 1/4 mile of a DEQ 303(d) listed stream.
- There were no potential mitigation sites within the Cascade Locks LWI.

10.0 REFERENCES

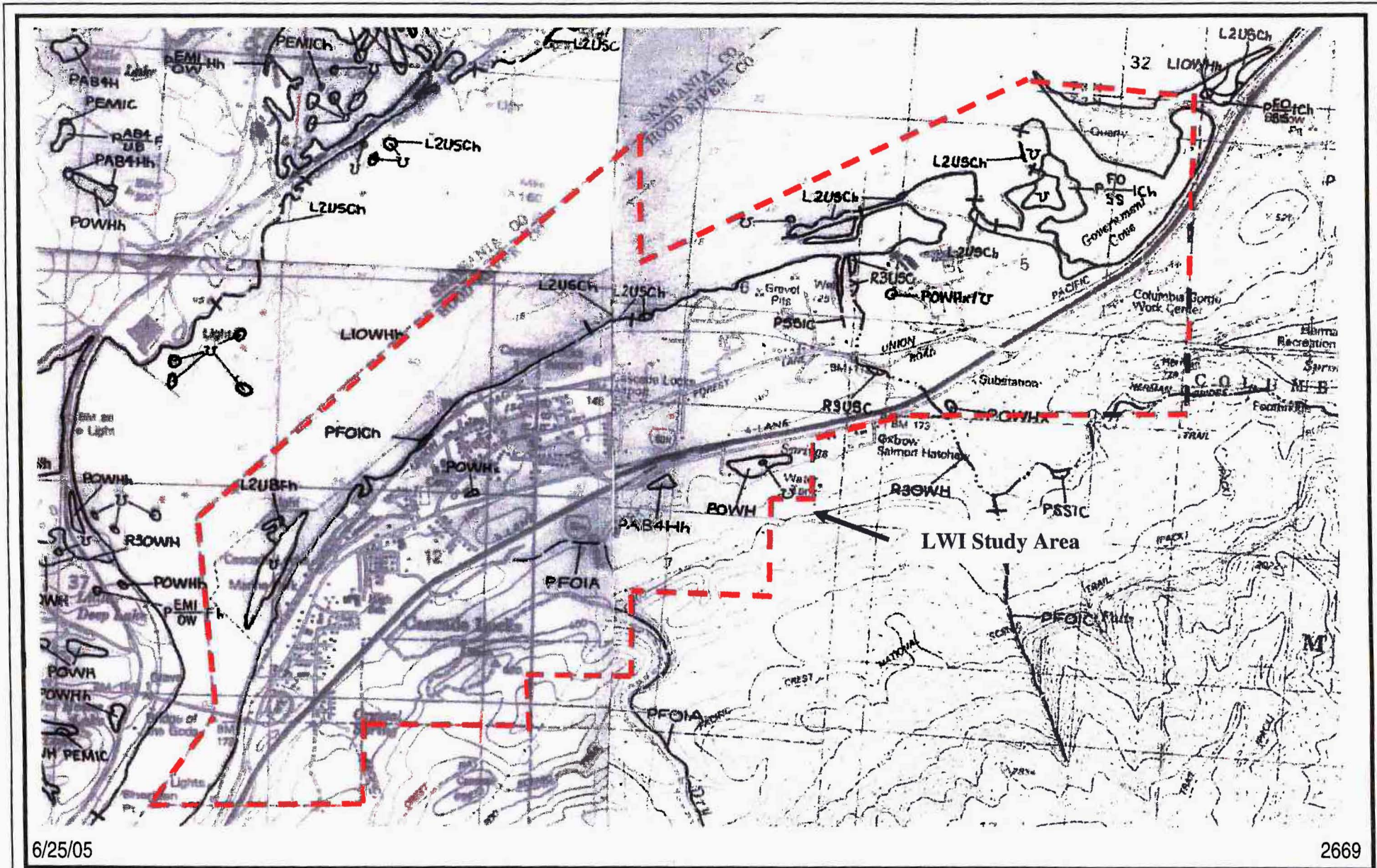
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- U.S. Geological Survey, 1987. *Bonneville Dam, Carson, Oregon topographical quadrangle*, 1:24,000.



FIGURE

1

Location and general topography for the Cascade Locks Local Wetland Inventory in Cascade Locks, Oregon. (USGS, Bonneville Dam, and Carson, Oregon/ Washington quadrangle, 1994).

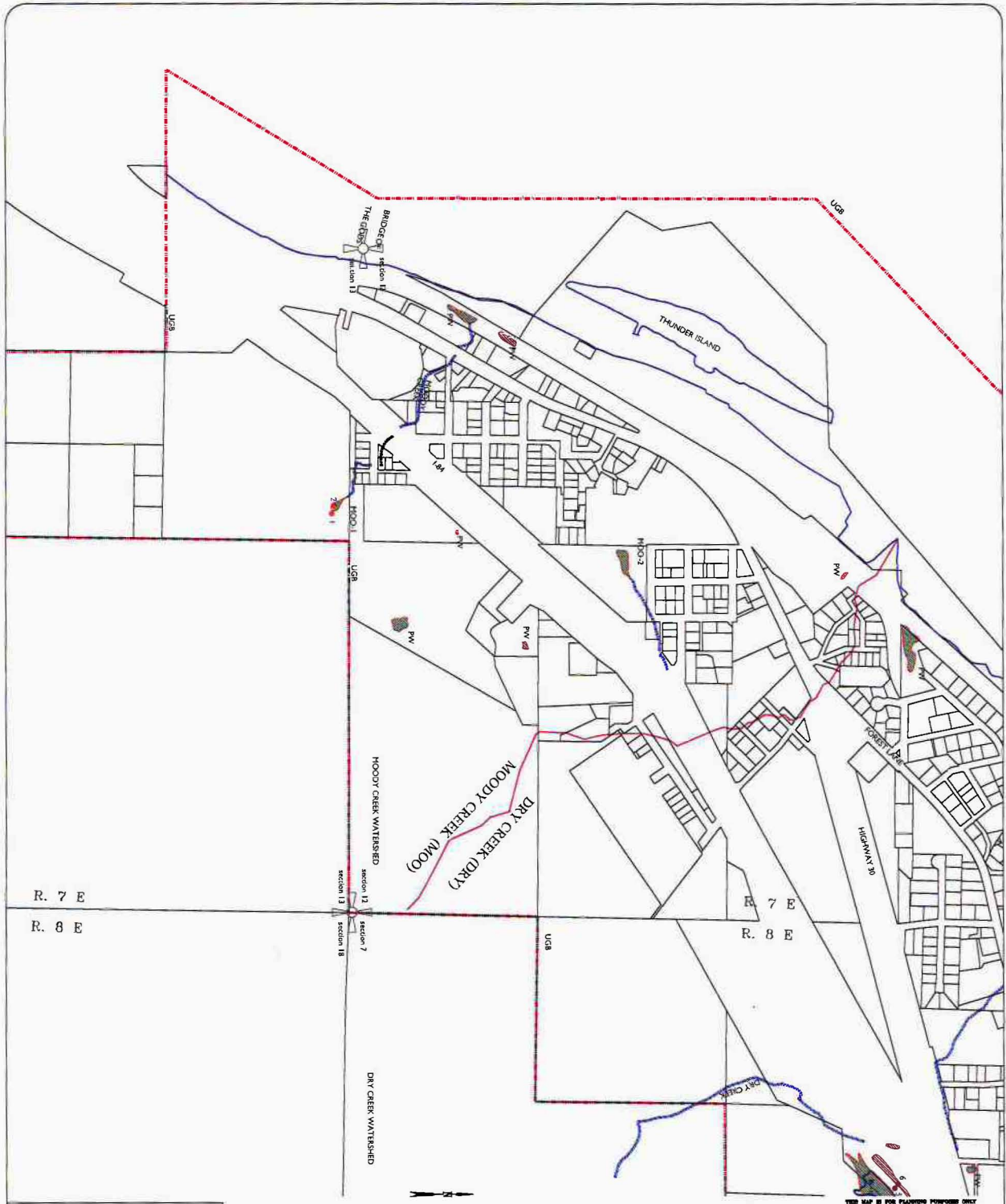


FIGURE

2

National Wetlands Inventory for the Cascade Locks Local Wetland Inventory in Cascade Locks, Oregon.
 (USFWS, Bonneville Dam, and Carson, Oregon/ Washington quadrangle, 1981).





Proposed Boundary	Red dashed line	Wetland Field Number	Light gray box
Project Boundary/Map	Red solid line	Sample Point	Small black square
Potential Boundary	Blue dashed line	US	Small black square
Stream of Potential Habitat	Blue solid line	HER-1	Small black square
State of Possibilities Along the	Blue dashed line	PW	Small black square
Proposed Area	Blue solid line		



THIS MAP WAS PREPARED BY OREGON DEPARTMENT OF LAND CONSERVATION AND LAND DEVELOPMENT

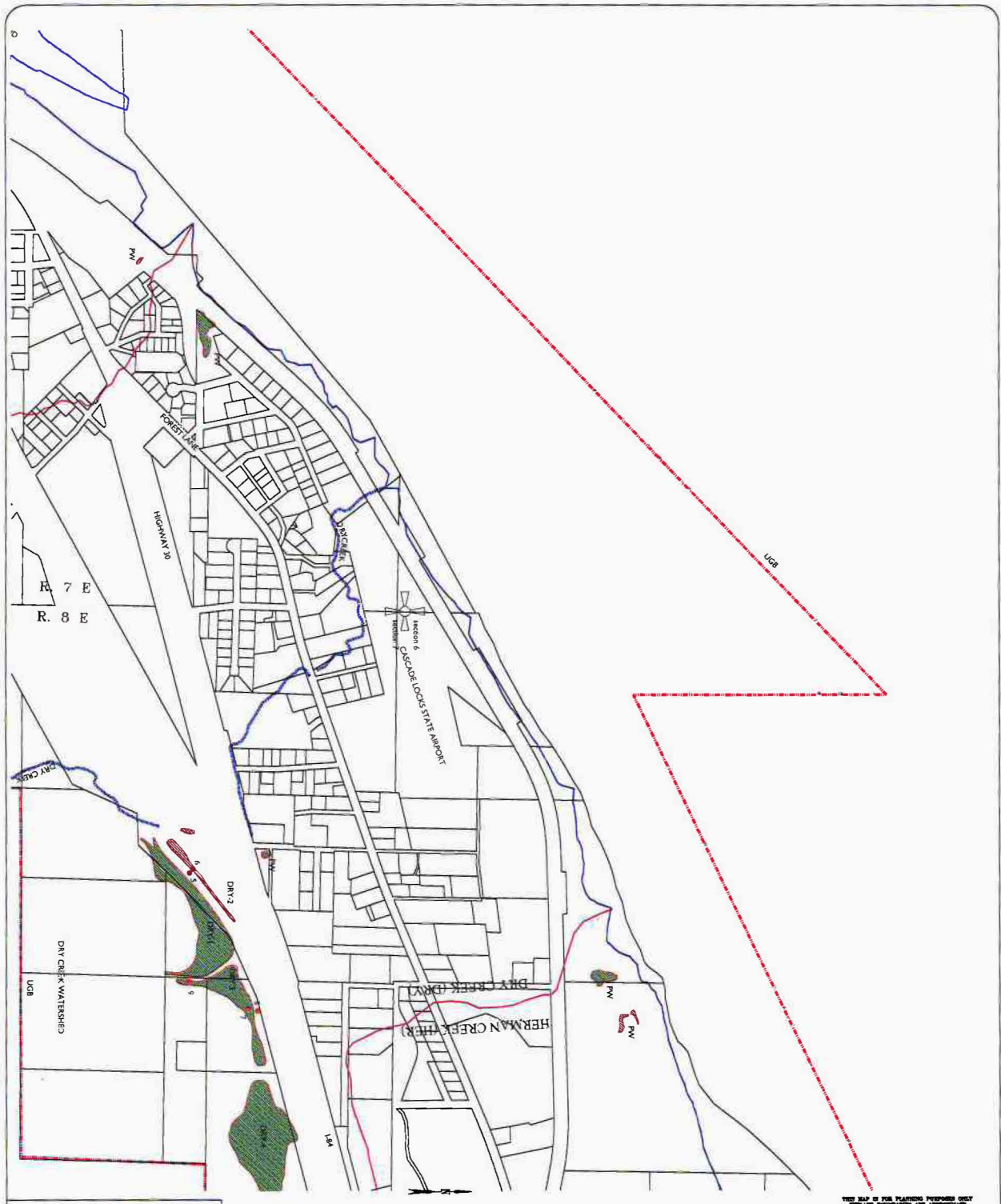
THIS MAP IS FOR PLANNING PURPOSES ONLY. WETLAND IDENTIFICATION AND APPROPRIATE PROTECTIVE MEASURES ARE SUBJECT TO CHANGE.
Information shown on this map is for planning purposes only and is not intended to be used for regulatory purposes. Wetland boundaries are approximate and are not intended to be used for regulatory purposes. The user is advised to contact the Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

Cascade Locks Local Wetlands Inventory



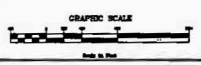
Sheet: 1
of: 3

DATE: June, 2002
BASE MAP INFO: Modified by Steve, Steve, Christie
JOB NO.: 2002



Wetland Boundary	Wetland Point Method	Wetland Color	Wetland Code
Project Boundary/Use	Single Point	Wetland Color	Wetland Code
Priority Jurisdictional Obstruction	Wetland Color	Wetland Color	Wetland Code
Depth of Accumulation along the Wetland Water	Wetland Color	Wetland Color	Wetland Code

Date: April 2002
 BASE MAP RFD: Provided by State River District
 JOB NO.: 2002

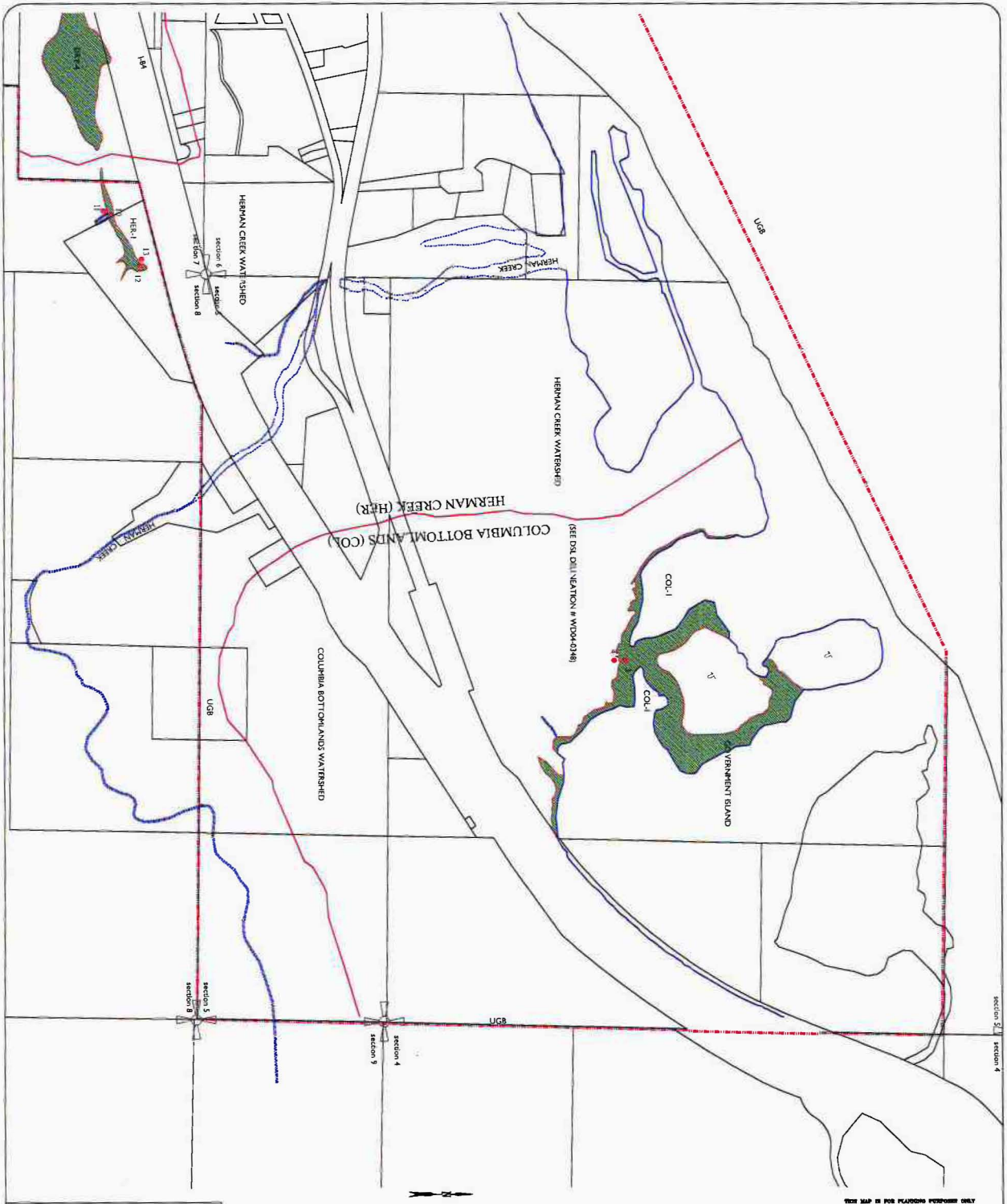


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Cascade Locks Local Wetlands Inventory





Proposed Boundary	-----	Wetland Bank Wetland	-----
Project Boundary/UGB	-----	Shrub Patch	-----
Proprietary Intellectual Information	-----	Wetland Code	-----
State of Washington along the Columbia River	-----	Wetland Wetland	-----

DATE: June, 2005
 BASE MAP INFO Provided by: State of Oregon
 JOB NO.: 2005

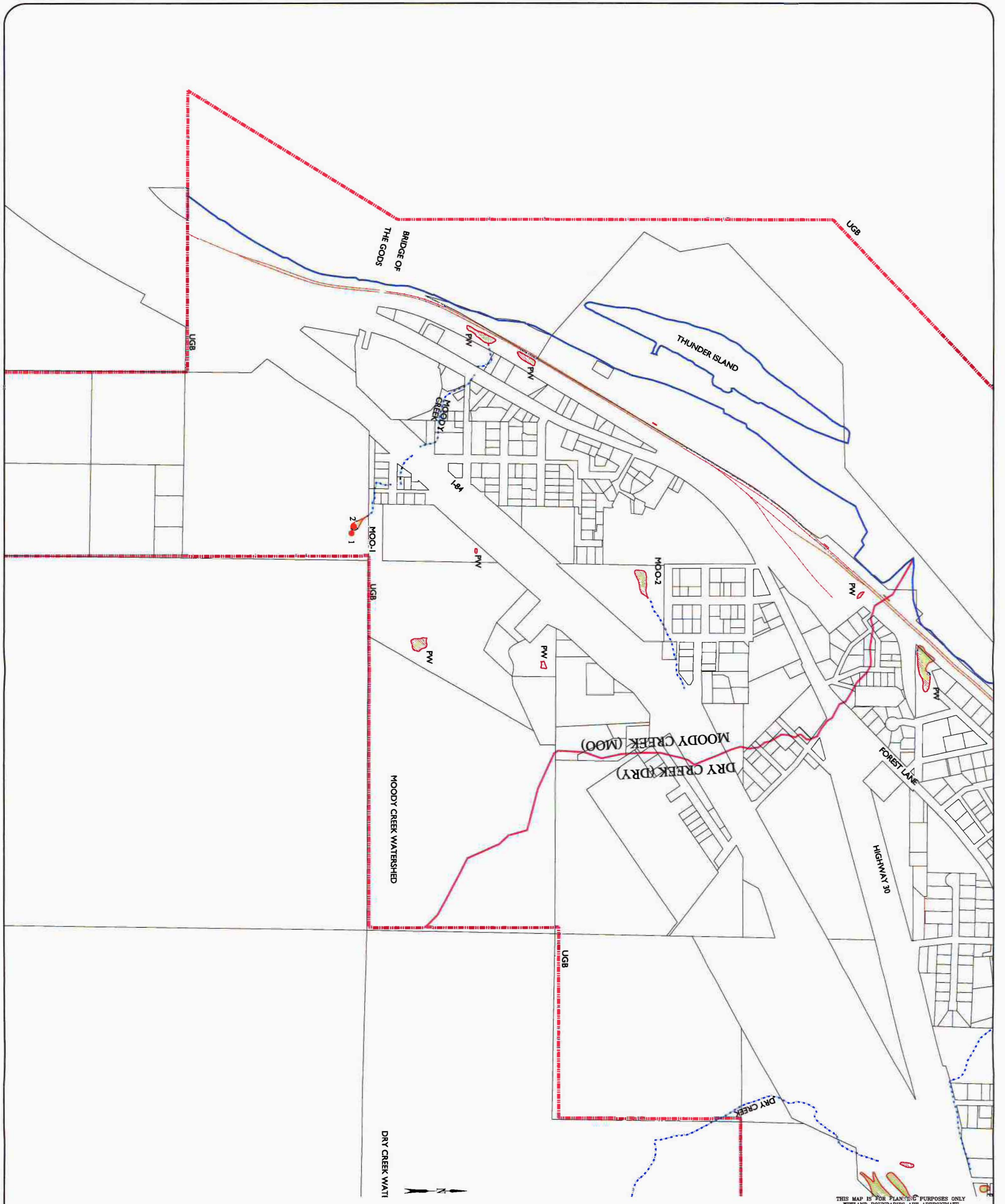


THIS MAP WAS FUNDED BY OREGON DEPARTMENT OF LAND CONSERVATION AND LAND DEVELOPMENT

THIS MAP IS FOR PLANNING PURPOSES ONLY. WETLAND BOUNDARIES ARE APPROXIMATE AND SUBJECT TO CHANGE. Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unapproved construction in all riparian areas. Additional wetland information may be available from the Department of State Lands and the U.S. Army Corps of Engineers with any regulatory jurisdiction.

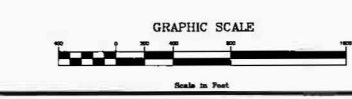


Cascade Locks Local Wetlands Inventory



Watershed Boundary	Wetland Field Verified	HER-1
Project Boundary/UGB	Sample Point	PW
Potentially Jurisdictional Creeks/Drainages	Wetland Code	
	Probable Wetland	

DATE: June, 2005
 BASE MAP INFO: Supplied by Hood River County
 JOB NO: 2669



THIS MAP WAS FUNDED BY OREGON DEPARTMENT OF LAND CONSERVATION AND LAND DEVELOPMENT

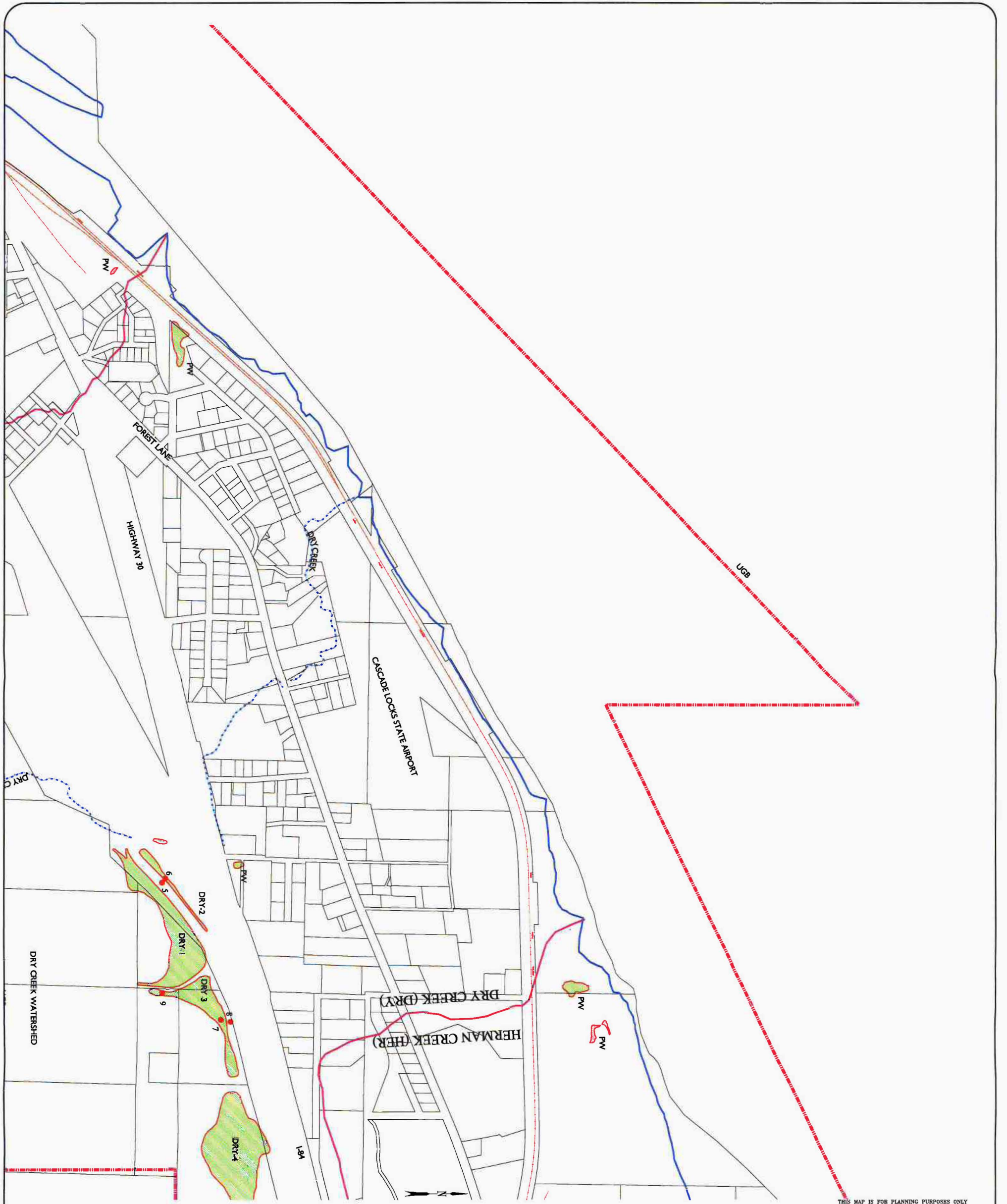
THIS MAP IS FOR PLANNING PURPOSES ONLY. WETLAND BOUNDARIES ARE APPROXIMATE AND SUBJECT TO CHANGE. Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

Cascade Locks Local Wetlands Inventory



Sheet: 1
 of: 3

These don't have TRS in them



Watershed Boundary	Wetland Field Verified	Sample Point
Project Boundary/UGB	Wetland Code	HER-1
Potentially Jurisdictional Creeks/Drainage	Probable Wetland	PW



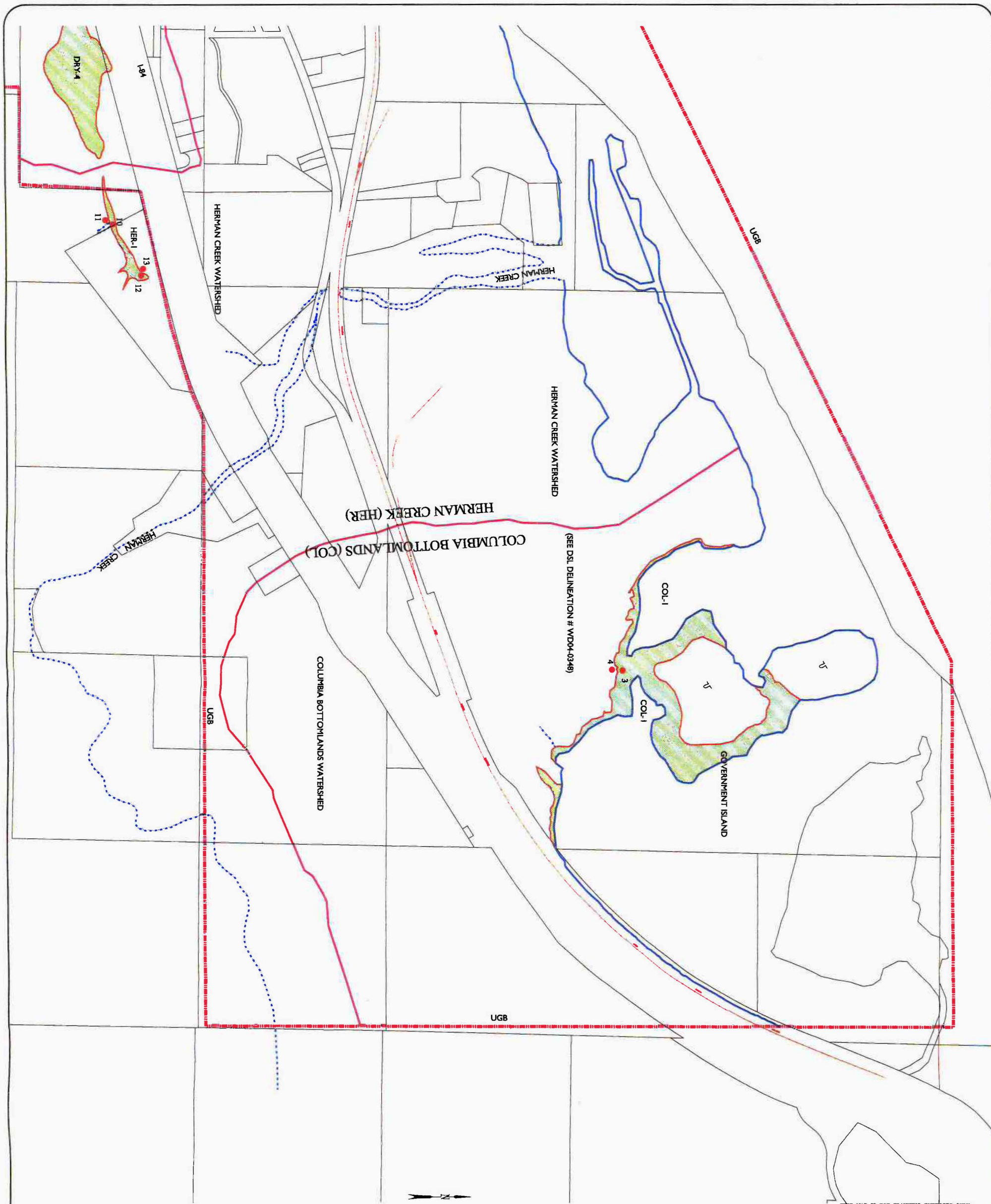
THIS MAP WAS FUNDED BY OREGON DEPARTMENT OF LAND CONSERVATION AND LAND DEVELOPMENT

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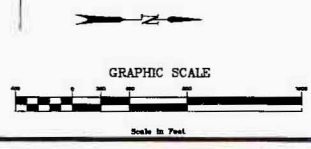
DATE:	June, 2005
BASE MAP INFO:	Supplied by Hood River County
JOB NO.:	2669

Cascade Locks Local Wetlands Inventory





Watershed Boundary	Wetland Field Verified
Project Boundary/UGB	Sample Point
Potentially Jurisdictional Creeks/Drainage	Wetland Code
	Probable Wetland
	HER-1
	PW



THIS MAP WAS FUNDED BY OREGON DEPARTMENT OF LAND CONSERVATION AND LAND DEVELOPMENT

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DATE: June, 2005
 BASE MAP INFO: Supplied by Hood River County
 JOB NO.: 2669

Cascade Locks Local Wetlands Inventory



Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	COL-1
Date(s) of field work:	4/28/2005	Size (acres):	13.05
Data Sheet Numbers:	3,4	Cowardin Class(es):	Palustrine Emergent/Scrub-Shrub
Investigator(s):	FS/HA	HGM Class(es):	Riverine Flow Through

Location -- Legal:	Township 02N, Range 08E, Section 5
Other:	On Island next to Government Cove
Tax Lots:	300
Hydrologic basin:	Columbia River
Soil -- Mapped series:	No data available
Hydrologic Source:	Columbia River

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Salix lasiandra</i>	Pacific Willow	<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Salix sitchensis</i>	Sitka Willow	<i>Solanum dulcamara</i>	Bittersweet Nightshade
<i>Rosa pisocarpa</i>	Clustered Wild Rose		
<i>Alnus rubra</i>	Red Alder		

Comments: **Locally Significant Wetland**
 Hydrology source is surface flow from the Columbia River. Existing land use is forest use or open space. There is a channel separating Government Island from the mainland by an isthmus. Isthmus is between 5' long and 10' wide and greater than 3' deep. Dominant land use forested or open space.

Adjacent upland species: *Rubus discolor*

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
	S = Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	HER-1
Date(s) of field work:	5/19/2005	Size (acres):	0.82
Data Sheet Numbers:	10 to 13	Cowardin Class(es):	Palustrine Forested
Investigator(s):	FS/JVS	HGM Class(es):	Riverine Flow Through

Location -- Legal:	Township 02N, Range 08E, Section 6
Other:	South of the Frontage Road, next to the Fish Hatchery
Tax Lots:	500
Hydrologic basin:	Herman Creek
Soil -- Mapped series:	No data available
Hydrologic Source:	Herman Creek

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Alnus rubra</i>	Red Alder	<i>Lysichiton americanum</i>	Skunk Cabbage
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Oenanthe sarmentosa</i>	Water Parsley
<i>Rubus spectabilis</i>	Salmonberry	<i>Equisetum telmateia</i>	Giant Horsetail
		<i>Phalaris arundinacea</i>	Canary Reed Grass
		<i>Athyrium filix-femina</i>	Lady Fern
		<i>Scirpus microcarpus</i>	Small-fruit Bulrush
		<i>Tolmiea menziesii</i>	Youth On Age
		<i>Mitella pentandra</i>	Five-Stamened Mitrewort
		<i>Hydrophyllum fendleri</i>	Fendler's Water Leaf
		<i>Glyceria elata</i>	Tall Manna Grass

Comments:

Locally Significant Wetland

Oregon Department of Fish and Wildlife property. Oxbow Fish Hatchery adjacent to wetland. Water flows east into the property from springs. No hydrological connection to the ponds that are to the west of the wetland, but flows through a culvert to connect with Herman Creek. Dominant land use forested or open space.

Adjacent upland species: *Acer macrophyllum*, *Oemleria cerasiformis*, *Symphoricarpos albus*, *Acer circinatum*, *Rubus discolor*, *Dicentra formosa*, *Rubus ursinus*, *Hedera helix*, *Berberis nervosa*, *Asarum caudatum*, *Tolmiea menziesii*, *Tellima grandiflora*, *Montia sibirica*, *Abies grandis*, *Smilacena stellata*, and *Psuedotsuga menziesii*.

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
	S = Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	DRY-1
Date(s) of field work:	4/28-5/19/05	Size (acres):	3.76 acres
Data Sheet Numbers:	N/A	Cowardin Class(es):	Palustrine Aquatic Bed
Investigator(s):	FS/JVS	HGM Class(es):	Depressional Closed Permanent

Location -- Legal:	Township 02N, Range 08 E, Section 7
Other:	South of the Frontage Road
Tax Lots:	6300
Hydrologic basin:	Dry Creek
Soil -- Mapped series:	Data not available
Hydrologic Source:	Dry Creek

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Alnus rubra</i>	Red Alder	<i>Lysichiton americanum</i>	Skunk Cabbage
<i>Fraxinus latifolia</i>	Oregon Ash	<i>Urtica dioica</i>	Stinging Nettle
<i>Rubus spectabilis</i>	Salmonberry	<i>Oenanthe sarmentosa</i>	Water Parsley
		<i>Hydrophyllum fendleri</i>	Fendler's Water Leaf
		<i>Mitella pentandra</i>	Five Stamened Mitrewort
		<i>Glyceria elata</i>	Tall Manna Grass
		<i>Equisetum telmateia</i>	Giant Horsetail
		<i>Petasites frigidus</i>	Arctic Sweet Coltsfoot

Comments: **Locally Significant Wetland**

The pond is abruptly edged with deep water except in southern portions that are offsite. Data from the adjacent wetland to the east, Dry 3-1 was collected. By looking at aerial photos, the vegetation is assumed to be similar. Pond is hydrologically connected to another pond. Pond may be spring fed, but we did not have access to the adjacent property, Tax lot 1400, to find out. Dominant land use developed.

Adjacent upland species: *Psuedotsuga menziesii*, *Corylus cornuta*, *Polystichum munitum*, *Acer macrophyllum*, *Oemleria cerasiformis*, *Symphoricarpos albus*, *Claytonia sibirica*, *Pteridium aquilinum*, and *Geranium robertianum*.

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
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	S = Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	DRY-2
Date(s) of field work:	4/28/2005	Size (acres):	.43 acres
Data Sheet Numbers:	5,6	Cowardin Class(es):	Palustrine Emergent
Investigator(s):	FS/HA	HGM Class(es):	Flats

Location -- Legal:	Township 02N, Range 08E, Section 7
Other:	South of Highway 84, between the Frontage Road and the Highway
Tax Lots:	No tax lot number
Hydrologic basin:	Dry Creek
Soil -- Mapped series:	Data not available
Hydrologic Source:	Columbia River

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Salix sitchensis</i>	Sitka Willow	<i>Juncus effusus</i>	Soft Rush
		<i>Veronica scutellata</i>	Marsh Speedwell
		<i>Veronica americana</i>	American Speedwell
		<i>Glyceria elata</i>	Tall Manna Grass
		<i>Scirpus microcarpus</i>	Small-Fruit Bulrush
		<i>Typha latifolia</i>	Common Cattail

Comments: **Locally Significant Wetland**
 This small, narrow wetland is in between two roads, and has easy access. It had 4" of standing water. It is most likely hydrologically connected by a culvert to the other ponds and Dry Creek by groundwater. Dominant land use developed.

Adjacent upland species: Cytisus scoparius, Cirsium arvense, Galium aparine, Anthoxanthum odoratum, Dactylis glomerata, and Rubus ursinus.

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
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DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
	S = Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	DRY-3
Date(s) of field work:	4/28-5/19/05	Size (acres):	1.87 acres
Data Sheet Numbers:	7,8,9	Cowardin Class(es):	Palustrine Aquatic Bed
Investigator(s):	FS/HA/JVS	HGM Class(es):	Depressional Closed Permanent

Location -- Legal:	Township 02N, Range 08E, Section 7
Other:	South of the Frontage Road
Tax Lots:	1500
Hydrologic basin:	Dry Creek
Soil -- Mapped series:	Data not available
Hydrologic Source:	Dry Creek

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Alnus rubra</i>	Red Alder	<i>Hydrophyllum fendleri</i>	Fendler's Water Leaf
<i>Acer circinatum</i>	Vine Maple	<i>Gymnocarpium dryopteris</i>	Oak Fern
<i>Cornus stolonifera</i>	Red Osier Dogwood	<i>Athyrium filix-femina</i>	Lady Fern
		<i>Circaea alpina</i>	Small Enchanter's Nightshade
		<i>Lysichiton americanum</i>	Skunk Cabbage
		<i>Oenanthe sarmentosa</i>	Water Parsley
		<i>Glyceria elata</i>	Tall Manna Grass
		<i>Phalaris arundinacea</i>	Reed Canary Grass
		<i>Stachys cooleyae</i>	Cooley's Hedgenettle

Comments: **Locally Significant Wetland**

There is one of a series of ponds on the frontage road and they are most likely all hydrologically connected. A culvert connects DRY-3 to DRY-4. *Alnus rubra* surrounds the open water. The pond is very deep and incised. There are snags present within the surrounding area. Dominant land use developed.

Adjacent upland species: *Acer macrophyllum*, *Corylus cornuta*, *Symphoricarpos albus*, *Acer circinatum*, *Polystichum munitum*, and *Psuedotsuga menziesii* on the north and south slopes.

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
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Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	DRY-4
Date(s) of field work:	4/28-5/19/05	Size (acres):	5.83 acres
Data Sheet Numbers:	N/A	Cowardin Class(es):	Palustrine Aquatic Bed
Investigator(s):	FS/JVS	HGM Class(es):	Depressional Closed Permanent

Location --	Legal:	Township 02N, Range 08E, Section 7
	Other:	South of the Frontage Road
	Tax Lots:	1400
	Hydrologic basin:	Dry Creek
Soil Mapped series:	no data available	
Hydrologic Source:	Dry Creek	

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Alnus rubra</i>	Red Alder	<i>Azolla sp.</i>	Mosquito Fern
<i>Salix sitchensis</i>	Sitka Willow	<i>Phalaris arundinacea</i>	Canary Reed Grass
		<i>Nuphar luteum</i>	Yellow Cow Lily
		<i>Oenanthe sarmentosa</i>	Water Parsley
		<i>Typha latifolia</i>	Common Cattail
		<i>Polygonum persicaria</i>	Lady's Thumb
		<i>Lysichiton americanum</i>	Skunk Cabbage

Comments: **Locally Significant Wetland**

This site is adjacent to the frontage road. There was no permission given to access this wetland. Notes were taken about vegetation and hydrological features in the field by looking from the road. There is a gravel road on the west side of the pond. Hydrologically connected to DRY-3 by a culvert. There are young alders surrounding the pond, as well as large snags within the wetland area. Dominant land use forested or open space.

Adjacent upland species: *Rubus discolor*, *Psuedotsuga menziesii*, *Acer macrophyllum*, and *Polystichum munitum*.

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
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DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
	S = Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	MOO-1
Date(s) of field work:	4/28/2005	Size (acres):	0.08
Data Sheet Numbers:	1,2	Cowardin Class(es):	Palustrine Forested
Investigator(s):	FS/HA	HGM Class(es):	Riverine Flow Through

Location -- Legal:	Township 02N, Range 07E, Section 13
Other:	Southeast of Highway 34
Tax Lots:	200
Hydrologic basin:	Moody Creek
Soil -- Mapped series:	No data available
Hydrologic Source:	Moody Creek

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Alnus rubra</i>	Red Alder	<i>Hydrophyllum fendleri</i>	Fendler's Water Leaf
<i>Acer circinatum</i>	Vine Maple	<i>Gymnocarpium dryopteris</i>	Oak Fern
		<i>Athyrium filix-femina</i>	Lady Fern
		<i>Circaea alpina</i>	Small Enchanter's Nightshade

Comments: **Locally Significant Wetland**
 Near Pacific Crest Trail. Includes the headwater springs for Moody Creek. Crystal Spring wetland area is not more than 1200 sq. feet before narrowing to stream channel with narrow wet benches. Hydrological source of water is groundwater. Dominant land use is developed.

Adjacent upland species: *Acer macrophyllum*, *Oemleria cerasiformis*, *Symphoricarpos albus*, *Rubus ursinus*, *Polystichum munitum*, *Dicentra formosa*, *Geranium robertianum*, *Rubus discolor*, *Galium aparine* and *Hedera helix*.

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
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DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
	S = Slope	FL = Flats	

Wetland Characterization Sheet



Project Name: Cascade Locks

		Wetland Code:	MOO-2
Date(s) of field work:	4/28-5/19/05	Size (acres):	0.23
Data Sheet Numbers:	N/A	Cowardin Class(es):	Palustrine Forested
Investigator(s):	FS/JVS	HGM Class(es):	Riverine Flow Through

Location -- Legal:	Township 02N, Range 07E, Section 12
Other:	North of Highway 84
Tax Lots:	2500
Hydrologic basin:	Moody Creek
Soil -- Mapped series:	No data available
Hydrologic Source:	Moody Creek

Dominant Wetland Vegetation			
TREES / SHRUBS		VINES / HERBS	
<i>Alnus rubra</i>	Red Alder	<i>Hydrophyllum fendleri</i>	Fendler's Water Leaf
<i>Acer circinatum</i>	Vine Maple	<i>Gymnocarpium dryopteris</i>	Oak Fern
		<i>Athyrium filix-femina</i>	Lady Fern
		<i>Circaea alpina</i>	Small Enchanter's Nightshade

Comments:

Gained access to this site, but owner wanted us to call ahead. We called the owner 2-3 times to gain access with no response. The vegetation data is the same as MOO-1. The hydrologic source is groundwater. Dominant land use is developed. Location is below school, partially visible from their parking lot.

Adjacent upland species: *Acer macrophyllum*, *Oemleria cerasiformis*, *Symphoricarpos albus*, *Rubus ursinus*, *Polystichum munitum*, *Dicentra formosa*, *Geranium robertianum*, *Rubus discolor*, *Galium aparine* and *Hedera helix*.

COWARDIN CODES:	E2FO = estuarine forested	E2SS = estuarine scrub shrub	E2EM = estuarine emergent
PFO = palustrine forested	PSS = palustrine scrub-shrub	PEM = palustrine emergent	POW = palustrine open water
HGM CODES:	EFB = Estuarine Fringe Embayment	EFR = Estuarine Fringe Riverine	RFT = Riverine Flow Through
RI = River Impounding	LFH = Lacustrine Fringe Headwater	LFV = Lacustrine Fringe Valley	DB = Depressional Bog
DA- Depressional Alkaline	DO = Depressional Outflow	DCP = Depressional Closed Permanent	DCNP = Depressional Nonpermanent
	S = Slope	FL = Flats	



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI	Number: 2669	Sample Site: 1
Applicant: City of Cascade Locks	County: Hood River	Date: 4/28/2005
Investigators: HA/FS	Township: 2N Range: 7E Section: 12	

Do Normal Circumstances exist on this site? **Yes** Is the area a potential Problem Area? **No**
 Is this an Atypical Situation? **No**

	<u>Primary Indicators</u>	<u>Secondary Indicators</u>
HYDROLOGY	Inundated	Ox. rhizospheres
	Sat. in Upper 12"	H2O-stained leaves
Depth of Surf. H2O Inches	Water Marks	Local Soil Survey
Depth to Free H2O >16 Inches	Drift Lines	FAC Neutral Test
Depth to Saturation >16 Inches	Sediment Deposits	Other _____
	Drainage patterns	Criteria Met: No

SOILS		Mapped Series: Not available	Hydric Soil?:		
		Classification:	Drainage Class:		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations	Other Hydric Soil Field Indicators	Comments
			<small>Color abundance/size/contrast</small>		
0-15	10YR 2/2	GL			gravelly

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: **No**

VEGETATION							
Tree Stratum (20%)	Status	% Cover	Herbaceous Stratum (30%)	Status	% Cover		
<i>Acer macrophyllum</i> *	FACU	70	<i>Hydrophyllum tenuipes</i> *	NI	40		
<i>Alnus rubra</i> *	FAC	30	<i>Polystichum munitum</i> *	FACU	30		
			<i>Dicentra formosa</i> *	FACU	20		
			<i>Geranium robertianum</i>	UPL	10		
			<i>Gymnocarpium dryopteris</i>	FAC	Trace		
Shrub Stratum (30%)	Status	% Cover					
<i>Acer circinatum</i> *	FAC-	60					
<i>Oemleria cerasiformis</i> *	FACU	20	Woody Vine Stratum (20%)	Status	% Cover		
<i>Symphoricarpos albus</i> *	FACU	20	<i>Rubus ursinus</i> *	FACU	100		

*Percent of dominant species FAC, FACW, or OBL: **22%** **Criteria Met:** **No**

Comments: _____ **Determination:** **Upland**



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI	Number: 2669	Sample Site: 2
Applicant: City of Cascade Locks	County: Hood River	Date: 4/28/2005
Investigators: HA/FS	Township: 2N Range: 7E Section: 12	

Do Normal Circumstances exist on this site? **Yes** Is the area a potential Problem Area? **No**
 Is this an Atypical Situation? **No**

	<u>Primary Indicators</u>	<u>Secondary Indicators</u>
HYDROLOGY	Inundated	Ox. rhizospheres
Depth of Surf. H2O Inches	Sat. in Upper 12" Yes	H2O-stained leaves
Depth to Free H2O 10 Inches	Water Marks	Local Soil Survey
Depth to Saturation Surface Inches	Drift Lines	FAC Neutral Test
	Sediment Deposits	Other
	Drainage patterns Yes	Criteria Met: Yes

SOILS **Mapped Series:** Not available **Hydric Soil?:**
Classification: **Drainage Class:**

Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-6	10YR 2/2	SL			mucky	gravel
6-14	10YR 2/1	Muck				

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: **Yes**

VEGETATION							
Tree Stratum (15%)		Status	% Cover	Herbaceous Stratum (65%)		Status	% Cover
<i>Alnus rubra</i> *		FAC	100	<i>Circaea alpina</i> *		FAC+	20
				<i>Dicentra formosa</i>		FACU	15
				<i>Athyrium filix-femina</i> *		FAC	35
				<i>Galium aparine</i>		FACU	10
				<i>Hedera helix</i>		UPL	15
Shrub Stratum (20%)		Status	% Cover	<i>Bare ground</i>			5
<i>Acer circinatum</i> *		FAC-	75	Woody Vine Stratum (0%)		Status	% Cover
<i>Oemleria cerasiformis</i> *		FACU	25				

*Percent of dominant species FAC, FACW, or OBL: **60%** **Criteria Met:** **Yes**

Comments: Located at Crystal Spring, headwaters of Moody Creek.

Determination: **Wetland**



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI	Number: 2669	Sample Site: 4
Applicant: City of Cascade Locks	County: Hood River	Date: 4/28/2005
Investigators: HA/FS	Township: 2N Range: 8E	Section: 5

Do Normal Circumstances exist on this site?	Yes	Is the area a potential Problem Area?	No
Is this an Atypical Situation?	No		

	<u>Primary Indicators</u>	<u>Secondary Indicators</u>
HYDROLOGY	Inundated	Ox. rhizospheres
	Sat. in Upper 12"	H2O-stained leaves
Depth of Surf. H2O Inches	Water Marks	Local Soil Survey
Depth to Free H2O >16 Inches	Drift Lines	FAC Neutral Test
Depth to Saturation >16 Inches	Sediment Deposits	Other _____
	Drainage patterns	
		Criteria Met: No

SOILS	Mapped Series: Not available	Hydric Soil?:
	Classification:	Drainage Class:

Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-16	10YR 3/2	SL				

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met:	No
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VEGETATION							
Tree Stratum (15%)	Status	% Cover	Herbaceous Stratum (60%)	Status	% Cover		
<i>Alnus rubra</i> *	FAC	100	<i>Phalaris arundinacea</i> *	FACW	95		
			<i>Polystichum munitum</i>	FACU	5		
Shrub Stratum (20%)	Status	% Cover	Woody Vine Stratum (5%)	Status	% Cover		
<i>Oemleria cerasiformis</i> *	FACU	50	<i>Rubus discolor</i> *	FACU	35		
<i>Sambucus racemosa</i> *	FACU	30	<i>Rubus ursinus</i> *	FACU	65		
<i>Symphoricarpos albus</i>	FACU	10					
<i>Cornus stolonifera</i>	FACW	10					

*Percent of dominant species FAC, FACW, or OBL: 33%	Criteria Met: No
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Comments:	Determination: Upland
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Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI		Number: 2669		Sample Site: 5			
Applicant: City of Cascade Locks		County: Hood River		Date: 4/28/2005			
Investigators: HA/FS		Township: 2N Range: 8E		Section: 7			
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No					
Is this an Atypical Situation? No							
HYDROLOGY		<u>Primary Indicators</u>		<u>Secondary Indicators</u>			
		Inundated		Ox. rhizospheres			
		Sat. in Upper 12"		H2O-stained leaves			
Depth of Surf. H2O Inches		Water Marks		Local Soil Survey			
Depth to Free H2O >16 Inches		Drift Lines		FAC Neutral Test			
Depth to Saturation >16 Inches		Sediment Deposits		Other _____			
		Drainage patterns		Criteria Met: No			
SOILS		Mapped Series: Not available		Hydric Soil?:			
		Classification:		Drainage Class:			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments	
			Color	abundance/size/contrast			
0-14	7.5YR 2/2	SL					
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay							
						Criteria Met: No	
VEGETATION							
Tree Stratum (0%)		Status	% Cover	Herbaceous Stratum (65%)		Status	% Cover
				<i>Cirsium arvense</i>		FACU+	10
				<i>Galium aparine</i>		FACU	15
				<i>Festuca rubra*</i>		FAC+	30
				<i>Cardamine oligosperma</i>		FAC	5
				<i>Anthoxanthum odoratum</i>		FACU	5
				<i>Holcus lanatus</i>		FAC	5
Shrub Stratum (20%)		Status	% Cover	<i>Dactylis glomerata*</i>		FACU	30
<i>Acer circinatum*</i>		FAC-	55				
<i>Cytisus scoparius*</i>		UPL	45	Woody Vine Stratum (15%)		Status	% Cover
				<i>Rubus ursinus*</i>		FACU	100
*Percent of dominant species FAC, FACW, or OBL: 20%						Criteria Met: No	
Comments:						Determination: Upland	



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI	Number: 2669	Sample Site: 6
Applicant: City of Cascade Locks	County: Hood River	Date: 4/28/2005
Investigators: HA/FS	Township: 2N Range: 8E	Section: 7

Do Normal Circumstances exist on this site? **Yes** Is the area a potential Problem Area? **No**
 Is this an Atypical Situation? **No**

	Primary Indicators	Secondary Indicators
HYDROLOGY	Inundated 4	Ox. rhizospheres
	Sat. in Upper 12"	H2O-stained leaves
Depth of Surf. H2O 4 Inches	Water Marks	Local Soil Survey
Depth to Free H2O Surface Inches	Drift Lines	FAC Neutral Test
Depth to Saturation Surface Inches	Sediment Deposits	Other _____
	Drainage patterns Yes	Criteria Met: Yes

SOILS **Mapped Series:** Not available **Hydric Soil?:**
Classification: _____ **Drainage Class:** _____

Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-3	10YR 2/2	SL			mucky	
3-15	10YR 3/1	SDSL				mixed matrix (50%)
	10YR 3/3	SDSL				mixed matrix (50%)

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: **Yes**

VEGETATION							
Tree Stratum	(0%)	Status	% Cover	Herbaceous Stratum	(90%)	Status	% Cover
				<i>Juncus effusus</i> *		FACW	40
				<i>Veronica scutellata</i>		OBL	10
				<i>Veronica americana</i>		OBL	15
				<i>Glyceria elata</i>		FACW+	15
				<i>Scirpus microcarpus</i>		OBL	15
				<i>Typha latifolia</i>		OBL	5
Shrub Stratum	(10%)	Status	% Cover				
<i>Salix sitchensis</i> *		FACW	100				
				Woody Vine Stratum	(0%)	Status	% Cover

*Percent of dominant species FAC, FACW, or OBL: **100%** **Criteria Met:** **Yes**

Comments: _____ **Determination:** **Wetland**



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI	Number: 2669	Sample Site: 7
Applicant: City of Cascade Locks	County: Hood River	Date: 5/19/2005
Investigators: FS/JVS	Township: 2N Range: 8E	Section: 7
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No
Is this an Atypical Situation? No		

	Primary Indicators	Secondary Indicators
HYDROLOGY	Inundated Yes	Ox. rhizospheres Yes
	Sat. in Upper 12" Yes	H2O-stained leaves
Depth of Surf. H2O Inches	Water Marks	Local Soil Survey
Depth to Free H2O Surface Inches	Drift Lines	FAC Neutral Test
Depth to Saturation Surface Inches	Sediment Deposits	Other _____
	Drainage patterns Yes	Criteria Met: Yes

SOILS		Mapped Series: Not available	Hydric Soil?:		
		Classification:	Drainage Class:		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations	Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast	
0-9	10YR 2/1	SL	10YR 3/3	common, medium, distinct	mucky
9-16	10YR 2/1	SDL	10YR 3/4	common, medium, distinct	mucky

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: Yes

VEGETATION							
Tree Stratum (30%)		Status	% Cover	Herbaceous Stratum (45%)		Status	% Cover
<i>Alnus rubra</i> *		FAC	100	<i>Lysichiton americanum</i> *		OBL	25
				<i>Oenanthe sarmentosa</i> *		OBL	20
				<i>Glyceria elata</i>		FACW+	5
				<i>Phalaris arundinacea</i> *		FACW	20
				<i>Athyrium filix-femina</i>		FAC	10
				<i>Stachys cooleyae</i> *		FACW	20
Shrub Stratum (25%)		Status	% Cover	Woody Vine Stratum (0%)		Status	% Cover
<i>Cornus stolonifera</i> *		FACW	100				

*Percent of dominant species FAC, FACW, or OBL: **100%** **Criteria Met: Yes**

Comments: _____ **Determination: Wetland**



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI		Number: 2669		Sample Site: 9		
Applicant: City of Cascade Locks		County: Hood River		Date: 4/28/2005		
Investigators: FS/HA		Township: 2N Range: 8E		Section: 7		
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No				
Is this an Atypical Situation? No						
HYDROLOGY		Primary Indicators		Secondary Indicators		
		Inundated		Ox. rhizospheres Yes		
		Sat. in Upper 12" Yes		H2O-stained leaves		
Depth of Surf. H2O Inches		Water Marks		Local Soil Survey		
Depth to Free H2O 1 Inches		Drift Lines		FAC Neutral Test		
Depth to Saturation Surface Inches		Sediment Deposits		Other		
		Drainage patterns		Criteria Met: Yes		
SOILS		Mapped Series: Not available		Hydric Soil?:		
Classification:				Drainage Class:		
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments
			Color	abundance/size/contrast		
0-2	10YR 2/2	Muck				
2-6	10YR 3/1	Muck	10YR 4/4	few, medium, distinct		
6-14	10G 3/1	GS				gravelly
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						
Criteria Met:						Yes
VEGETATION						
Tree Stratum (30%)		Status	% Cover	Herbaceous Stratum (55%)		Status % Cover
<i>Alnus rubra</i> *		FAC	90	<i>Lysichiton americanum</i> *		OBL 20
<i>Fraxinus latifolia</i>		FACW	10	<i>Urtica dioica</i> *		FAC+ 20
				<i>Oenanthe sarmentosa</i>		OBL 5
				<i>Hydrophyllum tenuipes</i>		NI 10
				<i>Mitella pentandra</i>		FAC 10
				<i>Glyceria elata</i>		FACW+ 5
Shrub Stratum (10%)		Status	% Cover	<i>Equisetum telmateia</i> *		FACW 25
<i>Rubus spectabilis</i> *		FAC+	100	<i>Petasites frigidus</i>		FACW- 5
				Woody Vine Stratum (5%)		Status % Cover
				<i>Hedera helix</i> *		UPL 100
*Percent of dominant species FAC, FACW, or OBL: 83%				Criteria Met: Yes		
Comments:						Determination: Wetland



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI	Number: 2669	Sample Site: 10
Applicant: City of Cascade Locks	County: Hood River	Date: 5/19/2005
Investigators: FS/JVS	Township: 2N Range: 8E Section: 6	
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No
Is this an Atypical Situation? No		

	Primary Indicators	Secondary Indicators
HYDROLOGY	Inundated Yes	Ox. rhizospheres
Depth of Surf. H2O Inches	Sat. in Upper 12" Yes	H2O-stained leaves
Depth to Free H2O Surface Inches	Water Marks	Local Soil Survey
Depth to Saturation Surface Inches	Drift Lines	FAC Neutral Test
	Sediment Deposits	Other
	Drainage patterns	Criteria Met: Yes

SOILS	Mapped Series: Not available	Hydric Soil?:			
	Classification:	Drainage Class:			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations	Other Hydric Soil Field Indicators	Comments
0-16	10YR 2/1	SDL	Color	abundance/size/contrast	
					mucky

*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay

Criteria Met: **Yes**

VEGETATION							
Tree Stratum	(0%)	Status	% Cover	Herbaceous Stratum	(90%)	Status	% Cover
				<i>Lysichiton americanum</i>		OBL	5
				<i>Oenanthe sarmentosa*</i>		OBL	30
				<i>Equisetum telmateia*</i>		FACW	40
				<i>Phalaris arundinacea</i>		FACW	5
				<i>Athyrium filix-femina</i>		FAC	10
				<i>Scirpus microcarpus</i>		OBL	10
Shrub Stratum	(0%)	Status	% Cover	<i>Tolmiea menziesii</i>		FAC	Trace
				Woody Vine Stratum	(10%)	Status	% Cover
				<i>Rubus discolor*</i>		FACU	100

*Percent of dominant species FAC, FACW, or OBL: **75%** **Criteria Met: **Yes****

Comments:

Determination: **Wetland**



Wetland Determination Data Form Routine Onsite Method

Pacific Habitat Services, Inc.

Project: Cascade Locks LWI		Number: 2669		Sample Site: 12			
Applicant: City of Cascade Locks		County: Hood River		Date: 4/28/2005			
Investigators: HA/FS		Township: 2N Range: 8E		Section: 6			
Do Normal Circumstances exist on this site? Yes		Is the area a potential Problem Area? No					
Is this an Atypical Situation? No							
HYDROLOGY		<u>Primary Indicators</u>		<u>Secondary Indicators</u>			
		Inundated		Ox. rhizospheres Yes			
		Sat. in Upper 12" Yes		H2O-stained leaves			
Depth of Surf. H2O Inches		Water Marks		Local Soil Survey			
Depth to Free H2O 10 Inches		Drift Lines		FAC Neutral Test			
Depth to Saturation 2 Inches		Sediment Deposits		Other _____			
		Drainage patterns		Criteria Met: Yes			
SOILS		Mapped Series: Not available		Hydric Soil?:			
Classification:				Drainage Class:			
Depth (Inches)	Matrix Color	Soil Texture*	Redox Concentrations		Other Hydric Soil Field Indicators	Comments	
			Color	abundance/size/contrast			
0-5	10YR 2/2	Muck					
5-15	10YR 3/1	Muck					
*SD=Sand, SDL=Sandy Loam, L=Loam, SDCL=Sandy Clay Loam, S=Silt, SL=Silt Loam, SCL=Silty Clay Loam, CL=Clay Loam, C=Clay						Criteria Met: Yes	
VEGETATION							
Tree Stratum (30%)		Status	% Cover	Herbaceous Stratum (55%)		Status	% Cover
<i>Alnus rubra</i> *		FAC	90	<i>Lysichiton americanum</i> *		OBL	20
<i>Fraxinus latifolia</i>		FACW	10	<i>Urtica dioica</i> *		FAC+	20
				<i>Oenanthe sarmentosa</i>		OBL	5
				<i>Hydrophyllum tenuipes</i>		NI	10
				<i>Mitella pentandra</i>		FAC	10
				<i>Glyceria elata</i>		FACW+	5
Shrub Stratum (10%)		Status	% Cover	<i>Equisetum telmateia</i> *		FACW	25
<i>Rubus spectabilis</i> *		FAC+	100	<i>Petasites frigidus</i>		FACW-	5
				Woody Vine Stratum (5%)		Status	% Cover
				<i>Hedera helix</i> *		UPL	100
*Percent of dominant species FAC, FACW, or OBL: 83%						Criteria Met: Yes	
Comments:						Determination: Wetland	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	COL-1
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Emergent/Scrub-Shrub
Date(s) of field work:	4/28/2005	Approx. Area (acres):	13.05
Onsite Assessment?:	Yes	Investigator(s):	FS/HA
Wetland Location:	On Island next to Government Cove		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	A	Q-1	A	Q-1	B
Q-2	C	Q-2	A	Q-2	A	Q-2	A	Q-2	B
Q-3	B	Q-3	C	Q-3	A	Q-3	B	Q-3	A
Q-4	B	Q-4	C	Q-4	B	Q-4	C	Q-4	C
Q-5	A	Q-5	A	Q-5	C	Q-5	C	Q-5	C
Q-6	A	Q-6	A	Q-6	A	Q-6	C	Q-6	C
Q-7	C					Q-7	C		
Q-8	A								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is intact
Hydrologic Control	Wetland's hydrologic control function is lost or not present
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	B	Q-1	A
Q-2	A	Q-2	A	Q-2	A	Q-2	A
Q-3	A	Q-3	B	Q-3	B	Q-3	A
Q-4	B	Q-4	A	Q-4	B	Q-4	A
Q-5B	A	Q-5	B	Q-5	A	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has educational uses
Recreation	Wetland provides recreational opportunities
Aesthetic Quality	Wetland is considered to be pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks		Wetland:	COL-1
Location:	City of Cascade Locks	Approx. Area (acres):	13.05	
Date:	4/28/2005		Wetland Types(s):	Palustrine Emergent/Scrub-Shrub
Result:	Wetland provides habitat for some wildlife species			
Rationale:	More than one Cowardin class	Adjacent Water Quality limited stream		
	Herbaceous vegetation, no ponding	Adjacent land is primarily open space		
	Between 0.5 - 1 acre of open water	Wetland buffer is greater than 40%		
Result:	Wetland's fish habitat function is impacted or degraded			
Rationale:	Less than 25% of stream is shaded	Adjacent Water Quality Limited stream		
	Stream is in a natural channel	Adjacent land is primarily open space		
	<10% of stream has instream structures	Salmon and/or trout present in stream		
Result:	Wetland's water-quality function is intact			
Rationale:	Primary water source is surface flow	Wetland is between 0.5 and 5 acres		
	Wetland floods/ponds in growing season	Adjacent land is primarily open space		
	High wetland vegetation cover	Adjacent Water Quality Limited stream		
Result:	Wetland's hydrologic control function is lost or not present			
Rationale:	Wetland is within 100 year floodplain	Herbaceous vegetation, no ponding		
	Wetland floods/ponds in growing season	Open space downslope of development		
	Water has unrestricted flow out of wetland	Open space upslope of wetland		
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream not modified	Adjacent land is primarily open space		
	Water not taken out	Adjacent zoning is mostly open space		
	Adjacent Water Quality Limited stream	Herbaceous vegetation, no ponding		
Result:	Wetland has high enhancement potential			
Rationale:	Wetland functions are impacted or degraded	Wetland is between 0.5 and 5 acres		
	Primary water source is surface flow	Wetland buffer is greater than 40%		
	Flow into wetland is not restricted	Potentially sensitive to future impacts		
Result:	Wetland has educational uses			
Rationale:	Wetland is open to the public	Unmaintained public access within 250 feet		
	No visible hazards to public	Wetland is not limited mobility accessible		
	Public access to other habitats exist			
Result:	Wetland provides recreational opportunities			
Rationale:	Unmaintained public access within 250 feet	Wetland provides habitat for some wildlife		
	Boat launching within 1/2 mile	Fishing is allowed		
	Unmaintained trails, viewing areas exist	No hunting is allowed		
Result:	Wetland is considered to be pleasing			
Rationale:	More than two Cowardin classes are visible	Wetland surrounded by natural areas		
	>50% of wetland can be seen	Natural odors present at wetland		
	No visual detractors are present	Some traffic and natural noises are present		

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	HER-1
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Forested
Date(s) of field work:	5/19/2005	Approx. Area (acres):	0.82
Onsite Assessment?:	Yes	Investigator(s):	FS/JVS
Wetland Location:	South of the Frontage Road, next to the Fish Hatchery		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	C	Q-1	B	Q-1	B
Q-2	A	Q-2	C	Q-2	B	Q-2	B	Q-2	B
Q-3	C	Q-3	C	Q-3	A	Q-3	B	Q-3	A
Q-4	C	Q-4	C	Q-4	B	Q-4	C	Q-4	C
Q-5	B	Q-5	A	Q-5	C	Q-5	A	Q-5	A
Q-6	A	Q-6	C	Q-6	A	Q-6	A	Q-6	A
Q-7	C					Q-7	C		
Q-8	A								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	B	Q-1	B	Q-1	C
Q-2	B	Q-2	A	Q-2	C	Q-2	C
Q-3		Q-3	B	Q-3	C	Q-3	A
Q-4	B	Q-4	A	Q-4	B	Q-4	A
Q-5B	A	Q-5	B	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational activities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks	Wetland:	HER-1
Location:	City of Cascade Locks	Approx. Area (acres):	0.82
Date:	5/19/2005	Wetland Types(s):	Palustrine Forested
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Cowardin class with > 5 species	Adjacent Water Quality limited stream	
	Dominated by woody vegetation	Adjacent land is primarily open space	
	Less than 0.5 acres of open water	Wetland buffer is greater than 40%	
Result:	Wetland's fish habitat function is impacted or degraded		
Rationale:	Less than 25% of stream is shaded	Adjacent Water Quality Limited stream	
	Stream banks are extensively modified	Adjacent land is primarily open space	
	<10% of stream has instream structures	Stream does not contain fish	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is groundwater	Wetland is between 0.5 and 5 acres	
	Can't determine if wetland floods or ponds	Adjacent land is primarily open space	
	High wetland vegetation cover	Adjacent Water Quality Limited stream	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Dominated by woody vegetation	
	Can't determine if wetland floods or ponds	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Open space upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream not modified	Adjacent land is primarily open space	
	Water not taken out	Adjacent zoning is primarily development	
	Adjacent Water Quality Limited stream	Dominated by woody vegetation	
Result:	Wetland has high enhancement potential		
Rationale:	Wetland functions are impacted or degraded	Wetland is between 0.5 and 5 acres	
	Primary water source is groundwater	Wetland buffer is greater than 40%	
		Potentially sensitive to future impacts	
Result:	Wetland has potential for educational use		
Rationale:	Wetland access by landowner permission	Unmaintained public access within 250 feet	
	No visible hazards to public	Wetland is not limited mobility accessible	
	Public access to other habitats exist		
Result:	Wetland has the potential to provide recreational activities		
Rationale:	Unmaintained public access within 250 feet	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by natural areas	
	Less than 25% of wetland can be seen	Natural odors present at wetland	
	No visual detractors are present	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	DRY-1
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Aquatic Bed
Date(s) of field work:	4/28-5/19/05	Approx. Area (acres):	3.76 acres
Onsite Assessment?:	No, used aerial photos	Investigator(s):	FS/JVS
Wetland Location:	South of the Frontage Road		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	C	Q-1	B	Q-1	B
Q-2	B	Q-2	C	Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3	C	Q-3	A	Q-3	A	Q-3	A
Q-4	A	Q-4	C	Q-4	A	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	A	Q-6	C	Q-6	A	Q-6	A	Q-6	B
Q-7	C					Q-7	C		
Q-8	C								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is lost or not present
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	B	Q-2	A	Q-2	C	Q-2	B
Q-3		Q-3	B	Q-3	C	Q-3	A
Q-4	A	Q-4	C	Q-4	B	Q-4	C
Q-5B	B	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks	Wetland:	DRY-1
Location:	City of Cascade Locks	Approx. Area (acres):	3.76 acres
Date:	4/28-5/19/05	Wetland Types(s):	Palustrine Aquatic Bed
Result:	Wetland provides habitat for some wildlife species		
Rationale:	One Cowardin class with > 5 species	Adjacent Water Quality limited stream	
	Herbaceous vegetation & ponding	Adjacent land is mostly developed	
	Greater than 1 acre of open water	Wetland buffer is between 10% and 40%	
Result:	Wetland's fish habitat function is lost or not present		
Rationale:	Less than 25% of stream is shaded	Adjacent Water Quality Limited stream	
	Stream banks are extensively modified	Adjacent land is mostly developed	
	<10% of stream has instream structures	Stream does not contain fish	
Result:	Wetland's water-quality function is impacted or degraded		
Rationale:	Primary water source is groundwater	Wetland is more than 5 acres in size	
	Wetland floods/ponds in growing season	Adjacent land is mostly developed	
	High wetland vegetation cover	Adjacent Water Quality Limited stream	
Result:	Wetland's hydrologic control is impacted or degraded		
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation & ponding	
	Wetland floods/ponds in growing season	Development downslope of wetland	
	Water has unrestricted flow out of wetland	Open space upslope of wetland	
Result:	Wetland is potentially sensitive to future impacts		
Rationale:	Stream not modified	Adjacent land is mostly developed	
	Water not taken out	Adjacent zoning is primarily development	
	Adjacent Water Quality Limited stream	Herbaceous vegetation & ponding	
Result:	Wetland has high enhancement potential		
Rationale:	Wetland functions are impacted or degraded	Wetland is greater than 5 acres	
	Primary water source is groundwater	Wetland buffer is between 10% and 40%	
		Potentially sensitive to future impacts	
Result:	Wetland site is not appropriate for educational use		
Rationale:	No access allowed to wetland	No access point to wetland exists	
	No visible hazards to public	Wetland is not limited mobility accessible	
	No access or observation of other habitats		
Result:	Wetland is not appropriate or does not provide rec. opportunities		
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife	
	No boat launching can be developed	No fishing is allowed	
	No trails or viewing areas exist	No hunting is allowed	
Result:	Wetland is not aesthetically pleasing		
Rationale:	One Cowardin class is visible	Wetland surrounded by development	
	25 - 50% of wetland can be seen	Natural odors present at wetland	
	No visual detractors are present	Some traffic and natural noises are present	

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	DRY-2
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Emergent
Date(s) of field work:	4/28/2005	Approx. Area (acres):	.43 acres
Onsite Assessment?:	Yes	Investigator(s):	FS/HA
Wetland Location:	South of Highway 84, between the Frontage Road and the Highway		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	C	Q-1	B	Q-1	A
Q-2	C	Q-2	C	Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3	C	Q-3	C	Q-3	C	Q-3	A
Q-4	C	Q-4	C	Q-4	C	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	C	Q-5	A
Q-6	A	Q-6	C	Q-6	A	Q-6	A	Q-6	C
Q-7	C					Q-7	C		
Q-8	C								
Q-9A									
Q-9B	B								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is lost or not present
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control function is lost or not present
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	A	Q-1	C
Q-2	B	Q-2	B	Q-2	C	Q-2	A
Q-3		Q-3	B	Q-3	C	Q-3	A
Q-4	C	Q-4	C	Q-4	B	Q-4	C
Q-5B	B	Q-5	A	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	B

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational activities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks		Wetland:	DRY-2
Location:	City of Cascade Locks	Approx. Area (acres):	.43 acres	
Date:	4/28/2005	Wetland Type(s):	Palustrine Emergent	
Result:	Wetland provides habitat for some wildlife species			
Rationale:	One Cowardin class with > 5 species	Adjacent Water Quality limited stream		
	Herbaceous vegetation, no ponding	Adjacent land is mostly developed		
	Less than 0.5 acres of open water	Wetland buffer is between 10% and 40%		
Result:	Wetland's fish habitat function is lost or not present			
Rationale:	Less than 25% of stream is shaded	Adjacent Water Quality Limited stream		
	Stream banks are extensively modified	Adjacent land is mostly developed		
	<10% of stream has instream structures	Stream does not contain fish		
Result:	Wetland's water-quality function is impacted or degraded			
Rationale:	Primary water source is groundwater	Isolated from other wetlands		
	Wetland floods/ponds in growing season	Adjacent land is mostly developed		
	Low vegetation cover	Adjacent Water Quality Limited stream		
Result:	Wetland's hydrologic control function is lost or not present			
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation, no ponding		
	Wetland floods/ponds in growing season	Development downslope of wetland		
	Water has unrestricted flow out of wetland	Open space upslope of wetland		
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed		
	Water not taken out	Adjacent zoning is primarily development		
	Adjacent Water Quality Limited stream	Herbaceous vegetation, no ponding		
Result:	Wetland has high enhancement potential			
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres		
	Primary water source is groundwater	Wetland buffer is between 10% and 40%		
		Potentially sensitive to future impacts		
Result:	Wetland has potential for educational use			
Rationale:	Wetland is open to the public	Maintained public access within 250 feet		
	1 or 2 visible safety hazards	Wetland is not limited mobility accessible		
	No access or observation of other habitats			
Result:	Wetland has the potential to provide recreational activities			
Rationale:	Maintained public access within 250 feet	Wetland provides habitat for some wildlife		
	No boat launching can be developed	No fishing is allowed		
	No trails or viewing areas exist	No hunting is allowed		
Result:	Wetland is not aesthetically pleasing			
Rationale:	One Cowardin class is visible	Wetland surrounded by development		
	>50% of wetland can be seen	Natural odors present at wetland		
	No visual detractors are present	Continuous traffic and natural noises occur		

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Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	DRY-3
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Aquatic Bed
Date(s) of field work:	4/28-5/19/05	Approx. Area (acres):	1.87 acres
Onsite Assessment?:	Yes	Investigator(s):	FS/HA/JVS
Wetland Location:	South of the Frontage Road		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	C	Q-1	B	Q-1	B
Q-2	B	Q-2	C	Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3	C	Q-3	C	Q-3	B	Q-3	A
Q-4	A	Q-4	C	Q-4	B	Q-4	C	Q-4	C
Q-5	A	Q-5	A	Q-5	C	Q-5	B	Q-5	A
Q-6	A	Q-6	C	Q-6	A	Q-6	A	Q-6	B
Q-7	C					Q-7	C		
Q-8	A								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	B	Q-2	A	Q-2	C	Q-2	C
Q-3		Q-3	B	Q-3	C	Q-3	A
Q-4	B	Q-4	C	Q-4	B	Q-4	A
Q-5B	A	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks		Wetland:	DRY-3
Location:	City of Cascade Locks	Approx. Area (acres):	1.87 acres	
Date:	4/28-5/19/05		Wetland Types(s):	Palustrine Aquatic Bed
Result:	Wetland provides habitat for some wildlife species			
Rationale:	One Cowardin class with > 5 species	Adjacent Water Quality limited stream		
	Herbaceous vegetation & ponding	Adjacent land is primarily open space		
	Greater than 1 acre of open water	Wetland buffer is greater than 40%		
Result:	Wetland's fish habitat function is impacted or degraded			
Rationale:	Less than 25% of stream is shaded	Adjacent Water Quality Limited stream		
	Stream banks are extensively modified	Adjacent land is primarily open space		
	<10% of stream has instream structures	Stream does not contain fish		
Result:	Wetland's water-quality function is impacted or degraded			
Rationale:	Primary water source is groundwater	Wetland is between 0.5 and 5 acres		
	Wetland floods/ponds in growing season	Adjacent land is primarily open space		
	Low vegetation cover	Adjacent Water Quality Limited stream		
Result:	Wetland's hydrologic control is impacted or degraded			
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation & ponding		
	Wetland floods/ponds in growing season	Development downslope of wetland		
	Water has unrestricted flow out of wetland	Open space upslope of wetland		
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream not modified	Adjacent land is primarily open space		
	Water not taken out	Adjacent zoning is primarily development		
	Adjacent Water Quality Limited stream	Herbaceous vegetation & ponding		
Result:	Wetland has high enhancement potential			
Rationale:	Wetland functions are impacted or degraded	Wetland is between 0.5 and 5 acres		
	Primary water source is groundwater	Wetland buffer is greater than 40%		
		Potentially sensitive to future impacts		
Result:	Wetland site is not appropriate for educational use			
Rationale:	No access allowed to wetland	No access point to wetland exists		
	No visible hazards to public	Wetland is not limited mobility accessible		
	No access or observation of other habitats			
Result:	Wetland is not appropriate or does not provide rec. opportunities			
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife		
	No boat launching can be developed	No fishing is allowed		
	No trails or viewing areas exist	No hunting is allowed		
Result:	Wetland is not aesthetically pleasing			
Rationale:	One Cowardin class is visible	Wetland surrounded by natural areas		
	Less than 25% of wetland can be seen	Natural odors present at wetland		
	No visual detractors are present	Some traffic and natural noises are present		

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Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	DRY-4
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Aquatic Bed
Date(s) of field work:	4/28-5/19/05	Approx. Area (acres):	5.83 acres
Onsite Assessment?:	Used aerial photos	Investigator(s):	FS/JVS
Wetland Location:	South of the Frontage Road		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	C	Q-1	C	Q-1	B	Q-1	A
Q-2	B	Q-2	C	Q-2	A	Q-2	A	Q-2	B
Q-3	C	Q-3	C	Q-3	C	Q-3	A	Q-3	A
Q-4	A	Q-4	C	Q-4	A	Q-4	C	Q-4	C
Q-5	B	Q-5	A	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	C	Q-6	A	Q-6	A	Q-6	B
Q-7	C					Q-7	C		
Q-8	A								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	C	Q-1	C
Q-2	B	Q-2	A	Q-2	C	Q-2	B
Q-3		Q-3	B	Q-3	C	Q-3	A
Q-4	A	Q-4	A	Q-4	B	Q-4	A
Q-5B	A	Q-5	C	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland is not appropriate or does not provide rec. opportunities
Aesthetic Quality	Wetland is considered to be moderately pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks		Wetland:	DRY-4
Location:	City of Cascade Locks	Approx. Area (acres):	5.83 acres	
Date:	4/28-5/19/05		Wetland Types(s):	Palustrine Aquatic Bed
Result:	Wetland provides habitat for some wildlife species			
Rationale:	One Cowardin class with > 5 species	Adjacent Water Quality limited stream		
	Herbaceous vegetation & ponding	Adjacent land is primarily open space		
	Greater than 1 acre of open water	Wetland buffer is greater than 40%		
Result:	Wetland's fish habitat function is impacted or degraded			
Rationale:	Less than 25% of stream is shaded	Adjacent Water Quality Limited stream		
	Stream banks are extensively modified	Adjacent land is primarily open space		
	<10% of stream has instream structures	Stream does not contain fish		
Result:	Wetland's water-quality function is impacted or degraded			
Rationale:	Primary water source is groundwater	Wetland is more than 5 acres in size		
	Wetland floods/ponds in growing season	Adjacent land is primarily open space		
	Low vegetation cover	Adjacent Water Quality Limited stream		
Result:	Wetland's hydrologic control is impacted or degraded			
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation & ponding		
	Wetland floods/ponds in growing season	Development downslope of wetland		
	Water has unrestricted flow out of wetland	Open space upslope of wetland		
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream modified or isolated wetland	Adjacent land is primarily open space		
	Water not taken out	Adjacent zoning is primarily development		
	Adjacent Water Quality Limited stream	Herbaceous vegetation & ponding		
Result:	Wetland has high enhancement potential			
Rationale:	Wetland functions are impacted or degraded	Wetland is greater than 5 acres		
	Primary water source is groundwater	Wetland buffer is greater than 40%		
		Potentially sensitive to future impacts		
Result:	Wetland site is not appropriate for educational use			
Rationale:	No access allowed to wetland	No access point to wetland exists		
	No visible hazards to public	Wetland is not limited mobility accessible		
	Public access to other habitats exist			
Result:	Wetland is not appropriate or does not provide rec. opportunities			
Rationale:	No access point to wetland exists	Wetland provides habitat for some wildlife		
	No boat launching can be developed	No fishing is allowed		
	No trails or viewing areas exist	No hunting is allowed		
Result:	Wetland is considered to be moderately pleasing			
Rationale:	One Cowardin class is visible	Wetland surrounded by natural areas		
	25 - 50% of wetland can be seen	Natural odors present at wetland		
	No visual detractors are present	Some traffic and natural noises are present		

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	MOO-1
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Forested
Date(s) of field work:	4/28/2005	Approx. Area (acres):	0.08
Onsite Assessment?:	Yes	Investigator(s):	FS/HA
Wetland Location:	Southeast of Highway 34		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	A	Q-1	A	Q-1	B	Q-1	A
Q-2	B	Q-2	A	Q-2	B	Q-2	B	Q-2	B
Q-3	C	Q-3	A	Q-3	A	Q-3	C	Q-3	C
Q-4	C	Q-4	A	Q-4	B	Q-4	C	Q-4	C
Q-5	A	Q-5	A	Q-5	C	Q-5	B	Q-5	A
Q-6	A	Q-6	C	Q-6	C	Q-6	A	Q-6	B
Q-7	A					Q-7	C		
Q-8	A								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is intact
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	A	Q-1	B	Q-1	C
Q-2	A	Q-2	A	Q-2	C	Q-2	C
Q-3	C	Q-3	A	Q-3	C	Q-3	A
Q-4	C	Q-4	C	Q-4	B	Q-4	A
Q-5B	A	Q-5	B	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has moderate potential for enhancement
Education	Wetland has potential for educational use
Recreation	Wetland has the potential to provide recreational activities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks		Wetland:	MOO-1
Location:	City of Cascade Locks	Approx. Area (acres):	0.08	
Date:	4/28/2005	Wetland Types(s):	Palustrine Forested	
Result:	Wetland provides habitat for some wildlife species			
Rationale:	One Cowardin class with > 5 species	No adjacent Water Quality limited streams		
	Herbaceous vegetation & ponding	Adjacent land is primarily open space		
	Less than 0.5 acres of open water	Wetland buffer is greater than 40%		
Result:	Wetland's fish habitat function is intact			
Rationale:	50% or more of stream is shaded	No adjacent Water Quality Limited streams		
	Stream is in a natural channel	Adjacent land is primarily open space		
	>25% of stream has instream structures	Stream does not contain fish		
Result:	Wetland's water-quality function is impacted or degraded			
Rationale:	Primary water source is surface flow	Wetland is between 0.5 and 5 acres		
	Can't determine if wetland floods or ponds	Adjacent land is primarily open space		
	High wetland vegetation cover	No adjacent Water Quality Limited streams		
Result:	Wetland's hydrologic control is impacted or degraded			
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation & ponding		
	Can't determine if wetland floods or ponds	Development downslope of wetland		
	Water has unrestricted flow out of wetland	Open space upslope of wetland		
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream modified or isolated wetland	Adjacent land is primarily open space		
	Water not taken out	Adjacent zoning is primarily development		
	No adjacent Water Quality Limited streams	Herbaceous vegetation & ponding		
Result:	Wetland has moderate potential for enhancement			
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres		
	Primary water source is surface flow	Wetland buffer is greater than 40%		
	Water flow is permanently restricted	Potentially sensitive to future impacts		
Result:	Wetland has potential for educational use			
Rationale:	Wetland is open to the public	Unmaintained public access within 250 feet		
	No visible hazards to public	Wetland is not limited mobility accessible		
	No access or observation of other habitats			
Result:	Wetland has the potential to provide recreational activities			
Rationale:	Unmaintained public access within 250 feet	Wetland provides habitat for some wildlife		
	No boat launching can be developed	No fishing is allowed		
	No trails or viewing areas exist	No hunting is allowed		
Result:	Wetland is not aesthetically pleasing			
Rationale:	One Cowardin class is visible	Wetland surrounded by natural areas		
	Less than 25% of wetland can be seen	Natural odors present at wetland		
	No visual detractors are present	Some traffic and natural noises are present		

Oregon Freshwater Wetland Assessment Methodology

(Revised Edition, April 1996)

Wetland Assessment Summary Sheet



Pacific Habitat Services, Inc.

Project Name:	Cascade Locks	Wetland:	MOO-2
Project Location:	City of Cascade Locks	Wetland Type(s):	Palustrine Forested
Date(s) of field work:	4/28-5/19/05	Approx. Area (acres):	0.23
Onsite Assessment?:	No, used aerial photos.	Investigator(s):	FS/JVS
Wetland Location:	North of Highway 84		

Function and Condition Assessment Answers:

Wildlife Habitat		Fish Habitat		Water Quality		Hydrologic Control		Sensitivity to Impact	
Q	A	Q	A	Q	A	Q	A	Q	A
Q-1	B	Q-1	A	Q-1	C	Q-1	B	Q-1	A
Q-2	B	Q-2	A	Q-2	B	Q-2	B	Q-2	B
Q-3	C	Q-3	A	Q-3	A	Q-3	C	Q-3	C
Q-4	C	Q-4	A	Q-4	B	Q-4	C	Q-4	A
Q-5	A	Q-5	C	Q-5	A	Q-5	B	Q-5	A
Q-6	B	Q-6	C	Q-6	C	Q-6	A	Q-6	B
Q-7	A					Q-7	A		
Q-8	C								
Q-9A									
Q-9B	A								

Results:

Wildlife Habitat	Wetland provides habitat for some wildlife species
Fish Habitat	Wetland's fish habitat function is impacted or degraded
Water Quality	Wetland's water-quality function is impacted or degraded
Hydrologic Control	Wetland's hydrologic control is impacted or degraded
Sensitivity to Impact	Wetland is potentially sensitive to future impacts

Function and Condition Assessment Answers:

Enhancement Potential		Education		Recreation		Aesthetic Quality	
Q	A	Q	A	Q	A	Q	A
Q-1	A	Q-1	C	Q-1	B	Q-1	C
Q-2	B	Q-2	A	Q-2	C	Q-2	C
Q-3		Q-3	B	Q-3	C	Q-3	A
Q-4	C	Q-4	C	Q-4	B	Q-4	A
Q-5B	A	Q-5	B	Q-5	B	Q-5	A
Q-6	B	Q-6	B	Q-6	B	Q-6	A

Results:

Enhancement Potential	Wetland has high enhancement potential
Education	Wetland site is not appropriate for educational use
Recreation	Wetland has the potential to provide recreational activities
Aesthetic Quality	Wetland is not aesthetically pleasing

Oregon Freshwater Wetland Assessment Methodology

Functions and Conditions Summary Sheet



Project:	Cascade Locks		Wetland:	MOO-2
Location:	City of Cascade Locks	Approx. Area (acres):	0.23	
Date:	4/28-5/19/05	Wetland Types(s):	Palustrine Forested	
Result:	Wetland provides habitat for some wildlife species			
Rationale:	One Cowardin class with > 5 species	No adjacent Water Quality limited streams		
	Herbaceous vegetation & ponding	Adjacent land is mostly developed		
	Less than 0.5 acres of open water	Wetland buffer is greater than 40%		
Result:	Wetland's fish habitat function is impacted or degraded			
Rationale:	50% or more of stream is shaded	No adjacent Water Quality Limited streams		
	Stream is in a natural channel	Adjacent land is mostly developed		
	>25% of stream has instream structures	Stream does not contain fish		
Result:	Wetland's water-quality function is impacted or degraded			
Rationale:	Primary water source is groundwater	Wetland is between 0.5 and 5 acres		
	Can't determine if wetland floods or ponds	Adjacent land is mostly developed		
	High wetland vegetation cover	No adjacent Water Quality Limited streams		
Result:	Wetland's hydrologic control is impacted or degraded			
Rationale:	Wetland is not within 100 year floodplain	Herbaceous vegetation & ponding		
	Can't determine if wetland floods or ponds	Development downslope of wetland		
	Water has unrestricted flow out of wetland	Development upslope of wetland		
Result:	Wetland is potentially sensitive to future impacts			
Rationale:	Stream modified or isolated wetland	Adjacent land is mostly developed		
	Water not taken out	Adjacent zoning is primarily development		
	No adjacent Water Quality Limited streams	Herbaceous vegetation & ponding		
Result:	Wetland has high enhancement potential			
Rationale:	Wetland functions are impacted or degraded	Wetland is less than 0.5 acres		
	Primary water source is groundwater	Wetland buffer is greater than 40%		
		Potentially sensitive to future impacts		
Result:	Wetland site is not appropriate for educational use			
Rationale:	No access allowed to wetland	Unmaintained public access within 250 feet		
	No visible hazards to public	Wetland is not limited mobility accessible		
	No access or observation of other habitats			
Result:	Wetland has the potential to provide recreational activities			
Rationale:	Unmaintained public access within 250 feet	Wetland provides habitat for some wildlife		
	No boat launching can be developed	No fishing is allowed		
	No trails or viewing areas exist	No hunting is allowed		
Result:	Wetland is not aesthetically pleasing			
Rationale:	One Cowardin class is visible	Wetland surrounded by natural areas		
	Less than 25% of wetland can be seen	Natural odors present at wetland		
	No visual detractors are present	Some traffic and natural noises are present		

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	COL-1
Project Location:	City of Cascade Locks	Approx. Area (acres):	13.05
Date:	4/28/2005	Wetland Types(s): Palustrine Emergent/Scrub-Shrub	

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and: <ul style="list-style-type: none"> a. created for the purpose of controlling, storing, or maintaining stormwater b. is used for active surface mining or as a log pond c. is a ditch without a free and open connection to natural waters of the state d. is less than 1 acre and created unintentionally from irrigation or construction e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard 		No
		No
		No
		No
		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?	Yes	
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?	Yes	
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	HER-1
Project Location:	City of Cascade Locks	Approx. Area (acres):	0.82
Date:	5/19/2005	Wetland Types(s):	Palustrine Forested

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and: <ul style="list-style-type: none"> a. created for the purpose of controlling, storing, or maintaining stormwater b. is used for active surface mining or as a log pond c. is a ditch without a free and open connection to natural waters of the state d. is less than 1 acre and created unintentionally from irrigation or construction e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard 		No
		No
		No
		No
		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?	Yes	

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	DRY-1
Project Location:	City of Cascade Locks	Approx. Area (acres):	3.76 acres
Date:	4/28-5/19/05	Wetland Types(s):	Palustrine Aquatic Bed

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?	Yes	
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	DRY-2
Project Location:	City of Cascade Locks	Approx. Area (acres):	.43 acres
Date:	4/28/2005	Wetland Types(s):	Palustrine Emergent

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?	Yes	No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?	Yes	

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	DRY-3
Project Location:	City of Cascade Locks	Approx. Area (acres):	1.87 acres
Date:	4/28-5/19/05	Wetland Types(s):	Palustrine Aquatic Bed

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?	Yes	
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	DRY-4
Project Location:	City of Cascade Locks	Approx. Area (acres):	5.83 acres
Date:	4/28-5/19/05	Wetland Types(s):	Palustrine Aquatic Bed

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?	Yes	
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		Yes

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	MOO-1
Project Location:	City of Cascade Locks	Approx. Area (acres):	0.082
Date:	4/28/2005	Wetland Types(s):	Palustrine Forested

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		No
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?	Yes	
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?	Yes	
Mandatory Locally Significant Wetland criteria satisfied ?	Yes	

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Locally Significant Wetland

Locally Significant Wetlands Criteria

ORS 197.279 (3)(b)



Project Name:	Cascade Locks	Wetland:	MOO-2
Project Location:	City of Cascade Locks	Approx. Area (acres):	0.23
Date:	4/28-5/19/05	Wetland Types(s):	Palustrine Forested

Exclusions : This wetland cannot be designated as significant if the answer to any of the criteria below is "Yes".

1 Is this wetland artificially created entirely from upland and:		
a. created for the purpose of controlling, storing, or maintaining stormwater		No
b. is used for active surface mining or as a log pond		No
c. is a ditch without a free and open connection to natural waters of the state		No
d. is less than 1 acre and created unintentionally from irrigation or construction		No
e. created for the purpose of wastewater treatment, cranberry production, farm watering, sediment settling, cooling industrial water, or a golf hazard		No
2 Is the wetland or portion of the wetland contaminated by hazardous substances, materials or wastes as per the conditions of ORS 141-86-350 1(b)		No
Exclusion criteria satisfied?		No

Mandatory Locally Significant Wetland Criteria : This wetland is locally significant if "Yes" is the answer to any of the criteria below.

1 Does the wetland provide <i>diverse wildlife habitat</i> ?		No
2 Is the wetland's <i>fish habitat function intact</i> ?		No
3 Is the wetland's <i>water quality function intact</i> ?		No
4 Is the wetland's <i>hydrologic control function intact</i> ?		No
5 Is the wetland less than 1/4 mile from a water body listed by DEQ as a water quality limited water body (303(d) list) <u>and</u> is the wetland's <i>water quality function intact, or impacted or degraded</i> ?		No
6 Does the wetland contain a rare plant community?		No
7 Is the wetland inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered?		No
8 Does the wetland have a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids <u>and</u> is the wetland's <i>fish habitat function intact, or impacted or degraded</i> ?		No
Mandatory Locally Significant Wetland criteria satisfied ?		No

Optional Locally Significant Wetland Criteria : local governments may identify a wetland as significant if "Yes" is the answer to the criteria below

1 Does the wetland represent a locally unique native plant community <u>and</u> provides <i>diverse wildlife habitat or habitat for some species</i> <u>or</u> has a <i>intact, or impacted or degraded fish habitat function</i> <u>or</u> has a <i>intact, or impacted or degraded water quality function</i> <u>or</u> has a <i>intact, or impacted or degraded hydrologic control function</i> .		No
2 Is the wetland publicly owned and used by a school or organization <u>and</u> does the wetland provide <i>educational uses</i> ?		No
Optional Locally Significant Wetland criteria satisfied ?		No

Does not satisfy the criteria, Not a Locally Significant Wetland

Plant species observed or expected within the City of Cascade Locks Local Wetlands Inventory Study Area (list non-comprehensive)

Scientific Name	Common Name	R9-Ind.
TREES		
<i>Abies grandis</i>	Grand fir	FACU-
<i>Acer macrophyllum</i>	big leaf maple	FACU
<i>Alnus rubra</i>	red alder	FAC
<i>Fraxinus latifolia</i>	Oregon ash	FACW
<i>Populus trichocarpa</i>	black cottonwood	FAC
<i>Pseudotsuga menziesii</i>	Douglas Fir	FACU
<i>Salix lasiandra</i>	Pacific willow	FACW+
SHRUBS		
<i>Acer circinatum</i>	vine maple	FAC-
<i>Berberis aquifolium</i>	tall Oregon grape	UPL
<i>Berberis nervosa</i>	Oregon grape	UPL
<i>Cornus stolonifera</i>	red osier dogwood	FACW
<i>Corylus cornuta</i>	beaked hazel-nut	FACU
<i>Cytisus scoparius</i>	Scot's broom	UPL
<i>Gaultheria shallon</i>	Salal	FACU
<i>Hedera helix</i>	English ivy	UPL
<i>Oemleria cerasiformis</i>	Indian plum	FACU
<i>Physocarpus capitatus</i>	Pacific ninebark	FAC
<i>Rosa pisocarpa</i>	clustered rose	FAC
<i>Rosa nutkana</i>	Nootka rose	FAC
<i>Rubus discolor</i>	Himalayan blackberry	FACU
<i>Rubus laciniatus</i>	evergreen blackberry	FACU+
<i>Rubus leucodermis</i>	Black raspberry	UPL
<i>Rubus parviflorus</i>	western thimbleberry	FAC-
<i>Rubus spectabilis</i>	salmonberry	FAC+
<i>Rubus ursinus</i>	California blackberry	FACU
<i>Salix sitchensis</i>	Sitka willow	FACW
<i>Sambucus racemosa</i>	red elderberry	FACU
<i>Symphoricarpos albus</i>	snowberry	FACU
<i>Viburnum opulus</i>	high bush cranberry	NOL
GRAMINOIDS		
<i>Agrostis stolonifera</i>	spreading bentgrass	FAC
<i>Anthoxanthum odoratum</i>	sweet vernal grass	FACU
<i>Bromus sp.</i>	brome	FACU-UPL
<i>Carex obnupta</i>	sledge slough	OBL
<i>Carex deweyana</i>	Dewey's sedge	FACU
<i>Dactylis glomerata</i>	orchard grass	FACU
<i>Festuca arundinacea</i>	tall fescue	FAC-
<i>Festuca rubra</i>	red fescue	FAC
<i>Glyceria elata</i>	tall manna grass	FACW+

Scientific Name	Common Name	R9-Ind.
<i>Holcus lanatus</i>	common velvetgrass	FAC
<i>Juncus effusus</i>	soft rush	FACW
<i>Phalaris arundinacea</i>	reed canarygrass	FACW
<i>Poa pratensis</i>	Kentucky bluegrass	FAC
<i>Poa trivialis</i>	rough bluegrass	FACW
<i>Scirpus microcarpus</i>	small-fruit bulrush	OBL
<i>Typha latifolia</i>	broad-leaf cattail	OBL
FORBS		
<i>Asarum caudatum</i>	long-tail wild ginger	FACU
<i>Athyrium filix-femina</i>	subarctic lady fern	FAC
<i>Azolla mexicana</i>	Mexican mosquito fern	OBL
<i>Blechnum spicant</i>	deer fern	FAC+
<i>Cardamine oligosperma</i>	few-seed bittercress	FAC
<i>Circaea alpina</i>	enchanters nightshade	FAC+
<i>Claytonia perfoliata</i>	miner's lettuce	FAC+
<i>Claytonia sibirica</i>	candy flower	FAC
<i>Dicentra formosa</i>	bleeding heart	FACU
<i>Equisetum arvense</i>	field horsetail	FAC
<i>Equisetum telmateia</i>	Giant horsetail	FACW
<i>Galium aparine</i>	catchweed bedstraw	FACU
<i>Geranium robertianum</i>	Robert geranium	UPL
<i>Gymnocarpium dryopteris</i>	oak fern	FAC
<i>Hydrophyllum tenuipes</i>	Pacific water leaf	NOL
<i>Mertensia sp.</i>	blue bells	FACW
<i>Lysichiton americanum</i>	skunk cabbage	OBL
<i>Mitella pentandra</i>	five-stamened mitrewort	FAC
<i>Nuphar luteum</i>	yellow cow lily	OBL
<i>Oenanthe sarmentosa</i>	water-parsley	OBL
<i>Osmorhiza chilensis</i>	sweet cicely	UPL
<i>Petasites frigidus</i>	coltsfoot	FACW-
<i>Polystichum munitum</i>	sword fern	FACU
<i>Polypodium glycyrrhiza</i>	licorice fern	UPL
<i>Pteridium aquilinum</i>	bracken fern	FACU
<i>Smilacina racemosa</i>	feather false-solomon's seal	FAC-
<i>Smilacina stellata</i>	starry false-solomon's seal	FAC-
<i>Solanum dulcamara</i>	climbing nightshade	FAC+
<i>Stachys cooleyae</i>	Cooley's hedgenettle	FACW
<i>Tellima grandiflora</i>	fringecup	UPL
<i>Tolmiea menziesii</i>	piggy-back plant	FAC
<i>Urtica dioica</i>	stinging nettle	FAC+
<i>Veronica americana</i>	American speedwell	OBL
<i>Veronica scutellata</i>	marsh speedwell	OBL
<i>Viola glabella</i>	stream violet	FACW+