COTTAGE GROVE LOCAL WETLAND INVENTORY REPORT

APPROVED LOCAL WETLANDS INVENTORY
1/5/2012 LM
OREGON DEPARTMENT OF STATE LANDS

Prepared for

Lane Council of Governments and
City of Cottage Grove

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1.0 INTRODUCTION

1.1 Overview of the Inventory Process

A local wetland inventory (LWI) is a planning and regulatory tool used by local governments and landowners. It provides a snapshot of the wetland resources located in a community to assist in the management of these resources as well as aiding in urban planning and development. Similarly, a riparian inventory is a planning tool that assesses the land immediately adjacent to water resources such as lakes, rivers, and streams. Statewide Planning Goal 5 (Natural Resources) requires local governments to inventory wetlands and riparian areas in order to protect locally significant resources while balancing the needs of growth and development.

The Lane Council of Governments (LCOG) is coordinating local wetland and riparian inventories and supporting several local governments in developing the related policy to address the water resource identified in the inventory process. Environmental Science Associates (ESA) prepared this LWI and riparian inventory for City of Cottage Grove. The LWI inventory process and results are described in this report with the riparian inventory and assessment in Appendix A.

Wetland determinations and the Oregon Freshwater Wetland Assessment Methodology (OFWAM) were used to develop the Cottage Grove LWI. Staff members that participated in the Cottage Grove LWI include wetland scientists from ESA; John Gordon, Sarah Hartung, and Alison Sigler, as well as local wetland scientists Loverna Wilson, Nancy Holzhauser, and Paul Adamus. All field staff received training in LWI standards and guidelines as outlined by the State of Oregon administrative rules (OAR 141-086-0180-141-086-0240). Refer to Appendix B for a complete list of staff qualifications and experience.

1.2 Public Involvement

LCOG organized the public involvement efforts for this project. LCOG facilitated an informational meeting for city officials in Harrisburg on January 21, 2010. This meeting was attended by officials from Creswell, Cottage Grove, Lowell, and other cities conducting an LWI under LCOG's sponsorship. ESA also was also at the meeting.

Letters explaining the project and seeking property access permission were sent to all property owners whose tax lots intercepted hydric soil layers and/or National Wetland Inventory (NWI)-mapped wetlands and streams, or whose tax lots showed soil saturation (darker areas) indicative of wetlands in the aerial photographs. Letters also went to property owners that already have wetland determinations on file with DSL. We requested access to 351 parcels within the study area and were granted access to 136 parcels (including 51 parcels owned by the City of Cottage Grove), which is a permission rate of 39 percent.

The public kick-off meeting was held in Cottage Grove on February 18, 2010, from 7:30 p.m to 9:30 p.m. at the Cottage Grove City Hall, 400 East Main Street. Twenty-six members of the public attended the meeting. The LWI results were presented at the same location in April 2011.

2.0 STUDY AREA DESCRIPTION AND LANDSCAPE SETTING

As shown in Figure 1(Appendix C), Cottage Grove is located at the southern end of the Willamette Valley about 30 miles south of Eugene. The town is centered on Highway 99 and is surrounded by forested hills. The study area covers approximately 3,348 acres and includes Cottage Grove's urban growth boundary (UGB) as well as 556 acres of rural land located outside of the UGB at the south end of the study area. The study area terrain is mostly flat and ranges in elevation from 620 to 870 feet, with an average elevation of 740 feet (Google Earth, 2010). The study area within the UGB consists primarily of commercial and residential development. Rural land within the study area includes agricultural land, upland forested hills, low-density residential developments, and an industrial timber operation located on the Coast Fork Willamette River. Open space areas include manicured lawns, a golf course and public parks dominated by forested land. Cottage Grove's riparian areas are mostly flat and dominated by black cottonwood, big-leaf maple, and red alder.

The study area is in the Coast Fork Willamette River sub-watershed, which is within the U.S. Geological Survey eighth field hydrologic unit code 17090002. The Coast Fork Willamette River flows from south to north through town and the Row River flows east to west along the north-northeastern edge of the study area. The confluence of the Row River and the Coast Fork Willamette River is located north of the study area boundary. The Row River channel in the study area is relatively complex with several vegetated islands and gravel bars as well as inlets and alcoves. In contrast, the Coast Fork Willamette is more confined and lacks off-channel habitat. The shorelines of the Row River and Silk Creek, a tributary to the Coast Fork Willamette, are mapped within the 100-year floodplain. The most northern and southern reaches of the Coast Fork Willamette River in the study area are also mapped within the 100-year floodplain (FEMA, 1999). Refer to the Watershed Characterization Sheet in Appendix D for more information about the Cottage Grove study area's contributing watershed.

Weather in and around Cottage Grove consists of cool, wet winters and hot, dry summers, typical of the Willamette Valley physiographic province. Summers tend to be slightly hotter and dryer in the southern valley compared to the rest of the Willamette Valley (Franklin and Dyrness, 1988).

3.0 METHODS

The LWI process is described in OAR 141-086-0210-141-086-0390 and details the base maps and criteria to be used. Methods used to inventory wetland resources in Cottage Grove are in conformity with these state rules. The LWI process includes estimating the boundaries of wetlands in the study area, assessing those wetlands, and determining which wetlands are significant under the LWI rules.

3.1 Preliminary Mapping and Research

LCOG compiled preliminary wetland maps and identified potential wetlands based on hydric soils and NWI mapped wetlands. LCOG also digitized wetland delineations obtained from the Oregon Department of State Lands (DSL). ESA reviewed the preliminary wetland maps to determine if additional wetlands may be present. ESA staff used NWI mapping (Figure 2, Appendix C), soil survey maps (Figure 3, Appendix C), topographic mapping (Figure 4, Appendix C), and aerial photographs to identify potential wetlands. Potential wetlands included areas of inundation and photographic signatures depicting drainages or vegetation patterns that could be indicative of wetland conditions. ESA submitted these potential wetlands to LCOG for inclusion in the preliminary maps.

ESA identified and recommended tax lots to which access should be requested. LCOG requested access to those tax lots and indicated on the preliminary maps those lots to which access was granted.

3.2 Review of Existing Information

A review of existing literature, maps, and other materials was conducted to identify wetlands or site characteristics indicative of wetlands at the study areas:

- Geographic Information Systems (GIS) layers included:
    - Aerial digital imagery – 6 inch resolution (LCOG, 2008);
    - Rivers and streams (LCOG, 2006);
    - City zoning (LCOG, 2009);
    - Tax lot access permissions (LCOG, 2010);
    - National Wetlands Inventory (NWI), (U.S. Fish and Wildlife Service, mostly 1982); and
    - Elevation contours – 20 Foot (USGS, 2005).
- Oregon Department of State Lands (DSL) existing wetland delineations/determinations (various citations); and
- Soil Survey of Lane County Area, Oregon, Central Part (Patching, 1987).

3.3 Wetland Determinations

Wetlands are those areas that are inundated or saturated by surface water or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Both on-site and off-site methods of the LWI are geared towards determining if a site contains wetland soils, hydrology, and vegetation. Wetlands determinations used were classified according to the classification of wetlands as defined by plants, soils and the frequency of flooding know as the "Cowardin system" (see Appendix G). Wetland determinations were made for all wetlands based on either on-site or off-site investigations, depending on access permission.

3.3.1 On-site Determinations

For parcels with access permission, on-site determinations were made according to the US Army Corps of Engineers (Corps) 1987 Manual (Environmental Laboratory, 1987), and the Western Mountains, Valleys, and Coast Regional Supplement to the manual (Corps, 2010). Determinations were made on parcels that were judged to have wetlands or probable wetlands based on preliminary mapping and research efforts. Wetlands were determined to be present by documenting hydrophytic vegetation, hydric soils, and wetland hydrology. Where property access was granted, all wetlands 0.1 acres (66 by 66 feet) or greater were field mapped (this differs from the LWI rule, which states all wetlands greater than or equal to one half of an acre must be mapped). Sample plots were established to document typical vegetation, soil and hydrology characteristics and to help determine the approximate location of the wetland boundary.

3.3.2 Off-site Determinations

ESA did not enter properties where property owners denied access. For those parcels, off-site wetland determinations were made by observing site characteristics from adjacent rights-of-way (e.g. public streets or sidewalks) or from adjacent parcels with access permitted. In some cases, this was done with the aid of binoculars. Field observations of hydrology and vegetation were assessed in combination with existing data such as published soil survey data, NWI maps and/or known DSL delineations, landscape setting and staff experience. Field observations for off-site determinations are presented on DSL data sheets even though no sample plot was established on the parcel. For parcels that were not visible from rights-of-way, determinations were made by analysis of current aerial photographs and other existing data compiled for the LWI as well as the biologist's experience with similar conditions.

3.4 Field Mapping and Data Collection

All field data were collected and recorded using Trimble Yuma, Global Positioning System/Geographic Information System (GPS/GIS) data recorders. Aerial imagery and shapefiles of the study area were loaded onto the units for reference in the field. The

GPS/GIS units enabled field crews to digitize wetland boundaries in ArcPad; edit existing wetland boundaries as necessary; map probable wetlands, artificial wetlands, and locations of sample plots; and map streams. Other information recorded on the GPS/GIS units includes field notes and wetland delineation/determination data on digital data sheets. After the field work, data were uploaded onto a desktop computer for viewing and final editing.

3.4.1 Wetland Mapping

Wetland boundaries were mapped per Oregon Administrative Rules (OAR) with an accuracy target of 16.4 feet (5 meters) on sites with access permission (OAR 141-086-0210). Wetlands were coded sequentially with unique numbers, generally from north to south in the study area. Newly coded wetlands that extend beyond the study area boundary were digitized to reflect only the area within the study limits.

Wetlands on file with DSL became part of the LWI and are identified with their existing delineation/determination number such as WD 1992-0202. In many cases, multiple wetlands were delineated at one time and have the same DSL file number. To create unique codes for each wetland for the OFWAM assessment, the delineation number was used in combination with a unique number such as WD 1992-0202-1, -2. These unique numbers allowed each wetland to be assessed separately, if necessary, for OFWAM.

Each DSL wetland delineation within the study area was field verified and edited if the current size was different from the recorded size. Previously delineated or determined DSL wetland polygons extending beyond the study area with no size change were left as is. If a DSL wetland no longer existed, it was deleted from the wetland polygon layer.

If a wetland was bisected by a road or other feature but had a hydrologic connection with other sections of wetland, the wetland numeric code was given a letter, such as 8a, 8b to indicate that both polygons were part of the same assessment unit for OFWAM. If a wetland contained more than one Cowardin class of 0.25 acre or more, another polygon was drawn to represent this on a map.

3.4.2 Sample Plots and Wetland Points

Sample plots, "SP #," were established for each wetland (except wetlands on file with DSL) and for areas with wetland characteristics. There were several deviations to this method. When there were many wetlands within a small area and the wetlands exhibited similar wetland characteristics then one sample plot was representative of these other plots. Additional sample plots were established in larger wetlands, when necessary. Sample plot information was recorded on wetland determination data forms, which are located in Appendix E.

Wetlands with an estimated total area of 1/10 acre or less within the study area were digitized as a point and recorded as a "PW" or probable wetland. In some cases, a PW represents a small portion of a larger wetland that is located outside of the study area.

3.4.3 Streams

Intermittent and perennial streams were field verified and mapped using the GPS/GIS units to record any deviations from the existing rivers and streams layer provided by LCOG. A stream was visually confirmed based on observations of a channel and banks. No formal determination of the ordinary high water mark of a stream was made. If portions of a stream channel were not accessible, either due to lack of access permission or lack of visibility from rights-of-way, then the stream line was digitized to represent what could be seen in the field. The stream data recorded in the field were merged with the existing river/stream layer data in ArcMap to provide an updated map of drainages within the study area. Roadside ditches were not mapped. Channelized streams (ditches with base flow or realigned channels) were mapped based on field observations.

3.5 Oregon Freshwater Wetland Assessment Methodology (OFWAM)

The OFWAM was developed to qualitatively assess the functions of wetlands. OFWAM was designed for planning and educational purposes and is not intended to be a detailed evaluation of individual wetlands (Roth et al., 1996). The application of OFWAM aids in the determination of Locally Significant Wetlands.

Wetlands with a hydrologic connection (such as 8a to 8d) were assessed as one unit for OFWAM. Wetlands that occur in close proximity to each other (separated by 50 feet or less) and that have the same HGM class were also assessed as one unit for OFWAM. For example Wetlands 6 and 7 were assessed as one wetland complex because they occur approximately 50 feet apart (or less) and are classified as depressional wetlands.

The assessment methodology consists of a series of wetland characterization questions that provide an understanding of four types of functions for each wetland: 1) wildlife habitat, 2) fish habitat in streams and/or ponds, 3) water quality, and 4) hydrologic control. The wildlife habitat function is scored as either: 1) providing diverse wildlife habitat, or 2) providing limited/some wildlife habitat. The fish habitat, water quality, and hydrologic functions are scored as either: 1) intact, 2) impacted or degraded, or 3) not present. A majority of OFWAM is completed in the field but some office research prior to field work is required. OFWAM results and data sheets for Cottage Grove are located in Appendix D. Water quality conditions of water resources within the study area were based on the 2004/2006 Section 303(d) list of water quality limited streams (DEQ, 2004/2006) and the most recent 1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution map (DEQ, 1988).

3.5.1 Urban vs. Rural

Several OFWAM questions distinguish between rural and urban areas and answers may differ depending on the land use. For this inventory, all wetlands were assumed to be in an urban setting, although there are areas that were rural in character and were not within

the current urban growth boundary (UGB). These areas were considered urban because they are in close proximity to the urban centers.

3.6 Wetlands of Special Interest for Protection

Each wetland was assessed according to ten questions in OFWAM to determine whether it qualifies as a Wetland of Special Interest for Protection. 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. This can determine if the wetland is protected by regulatory rules or statutes, or if the wetland is uncommon in Oregon. Data sources reviewed to determine the presence of sensitive and listed species include: 1) database search of the Oregon Biodiversity Information Center (ORBIC, 2010); 2) species lists from USFWS for Lane County; 3) ODFW fish distribution maps; and 4) NMFS critical habitat listings. Refer to Appendix D for the Wetlands of Special Interest scores.

3.7 Locally Significant Wetlands

Locally Significant Wetlands provide important functions and exhibit characteristics that are important for community planning decisions. The determination of Locally Significant Wetlands requires an inventory and an OFWAM assessment of each wetland identified within the study area.

Criteria used to determine Locally Significant Wetlands include (but are not limited to) wetlands with either a "diverse" wildlife function or "intact" hydrologic control, water quality or fish habitat function rating using OFWAM. Wetlands can also qualify as locally significant if they are within a quarter mile of a 303(d) listed water resource. Water resources that are listed as 303d have been identified as "impaired waters" and do not meet water quality standards. Wetlands identified as having rare and/or unique native plant communities, or are known to be inhabited by federal and/or state threatened or endangered listed species are also locally significant. For additional procedures and criteria requirements to identify Locally Significant Wetlands, refer to OAR 141-086-0350.

4.0 RESULTS

4.1 Wetlands

A total of 47 wetlands were observed and recorded within the study area, including 27 wetlands not previously on file with DSL (Table 1). These wetlands are depicted on the Cottage Grove Local Wetland Inventory Maps (Appendix F). Summary sheets describing wetland characteristics are provided in Appendix G. A glossary of Cowardin

classes, water regimes, and special modifies depicted on the inventory maps is provided in Appendix H. Thirty-nine probable wetlands (PW) and seven artificial wetlands and other waters were identified in the study area.

Table 1. Summary of Wetlands in Cottage Grove Study Area

Wetland Code	Size (acres)
1a-f	11.07
2	0.28
3	3.42
4	0.72
5	0.20
6	0.52
7	1.29
8a-d	6.12
9	0.73
10	1.64
11	0.13
12	0.32
13	2.00
14	0.36
15	1.59
16	0.20
17	1.15
18	0.37
19	0.45
20	1.10
21	1.54
22	0.15
23	0.48
24	0.63
25	18.93
26	1.09
27	9.46
WD1992-0202-1*	0.13
WD1992-0202-2*	1.13
WD1992-0202-3*	0.28
WD1992-0202-4*	0.51
WD1992-0202-5*	0.26
WD1992-0202-6*	0.66
WD1992-0202-7*	1.89
WD1992-0202-8*	4.09
WD1994-0190*	36.50
WD1996-0030-1*	7.42
WD1996-0030-2*	0.09
WD1999-0485-1*	0.17
WD1999-0485-2	0.28
WD1999-0485-3*	0.32
WD2001-0460	0.17
WD2001-0471-1a-d*	5.76
WD2001-0471-2	0.13
WD2003-0461*	7.27
WD2008-0033	1.47
Total	134.41

*Wetlands that changed in size or configuration based on the existing DSL wetland boundaries.

4.2 Deepwater Habitat

No deepwater habitat was mapped, but several wetlands were judged to contain ponded areas exceeding 6.6 feet (2 meters) at low water as part of the OFWAM analysis.

4.3 Artificial Wetlands and Other Waters

Seven artificial wetlands and other waters were found in the study area including an aesthetic pond adjacent to the Coast Fork Willamette River, golf course ponds, a stormwater treatment facility, and a log pond. Other waters and artificially created wetlands may or may not be state or federally jurisdictional.

4.4 Streams

Seven previously unrecorded streams were added to the rivers and streams GIS layer for the study area. One of these streams is a tributary to Finney Creek. None of the new streams in the study area is named. Two previously unrecorded sections of Cooley Creek and Finney Creek were added to the rivers and streams GIS layer and one side channel of the Row River was documented.

4.5 Wetlands of Special Interest for Protection

The following 28 wetlands meet the criteria for consideration as Wetlands of Special Interest for Protection:

- 1a-f, 3, 5, 6, 7, 8a, 9 to 21, WD1992-2020-1 to WD1992-2020-8, and WD2003-0467

Wetlands 3, 5, 6, 7, 8a, 9, 10, 13, WD1992-2020-6 & 7 (all with a seasonal or permanent connection to the Row River) are mapped as providing salmon habitat and the other listed wetlands provide potential suitable habitat for northern (Pacific) pond turtle and/or the northern red-legged frog.

4.6 OFWAM Results

Table 2 presents the OFWAM summary results for the wetlands in Cottage Grove. The 36 wetland assessment units within the study area had variable habitat and hydrologic function ratings. Fifty-five percent of the assessment units were rated as providing diverse wildlife habitat. Twenty-seven wetlands within the Cottage Grove study area have fish habitat in lakes/ponds or streams and 48 percent of these wetlands have a rating of intact. Only 19 percent of the 36 assessment units have intact water quality whereas 47 percent have intact hydrologic control. OFWAM wetland characterization results; function and condition assessment scores (wildlife habitat, fish habitat, water quality, and hydrologic function); function and condition summary sheets; and Wetlands of Special Interest scores are presented in Appendix D.

Table 2. Summary of OFWAM Results for Wetlands in Cottage Grove Study Area

Wetland Assessment Unit / Wetland Code	Wildlife Habitat	Fish Habitat Streams	Fish Habitat Ponds	Water Quality	Hydrologic Control	LSW ?
1a-c	**Diverse**	Impacted	NA	Impacted	**Intact**	**Yes**
1d-f	**Diverse**	NA	Impacted	Impacted	**Intact**	**Yes**
2	Limited	NA	NA	**Intact**	**Intact**	**Yes**
3	**Diverse**	**Intact**	NA	Impacted	**Intact**	**Yes**
4	Limited	NA	NA	Impacted	Not Present	No
5	**Diverse**	**Intact**	NA	Impacted	Impacted	**Yes**
6 & 7	Limited	NA	Impacted	Impacted	**Intact**	**Yes**
8a-d	**Diverse**	NA	**Intact**	Impacted	**Intact**	**Yes**
9	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
10	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
11,12, & 14	**Diverse**	NA	Impacted	Impacted	Impacted	**Yes**
13	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
15	**Diverse**	NA	Impacted	Impacted	Impacted	**Yes**
16	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
17, 18, & 19	**Diverse**	NA	Impacted	Impacted	Impacted	**Yes**
20 & 21	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
22	Limited	NA	NA	Impacted	**Intact**	**Yes**
23	Limited	Impacted	NA	**Intact**	**Intact**	**Yes**
24	Limited	NA	NA	**Intact**	**Intact**	**Yes**
25	**Diverse**	Impacted	NA	Impacted	**Intact**	**Yes**
26	**Diverse**	NA	Impacted	Impacted	Impacted	**Yes**
27	**Diverse**	Impacted	NA	**Intact**	**Intact**	**Yes**
WD1992-0202-1-5	**Diverse**	NA	Impacted	Impacted	Impacted	**Yes**
WD1992-0202-6	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
WD1992-0202-7	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
WD1992-0202-8	**Diverse**	NA	**Intact**	Impacted	Impacted	**Yes**
WD1994-0190	Limited	NA	NA	**Intact**	**Intact**	**Yes**
WD1996-0030-1	Limited	NA	NA	**Intact**	**Intact**	**Yes**
WD1996-0030-2	Limited	NA	NA	Impacted	**Intact**	**Yes**
WD1999-0485-1	Limited	NA	NA	Impacted	Impacted	No
WD1999-0485-2	Limited	Impacted	NA	**Intact**	Impacted	**Yes**
WD1999-0485-3	Limited	NA	NA	Impacted	Impacted	No
WD2001-0460	Limited	NA	NA	Impacted	**Intact**	No*
WD2001-0471-1a-d & 2	Limited	**Intact**	NA	Impacted	**Intact**	**Yes**
WD2003-0461	Limited	**Intact**	NA	Impacted	**Intact**	**Yes**
WD2008-0033	Limited	NA	Impacted	Impacted	**Intact**	**Yes**

*Ditches that do not qualify for designation because they lack a free and open connection to natural waters of the state and do not contain food or game fish.

Note: Responses in **bold** qualify the resource for designation as a LSW, unless other restrictions apply.

4.7 Locally Significant Wetlands (LSWs)

Eighty-nine percent or 32 of the 36 wetland assessment units were identified as locally significant. Refer to Table 2 in Section 4.5 above for the OFWAM results and the qualifying function(s) provided by each wetland. Wetlands 4, WD 1999-0485-1 and WD 1999-0485-1 are small (less than 0.5 acre), isolated, dominated by emergent vegetation only and do not qualify for designation as locally significant. Wetland WD 2001-0460 met the minimum requirements for designation with an intact hydrologic function rating, but is excluded from LSW status according to state rules because it is a ditch that lacks a free and open connection to natural waters of the state and does not contain food or game fish.

5.0 DISCLAIMER

This report documents the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of our knowledge and based upon the conditions observed during field work conducted in the spring 2010. Mapping provided should be considered a preliminary inventory map of wetlands and other waters and used for planning purposes only. A formal wetland delineation reviewed and approved by DSL is required for state removal-fill permits. Contact DSL or Corps with any regulatory questions.

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APPENDIX A: RIPARIAN INVENTORY AND ASSESSMENT REPORT

COTTAGE GROVE RIPARIAN INVENTORY AND ASSESSMENT REPORT

Prepared for

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Table 1. Urban Riparian Inventory and Assessment Summary 2

1.0 INTRODUCTION

The Lane Council of Governments (LCOG) is undertaking eight separate Local Wetland Inventories and riparian inventories in the southern Willamette Valley in accordance with statewide planning goals. Statewide Goal 5 (Natural Resources) requires local governments to inventory wetlands and riparian areas in order to protect locally significant resources while balancing the needs of growth and development. A local wetland inventory (LWI) is a planning and regulatory tool used by local governments and landowners. Riparian inventories are also being completed as part of the LWI effort. A riparian inventory is a planning tool that assesses the land immediately adjacent to water resources such as lakes, rivers, and streams.

Environmental Science Associates (ESA) prepared three of the eight LWIs and riparian inventories for the following local governments: Cities of Lowell, Creswell, and Cottage Grove. Each LWI is described in separate reports and the riparian inventories are presented in the appendices. This report describes the results for the Cottage Grove riparian inventory.

An Urban Riparian Inventory and Assessment is a rapid assessment tool used to gain a better understanding of the riparian resources within a particular urban area of interest; allowing for improved management and restoration of these riparian corridors. Four riparian functions are assessed for each riparian reach: 1) water quality, 2) flood management, 3) thermal regulation and 4) wildlife habitat.

2.0 METHODS

Riparian reaches were inventoried and assessed according to the Urban Riparian Inventory and Assessment Guide (Division of State Lands (as cited), 1998). Riparian reaches were initially mapped using aerial imagery and were delineated based on the dominant land use along each qualifying water resource. The reach delineations were field verified and assessed for hydrologic and habitat functions. A qualifying water resource must be perennial and fish bearing. A fish bearing stream is defined as one that provides habitat for either resident or anadromous fish such as salmon and steelhead. Sources used to determine whether streams were perennial and fish bearing include the following: 1) Cottage Grove Quadrangle, 7.5 minute series, topographic (USGS, 1984); 2) essential salmonid habitat (ESH) mapping (Department of State Lands, 2010), 3) field observations, and 4) discussions with landowners.

Other information sources used include:

a) Oregon Department of Forestry stream classification maps;
b) National Wetlands Inventory Maps;
c) Oregon Department of Fish and Wildlife maps indicating fish habitat; and
d) Federal Emergency Management Agency flood maps

Reaches on each side of a stream (defined as the left side and right side when facing downstream) were assigned a unique code. The start and end points of the riparian reaches illustrate the beginning and/or ending of dominant land use changes. The width of the riparian corridor was determined by the potential tree height (PTH) of the dominant tree species growing in the reach.

3.0 RIPARIAN CHARACTERIZATION AND RESULTS

A summary of the Riparian Inventory and Assessment results is presented in Table 1. Riparian Function Assessment data sheets for the water resource reaches located in the study area are attached.

Cottage Grove has six qualifying water resources: Bennett Creek (BC), Cooley Creek (CC), P1-1 (a pond fed by Cooley Creek), Coast Fork Willamette River (CF), Row River (RR), and Silk Creek (SC). All water resources drain into the Coast Fork Willamette River.

Bennett Creek

Bennett Creek flows east into the Coast Fork Willamette River at the northwestern end of the study area. This stream is not listed as a DEQ 303(d) water quality limited stream (DEQ, 2004/2006), nor is it considered ESH (DSL, 2010). Bennett Creek's riparian area was dominated by big-leaf maple with a PTH of 90 feet. Land use on the left side consisted of roads and rural residential while land use on the right side consisted of open space (golf course). Bennett Creek's riparian functions were rated medium and high, with the exception of a low rating for flood management in reach BC-1L based on a flood prone area (Table 1).

Table 1. Urban Riparian Inventory and Assessment Summary

Water Resource	Reach Code*	Land Use	Length (feet)	Salmon or steelhead?	303(d)-listed? Temp	Water Quality	Flood Management	Thermal Regulation	Wildlife Habitat
Bennett Creek	BC-1L	Resi-dential	2,393	No	No	High	Low	Medium	High
	BC-1R	Open Space / Golf Course	2,393	No	No	High	Medium	High	High
Cooley Creek	CC-1L	Agri-culture	3,108	No	No	High	Low	Low	Medium
	CC-1R	Agri-culture	3,108	No	No	High	Low	Low	Medium
Pond 1	P1-1	Agri-culture	1,004	No	No	High	Low	Low	Medium

Coast Fork Willamette River	CF-1L	Commercial	3,228	Yes	Yes	Medium	Medium	Low	Medium
	CF-1R	Commercial	6,099	Yes	Yes	Medium	Medium	Low	Medium
	CF-2L	Residential	9,686	Yes	Yes	Medium	Medium	Medium	Medium
	CF-2R	Residential	6,158	Yes	Yes	Medium	Medium	High	Medium
	CF-3L	Commercial	4,994	Yes	Yes	Medium	Medium	Medium	High
	CF-3R	Commercial	2,957	Yes	Yes	Medium	Medium	Medium	Medium
	CF-4R	Residential	3,526	Yes	Yes	Medium	Medium	High	High
	CF-5R	Commercial	2,950	Yes	Yes	Medium	Medium	Medium	Medium
Row River	RR-1L	Mixed use	4,348	Yes	Yes	Medium	Medium	Medium	High
	RR-1R	Agriculture	1,778	Yes	Yes	High	Medium	High	High
	RR-2L	Commercial	5,471	Yes	Yes	High	Medium	Medium	High
	RR-3L	Residential	1,920	Yes	Yes	High	High	High	High
	RR-4L	Open Space/ Natural	703	Yes	Yes	Medium	High	Medium	High
Silk Creek	SC-1L	Residential	1,300	No	No	High	Medium	Medium	High
	SC-1R	Residential	1,300	No	No	Medium	Medium	High	High
	SC-2L	Residential	3,684	No	No	High	Medium	Medium	High

	SC-2R	Resi-dential	3,684	No	No	High	Medium	High	High

*Riparian reaches are coded for the water resource and side of stream (looking downstream; right side [R] and left side [L]).

Water quality was rated high for reaches BC-1L and BC-1R due to the extensive cover of forested vegetation in the riparian corridor and the relatively low amount of impervious surfaces. Wildlife habitat was also rated high for these reaches because of the low degree of development, the presence of multiple vegetation layers, and the presence of large woody debris.

Cooley Creek and Pond 1

Riparian areas of Cooley Creek and Pond 1 (P1) are located in a heavily grazed agricultural area with minimal woody vegetation. Cooley Creek and Pond 1 are not listed as DEQ 303(d) water quality limited streams (DEQ, 2004/2006) nor are they considered ESH (DSL, 2010). The PTHs for the CC-1R and P1-1 reaches were determined to be 120 feet based on the presence of a few Douglas firs in surrounding upland areas. The PTH for CC-1L was determined to be 65 feet based on the presence of a few red alders in the riparian corridor. All reaches had a high rating for water quality based on the flat terrain, extensive herbaceous plant cover, and the low amount of impervious surfaces (Table 1). Thermal regulation was rated low for all reaches because of the lack of overhanging vegetation to provide shade. Flood management was also rated low due to the absence of woody vegetation in flood prone areas and the channelization along some portions of the reaches. Wildlife habitat was rated medium for all reaches because of the presence of perennial water and several types of wetlands and water resources in the area.

Coast Fork Willamette River

The Coast Fork Willamette River is the largest water resource within the City of Cottage Grove and flows through residential, commercial, and natural areas within the study area. The channel is constricted by development on both banks as it flows through city center. The Coast Fork Willamette River in the study area is listed as a DEQ 303(d) water quality limited stream (DEQ, 2004/2006). Only the lower reaches in the study area (CF-1L, and CF-1R to CF-4R) are mapped as ESH (DSL, 2010).

Reaches CF-1R and CF-1L include industrial areas where there was no public visual access. Dominant vegetation along the reaches was determined to be black cottonwood, with a PTH of 120, based on reference reaches downstream.

Riparian reaches CF-2R, CF-2L and CF-4R are located along residential areas. Reach CF-4R includes high density housing along the riverbank. Reaches CF-2L, CF-3R, CF-3L, CF-4R and CF-5R were dominated by big-leaf maple with a PTH of 90 feet and reach CF-2R was dominated by red alder with a PTH of 65 feet. The dominant land use along reaches CF-3R, CF-3L and CF-5R was commercial development.

Riparian function scores for the Coast Fork reaches ranged from low to high. All of the reaches rated medium for water quality due to the flat terrain, relatively extensive cover of herbaceous plants throughout the riparian corridor and the presence of woody vegetation at the top of the bank. The water quality function of these reaches is constrained by the relatively high degree of

impervious surface (greater than 25 percent). The flood management function was rated medium for all reaches. The flood management function would be rated higher if not for the presence of man-made constrictions along the Coast Fork such as rip-rap and channelization.

Thermal regulation for the Coast Fork reaches was rated low to high depending on the aspect of the reach as well as the presence of overhanging vegetation. Overall, wildlife habitat was rated medium for the reaches, with the exception of CF-3L and CF-3R. These two reaches contained multiple canopy layers and overhanging vegetation, which the other reaches lacked.

Row River

The Row River flows northerly along the northeastern edge of the study area and joins the Coast Fork Willamette River north of the study area boundary. The Row River is a 303(d) listed water resource (DEQ, 2004/2006), and is mapped as ESH (DSL, 2010).

Reach RR-1R has a dominant land use of agriculture and a PTH of 65 feet based on the dominance of red alders in the riparian zone. Reach RR-1R is the only reach along the right side of the Row River in the study area.

Reach RR-1L has a mix of commercial, agricultural, and residential land use and a PTH of 65 feet (red alder). Reach RR-2L, RR-3L and RR-4L had black cottonwood as the dominant tree with a PTH of 120 feet. Reach RR-2L is located along the edge of the airport which includes a large area of impervious surface and mowed vegetation. Reach RR-3L is forested with a golf course along the top of bank.

Overall, the Row River riparian reaches were rated in relatively good condition with medium and high hydrologic and habitat ratings (Table 1). In general the water quality function for the Row River reaches rated high because of the presence of two or more canopy layers, the dominance by herbaceous and/or woody vegetation, and overhanging woody vegetation. The flood management and thermal regulation functions rated a mix of medium and high for all reaches because of extensive woody vegetation at the top of bank and overhanging the stream as well as the relatively low amount of channel restrictions in the reaches. The wildlife habitat rating was high for all reaches because of the high complexity of vegetation and relatively low level of development in the riparian corridor.

Silk Creek

Silk Creek is south of Bennett Creek and flows east into the Coast Fork Willamette River in the northwest corner of the study area. This stream is not listed as a DEQ 303(d) water quality limited stream (DEQ, 2004/2006), nor is it considered ESH (DSL, 2010). Reaches SC-1R and SC-1L are characterized by low-density residential land use and are dominated by red alder with a PTH of 65 feet. Reaches SC-2R and SC-2L are characterized by dense residential land use and are dominated by big-leaf maple with a PTH of 90 feet. All reaches had medium and high ratings for hydrologic and habitat functions due to the presence of multiple canopy layers, overhanging woody vegetation, and relatively low levels of bare ground and/or impervious surface.

4.0 DISCLAIMER

This report documents the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of our knowledge

5.0 LITERATURE CITATIONS

Oregon Department of Environmental Quality (DEQ). 2004/2006. *2004/2006 Section 303(d) List, Integrated Report*. Portland, Oregon. Available at: http://www.deq.state.or.us/wq/assessment/rpt0406/search.asp

Oregon Department of State Lands (DSL). 2010. *Essential Salmonid Mapping, Lane County*. State of Oregon. Available at: http://www.oregonstatelands.us/DSL/PERMITS/counties_ess.shtml.

Oregon Division of State Lands (DSL). 1998. *Urban Riparian Inventory and Assessment Guide*. March. Prepared by Pacific Habitat Services, Inc.

U.S. Geological Survey (USGS). 1984. *Cottage Grove Quadrangle*, 7.5 minute series, topographic. Lane County, Oregon.

ATTACHMENTS: RIPARIAN FUNCTION ASSESSMENT REFERENCE QUESTIONS AND DATA SHEETS

Riparian Function Assessment Answer Sheet

Water Quality

Riparian Code

Score

1. **What is the average slope in the riparian area?**
   a. Less than 10:1(10%) ..... 3 pts
   b. Between 10:1 (10%) and 5:1(20%) ..... 2 pts
   c. Greater than 5:1 (20%)..... 1 pt

2. **What is the dominant vegetation cover in the riparian area?**
   a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high..... 3 pts
   b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high..... 2 pts
   c. Bare ground..... 1 pt

3. **What is the dominant vegetation at the top of bank (if defined) or edge of water resource?**
   a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high..... 3 pts
   b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high..... 2 pts
   c. Bare ground..... 1 pt

4. **What is the extent of impervious surfaces within the riparian area?**
   a. Less than 10%..... 3 pts
   b. Between 10% and 25% ..... 2 pts
   c. Greater than 25%..... 1 pt

5. **How does the Natural Resources Conservation Service (formerly Soil Conservation Service) soil survey rank the water erosion hazard of the dominant mapped unit in the riparian area? Select the highest water erosion hazard description if more than one is listed.**
   a. Low, slight, moderate..... 2 pts
   b. High, severe, very high ..... 1 pt

Total Points: _____

Function: High (12-14 pts) Medium (8-11 pts) Low (5-7 pts)

FUNCTION

High	☐
Medium	☐
Low	☐

Riparian Function Assessment Answer Sheet

Flood Management

Riparian Code

Score

6. Are there flood prone areas (adjacent flat areas, depressions, swales, FEMA mapped 100-year floodplain, etc.) beyond the top of bank or edge of the water resource?
   a. Yes ..... 3 pts
   b. No ..... 1 pt _____

7. Is woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high dominant in the flood prone riparian area?
   a. Yes ..... 3 pts
   b. No or no flood prone area present ..... 1 pt _____

8. Is the stream or water resource constricted by man-made features (e.g. channelization, riprap, concrete wall)?
   a. No ..... 3 pts
   b. Yes ..... 1 pt _____

Total Points: _____

Function: High (8-9 pts) Medium (5-7 pts) Low (3-4 pts)

FUNCTION

High ☐

Medium ☐

Low ☐

Riparian Function Assessment Answer Sheet

Thermal Regulation

Riparian Code

Score

9. **Does the aspect or orientation of the riparian area allow for shading of water at mid-day in the summer?**
   a. Yes . . . . . 3 pts
   b. No . . . . . 1 pt _____

10. **What is the dominant vegetation layer in the riparian area?**
   a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high . . . . . 3 pts
   b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high. . . . . 2 pts _____
   c. Bare ground . . . . . 1 pt

11. **Does woody vegetation hang over the edge of the water?**
   a. Yes . . . . . 2 pts
   b. No . . . . . 1 pt _____

Total Points: _____

Function: High (7-8 pts) Medium (5-6 pts) Low (3-4 pts)

FUNCTION

High ☐
Medium ☐
Low ☐

Wildlife Habitat

Riparian Code

Score

12. **How many vegetation layers (i.e. canopy, mid-story, groundcover) are present?**
    a. More than 2 layers ..... 3 pts
    b. 2 layers ..... 2 pts
    c. 1 layer, or unvegetated ..... 1 pt

13. **What is the dominant vegetation layer in the riparian area?**
    a. Woody vegetation (trees, shrubs, vines) greater than 1 meter (3.2 feet) high ..... 3 pts
    b. Herbaceous vegetation or woody vegetation less than 1 meter (3.2 feet) high ..... 2 pts
    c. Bare ground ..... 1 pt

14. **Does woody vegetation hang over the edge of the water?**
    a. Yes ..... 2 pts
    b. No ..... 1 pt

15. **Is large woody debris present within the riparian area?**
    a. Yes ..... 3 pts
    b. No ..... 1 pt

16. **What percent of the water resource edge is bordered by a vegetated riparian area at least 30 feet wide?**
    a. Greater than 40% ..... 3 pts
    b. Between 10% and 40% ..... 2 pts
    c. Less than 10% ..... 1 pt

Questions continued on next page.

Wildlife Habitat (continued)

Riparian Code

Score

17. **Is surface water present throughout the year?**
    a. Yes ..... 3 pts
    b. No ..... 1 pt _____

18. **Is there more than one type of water resource (e.g. stream, wetland, lake/pond) within or immediately adjacent to the riparian reach?**
    a. Yes ..... 3 pts
    b. No ..... 1 pt _____

19. **What is the degree of development or human-caused disturbance (e.g. buildings, impervious surfaces, lawns, agriculture, trash) in the riparian area?**
    a. Less than 25% ..... 3 pts
    b. Between 25% and 75% ..... 2 pts
    c. Greater than 75% ..... 1 pt _____

Total Points: _____

Function: High (19-23 pts) Medium (13-18 pts) Low (8-12 pts)

FUNCTION

High	☐
Medium	☐
Low	☐

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1L

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

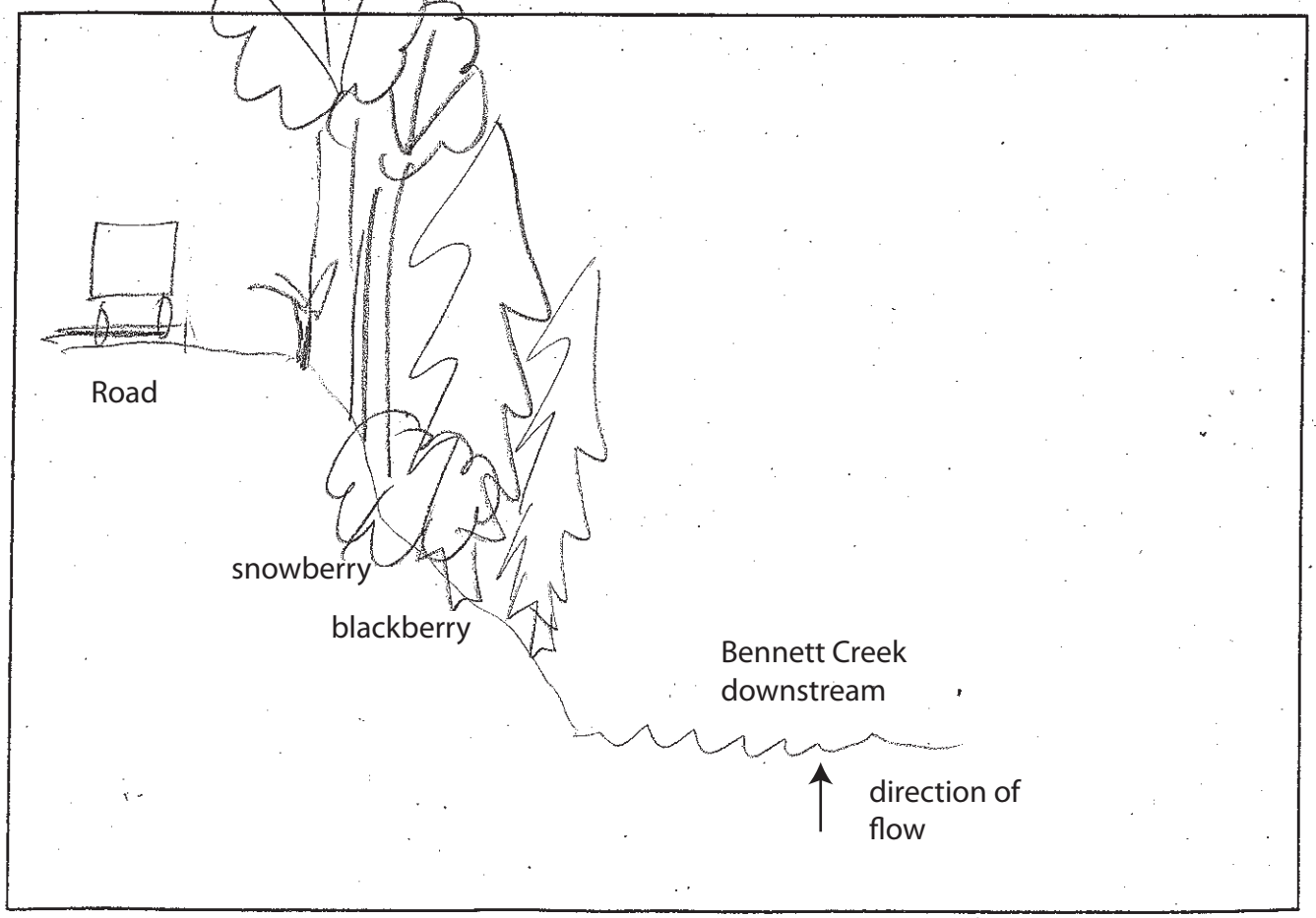
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 2,393

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	12
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 24, 45C, 121B

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation	**Herbaceous Vegetation**
Acer macrophyllum	Polystichum munitum
Acer circinatum	
Rubus discolor	
Symphoricarpos albus	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☐ <10:1 (10%) ☑ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☑ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☑ Woody vegetation ☐ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☑ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	2
Question 2:	3
Question 3:	3
Question 4:	2
Question 5:	2
Total Points:	12

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	1
Question 7:	1
Question 8:	1
Total Points:	3

Function:
- [ ] High
- [ ] Medium
- [x] Low

Thermal Regulation

Question 9:	1
Question 10:	3
Question 11:	2
Total Points:	6

Function:
- [ ] High
- [x] Medium
- [ ] Low

Wildlife Habitat

Question 12:	3
Question 13:	3
Question 14:	2
Question 15:	3
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	2
Total Points:	22

Function:
- [x] High
- [ ] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1R

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

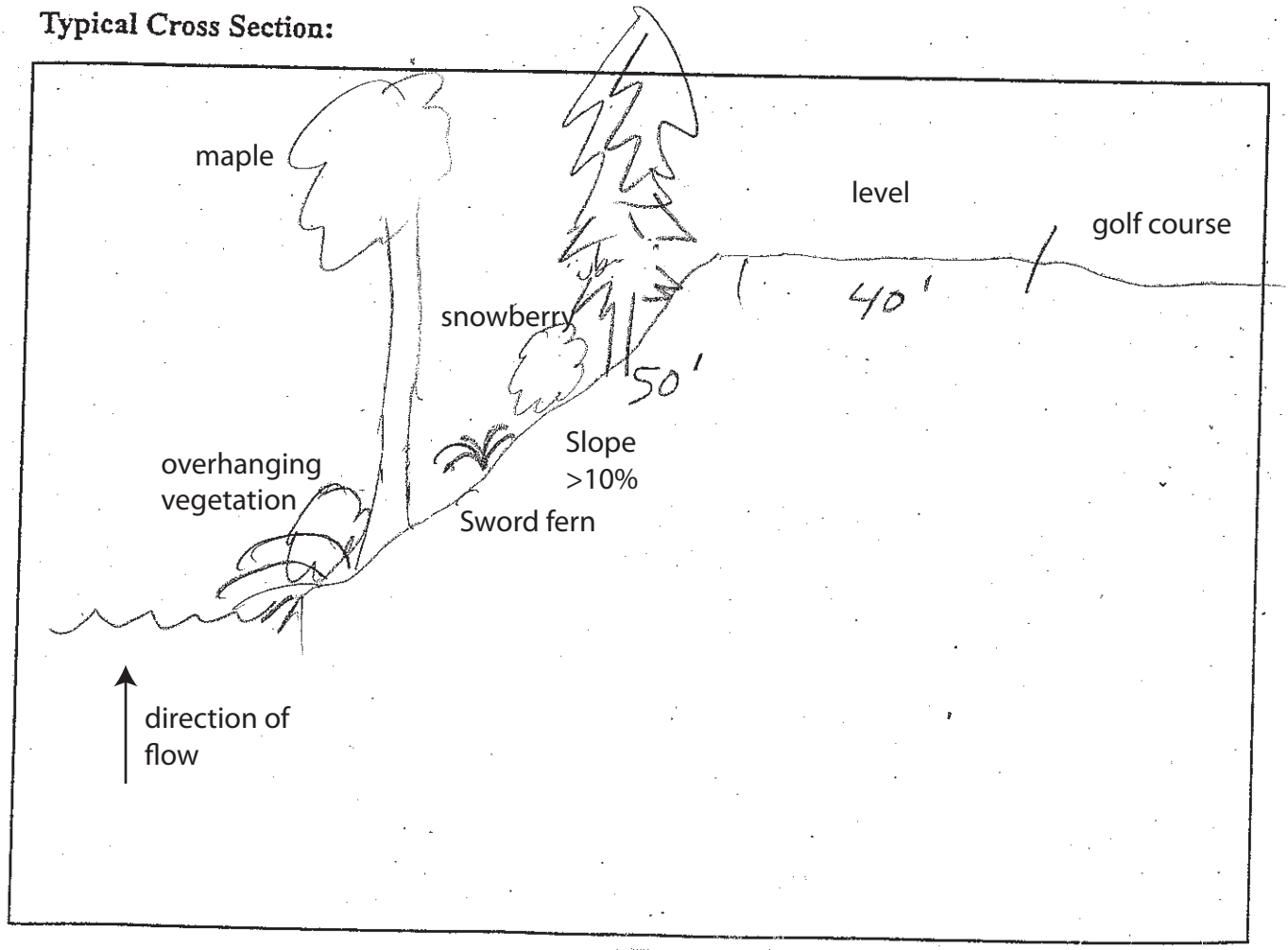
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ Site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 2,393

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	12
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 24, 45C, 121B

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Pseudotsuga menziesii	Polystichum munitum
Symphoricarpos albus	Festuca arundinacea
Acer macrophyllum	
Hedera helix	
Acer circinatum	
Rubus discolor	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1R

Riparian Characterization Form

Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☑ <10% ☐ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☑ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: BC-1R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	3
Question 4:	3
Question 5:	2
Total Points:	13

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- [ ] High
- [x] Medium
- [ ] Low

Thermal Regulation

Question 9:	3
Question 10:	2
Question 11:	2
Total Points:	7

Function:
- [x] High
- [ ] Medium
- [ ] Low

Wildlife Habitat

Question 12:	3
Question 13:	2
Question 14:	2
Question 15:	3
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	2
Total Points:	21

Function:
- [x] High
- [ ] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1L

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

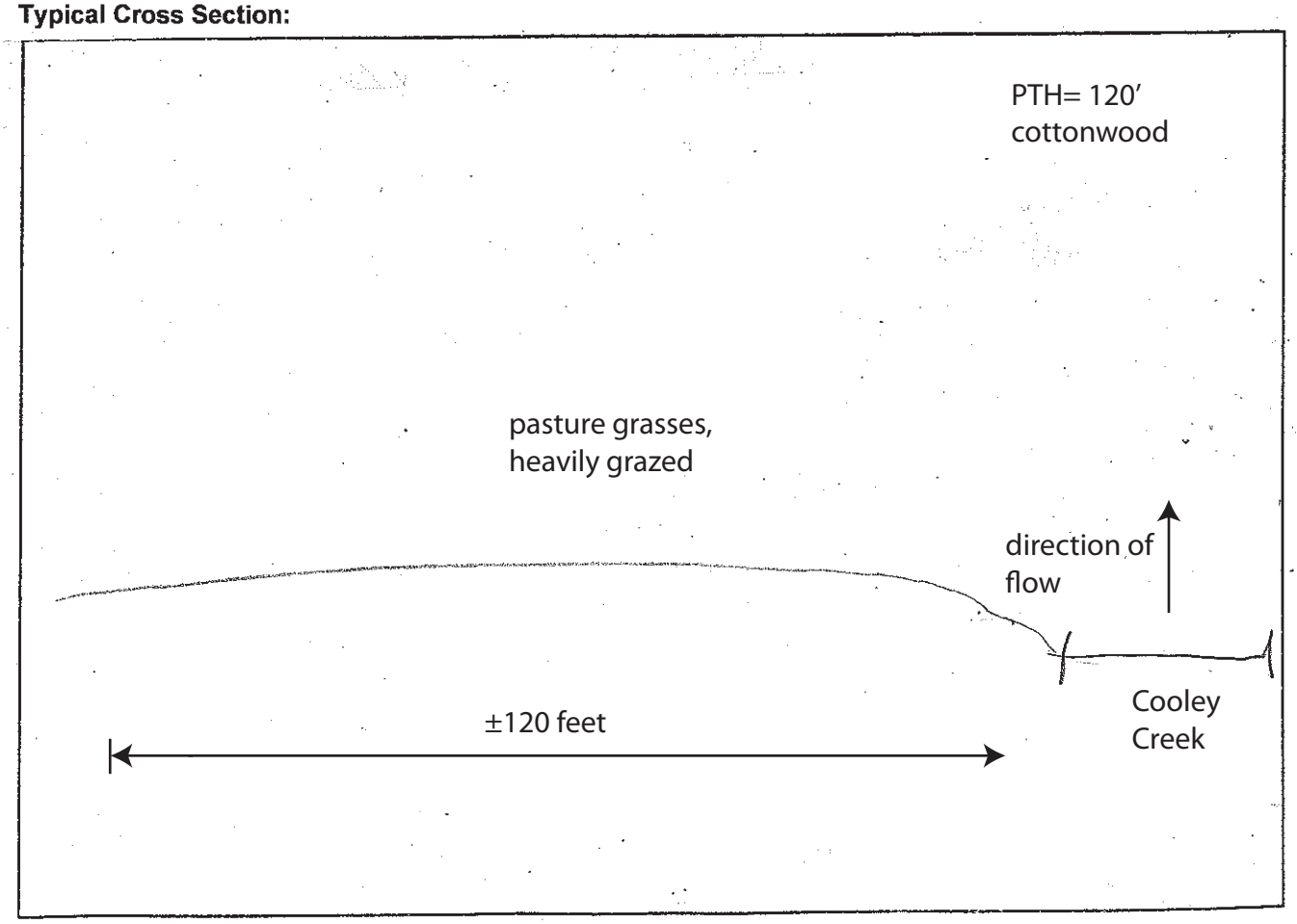
Dominant tree species: Fraxinus latifolia

Potential tree height (PTH)/Width of Riparian Area: 120/120
(Width measured horizontally from edge of water resource)

PTH determined by: ☐ On-site vegetation ☑ Reference site Code:

Comments: Offsite, mainly agricultural with som minimal patches of trees, heavily grazed. Reference site was nearby site seen from road.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 3,108

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	14
	Lake/Pond	☐	Width:	0
	Wetland	☑	Width:	265

LWI Wetland Code:

Water present year-round: No

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 26, 79, 134

Adjacent Land Uses?

Agriculture	☑	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☐	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Fraxinus latifolia	lawn
Pseudotsuga menziesii	pasture grasses
Rhododendron sp.	Phalaris arundinacea

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1L

Riparian Characterization Form

Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☑ <10% ☐ 10% to 25% ☐ >25%

☐ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☑ Woody vegetation ☐ Herbaceous vegetation ☐ Bare ground

☐ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	2
Question 4:	3
Question 5:	2
Total Points:	12

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	1
Question 7:	1
Question 8:	1
Total Points:	3

Function:
- [ ] High
- [ ] Medium
- [x] Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	1
Total Points:	4

Function:
- [ ] High
- [ ] Medium
- [x] Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	1
Question 15:	1
Question 16:	3
Question 17:	1
Question 18:	3
Question 19:	1
Total Points:	14

Function:
- [ ] High
- [x] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1R

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

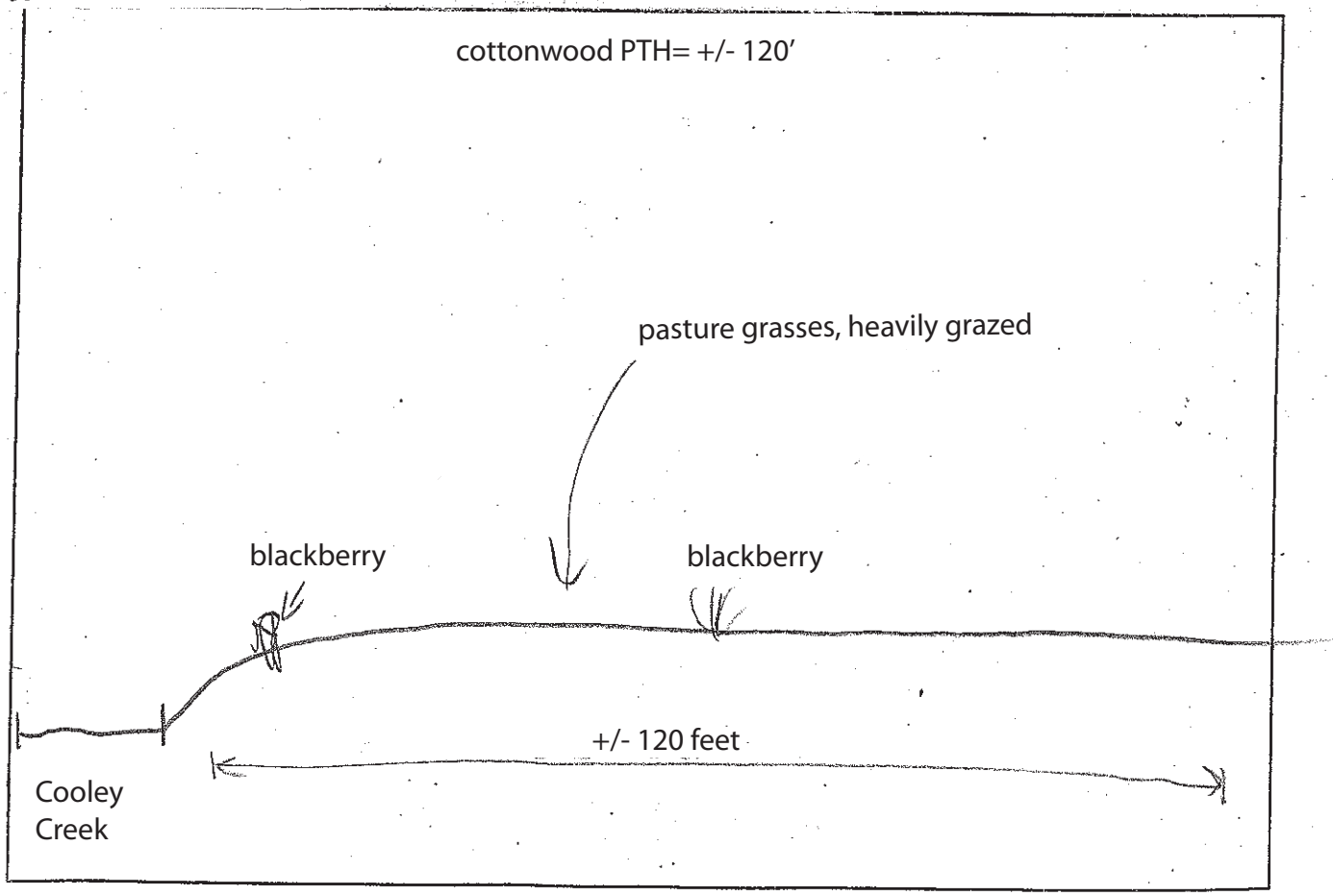
Dominant tree species: Pseudotsuga menziesii

Potential tree height (PTH)/Width of Riparian Area: 120/120
(Width measured horizontally from edge of water resource)

PTH determined by: ☐ On-site vegetation ☑ Reference site Code:

Comments: Some patches of trees, but minimal; a majority is agricultural pasture, heavily grazed. Offsite, reference site was assessed at a nearby site seen from the road.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 3,108

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	14
	Lake/Pond	☐	Width:	0
	Wetland	☑	Width:	265

LWI Wetland Code:

Water present year-round: No

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 26, 79, 134

Adjacent Land Uses?

Agriculture	☑	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☐	Forestry	☐

Woody Vegetation	**Herbaceous Vegetation**
Pseudotsuga menziesii	pasture grasses
Quercus garryana	Rubus discolor
Alnus rubra	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☑ <10% ☐ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☐ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CC-1R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	2
Question 4:	3
Question 5:	2
Total Points:	12

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	1
Question 7:	1
Question 8:	1
Total Points:	3

Function:
- [ ] High
- [ ] Medium
- [x] Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	1
Total Points:	4

Function:
- [ ] High
- [ ] Medium
- [x] Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	1
Question 15:	1
Question 16:	3
Question 17:	1
Question 18:	3
Question 19:	1
Total Points:	14

Function:
- [ ] High
- [x] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-1L

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

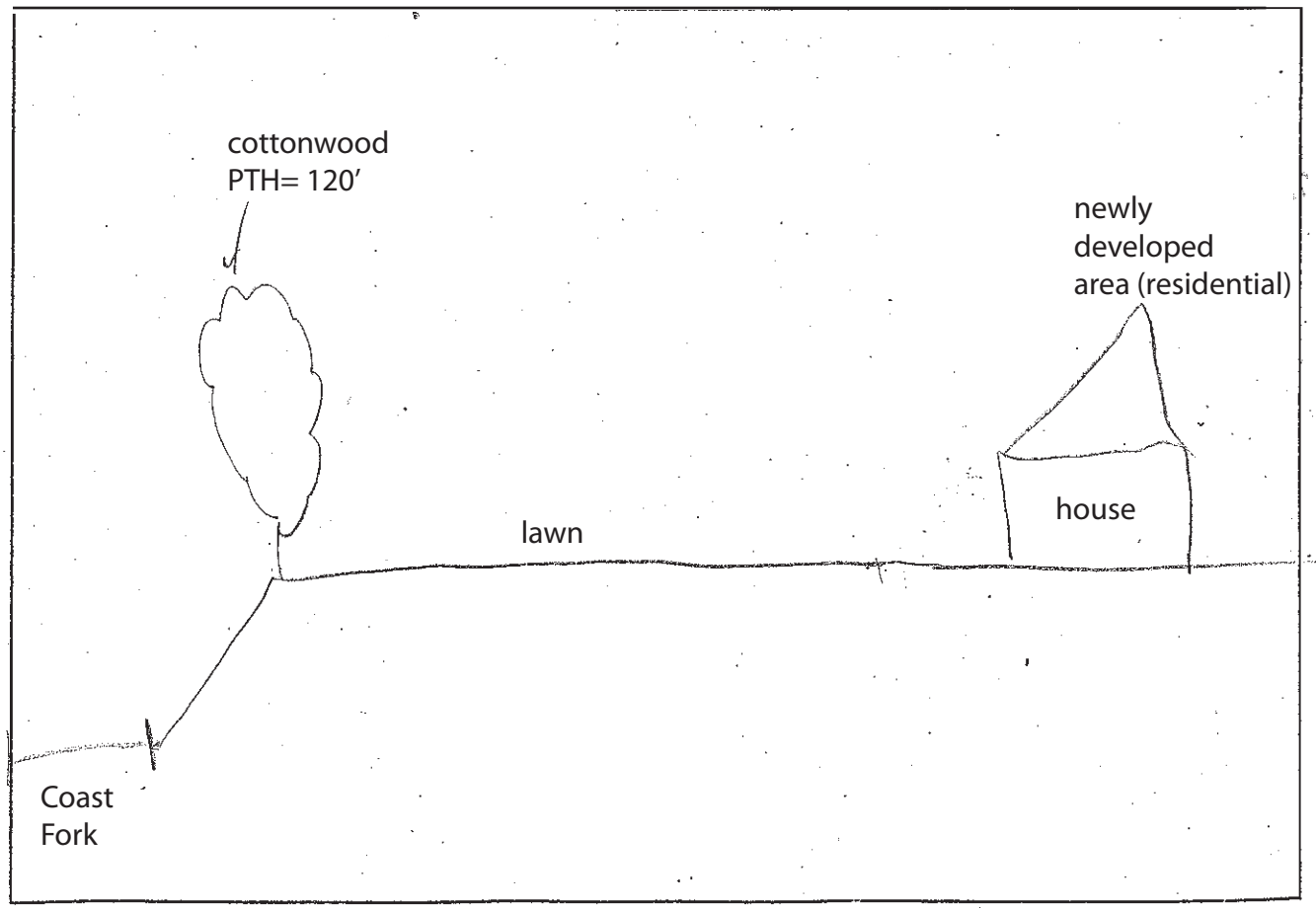
Dominant tree species: Populus balsamifera

Potential tree height (PTH)/Width of Riparian Area: 120/120
(Width measured horizontally from edge of water resource)

PTH determined by: ☐ On-site vegetation ☑ Reference site Code:

Comments: Industrial area, reference stand for this reach 1R is near the public high school. This reach cannot be accessed or even seen from the road; however, the dominant tree species was cottonwood- this site was the closest accessible site to reach 1L.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-1L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 3,228

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	60
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 26, 79, 95, 96

Adjacent Land Uses?

Agriculture	☐	Residential	☐	Undeveloped	☐
Commercial	☑	Roads	☑	Forestry	☐

Woody Vegetation

Salix sp.

Herbaceous Vegetation

Hedera helix
Rubus discolor
lawn
Heracleum lanatum

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-1L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☐ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-1L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	1
Total Points:	4

Function:
- ☐ High
- ☐ Medium
- ☑ Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	1
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	15

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2

Project Name: Cottage Grove LWI

Riparian Code: CF-1R

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

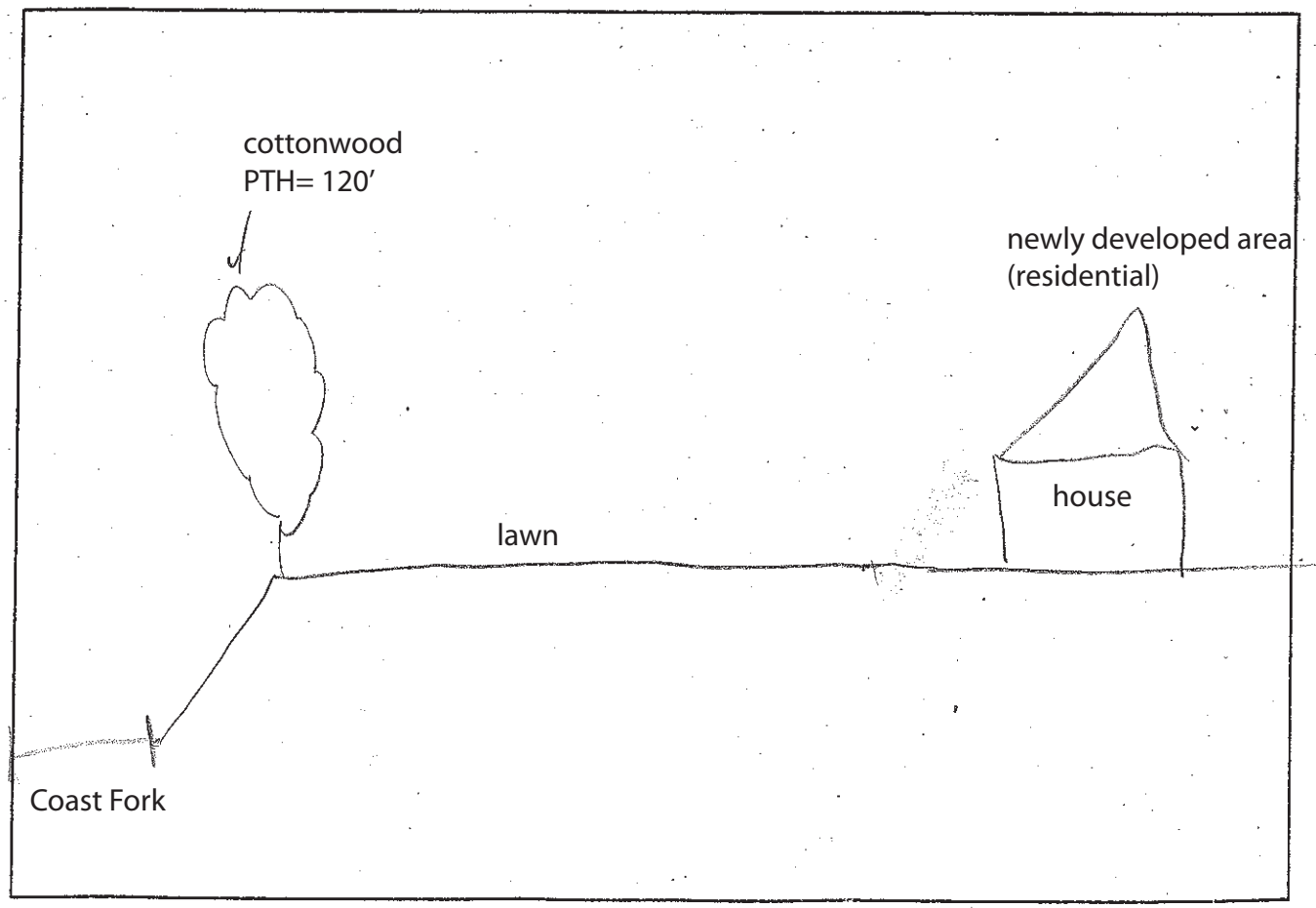
Dominant tree species: Populus balsamifera

Potential tree height (PTH)/Width of Riparian Area: 120/120

(Width measured horizontally from edge of water resource)

PTH determined by: ☐ On-site vegetation ☑ Reference site Code:

Comments: Industrial area, reference stand for this reach 1R is near the public high school. This reach cannot be accessed or even seen from the road; however, the dominant tree species was cottonwood this site was the closest accessible site to reach 1R.



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-1R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 6,099

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	60
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 1A, 26, 27, 29, 48, 79, 95

Adjacent Land Uses?

Agriculture	☐	Residential	☐	Undeveloped	☐
Commercial	☑	Roads	☑	Forestry	☐

Woody Vegetation

Salix sp.

Herbaceous Vegetation

Hedera helix
Rubus discolor
lawn
Heracleum lanatum

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-1R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☐ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-1R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	1
Total Points:	4

Function:
- ☐ High
- ☐ Medium
- ☑ Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	1
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	15

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2L

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

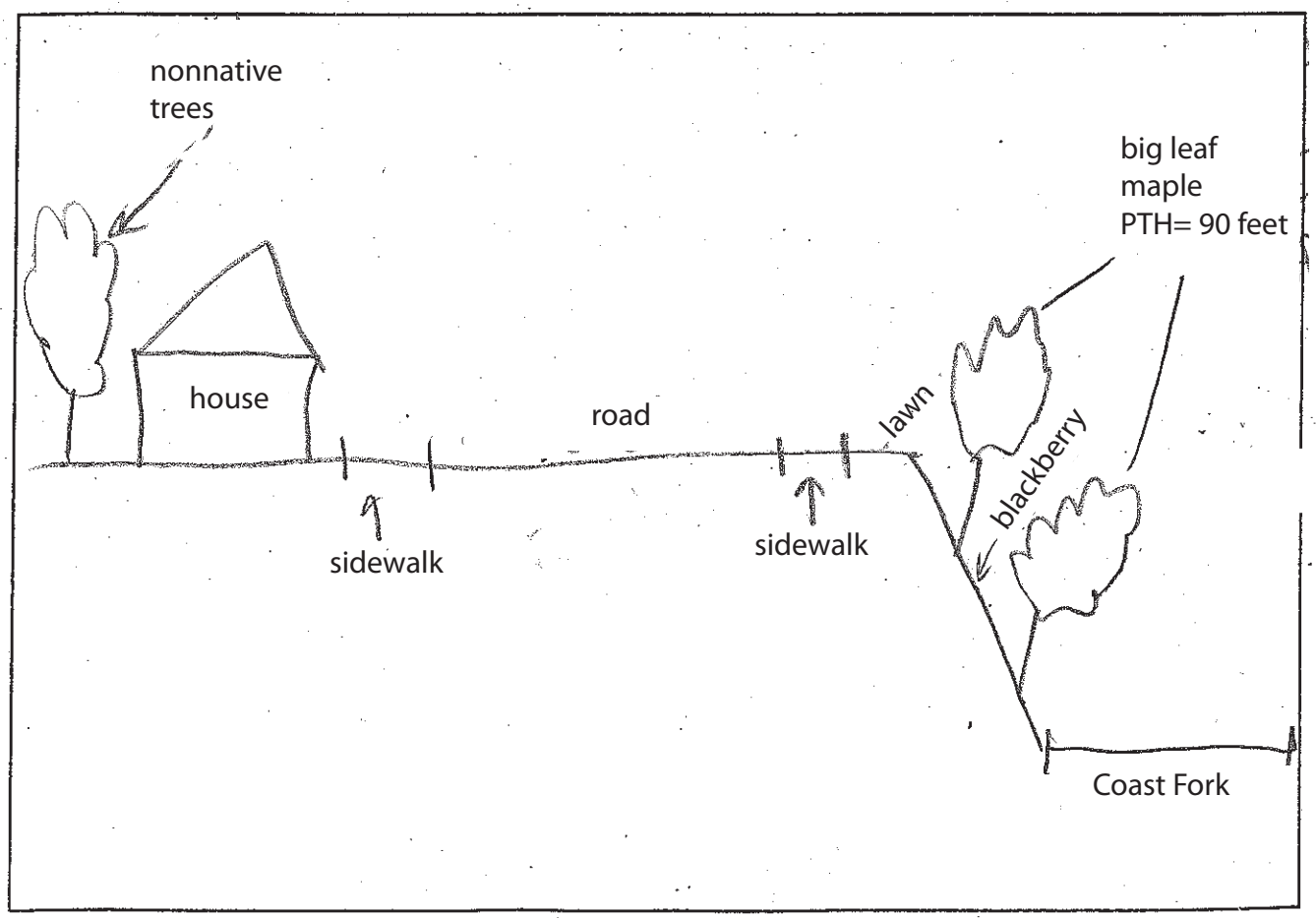
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 9,686

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	58
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 24, 25, 27, 48, 78, 79, 96, 130

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation

Acer macrophyllum

Herbaceous Vegetation

Rubus discolor
Alopecurus pratensis
Bellis perennis
Trifolium repens
Vinca sp.

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☑ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	1
Question 2:	2
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	9

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	2
Question 10:	2
Question 11:	2
Total Points:	6

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	16

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2R

Riparian Width Determination

Date: 4/21/2010 Investigators: Nancy Holzhauser

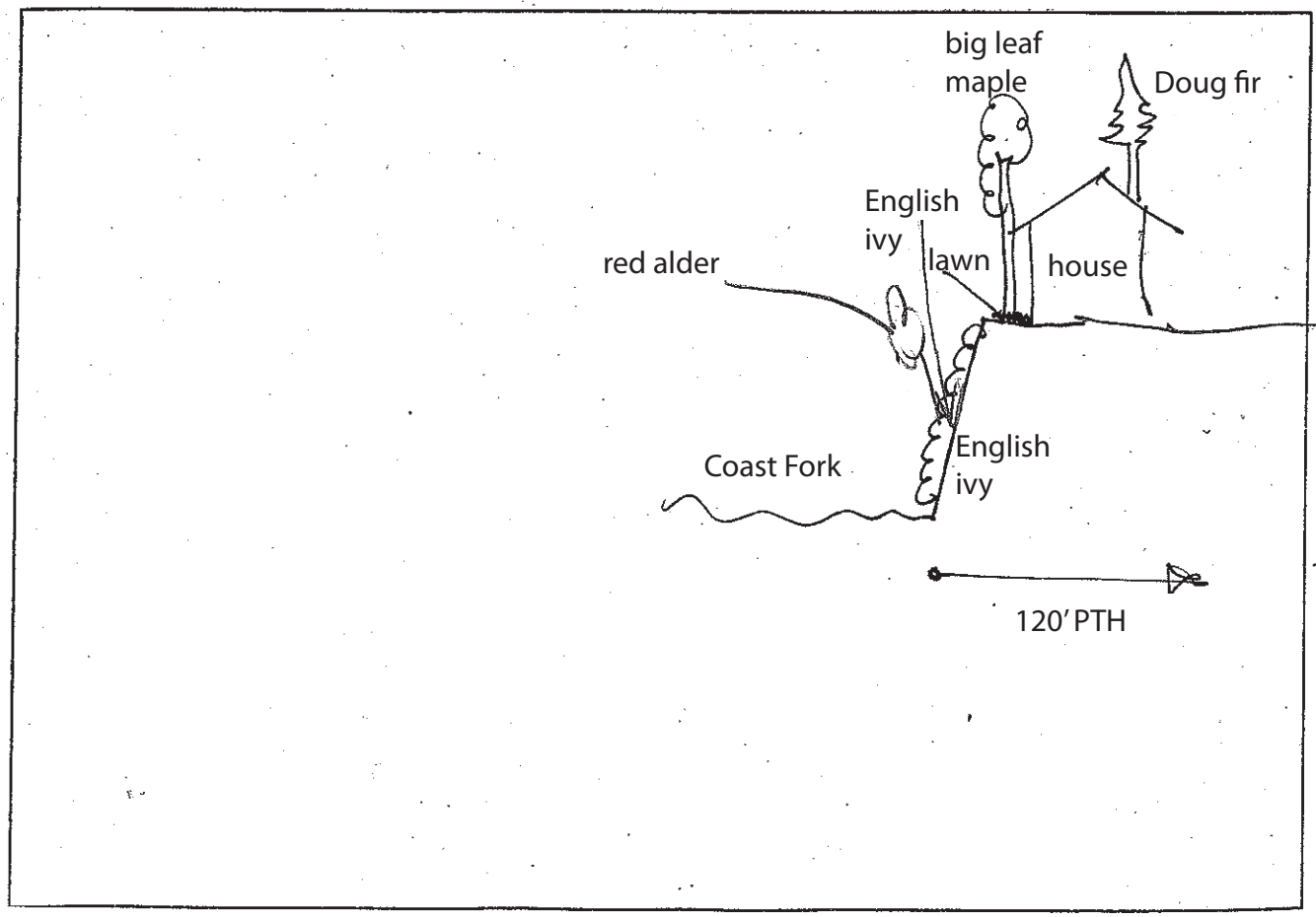
Dominant tree species: Alnus rubra

Potential tree height (PTH)/Width of Riparian Area: 65/65
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 6,158

Investigators: Nancy Holzhauser Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	58
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 27 Chehalis-Urban land complex

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☐	Forestry	☐

Woody Vegetation	**Herbaceous Vegetation**
Acer macrophyllum	Hedera helix
Pseudotsuga menziesii	Phalaris arundinacea
Quercus garryana	
Alnus rubra	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-2R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	1
Question 2:	2
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	9

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	3
Question 8:	1
Total Points:	7

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	3
Question 10:	2
Question 11:	2
Total Points:	7

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	16

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3L

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

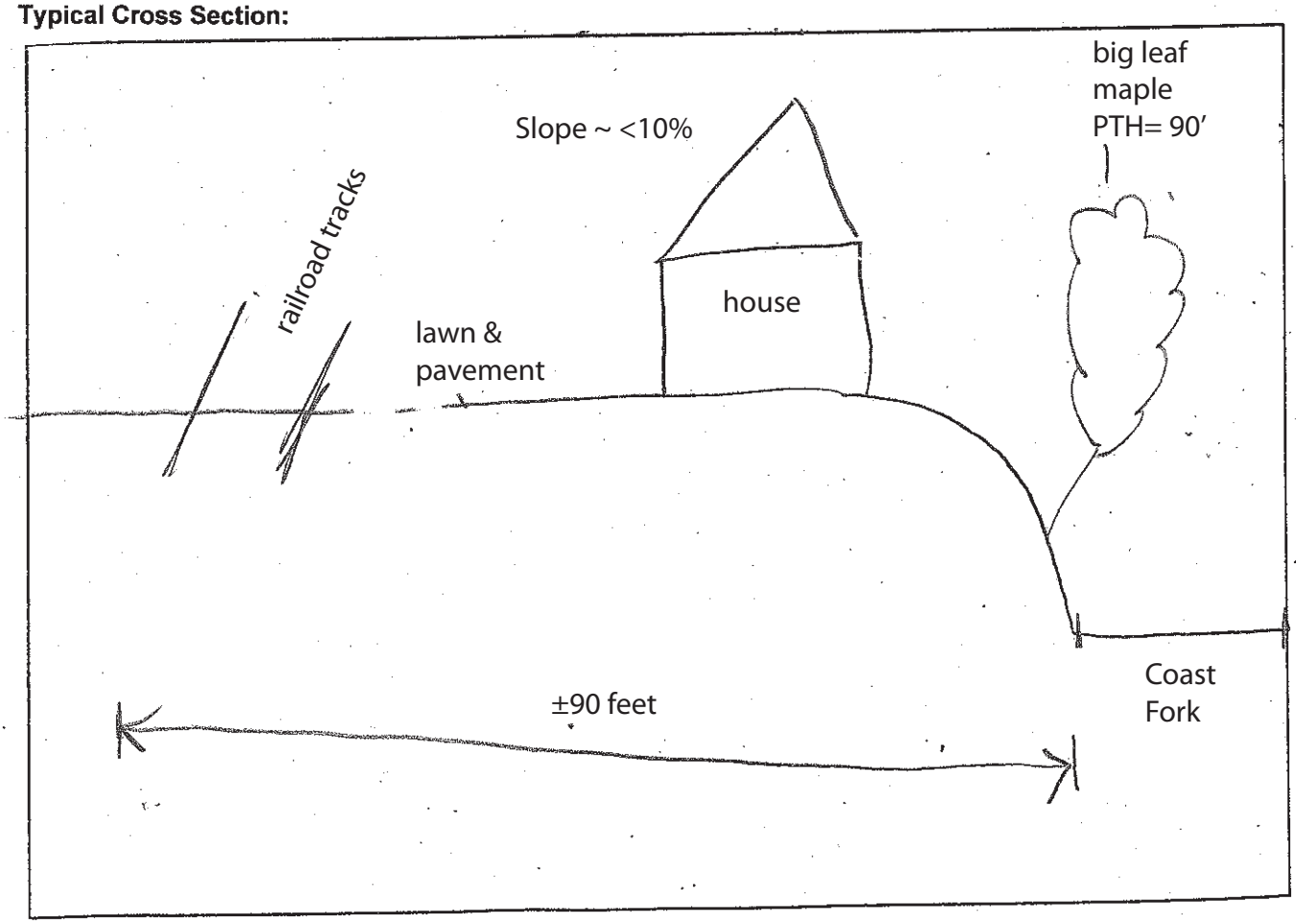
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments: Houses and other structures up against bank with some grassy areas mixed in.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 4,994

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	44
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 24 Chapman loam , 78 McAlpin silty clay loam

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☑	Roads	☐	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Acer macrophyllum	Phalaris arundinacea
Salix sp.	Heracleum lanatum

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☐ <10:1 (10%) ☑ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	2
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Wildlife Habitat

Question 12:	3
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	17

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3R

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

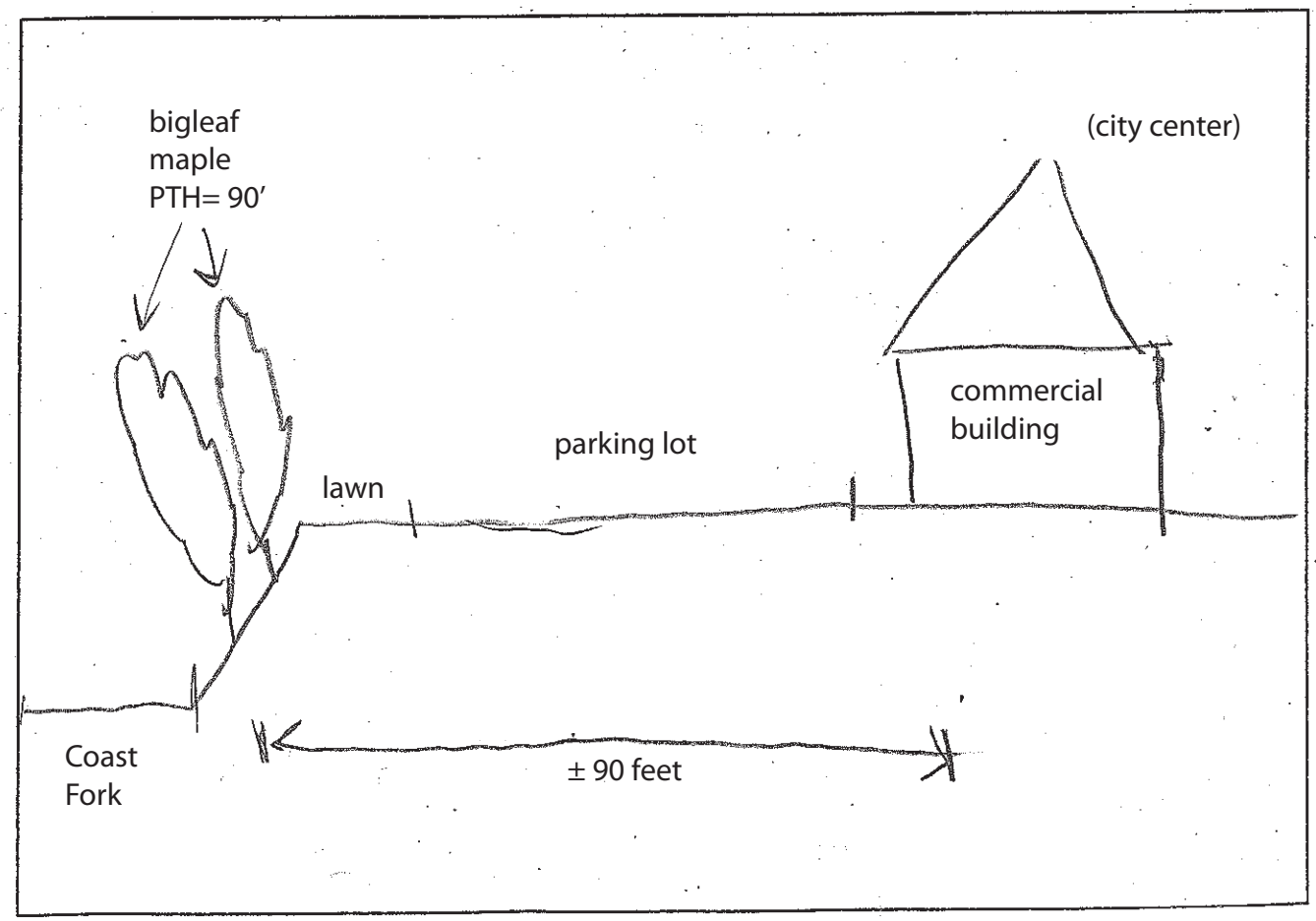
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments: Cross section located behind city center in close proximity to park, town hall and parking lot in back.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 2,957

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	54
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 27 Chehalis-Urban land complex

Adjacent Land Uses?

Agriculture	☐	Residential	☐	Undeveloped	☐
Commercial	☑	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Acer macrophyllum	Polystichum munitum
	Rubus discolor
	Rhododendron sp.

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☐ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☐ Herbaceous vegetation ☑ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-3R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	1
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	10

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	3
Question 8:	1
Total Points:	7

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	3
Question 10:	1
Question 11:	2
Total Points:	6

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Wildlife Habitat

Question 12:	2
Question 13:	1
Question 14:	2
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	15

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-4R

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

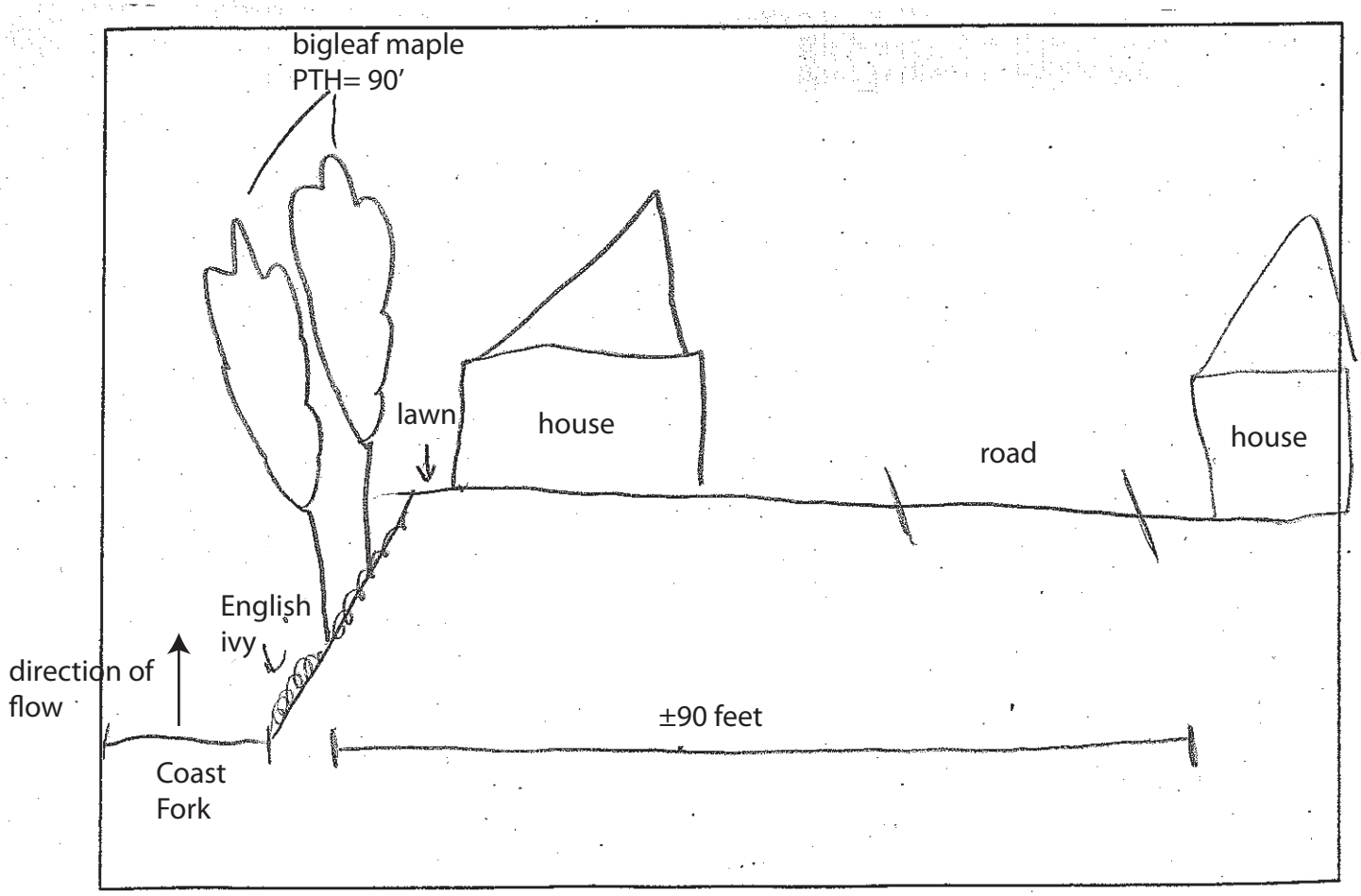
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments: Assessment made offsite on left bank of river.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-4R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 3,526

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	61
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series:

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation

Acer macrophyllum

Herbaceous Vegetation

Hedera helix
Rubus discolor
Polystichum munitum
lawn

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-4R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☑ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-4R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	3
Question 10:	2
Question 11:	2
Total Points:	7

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Wildlife Habitat

Question 12:	3
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	17

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-5R

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

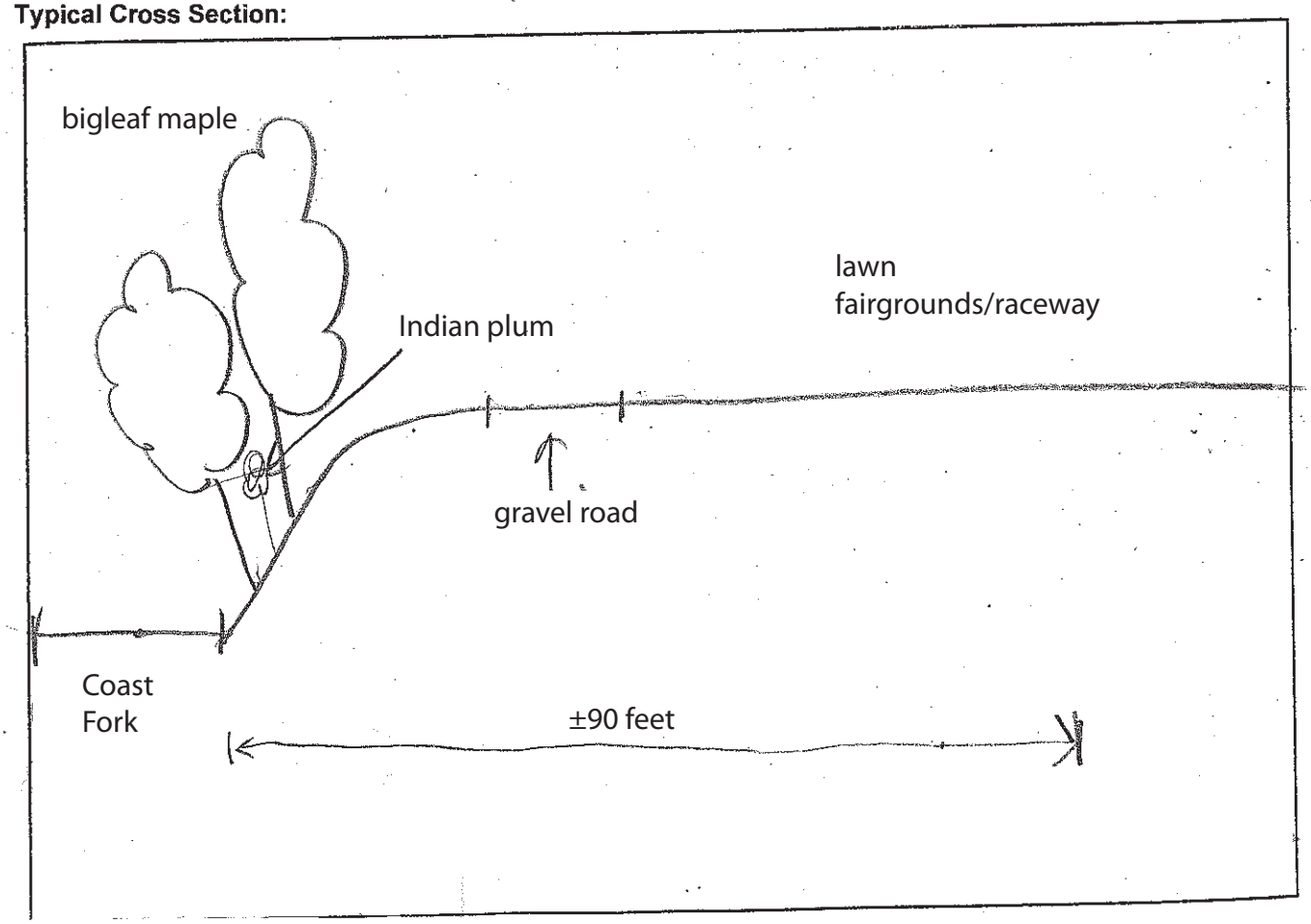
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-5R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 2,950

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	58
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 24, 27, 48, 75, 96, 118

Adjacent Land Uses?

Agriculture	☐	Residential	☐	Undeveloped	☐
Commercial	☑	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Acer macrophyllum	Symphoricarpos albus
Oemleria cerasiformis	Trifolium sp.
	Geranium sp.
	Dipsacus sylvestris
	Camassia quamash
	Lawn (mowed)
	Taraxacum officinale
	Deschampsia cespitosa
	Lamium purpurium
	Bellis perennis

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-5R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☐ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: CF-5R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	2
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	1
Question 19:	1
Total Points:	14

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2

Project Name: Cottage Grove LWI

Riparian Code: P1-1

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

Dominant tree species: Psuedotsuga menziesii

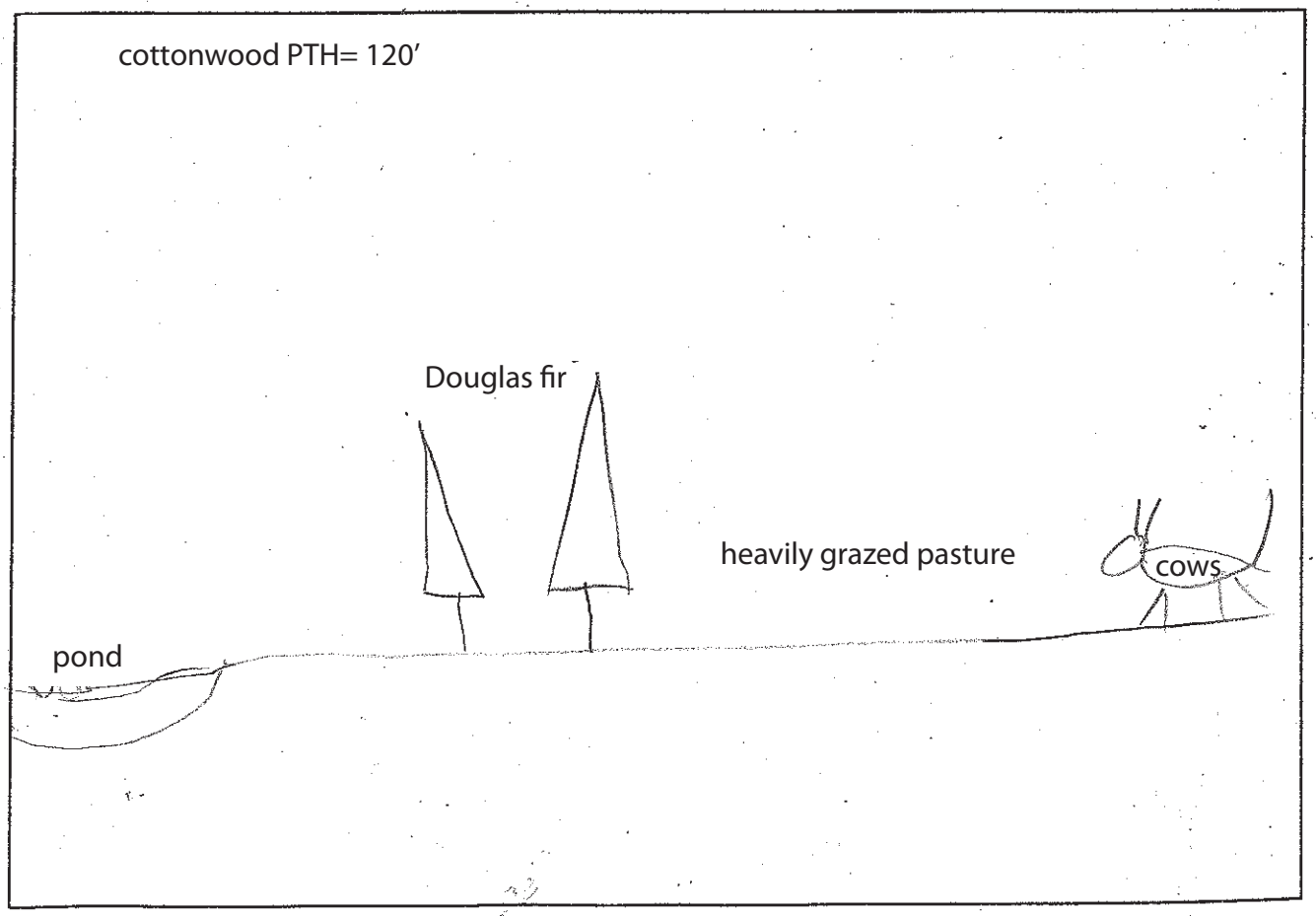
Potential tree height (PTH)/Width of Riparian Area: 120/120

(Width measured horizontally from edge of water resource)

PTH determined by: ☐ On-site vegetation ☑ Reference site Code:

Comments: This pond is fed and drained by Cooley Creek. Offstite assessment made from aerial. Reference site is Cooley Creek upstream from assessment.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: P1-1

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 1,004

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	14
	Lake/Pond	☑	Width:	110
	Wetland	☑	Width:	110

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 79 McBee silty clay loam

Adjacent Land Uses?

Agriculture	☑	Residential	☐	Undeveloped	☐
Commercial	☐	Roads	☐	Forestry	☐

Woody Vegetation	**Herbaceous Vegetation**
Pseudotsuga menziesii	pasture grasses

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: P1-1

Riparian Characterization Form

Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☑ <10% ☐ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☐ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: P1-1

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	2
Question 4:	3
Question 5:	2
Total Points:	12

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	1
Question 7:	1
Question 8:	1
Total Points:	3

Function:
- [ ] High
- [ ] Medium
- [x] Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	1
Total Points:	4

Function:
- [ ] High
- [ ] Medium
- [x] Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	1
Question 15:	1
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	16

Function:
- [ ] High
- [x] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1L

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

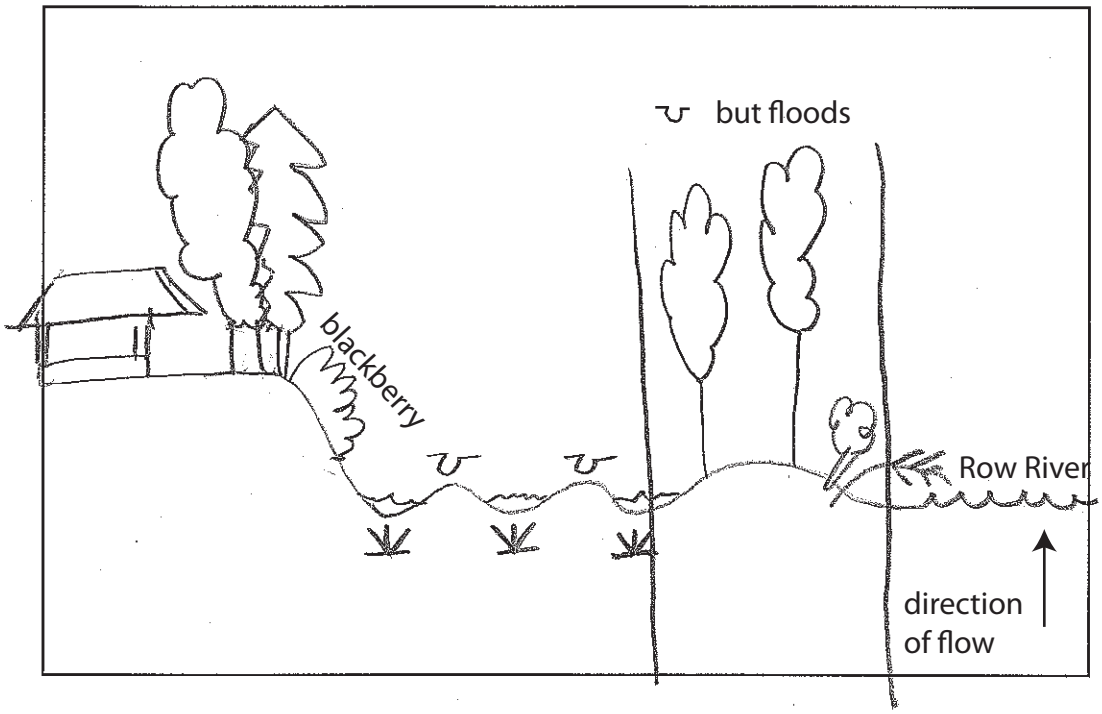
Dominant tree species: Alnus rubra

Potential tree height (PTH)/Width of Riparian Area: 65/65
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 4,349

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	168
	Lake/Pond	☐	Width:	0
	Wetland	☑	Width:	79

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 48: Fluvents, nearly level, W: Water

Adjacent Land Uses?

Agriculture	☑	Residential	☑	Undeveloped	☐
Commercial	☑	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Acer macrophyllum	Phalaris arundinacea
Pseudotsuga menziesii	Festuca arundinacea
Quercus garryana	Urtica dioica
Rubus discolor	Turf grass
Salix sp.	Conium maculatum
Landscaped areas	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☐ <10:1 (10%) ☑ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☑ 10% to 25% ☐ >25%

☐ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	2
Question 2:	2
Question 3:	3
Question 4:	2
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	3
Total Points:	7

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	2
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Wildlife Habitat

Question 12:	3
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	18

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1R

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

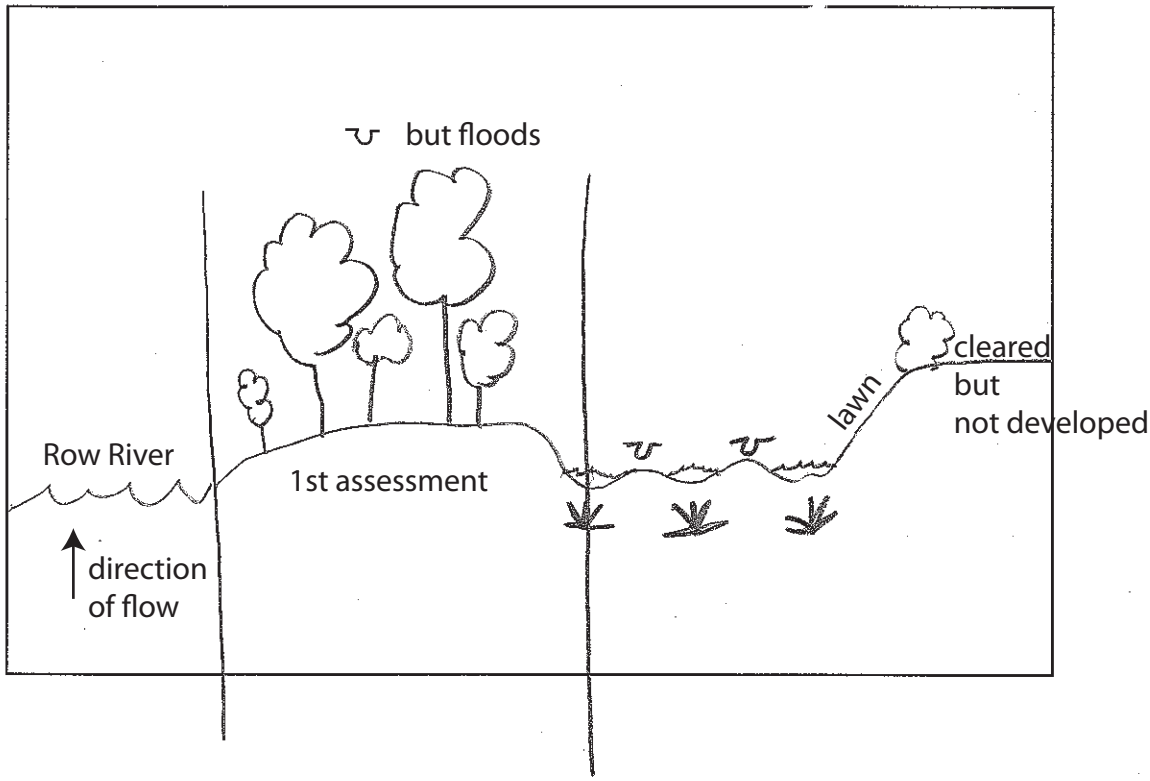
Dominant tree species: N/A (Rubus discolor)

Potential tree height (PTH)/Width of Riparian Area: 65/65
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments: Potential Tree height is based on Alnus rubra.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☐ Office ☑ Reach Length: 1,778

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	128
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 110: Pits, W: Water

Adjacent Land Uses?

Agriculture	☐	Residential	☐	Undeveloped	☐
Commercial	☑	Roads	☐	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Alnus rubra	Festuca arundinacea
	Phalaris arundinacea
	Turf grass

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1R

Riparian Characterization Form

Part 2

Average slope in the riparian area: (Question 1)

☐ <10:1 (10%) ☑ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☑ <10% ☑ 10% to 25% ☐ >25%

☐ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-1R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	2
Question 2:	2
Question 3:	3
Question 4:	3
Question 5:	2
Total Points:	12

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	3
Total Points:	7

Function:
- [ ] High
- [x] Medium
- [ ] Low

Thermal Regulation

Question 9:	3
Question 10:	2
Question 11:	2
Total Points:	7

Function:
- [x] High
- [ ] Medium
- [ ] Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	2
Total Points:	18

Function:
- [x] High
- [ ] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-2L

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

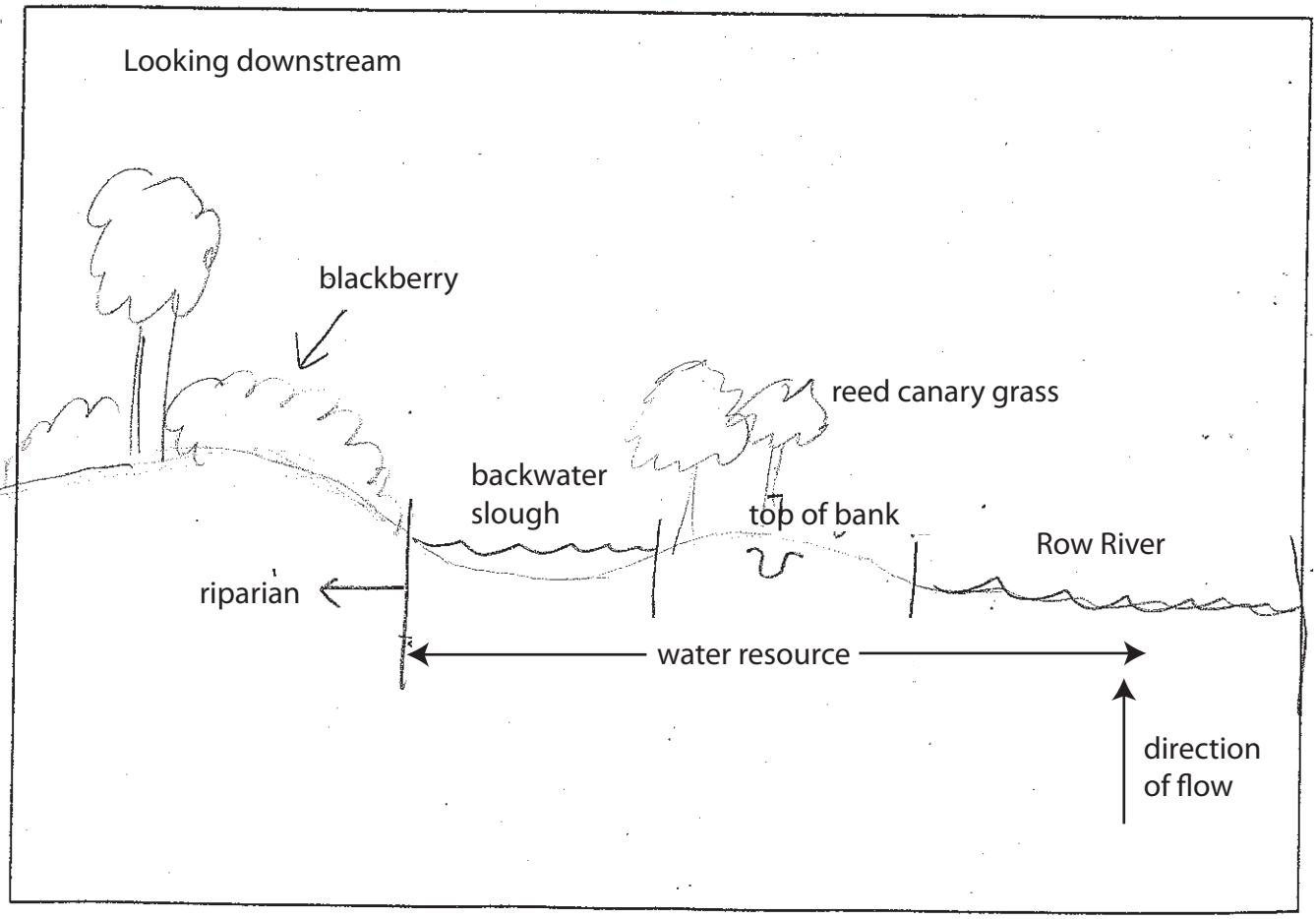
Dominant tree species: Populus balsamifera

Potential tree height (PTH)/Width of Riparian Area: 120/120
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-2L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 5,471

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	128
	Lake/Pond	☐	Width:	0
	Wetland	☑	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series:

Adjacent Land Uses?

Agriculture ☐ Residential ☐ Undeveloped ☐
Commercial ☐ Roads ☐ Forestry ☐

Woody Vegetation	Herbaceous Vegetation
Rubus discolor	Urtica dioica
Populus balsamifera	Deschampsia cespitosa
Acer macrophyllum	Phalaris arundinacea
Pseudotsuga menziesii	Lamium purpureum
Fraxinus latifolia	Alopecurus pratensis
Cytisus scoparius	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-2L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☑ <10% ☐ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-2L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	2
Question 3:	3
Question 4:	3
Question 5:	2
Total Points:	13

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- [ ] High
- [x] Medium
- [ ] Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	2
Total Points:	5

Function:
- [ ] High
- [x] Medium
- [ ] Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	2
Total Points:	18

Function:
- [x] High
- [ ] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-3L

Riparian Width Determination

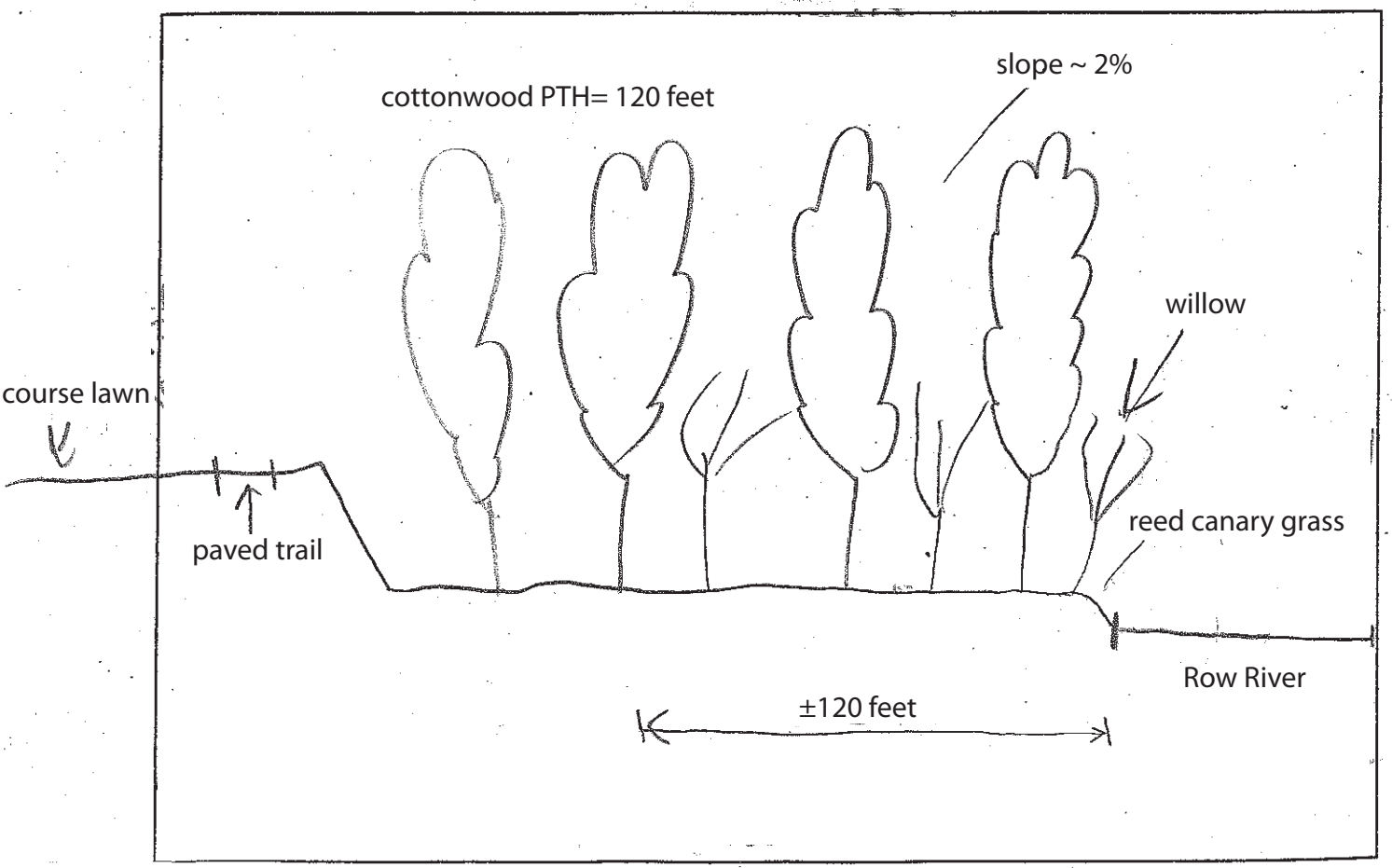
Date: 4/21/2010 Investigators: Alison Sigler

Dominant tree species: Populus Balsamifera

Potential tree height (PTH)/Width of Riparian Area: 120/120
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-3L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 1,920

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	98
	Lake/Pond	☐	Width:	0
	Wetland	☑	Width:	135

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 48, 114, W: Water

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Populus balsamifera	Phalaris arundinacea
Salix sp.	Rubus discolor
Fraxinus latifolia	Galium aparine
Cytisus scoparius	Viola sp.
	Hypericum perforatum

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-3L

Riparian Characterization Form

Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☑ <10% ☐ 10% to 25% ☐ >25%

☐ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☑ Woody vegetation ☐ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☑ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-3L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	3
Question 3:	3
Question 4:	3
Question 5:	1
Total Points:	13

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	3
Question 7:	3
Question 8:	3
Total Points:	9

Function:
- [x] High
- [ ] Medium
- [ ] Low

Thermal Regulation

Question 9:	3
Question 10:	3
Question 11:	2
Total Points:	8

Function:
- [x] High
- [ ] Medium
- [ ] Low

Wildlife Habitat

Question 12:	3
Question 13:	3
Question 14:	2
Question 15:	3
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	2
Total Points:	22

Function:
- [x] High
- [ ] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-4L

Riparian Width Determination

Date: 4/21/2010 Investigators: Alison Sigler

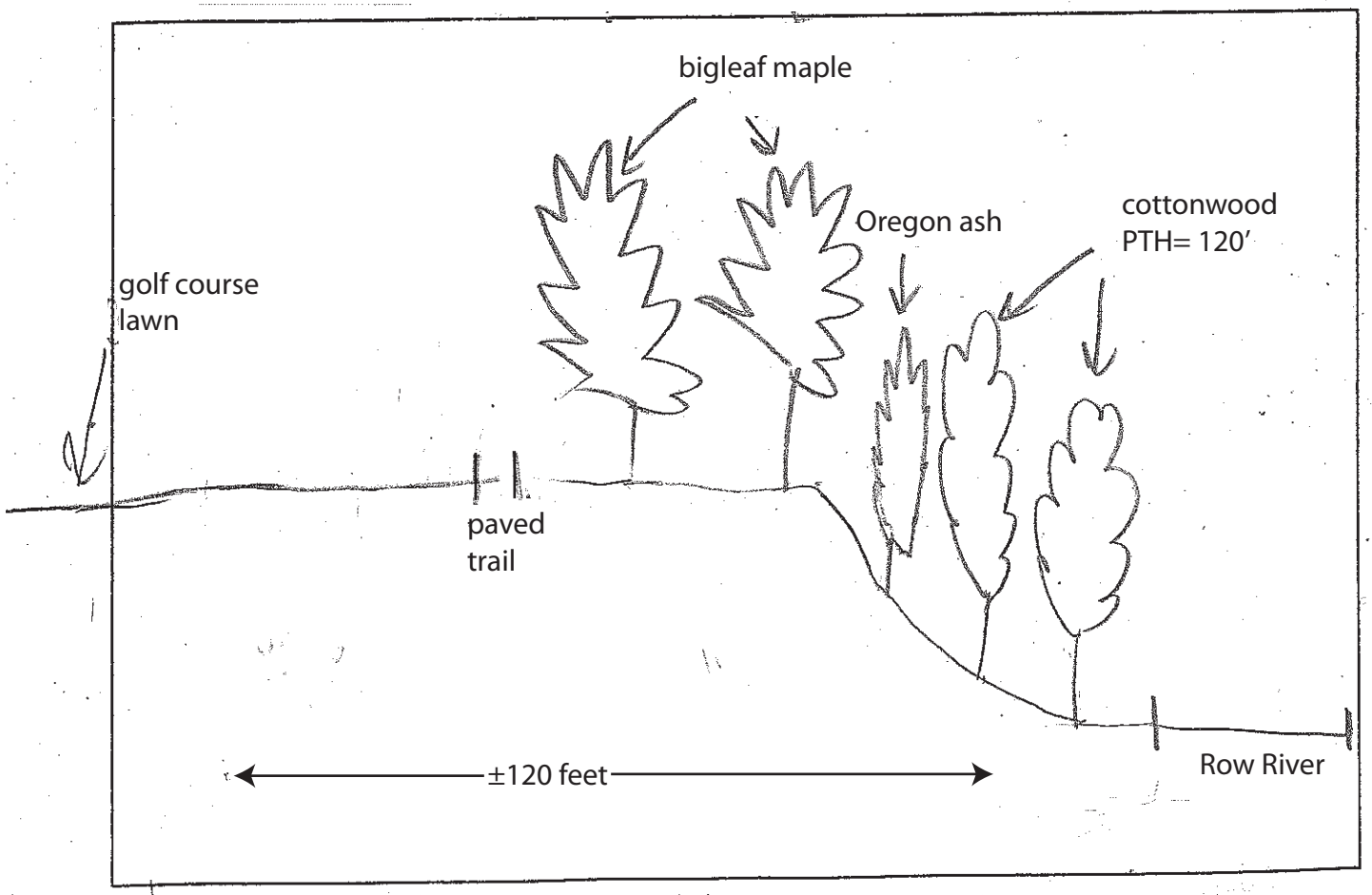
Dominant tree species: Populus balsamifera

Potential tree height (PTH)/Width of Riparian Area: 120/120
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments: Cross section- the upper slope had large rocks, for fill and rip-rap. This was not seen in other areas of this riparian area.

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-4L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 703

Investigators: Alison Sigler Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	152
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource Yes

Is the water resource listed for temperature on DEQ's 303(d) list Yes

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 48: Fluvents, nearly level, 96: Newberg loam

Adjacent Land Uses?

Agriculture	☐	Residential	☐	Undeveloped	☑
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Salix sp.	Galium aparine
Acer macrophyllum	Rubus discolor
Symphoricarpos albus	Polystichum munitum
Populus balsamifera	Vicia sp.
Fraxinus latifolia	Phalaris arundinacea
	Carex sp.
	Delphinium sp.
	Lamium purpureum
	Claytonia perfoliata

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-4L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☐ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☑ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☑ 10% to 25% ☐ >25%

☐ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☐ Woody vegetation ☑ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: RR-4L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	2
Question 2:	2
Question 3:	3
Question 4:	2
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	3
Question 8:	3
Total Points:	9

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Thermal Regulation

Question 9:	1
Question 10:	2
Question 11:	2
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Wildlife Habitat

Question 12:	2
Question 13:	2
Question 14:	2
Question 15:	1
Question 16:	3
Question 17:	3
Question 18:	3
Question 19:	1
Total Points:	17

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1L

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

Dominant tree species: Alnus rubra

Potential tree height (PTH)/Width of Riparian Area: 65/65
(Width measured horizontally from edge of water resource)

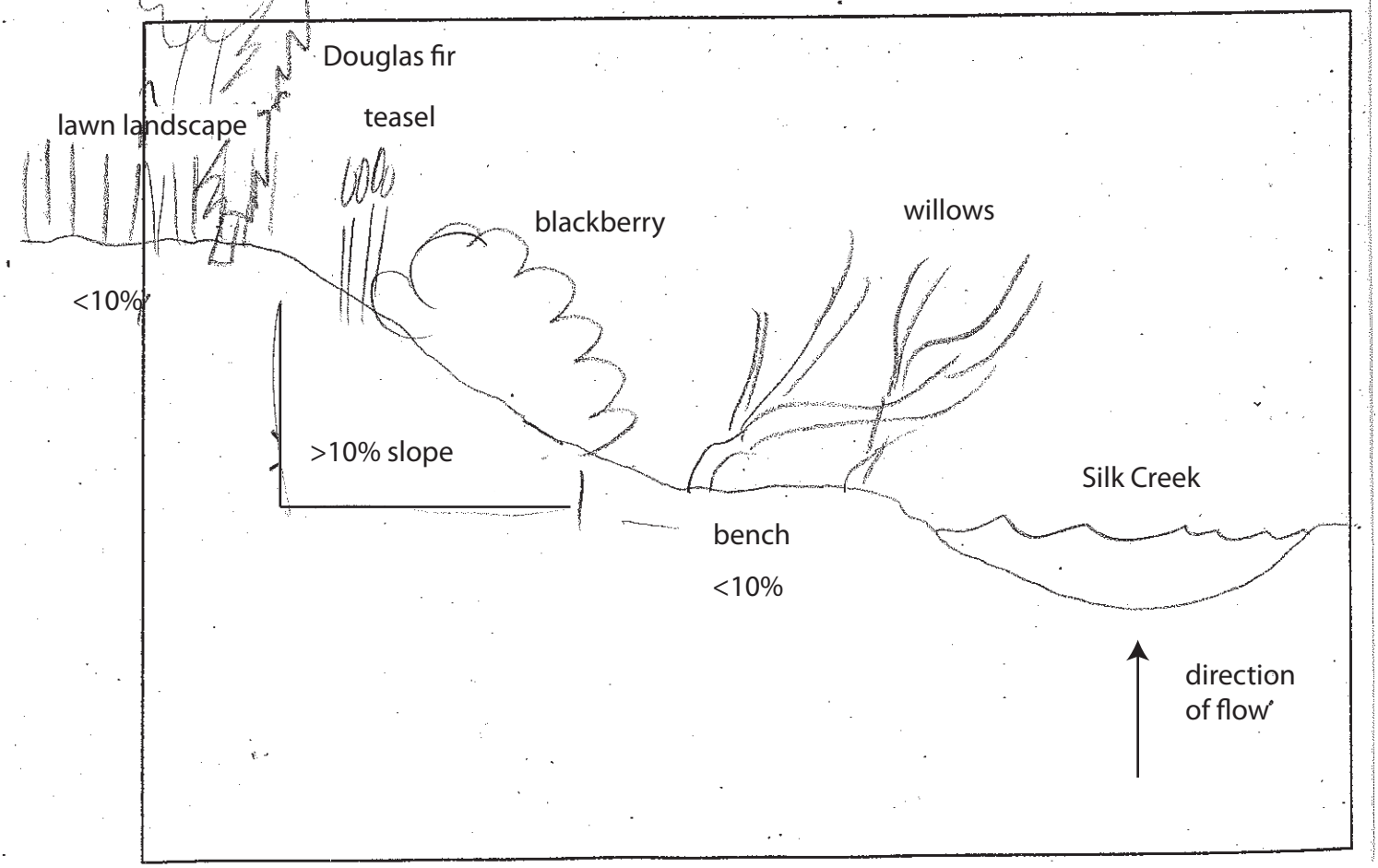
PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:

alder

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 1,300

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	14
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 78: McAlpin silty clay loam

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Ornamental Plum	Symphoricarpos albus
Salix lasiandra	Festuca arundinacea
Pseudotsuga menziesii	Heracleum lanatum
Alnus rubra	
Rubus discolor	
Symphoricarpos albus	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1L

Riparian Characterization Form

Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☑ 10% to 25% ☐ >25%

☐ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☑ Woody vegetation ☐ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☑ >40% ☐ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	3
Question 3:	3
Question 4:	2
Question 5:	2
Total Points:	13

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	3
Total Points:	7

Function:
- [ ] High
- [x] Medium
- [ ] Low

Thermal Regulation

Question 9:	1
Question 10:	3
Question 11:	2
Total Points:	6

Function:
- [ ] High
- [x] Medium
- [ ] Low

Wildlife Habitat

Question 12:	3
Question 13:	3
Question 14:	2
Question 15:	1
Question 16:	3
Question 17:	3
Question 18:	1
Question 19:	2
Total Points:	18

Function:
- [x] High
- [ ] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1R

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

Dominant tree species: Alnus rubra

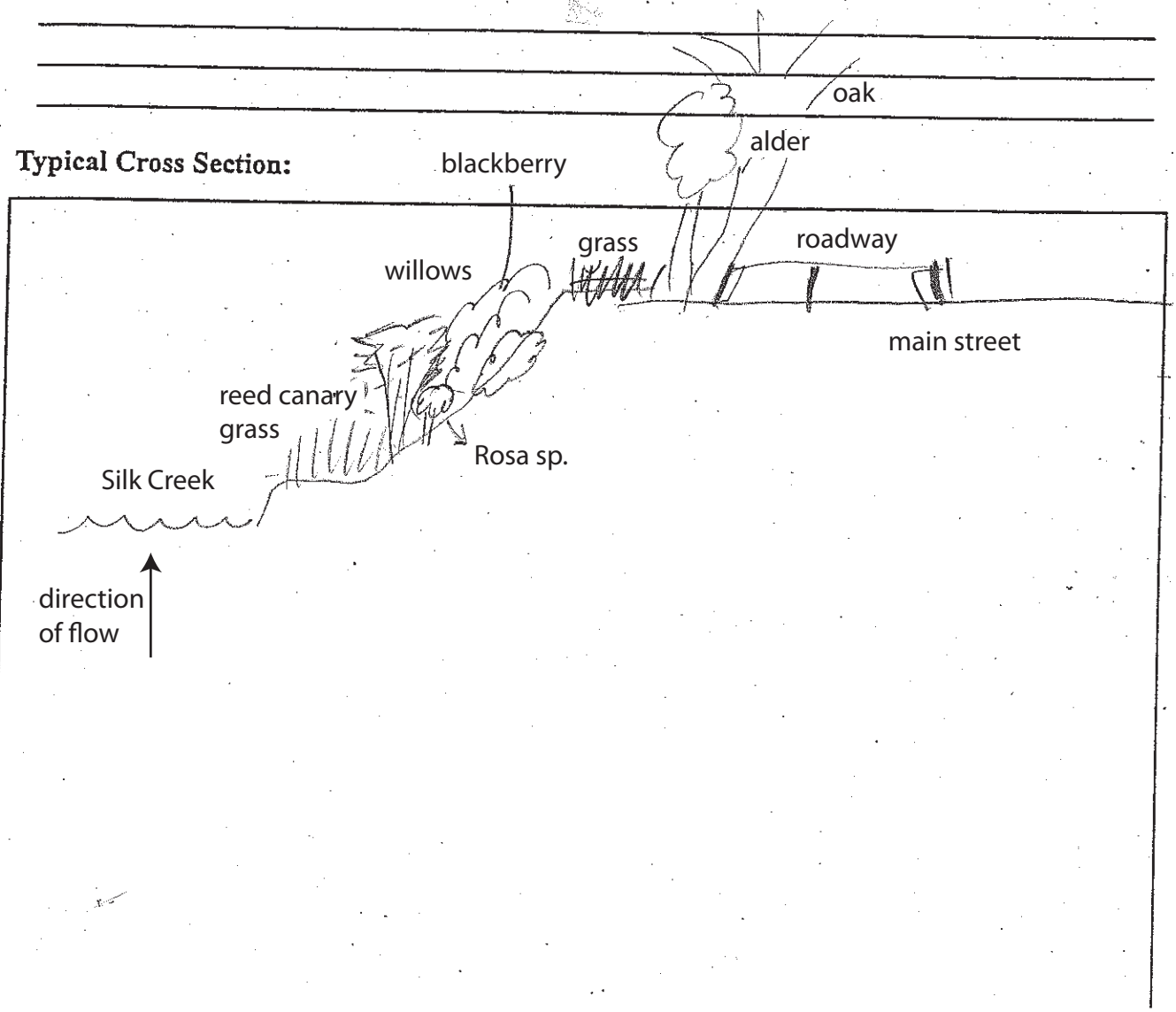
Potential tree height (PTH)/Width of Riparian Area: 65/65
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 1,300

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	14
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 78: McAlpin silty clay loam

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☑	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Salix lasiandra	Dipsacus sylvestris
Rubus discolor	Festuca arundinacea
Quercus garryana	Heracleum lanatum
Alnus rubra	Phalaris arundinacea

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☐ <10:1 (10%) ☑ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☐ 10% to 25% ☑ >25%

☑ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☑ Woody vegetation ☐ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-1R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	2
Question 2:	3
Question 3:	3
Question 4:	1
Question 5:	2
Total Points:	11

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- ☐ High
- ☑ Medium
- ☐ Low

Thermal Regulation

Question 9:	3
Question 10:	3
Question 11:	2
Total Points:	8

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Wildlife Habitat

Question 12:	3
Question 13:	3
Question 14:	3
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	1
Question 19:	2
Total Points:	18

Function:
- ☑ High
- ☐ Medium
- ☐ Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2L

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

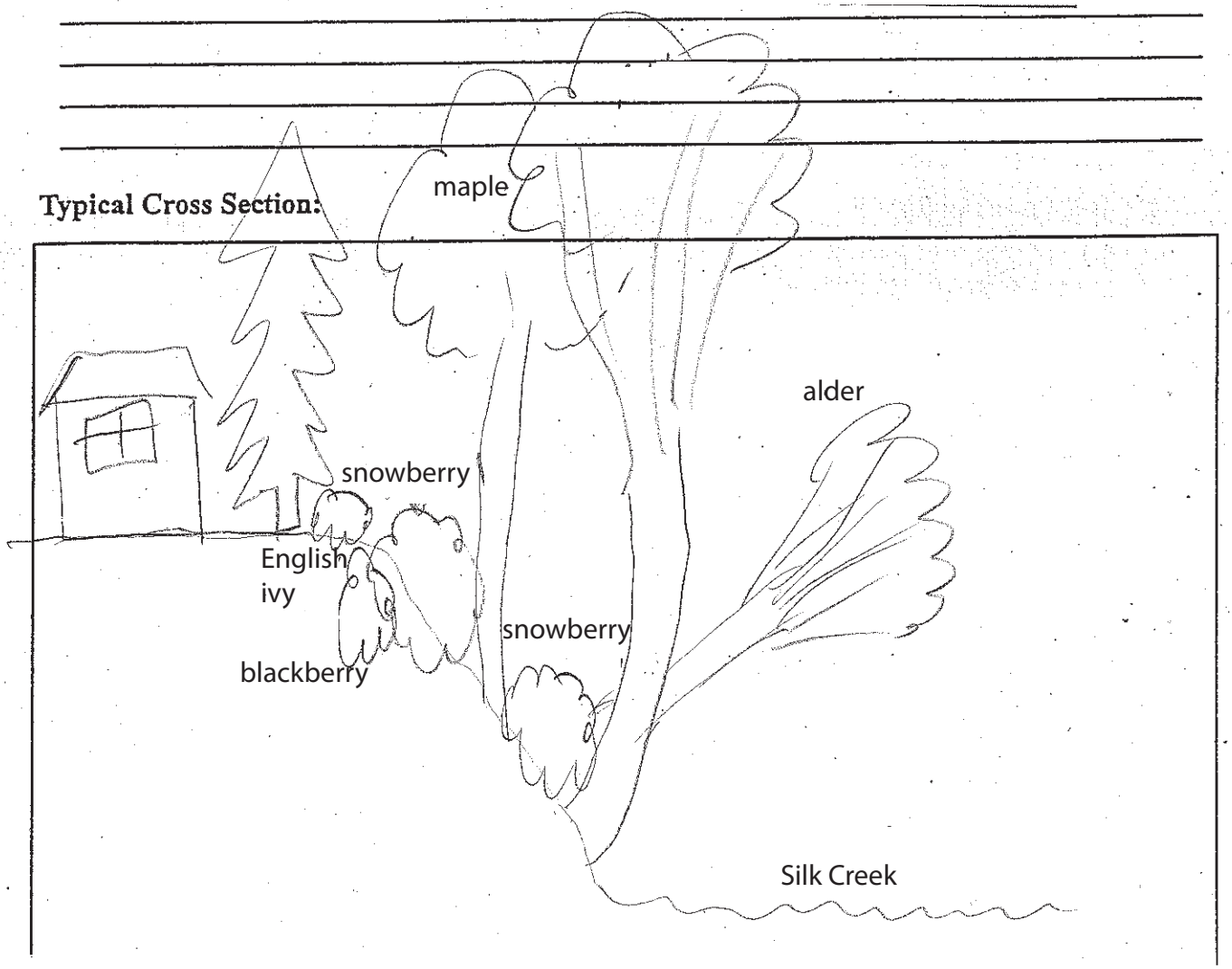
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2L

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 3,684

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	14
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 48: Fluvents, 78: McAlpin silty clay loam

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☐	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Acer macrophyllum	lawn/gardens
Quercus garryana	Phalaris arundinacea
Tsuga heterophylla	Carex obnupta
Populus balsamifera	Hyacinthoides hispanica
Hedera helix	
Symphoricarpos albus	
Rubus discolor	
Cornus stolonifera	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2L

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☑ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☐ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☑ Woody vegetation ☐ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☐ 25% to 75% ☑ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2L

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	3
Question 3:	3
Question 4:	2
Question 5:	2
Total Points:	13

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- [ ] High
- [x] Medium
- [ ] Low

Thermal Regulation

Question 9:	1
Question 10:	3
Question 11:	2
Total Points:	6

Function:
- [ ] High
- [x] Medium
- [ ] Low

Wildlife Habitat

Question 12:	3
Question 13:	3
Question 14:	3
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	1
Question 19:	2
Total Points:	18

Function:
- [x] High
- [ ] Medium
- [ ] Low

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2R

Riparian Width Determination

Date: 4/21/2010 Investigators: Sarah Hartung

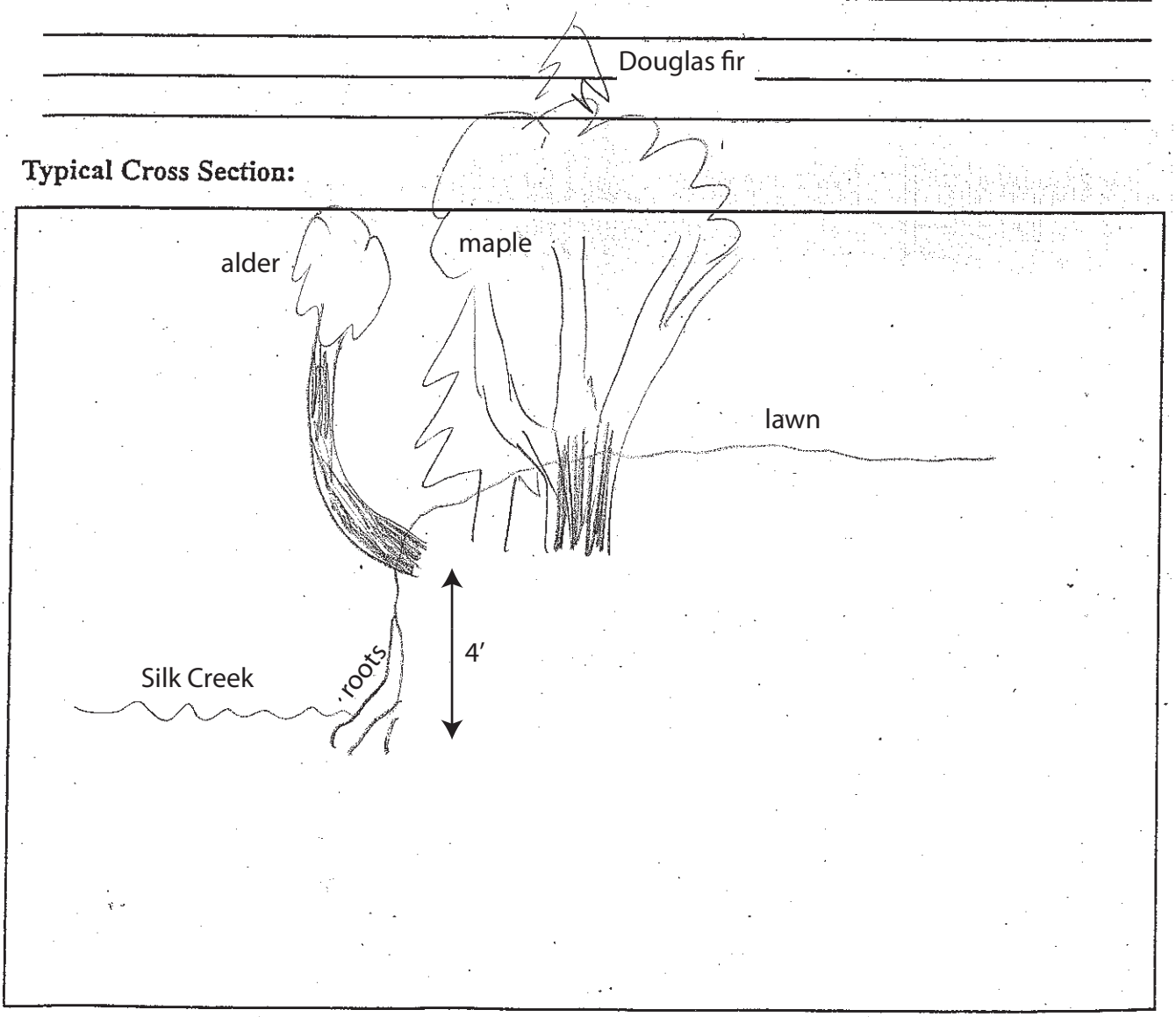
Dominant tree species: Acer macrophyllum

Potential tree height (PTH)/Width of Riparian Area: 90/90
(Width measured horizontally from edge of water resource)

PTH determined by: ☑ On-site vegetation ☐ Reference site Code:

Comments:

Typical Cross Section:



Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2R

Riparian Characterization Form — Part 1

General Information

Date: 4/21/2010

On-site ☑ Office ☐ Reach Length: 3,684

Investigators: Sarah Hartung Hydrologic Basin: Coast Fork Willamette River

Water Resource Information

Water Resource:				
	Stream/River	☑	Width:	14
	Lake/Pond	☐	Width:	0
	Wetland	☐	Width:	0

LWI Wetland Code:

Water present year-round: Yes

Are salmonids present in the adjacent water resource No

Is the water resource listed for temperature on DEQ's 303(d) list No

Within FEMA-mapped 100-year floodplain: Yes

Mapped soil series: 48: Fluvents, 78: McAlpin silty clay loam

Adjacent Land Uses?

Agriculture	☐	Residential	☑	Undeveloped	☐
Commercial	☐	Roads	☐	Forestry	☐

Woody Vegetation	Herbaceous Vegetation
Acer macrophyllum	lawn/garden
Rubus discolor	Phalaris arundinacea
Symphoricarpos albus	Urtica dioica
Pseudotsuga menziesii	
Populus balsamifera	

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2R

Riparian Characterization Form — Part 2

Average slope in the riparian area: (Question 1)

☑ <10:1 (10%) ☐ Between 10:1 (10%) and 5:1 (20%) ☐ >5:1 (20%)

Extent of impervious surface within the riparian area: (Question 4)

☐ <10% ☑ 10% to 25% ☐ >25%

☑ **The reach is constricted by man-made features.**

☑ **The orientation allows for shading of the water resource at midday in summer.**

Dominant vegetation layer within the riparian area:

☑ Woody vegetation ☐ Herbaceous vegetation ☐ Bare ground

☑ **Woody vegetation hangs over the edge of the water.**

☐ **Large woody debris in riparian area.**

Percent of water resource bordered by vegetated riparian area at least 30 feet wide:

☐ >40% ☑ 10% to 40% ☐ <10%

Degree of development or human cause disturbance:

☐ <25% ☑ 25% to 75% ☐ >75%

Urban Riparian Inventory and Assessment

Project Number: 209503.2
Project Name: Cottage Grove LWI
Riparian Code: SC-2R

Riparian Function Assessment Answer Sheet

Water Quality

Question 1:	3
Question 2:	3
Question 3:	3
Question 4:	2
Question 5:	2
Total Points:	13

Function:
- [x] High
- [ ] Medium
- [ ] Low

Flood Management

Question 6:	3
Question 7:	1
Question 8:	1
Total Points:	5

Function:
- [ ] High
- [x] Medium
- [ ] Low

Thermal Regulation

Question 9:	3
Question 10:	3
Question 11:	2
Total Points:	8

Function:
- [x] High
- [ ] Medium
- [ ] Low

Wildlife Habitat

Question 12:	3
Question 13:	3
Question 14:	3
Question 15:	1
Question 16:	2
Question 17:	3
Question 18:	1
Question 19:	2
Total Points:	18

Function:
- [x] High
- [ ] Medium
- [ ] Low

APPENDIX B: STAFF QUALIFICATIONS

Local Wetland Inventory Staff Roles and Qualifications

Staff	Company	Project Role
Teresa Vanderburg	ESA	Co-Project Manager, 10-2010 to Present
John Gordon	ESA	Project Manager, 2-2010 to 10-2010
Sarah Hartung	ESA	Co-Project Manager, 10-2010 to Present
Alison Sigler	ESA	Project Scientist, GIS
Mike Leech	ESA	Senior GIS Analyst
Paul Adamus, PhD	Adamus Resource Assessment, Inc.	Wetland Assessment Lead
Nancy Holzhauser	Environmental Solutions, LLC	Local Project Scientist
M. Loverna Wilson	Loverna Wilson, Environmental Consultant	Local Project Scientist

Project staff résumés describing their qualifications follow this sheet in the order listed above.

TERESA H. VANDERBURG

Practice Lead, Biological Resources

Teresa has 20 years of experience in natural resource management and scientific analyses. She is the Practice Lead for the Biological Resources Group. Teresa is an experienced project manager and has managed environmental permits and mitigation planning for several large-scale public infrastructure projects, including the Seattle Public Utilities Tolt Water Supply Pipeline No. 2 in King County, and the North Fork Clover Creek Regional Detention Pond in Pierce County, Washington. She has reviewed and/or performed hundreds of wetland assessments, delineations, and wetland mitigation projects. Teresa's expertise also includes shoreline master program (SMP) updates for eight cities and two counties in western Washington. She has also developed critical area ordinances using "best available science" for Tukwila, Kent, Burien, Kenmore, Gig Harbor, Sumner and Tacoma. Teresa also serves as an expert witness in hearings, trials and other legal proceedings. She participated in a Local Government Wetland Advisory Team assisting Washington State Department of Ecology in development of management regulations for wetlands statewide. She also serves as a senior advisor to the University of Washington Wetlands Management Certificate program.

Education

M.S., Environmental Science, Washington State University

B.S., Biology, Eastern Kentucky University

20 Years of Experience

Registrations/Certifications

Jurisdictional Delineation of Wetlands in the Pacific Northwest, National Wetlands Science Training Cooperative (1990)

Certified Wetland Biologist, Pierce County (current)

Society of Wetland Scientists, Professional Wetland Scientist (PWS)

Professional Affiliations

Society of Wetland Scientists

Ecological Society of America

Senior Advisor for the UW Wetland Management Certificate Program

Relevant Experience

Peer Review CAO Wetlands Update, Island County, WA. ***Scientific Peer Reviewer.*** Teresa provided independent scientific peer review for the proposed Island County wetland rating system and land use regulations prepared by Paul Adamus of Oregon State University. Teresa reviewed the assessment methods, the best available science document, and the proposed regulations and provided comments as a member of the science panel. Island County conducted a local wetland inventory and developed a unique wetland rating and protection strategy based upon the relative quality of wetlands identified specifically on Camano and Whidbey Islands in North Puget Sound.

City of Auburn Wetland and Stream Inventory, WA. ***Project Manager.*** Teresa conducted an inventory of stream and wetland resources on approximately 14,550 acres within the City limits of Auburn, Washington. The 2002 inventory updated information from an earlier wetland inventory conducted in 1990 and 1991. Work included comprehensive field reconnaissance work, wetland descriptions, stream classifications, GIS maps and associated metadata and a summary technical report. Historical permit information from approximately 90 historical permit files was incorporated into the GIS metadata and maps to allow the City to track past permit activities by parcel.

Clark County SMP Update, WA. ***Scientific Lead.*** Clark County and six cities therein are working together to update their SMPs. Clark County shorelines include significant waterbodies such as the Columbia River, Lewis River, Vancouver Lake and Washougal River. Teresa is the lead on the shoreline inventory and analysis report which was completed in Draft form for Ecology

Relevant Experience (Continued)

review in June 2010. Teresa has coordinated with the Technical Advisory Committee and Shoreline Stakeholder Advisory Committee on technical issues regarding shoreline jurisdiction, GIS analysis, scientific data and creation of the map folio. Three draft inventory reports were prepared and reviewed by stakeholders in the spring. Teresa has also supervised completion of the Draft Restoration Plan during this same time frame and coordinated completion of a summary table for development of the preliminary shoreline environment designations for the County.

City of Tacoma SMP Update - Critical Areas Preservation Ordinance (CAPO), WA. ***Scientific Lead.*** The shorelines of the City of Tacoma include Commencement Bay, marine areas along Hood Canal, the Puyallup River, Hylebos Creek, and Wapato Lake. As the scientific lead, Teresa has assisted City staff in the review of the City's recently adopted CAPO and the requirements under the new shoreline guidelines for protection of marine critical areas within the shoreline. The City of Tacoma has been challenged before the Growth Management Hearings Board (GMHB) related to the adequacy of the City's protection of its designated critical marine fish and wildlife habitats. Further, Ecology requires a comprehensive update of the SMP to address critical areas within the shoreline jurisdiction. Teresa provided senior review of the Draft Shoreline Inventory and Characterization Report prepared for the City, and prepared a "gap analysis" of issues related to critical areas protection in the City's shoreline environment. Teresa also prepared a "best available science" review of critical marine fish and wildlife habitats found within the City and summarized protection measures necessary to sustain these species and habitats. Teresa met with technical and citizens advisory groups related to the CAPO updates and shoreline inventory. Teresa presented scientific information to the Tacoma Planning Commission and to City Council, resulting in successful adoption of the ordinance and successful resolution of the GMHB challenge.

City of Federal Way SMP Update, WA. ***Project Manager*****.** Teresa is assisting the City of Federal Way with an update to its SMP. Federal Way shorelines include the marine shoreline of Puget Sound and portions of seven freshwater lakes. Teresa has managed the completion of the Shoreline Inventory and Characterization Report, including its on-time delivery to the Washington State Department of Ecology. She also worked with planners and the City to develop preliminary environment designations and goals, policies and shoreline regulations. Public involvement included preparation of a Public Participation Plan, attendance at an Open House, presentation to the Planning Commission, and participation in five meetings with the Citizens Advisory Committee. Teresa supported city staff through the adoption process for the Draft SMP; the program was adopted by resolution in June 2007. Teresa is currently assisting the City with response to Ecology comments on the Draft SMP and formal approval of the program at the state level.

JOHN GORDON

Biological Resources Program Manager

John is a wetland biologist with over 12 years of experience. He has provided a full spectrum of wetland consulting services in Oregon, Washington, Idaho, Montana, Nevada and Utah. He is a project manager on multidisciplinary projects with wetland, Endangered Species Act and National Historic Preservation Act components. He has extensive experience working with clients in both the public and private sectors, and with natural resource agency scientists.

Education

B.S., Biology, Portland State University

Selected Training

U.S. Army Corps of Engineers Wetland Delineation Training, 1996.

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, 2007.

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, 2008.

Oregon Rapid Wetland Assessment Protocol, 2009.

Oregon Streamflow Duration Assessment Methodology, 2009.

Certified consultant for ODOT Biological Assessment Deliverables, 2007.

Certified ODOT CS3 Consultant, 2005.

Affiliations

Member, Society of Wetland Scientists.

Over 12 Years of Experience

Selected Relevant Experience

City of Klamath Falls Local Wetland Inventory and Riparian Assessment, Klamath Falls, Oregon. ***Project Manager.*** John was the project manager for the City of Klamath Falls Local Wetland Inventory (LWI) and Riparian Assessment. This is the largest LWI in the state, including parts of more than 60 Sections in the study area of over 23,000 acres. John met with City officials and staff from Oregon Department of State Lands (DSL), and made presentations at public meetings. He analyzed aerial photographs and other resources as required in Oregon Administrative Rules to prepare preliminary wetland field maps. John planned and scheduled work, supervised wetland staff in the field to collect accurate inventory data, and participated in all aspects of the inventory. Wetlands were assessed with OFWAM. Riparian areas were assessed with the Urban Riparian Inventory and Assessment Guide. He supervised staff in the office to analyze field data and produce LWI maps and reports, and provided QA/QC review. This LWI was approved and adopted by the City and DSL. It has been incorporated into Oregon's statewide wetland inventory.

City of Gresham Local Wetland Inventory, Gresham, Oregon. ***Project Manager.*** John was the project manager for the City of Gresham LWI, with a study area of about 15,000 acres. John met with City officials and DSL staff, and made presentations at public meetings. He analyzed resources specified in LWI rules to locate possible wetlands. He analyzed wetlands using the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual to determine their wetland status. He supervised a staff of wetland scientists and cartographers on the project. John and his team evaluated the wetlands with the Oregon Freshwater Wetland Assessment Methodology (OFWAM) to make Locally Significant Wetland determinations, and prepared reports and maps to meet LWI standards. Both the City of Gresham and DSL approved and adopted this inventory.

Oregon Rapid Wetland Assessment Protocol (ORWAP). John was contracted by DSL to conduct preliminary testing of ORWAP on representative wetlands. John served on the DSL Technical Advisory Committee for the development of ORWAP. He received project-

specific training from Dr. Paul Adamus, author of ORWAP, prior to conducting the work.

City of Beaverton Local Wetland Inventory, Washington County, Oregon;
City of Vernonia Local Wetland Inventory, Columbia County, Oregon;
City of Clatskanie Local Wetland Inventory, Columbia County, Oregon;
City of Woodburn Local Wetland Inventory, Marion County, Oregon;
City of Silverton Local Wetland Inventory, Marion County, Oregon;
City of Oregon City Local Wetland Inventory, Clackamas County, Oregon. ***Wetland Scientist.*** On each of these LWIs, John used resources specified in LWI protocols to locate possible wetlands for preparation of preliminary wetland maps. He mapped wetlands and evaluated them with OFWAM to determine if they met standards for Locally Significant Wetlands. He used the Urban Riparian Inventory and Assessment Guide to assess riparian areas on the Vernonia, Clatskanie, Silverton and Oregon City projects. He prepared reports and worked with cartographers to prepare maps to meet LWI requirements. These inventories were approved by the respective cities and DSL.

Great Basin National Park Wetland and Riparian Inventory, Great Basin NP, Nevada. ***Wetland Scientist.*** John mapped over 200 wetland and riparian sites on a 77,000-acre study area for this joint project between the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) and the National Park Service. He produced a report for the National Park Service Water Resources Division, and the NWI.

Zion National Park Wetland and Riparian Inventory, Zion NP, Utah. ***Project Manager.*** John mapped and classified wetlands and riparian vegetation along 20 miles of the Virgin River in southwest Utah. He interpreted aerial photographs, USGS topographic maps, National Wetlands Inventory data and GPS equipment to identify and locate wetlands. He classified wetlands according to the Cowardin classification system.

Duck Valley Reservation Wetland Inventory, Duck Valley Reservation, Idaho and Nevada. ***Wetland Scientist.*** John worked with a team of wetland scientists and tribal members to inventory approximately 10,000 acres of wetlands on 45,000 acres of the Shoshone – Paiute Duck Valley Reservation. He interpreted aerial photographs, soil survey maps, and topographic maps to determine the probable location of wetlands. He traversed the area to document wetland characteristics. This work was conducted to facilitate a Reservation wetland management plan.

SARAH C. HARTUNG

Wetlands and Wildlife Scientist

Sarah is a wetlands and wildlife scientist with eleven years of consulting experience in Oregon and Washington. Her experience includes wetland determinations and delineations, botanical surveys, species-specific surveys, and joint wetland permit applications. Sarah has delineated hundreds of wetlands and has prepared delineation reports for several large-scale transportation projects in the Pacific Northwest. She brings a proven record of obtaining wetland permits from the Department of State Lands and the U.S. Army Corps of Engineers in a timely manner. Sarah also has extensive experience preparing wetland mitigation and habitat restoration plans.

Education

M.S., Avian Ecology, University of Illinois, Champaign-Urbana

B.A., Biology, Hamline University, St. Paul, Minnesota

Selected Training

Oregon Rapid Wetland Assessment Protocol (ORWAP)

Oregon Streamflow Duration Assessment Method (OSDAM)

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Valleys, Mountains and Coast Range

ODOT Certification for Preparing Biological Assessments

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region

Advanced Soils Training

Affiliations

Member and Wetland Professional in Training, Society of Wetland Scientists

11 Years of Experience

Relevant Experience

Lane County Sign Replacement Project. Lane County, Oregon. ***Project Manager and Wetland Scientist.*** Sarah served as project manager and field scientist for this large-scale transportation sign upgrade project. ODOT proposed to replace 500 road signs along 30 miles of I-5 in Lane County to meet current FHWA readability standards. Sarah and another ESA Adolfson wetland scientist determined the presence of wetlands within 25 feet of proposed sign locations and identified 200 potential wetlands. She delineated wetlands at 10 sign locations and completed the joint permit application (JPA) for approval from the U.S. Army Corps of Engineers (Corps). Sarah facilitated timely review of the JPA and assisted project engineers with construction specifications for avoiding wetland impacts.

ODOT – I-5 Bridges Vertical Improvements, Lane, Linn, and Marion Counties, Oregon. ***Project Manager and Field Lead.*** Sarah served as project manager and field crew leader for wetland scoping and delineations, botanical surveys, and endangered species act documentation at eleven bridge overpasses along the I-5 corridor from Salem to Eugene. ODOT proposes to increase the vertical clearance of the bridges, which will require extensive ground disturbance. Sarah and field technicians delineated about 45 wetlands and waterways at 11 bridge sites. Sarah prepared the delineation report and facilitated concurrence from the Department of State Lands (DSL). Sarah also prepared the JPA and facilitated approval from DSL and the Corps.

Graves Quarry Goal 5 Wildlife and Riparian Inventory, Molalla, Oregon. ***Project Manager and Lead Field Scientist.*** Sarah conducted a wildlife habitat and riparian inventory at a proposed rock quarry expansion site for compliance with Goal 5. The site covers 80 acres and is bisected by a fish-bearing stream. Sarah and another ESA Adolfson scientist surveyed for rare plants, habitat types and condition of habitat types in the project area. She also assessed the condition of the riparian zone for wildlife and fish habitat functions. She prepared a report describing results of the inventory for review by ODFW and

Clackamas County. Prior to field work, Sarah reviewed the Oregon Natural Heritage Database, StreamNet, and ODFW fish habitat maps. Sarah also corresponded with ODFW fish biologists regarding the likely presence of salmonids and quality of fish habitat on-site.

Draft Environmental Impact Statement (DEIS) for Bus Rapid Transit, Lane Transit District, Eugene, Oregon. *Project Staff*. Sarah is assisting with a wetland inventory and functions and values assessment of wetlands located along the project alternatives for this rapid bus transit (RBT) project. Lane Transit District is proposing to extend RBT into West Eugene to reduce congestion and promote economic development. Sarah and another ESA Adolfson wetland scientist established data plots on accessible parcels and estimated the extent of about 40 wetlands using aerial photographs of the parcels. Sarah will prepare the wetland baseline condition narrative and impact analysis portion of the DEIS.

Local Wetland Inventory, Lakeview, Oregon. *Project Scientist.* Sarah assisted with the processing and quality control of field data for this wetland inventory in central Oregon. Sarah also assisted with preparing maps and finalizing the inventory for local and state approval.

Wetlands Management Plan for the Confederated Tribes of the Grand Ronde, Grand Ronde, Oregon. *Project Staff.* Sarah assisted with the development of a wetlands management plan that addressed management, development, and mitigation for wetlands on Confederated Tribes of the Grand Ronde lands. Sarah helped conduct the functions and values assessment of the Tribal wetlands using the hydrogeomorphic (HGM) method for 10 sites. The HGM assessment, along with socio-economic factors, was used to assign the wetlands one of three categories: protect, enhance, and potentially develop.

ODOT Region 3 Wetlands, Douglas and Josephine Counties, Oregon. *Project Scientist.* Sarah performed delineations and wetland function assessments for this multi-site highway improvement project. At the Calapooya Creek Bridge site on OR 138, Sarah determined OHWL and verified a previous wetland delineation. At the Jumpoff Joe site, Sarah delineated over 40 wetlands and waterways within a 15-mile corridor along I-5 near Grants Pass. For the Del Rio realignment project in Roseburg, Sarah delineated wetlands, assessed the functions and values of over 20 wetlands, and prepared the wetland delineation report. DSL provided concurrence on the report with minimal revisions. The ODOT project manager Brad Livingston is quoted as saying, "ESA Adolfson provided quality deliverables in a timely fashion for one of southwest Oregon's most complex interchange improvement projects affecting wetlands resources."

ALISON SIGLER

Staff Scientist

Alison has five years of professional experience supporting environmental projects. She assists with wetland delineations and habitat assessments in Oregon, Washington and Idaho. She prepares biological assessments, wetland delineation reports, wetland functional assessment and impact reports, compensatory wetland mitigation reports, and other documents necessary for permitting. Alison also has experience with ground-truthing LiDAR imagery to wetlands and has experience with data management and GIS analysis.

Education

B.S., Biology, Washington State University, Pullman, Washington

Basic Wetland Delineation Training, Portland State University, Portland, Oregon

GIS for Natural Scientists, Portland State University, Portland, Oregon

5 Years of Experience

Relevant Experience

Wetland Delineation Report and Buffer Assessment, Clackamas County, Oregon. ***Staff Scientist.*** Alison is assisting with a wetland delineation report of an industrial-zoned parcel in Clackamas County. A wetland delineation and buffer assessment is necessary for proposed expansion of the existing facility. Alison's contribution to the report includes reviewing and summarizing existing information, a site visit and photo documentation. The report is written following requirements from Oregon Department of State Lands and Clackamas County.

Draft Environmental Impact Statement (DEIS) Lane Transit District, Eugene, Oregon. ***Staff Scientist.*** Alison is assisting with a wetland inventory and functional assessment analysis of wetlands located along the project alternatives for this rapid bus transit (RBT) project. Lane Transit District is proposing to extend RBT into West Eugene to reduce congestion and promote economic development.

Ground-Truthing LiDAR Imagery. Cowlitz, Yakima and Skamania Counties, Washington. ***Staff Scientist.*** Alison conducted field work ground-truthing LiDAR imagery to check for image accuracy. Tasks included interpreting aerial photos and LiDAR imagery, collecting sample plot survey information including identifying and measuring trees and shrubs, reviewing and editing collected data superimposed on LiDAR imagery.

ODOT Region 5 US 26 Culvert Repairs Project, Grant County, Oregon. ***Staff Scientist.*** Alison is preparing a biological assessment and assisting with preparation of a wetland delineation report required for the US 26 Culvert Repairs Project. This work involves replacing or upgrading four culverts on four streams in the Upper John Day River Basin, improving fish passage, stream flow and gradients. Tasks include collecting and summarizing background information and aiding in the determination of potential action areas and report drafting. Alison updated the following chapters of the Biological Assessment: Introduction, Environmental Baseline, and Natural History and Species Occurrence.

Compensatory Mitigation Plan Monitoring and Report Corvallis, Oregon. ***Staff Scientist.*** Alison conducted vegetation and woody species monitoring and compiled the annual monitoring report in support of Corvallis Station's compensatory wetland mitigation. Corvallis Station is a compensatory wetland mitigation site in its third year of monitoring. Tasks include identifying and assessing survival and cover of woody shrubs and vegetation, photo documentation, writing and editing the monitoring report. The report followed requirements set by Army Corps of Engineers and Oregon Department of State Lands.

Sandy River Conduit Relocation Construction Monitoring, Clackamas County, Oregon. ***Staff Scientist.*** The Portland Water Bureau is burying Conduits 2 and 4 of the City's drinking water system eighty feet below ground at the Sandy River crossing. As part of the construction monitoring over-sight provided by ESA Adolfson, Alison is reviewing daily logs recorded by the Design-Builder to ensure compliance with environmental permits and approvals issued for the project, including a Removal-Fill permit, Section 404/Section 10 permit, and a Biological Opinion. She updates the bi-weekly monitoring report each month and periodically conducts site visits to evaluate environmental compliance.

Eastmoreland Golf Course Tree Inventory, Portland, Oregon. ***Staff Scientist.*** Alison is assisting with a comprehensive tree inventory which involves identifying species and measuring tree diameters on the Eastmoreland Golf Course. She is also assisting with the data processing and quality control of the data in GIS. The course was planted a century ago with native and non-native species. The goal of this inventory is to identify trees to remove for the purpose of improving play, improving air circulation in the tree canopy, and improving the overall health of the landscaping. ESA Adolfson staff identified approximately 60 different tree species and surveyed over 1,300 trees using Global Positioning Systems (GPS).

Biological Assessment Survey for Pipeline Transmission. Mount Hood National Forest, Oregon. ***Staff Scientist.*** Alison assisted with wetland delineations; noxious weed and sensitive species surveys; wildlife habitat surveys in support of a biological assessment for a pipeline transmission project. She was responsible for field data collection and management. The project goal was to record ecological conditions of the potential natural gas pipeline corridor to determine project impacts.

GIS Mapping for Wild Salmon Conservation, Portland, Oregon. ***Staff Scientist.*** Alison created maps in GIS in support of salmon conservation non-profit research. She expanded and reorganized the GIS data server, reviewed and added metadata as needed and repaired missing data on existing maps.

MIKE LEECH

Senior GIS Analyst

Mike is a Senior GIS Analyst with over 8 years of experience in GIS database development, analysis, management and cartography in natural resource management. He is an expert in design of GIS-linked MS Access databases for robust storage and retrieval of information. Mike has used high resolution LiDAR data for several projects and is currently coordinating the LiDAR data acquisition for the Chehalis River basin through the Chehalis Flood Authority. He is adept at providing technical solutions to complex environmental problems using GIS. He has also developed a curriculum of intensive hands-on courses for the Northwest Environmental Training Center in areas of GIS software applications, spatial database development and information management. In addition, Mike also supports all of the GPS technology used by field staff in the Pacific Northwest region.

Education

M.S. Geography, Western Washington University

Emphasis in Resource Conservation and Management

B.A. Biology, Indiana University

B.A. Environmental Studies, Indiana University

Affiliations/Activities

Association for American Geographers (AAG)

NW GIS Users Group

Relevant Skills

Database Development

GIS Manager

Modeler

Technical Lead

Natural Resource Policy

Public Outreach

Shoreline Planning

8 Years of Experience

Relevant Experience

ODOT Region 3 Wetlands, Douglas and Josephine Counties, Oregon.
GIS Analyst. Mike provided GPS and GIS technical support for this project and also was responsible for preparing the maps and figures for the reports. Mike supported the field staff with Trimble GeoXT handheld GPS units and led the post-processing and conversion to GIS format. Mike also helped to deliver the digital data products to the ODOT R3 staff.

Birch Bay Watershed Characterization and Restoration Prioritization, Whatcom County, Washington. ***GIS Analyst.*** Mike worked with project staff to develop and apply a watershed characterization approach that synthesizes the findings of ecosystem process and habitat diversity models with models of potential land use change within the within the Birch Bay watershed of Whatcom County. Mike used high resolution LiDAR data and assisted with adapting and applying remote sensing protocols for identifying and characterizing wetland and riparian conditions within the watershed. He has helped to support the build-out scenario models for the Birch Bay watershed to track potential development patterns and impacts within the watershed.

Chehalis River Basin Flood Authority, Washington. ***Database Developer/GIS Analyst.*** The Chehalis River Basin Flood Authority was established to address frequent flood problems in the basin. ESA Adolfson is providing facilitation and other services to assist the Authority. Mike coordinating the LiDAR data acquisition for the Chehalis River basin through the Chehalis Flood Authority. His data interpretation and GIS analysis is in support of the development of a basin-wide Comprehensive Flood Hazard Management Plan.

Shoreline Master Program Update, Pierce County, Washington. ***GIS Developer/Manager.*** Mike is coordinating GIS analysis and mapping to support Pierce County's SMP Update. He is also working with the County's Technical Advisory Group, made up of County staff, Department of Ecology staff, tribal representatives, and other stakeholders. As part of this project, Mike developed a web-based application using ArcGIS Server to support the technical document review process for the project team and includes over 80 data layers from a variety of sources. He used high resolution LiDAR data and prepared a series of landscape analysis maps to support the inventory and characterization. Mike has also attended and presented information to the shoreline technical advisory group as well as helped with the facilitation of the public working group meetings.

Disturbance Mapping Project, USACE, Walla Walla, Washington. ***GIS Manager/Database Developer.*** Mike is the GIS/Database Coordinator for the USACOE Walla Walla District Disturbance Mapping Project. Mike and his GIS support staff created a comprehensive database and GIS mapping system to depict areas of earth disturbance related to dam construction and related facilities. Mike is supervising other GIS staff in geo-referencing scanned historical documents and digitizing archaeological resources that may have been disturbed previously through excavation, shoreline erosion, or other construction activities. The final product delivered to the USACE was a robust GIS-linked Access database and a companion bound hard copy map atlas. Mike also prepared a hands-on training seminar with the project staff at the Walla Walla District office to demonstrate the applications of the digital data as it relates to on-current/on-going projects at the CORPs.

Salmon Fisheries Management Tool, Upper Skagit Indian Tribe, Sedro-Woolley, Washington. ***Database Developer/GIS Analyst.*** Mike worked closely with the Natural Resources & Fisheries staff to develop an in-season management tool based on 20 years of salmon catch data from the Skagit River for the Upper Skagit Indian Tribe. Mike developed an easy-to-use database and facilitated statistical analysis (linear regression modeling) for in-season updates to fisheries biologists. Mike also provided technical support, including training and comprehensive manuals for Microsoft Access databases and ArcGIS 9.x projects. He was responsible for the development of GIS-Linked MS Access databases for Public Works, Environmental Planning and Natural Resources Departments Other projects include CAD conversion of parcel data to GIS data, ortho-rectification of historical aerial photographs, and production of maps for grants and reports.

Paul R. Adamus, PhD

Dr. Paul Adamus is the author of ORWAP, the new wetland assessment tool sponsored by the Department of State Lands and EPA, and whose use is supported by the Corps of Engineers and other agencies. While developing this he applied it to 220 wetlands throughout Oregon, including many in Lane Couty. For DSL, he has trained nearly 100 agency personnel and consultants in the use of ORWAP. He previously developed both of DSL's "hydrogeomorphic" (HGM) methods for assessing wetlands and applied them to selected Lane County wetlands. Last year, OWEB competitively selected Dr. Adamus to conduct ecological audits of their wetland projects throughout the Willamette Valley, in which he applied ORWAP and surveyed vegetation and soils at 60 sites, including 12 in Lane County. He also has assessed wetlands for the Corvallis Natural Features Inventory (using OFWAM); for Juneau, Alaska; for Crater Lake National Park; and for Island County, Washington. He has twice been invited to testify on wetland matters to the U.S. Congress, and was chosen as the sole expert witness on major wetlands case in Michigan. He is best known as the author of WET (Wetland Evaluation Technique), developed originally for the Federal Highway Administration in the early 1980's, and used widely by federal and local agencies in the decade that followed. Over the past 35 years he has authored over 100 publications, many during the 10 years he was part of EPA's National Wetlands Research Program based in Corvallis. He currently is using LiDAR with NWI and other spatial data to complete a Willamette Wetlands Database in collaboration with EPA, Oregon State University, and The Wetlands Conservancy.

Education

Ph.D. Wildlife Science, Oregon State University, Corvallis
M.S. Biology (Aquatic), University of Utah, Salt Lake City
B.S. Wildlife Science, University of Maine, Orono

Current Positions

Adamus Resource Assessment, Inc., Corvallis, Oregon. Principal. 1997-present.
Oregon State University, Corvallis, Oregon (2002-present)
College of Oceanographic and Atmospheric Sciences, Assistant Professor (Courtesy)
Environmental Sciences Graduate Program (Water Resources)

Wetland Program Consultations
State/Tribe Wetland Program Consultation:
North Carolina (Dept. Environmental Management)
Illinois (Dept. of Conservation)
Maine (State Planning Office)
Washington (Dept. of Ecology)
Oregon (Dept. Environmental Quality, Department of State Lands)
Oklahoma
Michigan
Confederated Tribes of the Umatilla Indian Reservation

Regional Wetland Functional Assessment Projects:
Klamath Region (Lassen Volcanic & Crater Lakes National Parks)
Oregon Coast: HGM data collection, model development, and application

Willamette Valley, Oregon: HGM data collection, model development, and application
Juneau, Alaska: Wetlands Management Plan (the second such plan approved in the U.S.)
New Jersey (Hackensack Meadowlands, Raritan Estuary)
Salt Lake City, Utah: Wetlands Advanced Identification Project
Southern Maine: Wetlands Advanced Identification Project
Washington (Mill Creek Watershed): Special Area Management Plan
Washington (Puget Sound - Island County)

Selected Publications

Adamus, P., J. Morlan, and K. Verble. 2009. *Oregon Rapid Wetland Assessment Protocol (ORWAP): calculator spreadsheet, databases, and data forms.* Oregon Dept. of State Lands, Salem, OR. http://oregonstatelands.us/DSL/WETLAND/or_wet_prot.shtml

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Nancy Holzhauser: Consultant
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Phone: (541)822-1090
Fax: (541) 822-1053

Resume

Education: University of California at Davis. B.S. 1974: Wildlife and Fisheries
University of California at Davis. M.S. 1976: Aquatic Ecology

Accreditation:
1997: Wetland Delineation Training Certification from the Wetland Training Institute
1998: Wetland Mitigation, Construction, and Installation from the Wetland Training Institute
2009: ODOT Biological Assessment Certification
2009: ORWAP Training Program (DSL/Corps sponsored)

Memberships:
The Native Plant Society of Oregon: 1997-present
The Wildlife Society: 1997-present, Board Member 1999-2001
American Fisheries Society: 1997-present
Society of Wetland Scientists: 1997-present
North American Butterfly Association: 2004-present
Friends of Buford Park Stewardship Technical Advisory Committee: Member: 2002-2004, Chair 2003-2004
McKenzie Watershed Council: At-Large Partner 2006-2008
Long Tom Watershed Council Small Grant Review Committee: 2005-2007

Certification: Women Business Enterprise (WBE) Certification #2031

Professional Experience:

1998-present: Ecologist and owner of Environmental Solutions LLC. Wetland delineations; wetland function assessments; mitigation planning, project supervision, and monitoring; Joint Removal Permit applications; botanical inventories; vegetation community surveys and mapping; Biological Assessments and Evaluations; Natural Features Assessments per State Goal 5; wildlife habitat surveys and assessments; Environmental Assessments. Nancy Holzhauser is an ecologist and owner and sole proprietor of Environmental Solutions LLC. Environmental Solutions LLC specializes in botanical, wetland, and biological consulting services, including plant inventories, rare plant surveys, wetland delineations, Joint Removal/Fill Permit applications, wetland compensatory mitigation and monitoring plans, biological assessments, evaluations, and reports, and vegetation and habitat mapping. Nancy has lived in the southern Willamette River valley since 1980, and has an extensive knowledge of the ecology of Oregon, as well the various government agencies and regulations within the state. She is proud of the working relationship that she has developed with representatives from the US Forest Service, US Fish and Wildlife Service, NOAA Fisheries, Oregon Department of State Lands, and the US Army Corps of Engineers.

Wetland delineations, permit applications, mitigation planning, project supervision, and monitoring:
Numerous wetland delineations, inventories, Joint Removal/Fill Permit Applications, wetland function assessments, wetland and riparian mitigation and restoration planning, mitigation site design, mitigation site construction supervision, and mitigation monitoring for private clients and public agencies throughout

western and central Oregon. Wetland delineations performed using the 1987 US Army Corps of Engineers Manual and 2008 Manual Supplement, and have included lands considered natural as well as atypical or altered sites. 1998-present.

- Oregon Rapid Wetland Assessment Protocol (ORWAP) testing, evaluated ORWAP model on three different wetland types as part of Oregon Department of State Lands' (DSL) testing during its development; also provided consultation to the Technical Advisory Team regarding the ORWAP process. Client: Oregon Department of State Lands. 2008.
- Peer review committee member on DSL review team. 2006. Review of US Army Corps of Engineers Wetland Delineation Manual Supplement for Western Mountains, Valleys, and Coast.
- Wetland delineation, function assessment, 404 permit application, mitigation plan, and mitigation site construction oversight for 80-acre degraded site in west Eugene, including historic log pond. Client: Eugene Water and Electric Board. 2005-present.
- Wetland function assessment, 404 permit application, mitigation plans, and mitigation site construction oversight for 50-acre degraded site used as mitigation site for Lane County landfill upgrade project located south of Eugene. Client: Lane County Public Works Waste Management Division. 2005-present.
- Wetland delineations, wetland monitoring surveys and reports, wetland function assessments, and mitigation planning and site design for EWEB's hydropower upgrade project, including wetlands along and within the McKenzie River and Leaburg Lake in the west Cascade foothills. Client: Eugene Water and Electric Board. 2001-present.
- Wetland mitigation site oversite, monitoring for 1-acre mitigation site in Cottage Grove. Client: City of Cottage Grove. 2007-present.
- Wetland delineation, function assessment, 404 permit application, mitigation plan, mitigation site construction oversite and monitoring for 2-acre wetland on central Oregon coast. Client: Branch Engineering for the City of Florence. 2005-present.
- Wetland delineation, function assessment, 404 permit application for 65-acre side channel floodplain of Willamette River in Eugene. Client: City of Eugene. 2009.
- Wetland delineations, Joint Removal/Fill Permit Applications, wetland function assessments, mitigation and monitoring plans, and mitigation monitoring for projects associated with a wastewater treatment plant and associated facility construction upgrades in Veneta. Client: City of Veneta. 1999-present.
- Wetland delineation, function assessment, 404 permit application, and mitigation plan, for 20-acre interdunal site on central Oregon coast. Client: Arlie & Company. 2007-present.
- Wetland delineations for road projects, including wetland function assessments, and identification of potential mitigation areas in Willamette Valley and Coast Range. Client: Lane County Public Works Dept. 2002-2008.
- Wetland delineation, function assessment, 404 permit application on 2 mile linear project on agriculturally altered land in west Eugene. Client: City of Eugene. 2006.
- Wetland delineation and wetland function assessment on 240-acre site managed for ryegrass production in west Eugene. Client: City of Eugene 2006.
- Wetland delineation and function assessment on 2-mile linear project in Florence, on central Oregon coast. Client: Branch Engineering. 2005-2006.
- Wetland restoration plan in Yachats, on central Oregon Coast. Client: Yachats Commons Park Advisory Committee. 2005-2006.
- Wetland delineation on 40-acre forested site with headwater streams in south Eugene. Client: Green Development Inc. 2004.
- Wetland delineation, wetland function assessment on a 140-acre agricultural ryegrass field in the southern Willamette Valley. Included preparation of Joint Removal/Fill Permit application for proposed energy facility and wetland mitigation plan for 55-acre mitigation site. Client: West Cascade Energy LLC. 2001-2003.
- Preparation of Exhibit J (Wetlands) and I (Soils) for Energy Facility Site Certificate Application for natural gas-fired energy facility north of Eugene. Client: West Cascade Energy LLC. 2001-03.

- Wetland delineations, function assessments, and 404 permit applications on agricultural land and pasture land ranging in size from 5-240 acres, in the Willamette Valley. Clients: City of Eugene 2004-present; Lane County Public Works Dept. 2001-2008, City of Coburg 2004, West Cascade Energy LLC. 2001-2003.
- Wetland delineation, Joint Removal/Fill Permit Application, mitigation plan, and mitigation monitoring for residential development in Cottage Grove. Involved creating 1 acre of palustrine scrub/shrub and emergent wetlands, converting permanent pond into seasonal for red-legged frog habitat. Client: Arlie & Company. 2000-2005.
- Wetland delineations and 404 permit application in conjunction with a recreation plan along the Columbia River and 2 tributaries to the Columbia River. Client: City of Mosier. 2001-2002.
- Wetland delineations, function assessments, 404 permit application for a 7-mile recreation trail along the Columbia River in The Dalles. Client: North Wasco Parks and Recreation District. 2000-2002.
- Local Wetland Inventory. Participated on team under Satre Associates for Coburg Local Wetland Inventory. 1999.

Biological Surveys, Biological Assessments, and Environmental Assessments:
Biological Assessments and Evaluations, Natural Features Assessments per Statewide Goal 5, wildlife habitat surveys and mapping, comprehensive plant inventories, vegetation community mapping, and comprehensive rare plant surveys. Work has focused on the Willamette Valley, Cascade Mountains, and Coast Range in a variety of habitat types including upland and wetland forested, shrub, and meadow communities for sites ranging in size up to 1200 acres. Inventories, mapping, and assessments included Federal and State listed and proposed Threatened and Endangered species and Federal candidate species such as Bradshaw's lomatium, Willamette daisy, Kincaid's lupine, wayside aster, white-topped aster, Fender's blue butterfly, bald eagle, northern spotted owl, streaked horned lark, Oregon chub, chinook salmon, bull trout as well as Federal Species of Concern and State Sensitive species including northern pond turtle, northern red-legged frog, pileated woodpecker, western gray squirrel, olive-sided flycatcher, shaggy horkelia, thin-leaved peavine, tall bugbane. 1997-present as well as from 1980-1984 for the USFS McKenzie Ranger District.

- Natural Features Assessments following Goal 5 requirements for Planned Unit Developments developed by the City of Eugene, including wildlife and plant surveys, rare wildlife and species habitat inventories and assessments, and native plant community inventories and mapping in upland, wetland, and riparian communities. Work includes participation on project design teams to assist with development of site design per Goal 5 requirements, focusing on minimization of impacts to significant natural features and mitigation planning as well as presenting testimony as needed. Clients: City of Eugene 2008; Green Investments Inc. 2004-2007; Breeden Brothers 2004-2006; McKay Development 2004-2005.
- Environmental Assessment for City of Veneta: Community Pool. Client: City of Veneta. 2009.
- Biological Assessment for 2-mile long bike path along the Willamette River; site includes Federally listed threatened spring chinook salmon and migratory birds. Client: City of Eugene. 2009.
- Biological Assessment for 20-acre expansion project in Short Mountain Landfill; site included Federally listed threatened and endangered spring chinook salmon, Oregon chub, bald eagle, and Bradshaw's lomatium. Client: Lane County. 2005-2006.
- Rare plant and animal surveys and assessment for potential impacts from proposed gravel mining operation in Willamette River floodplain. Client: L. Sherlock PC. 2004-2005.
- Rare plant survey and vegetation community mapping on 120-acre upland site in southwest Eugene, included oak woodland and upland meadow habitats. Client: City of Eugene. 2004.

Loverna Wilson, Environmental Consultant **Botany/Plant Ecology**

P.O. Box 2284, Corvallis, OR 97339 (541)758-3403

RESUMÉ

M. LOVERNA WILSON
Plant Ecologist and Wetland Scientist

Education:

M.S. 1982, Oregon State University, Botany/Plant Ecology
B.S. 1963, Oregon State University, Business Education

Employment:

1983-present Principal and Owner
Loverna Wilson, Environmental Consultant
Corvallis, Oregon

1979-1983 Plant Ecologist
Beak Consultants Incorporated
Portland, Oregon

Experience:

Project experience includes a broad background in vegetation and wetland sampling, data interpretation, and project management. A large share of this work has been in the Pacific Northwest, although she has also conducted numerous studies in western Montana, Wyoming, Colorado, Idaho, and northern California. The following is a summary of her primary areas of expertise.

- Wetland and riparian assessments and boundary delineations, including field studies, report preparation, agency consultation and permitting guidance.
- Wetland mitigation, including restoration, creation, and enhancement design, and post-construction monitoring.
- Impact assessment and mitigation design for both wetland and upland sites.
- Threatened and Endangered plant species surveys and habitat assessments.
- Vegetation habitat analysis, including quantitative and qualitative field sampling, plant community determinations and descriptions.
- Vegetation mapping and aerial photo interpretation.
- Wildlife habitat assessments.

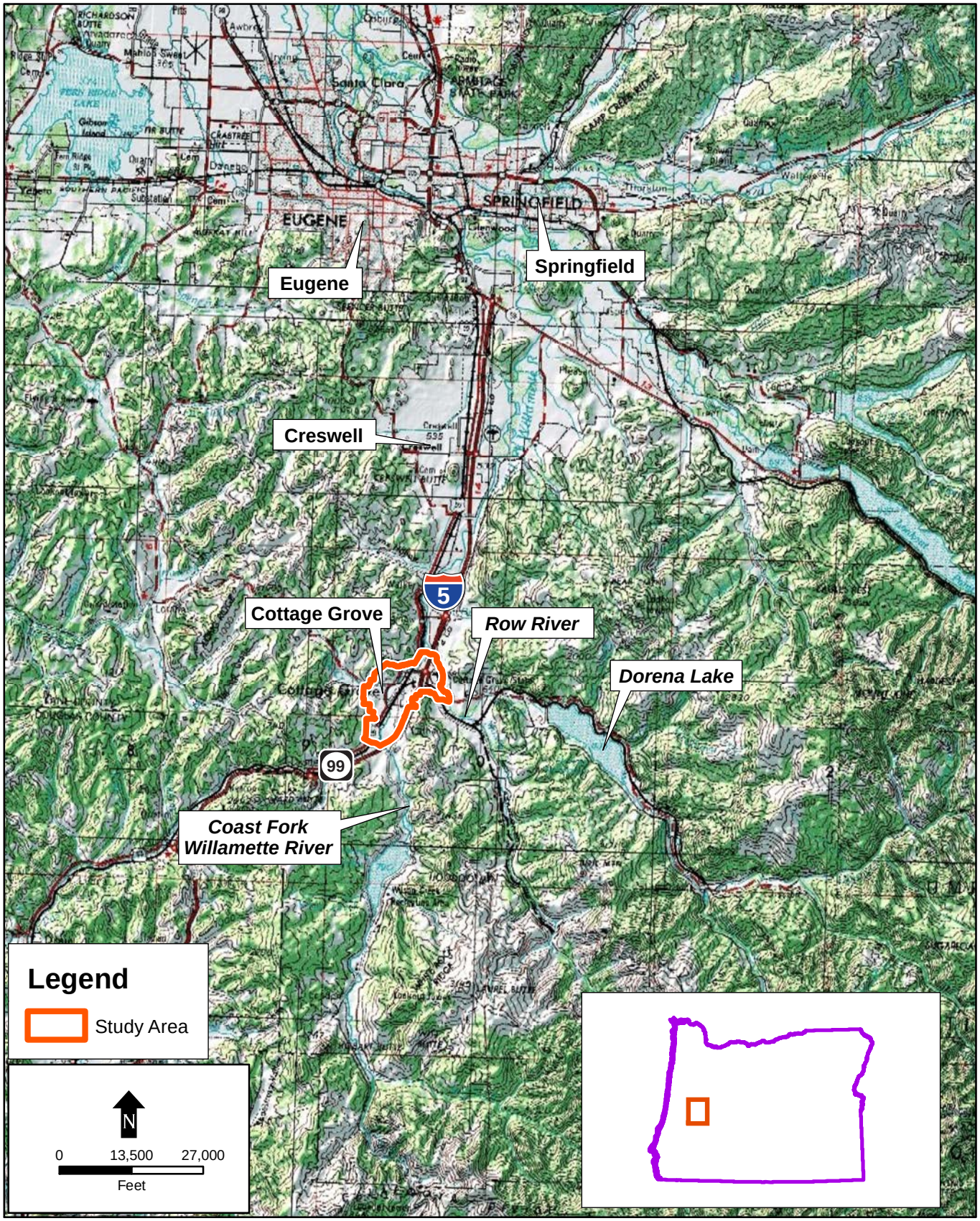
APPENDIX C: FIGURES

Figure 1: Vicinity Map

Figure 2: National Wetland Inventory Map

Figure 3: Soil Survey Map

Figure 4: Topographic Map



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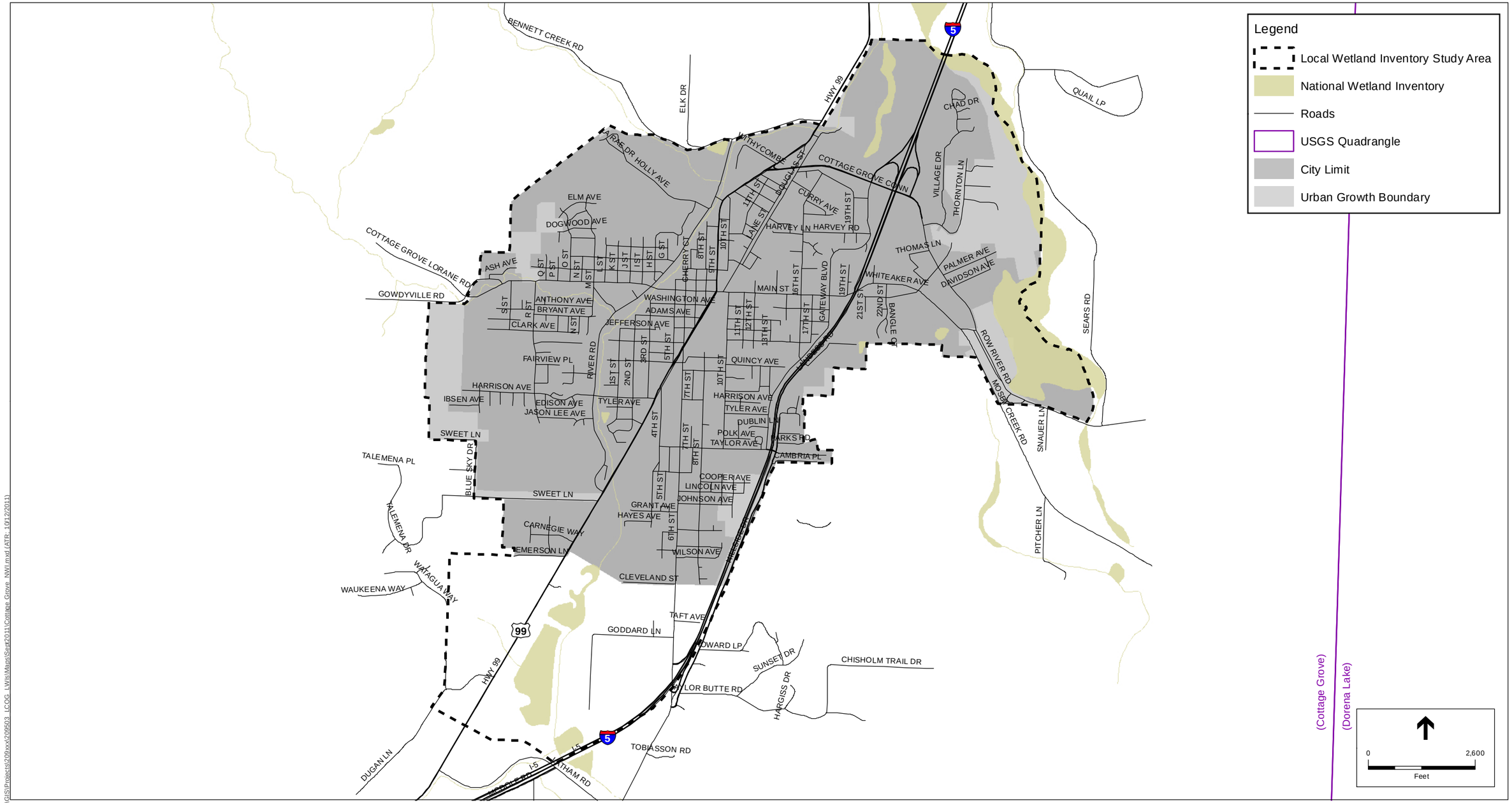
SOURCE: ESRI, 2009. LCOG, 2010.

Note: The accuracy of the Study Area Boundary is dependent on the accuracy of the GIS data supplied by LCOG

LCOG Local Wetland Inventory. 209503

Figure 1

Cottage Grove Study Area Vicinity Map
Lane County, Oregon



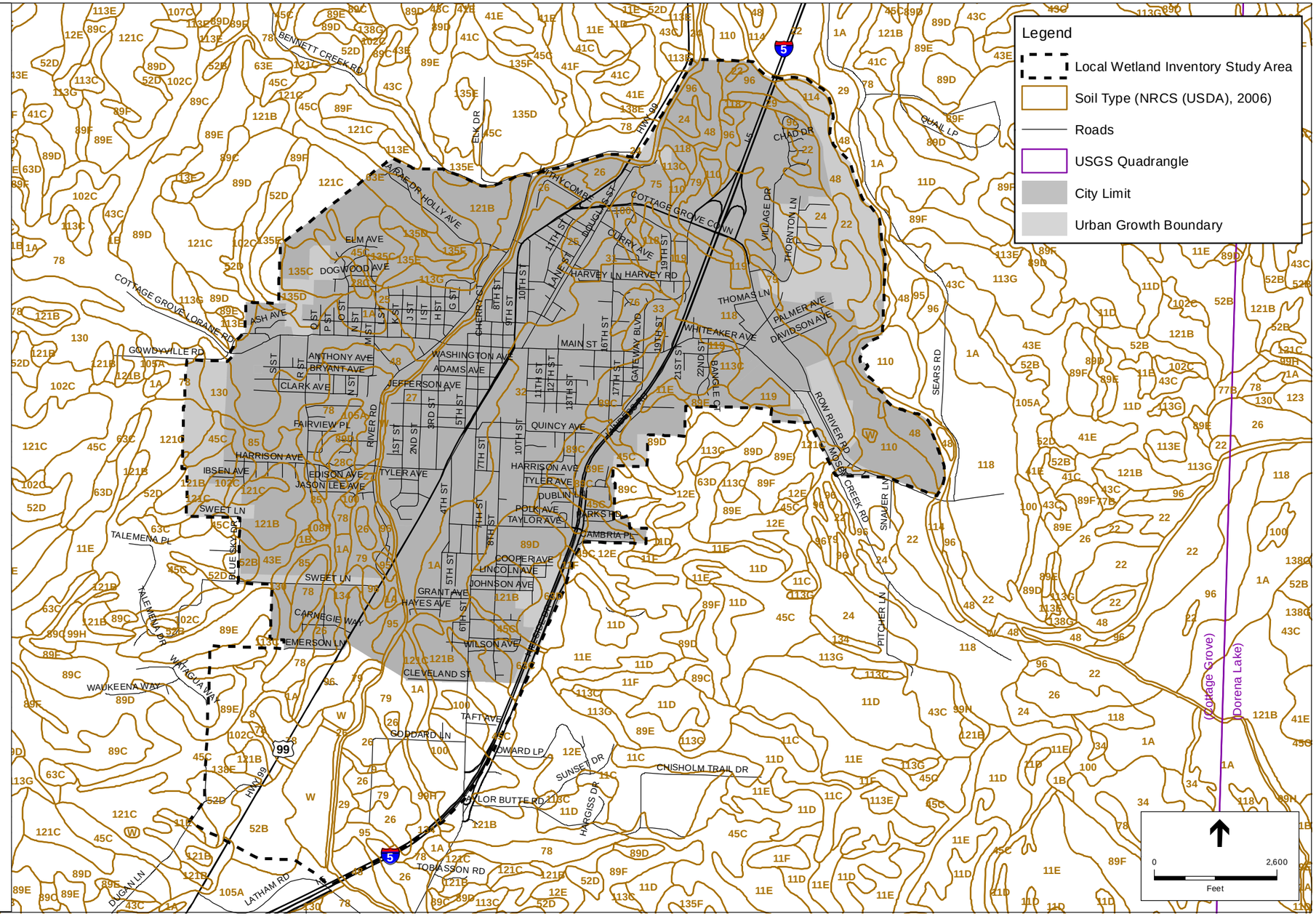
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SOURCE: NWI (USFWS), 2009; ODOT, 2010; USGS, 2000

Figure 2
National Wetland Inventory
Cottage Grove, Oregon

Soil Symbol, Description, Hydric

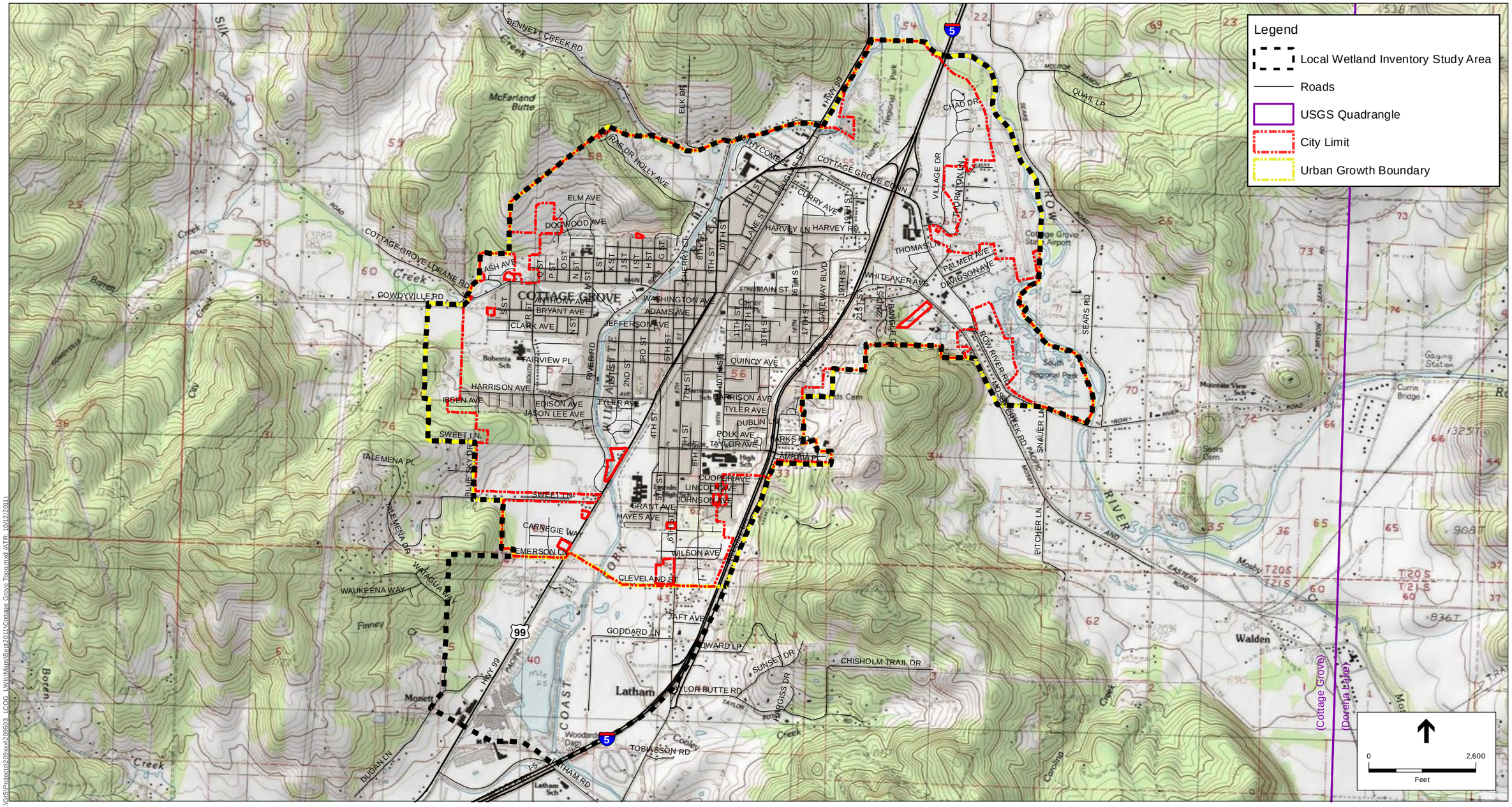
8, Bashaw clay, All hydric
22, Camas gravelly sandy loam, occasionally flooded, Partially hydric
24, Chapman loam, Not hydric
25, Chapman-Urban land complex, Not hydric
26, Chehalis silty clay loam, occasionally flooded, Not hydric
27, Chehalis-Urban land complex, Not hydric
29, Cloquato silt loam, Not hydric
31, Coburg silty clay loam, Partially hydric
32, Coburg-Urban land complex, Partially hydric
33, Conser silty clay loam, All hydric
48, Fluvents, nearly level, All hydric
75, Malabon silty clay loam, Not hydric
76, Malabon-Urban land complex, Not hydric
78, McAlpin silty clay loam, Partially hydric
79, McBee silty clay loam, Partially hydric
85, Natroy silty clay loam, All hydric
95, Newberg fine sandy loam, Not hydric
96, Newberg loam, Not hydric
100, Oxley gravelly silt loam, Partially hydric
110, Pits, Not hydric
114, Riverwash, All hydric
118, Salem gravelly silt loam, Not hydric
119, Salem-Urban land complex, Not hydric
130, Waldo silty clay loam, All hydric
134, Wapato silty clay loam, All hydric
102C, Panther silty clay loam, 2 to 12 percent slopes, All hydric
105A, Pengra silt loam, 1to 4 percent slopes, All hydric
108F, Philomath cobbly silty clay, 12 to 45 percent slopes, Not hydric
113C, Ritner cobbly silty clay loam, 2 to 12 percent slopes, Not hydric
113E, Ritner cobbly silty clay loam, 12 to 30 percent slopes, Not hydric
113G, Ritner cobbly silty clay loam, 30 to 60 percent slopes, Not hydric
11E, Bellpine silty clay loam, 20 to 30 percent slopes, Not hydric
11F, Bellpine silty clay loam, 30 to 50 percent slopes, Not hydric
121B, Salkum silty clay loam, 2 to 8 percent slopes, Not hydric
121C, Salkum silty clay loam, 8 to 16 percent slopes, Not hydric
12E, Bellpine cobbly silty clay loam, 2 to 30 percent slopes, Not hydric
135C, Willakenzie clay loam, 2 to 12 percent slopes, Not hydric
135D, Willakenzie clay loam, 12 to 20 percent slopes, Not hydric
135E, Willakenzie clay loam, 20 to 30 percent slopes, Not hydric
135F, Willakenzie clay loam, 30 to 50 percent slopes, Not hydric
138E, Witzel very cobbly loam, 3 to 30 percent slopes, Not hydric
1A, Abiqua silty clay loam, 0 to 3 percent slopes, Partially hydric
1B, Abiqua silty clay loam, 3 to 5 percent slopes, Partially hydric
28C, Chehulpum silt loam, 3 to 12 percent slopes, Not hydric
43E, Dixonville-Philomath-Hazelair complex, 12 to 35 percent slopes, Not hydric
45C, Dupee silt loam, 3 to 20 percent slopes, Partially hydric
52B, Hazelair silty clay loam, 2 to 7 percent slopes, Partially hydric
52D, Hazelair silty clay loam, 7 to 20 percent slopes, Partially hydric
63C, Jory silty clay loam, 2 to 12 percent slopes, Not hydric
63D, Jory silty clay loam, 12 to 20 percent slopes, Not hydric
63E, Jory silty clay loam, 20 to 30 percent slopes, Not hydric
89C, Nekia silty clay loam, 2 to 12 percent slopes, Not hydric
89D, Nekia silty clay loam, 12 to 20 percent slopes, Not hydric
89E, Nekia silty clay loam, 20 to 30 percent slopes, Not hydric
89F, Nekia silty clay loam, 30 to 50 percent slopes, Not hydric
99H, Ochrepts and Umbrepts, very steep, Not hydric
W, Water, Unknown



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SOURCE: NRCS (USDA), 2006; ODOT, 2010; USGS, 2000

Figure 3
Soil Survey Map
Creswell, Oregon



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SOURCE: NHD (USGS), ODOT, 2010; USGS, 2000, 2009

Figure 4
Topographic Map
Cottage Grove, Oregon

APPENDIX D: OFWAM RESULTS

Watershed Characterization

OFWAM Reference Questions

Wetland Characterization Results (Questions 15-38)

Function and Condition Assessment Scores (Wildlife Habitat, Fish Habitat, Water Quality, and Hydrologic Function

Function and Condition Summary Sheets

Wetlands of Special Interest Scores

Oregon Freshwater Wetland Assessment Methodology
Wetland Characterization - Watershed Setting

Project Number:	**209503.2**
Project Name:	**Lane Council of Governments Cottage Grove Local Wetland Inventory**
1. Drainage Basin:	Coast Fork Willamette River
2. Watershed Area:	95 square miles
3. Average Slope:	13.80%
4. Is the stream flow in the watershed modified by dams, channelization or levees?	Yes
5. Is water being taken out of the stream(s) through active diking, drainage or irrigation districts in the watershed upstream of the assessment area?	Yes
6. What is the dominant land use in the watershed upstream from the assessment area?	Agriculture/Forested Land
7. Streams in the study area listed as water limited?	Coast Fork Willamette River, Row River
8. Water quality condition of stream reaches in the watershed upstream from the assessment area.	Mosby Creek, tributary of Row River is 303(d) water quality limited.
9. Fisheries and type.	Anadromous: Salmon, steelhead, lamprey Resident (native): Oregon chub, chiselmouth, peamouth, northern pike minnow, longnose dace, speckled dace, leopard dace, redside shiner, largescale sucker, three-spine stickleback, sand roller, torrent sculpin, shorthead sculpin Introduced: common carp, brown bullhead, yellow bullhead, mosquitofish, pumpkinseed, warmouth, bluegill, largemouth, smallmouth bass, black crappie, white crappie, yellow perch (Coast Fork Willamette Watershed Council, 2005).

Oregon Freshwater Wetland Assessment Methodology
Wetland Characterization - Watershed Setting

Project Number:	**209503.2**
Project Name:	**Lane Council of Governments Cottage Grove Local Wetland Inventory**
10. Are known sensitive, threatened or endangered fish species present in the watershed?	Steelhead, Upper Willamette River ESU, (LT); Chinook, Upper Willamette River ESU, spring run (LT) (ORBIC, 2010), Willamette Coastal Cutthroat Trout (SoC).
11. Wildlife species:	Migrating / wintering birds: Cackling goose, tundra swan, great egret, ring-necked duck, bufflehead; Breeding birds: Osprey, turkey vulture, red-tailed hawk, American kestrel, common merganser, great blue heron, belted kingfisher, various perching bird species - Swainson's thrush, western tanager, American robin, etc. Mammals: coyote, racoon, voles, moles, shrews, black deer, black bear, cougar, bobcat, nutria, muskrat, and beaver. Amphibians/Reptiles: red-legged frog, tree frog, salamanders, pond turtles, garter snakes, gopher snake, and racer.
12. Are known sensitive, threatened or endangered plant species or wildlife species other than fish present in the watershed	Amphibians/Reptiles: Northern Pacific Pond Turtle (SoC), Southern Torrent (seep) salamander (SoC). Birds: Band-tailed pigeon (SoC), Olive-sided flycatcher (SoC) Northern goshawk (SoC). Mammals: Townsend's western big-eared bat (SoC); Plants: Shaggy horkelia (SoC) (ORBIC, 2010).
13. Does the watershed provide a natural corridor for fish or wildlife movement?	The many streams and riparian areas within the watershed provide natural corridors for fish and wildlife movement.
14. What are the landscape features at both ends of the movement corridor?	Open, agricultural fields to the north and forested hills to the south.

	Wetland 1	Wetland 2	Wetland 3

Wetlands of Special Interest for Protection

The first filter in the Oregon Method is to see whether the wetland is in a management plan, is protected by regulatory rules or statutes, or is uncommon in Oregon. A "yes" answer to any of the following questions will place the wetland into this category and management decisions should be made to protect the site. You still may want to evaluate the functions and conditions of each wetland to give you an overall evaluation of the wetlands in your assessment area. You should note on the Function and Condition Summary Sheet (Chapter VI and Appendix C) the information from this section. You do not need to contact every agency listed, but all those listed have all or some of the information you need.

Question 1

Does the wetland contain threatened, endangered or sensitive species of wildlife, plants, invertebrates or fish? (Either federal- or state-listed. Include species.) If yes, list.

a. Yes
b. No
c. Unknown
List:

Information source

Oregon Natural Heritage Program, The Nature Conservancy, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture.

Question 2

Is the wetland designated as critical habitat or essential habitat for federal- or state-listed threatened or endangered species of wildlife, plants, invertebrates or fish? If yes, list species.

a. Yes
b. No
c. Unknown
List:

Information source

U.S. Fish and Wildlife Service, National Marine Fisheries Service, The Nature Conservancy.

	Wetland 1	Wetland 2	Wetland 3

Question 3

Is the wetland a dedicated or proposed Registered State Natural Area or Area of Critical Environmental Concern, State Natural Heritage Conservation Area, Federal Research Natural Area, or a Nature Conservancy Preserve?

a. Yes
b. No
c. Unknown
List which it is:

Information source

The Nature Conservancy, the Oregon Natural Heritage Program, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service and Corps of Engineers.

Question 4

Is the wetland of regional or national significance for migratory birds?

a. Yes
b. No
c. Unknown
List which species:

Information source

U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife.

Question 5

Is the wetland protected in a local wetland conservation plan or a local comprehensive plan as a Goal 5 or Goal 17 resource?

a. Yes
b. No
c. Unknown

Information source

Local planning office.

Question 6

Is the wetland a designated State Outstanding Resource Water?

a. Yes
b. No
c. Unknown

Information source

Oregon Department of Environmental Quality. (As of 1996, DEQ has not made any such designations.)

	Wetland 1	Wetland 2	Wetland 3

Question 7

Is the wetland a protected area in a recognized federal, state or local management plan, e.g., for a park, refuge or scenic river?

a. Yes
b. No
c. Unknown
List name:

Information source

Oregon Department of Fish and Wildlife, State Parks, U.S. Fish and Wildlife Service, Bonneville Power Administration, Bureau of Land Management, National Park Service, METRO, local parks department.

Question 8

Is the wetland a *protected* mitigation site for a removal-fill permit, federal 404 fill permit, or enforcement action? Protected means there is a legal instrument, such as a conservation easement, that will preclude a wetland impact permit from being issued for this site.

a. Yes
b. No
c. Unknown

Information source

Oregon Division of State Lands, Corps of Engineers, Environmental Protection Agency.

Question 9

Is the wetland a restoration or protected area included in the wetland reserve program administered by the Natural Resources Conservation Service? The length of protection may vary depending on landowner agreements.

a. Yes
b. No
c. Unknown

Information source

Natural Resources Conservation Service, Consolidated Farm Services Agency.

Question 10

Is the wetland considered rare or unique in Oregon? Examples include bogs, vernal pools and old growth forested wetlands (See Appendix G).

a. Yes
b. No
c. Unknown

Information source

The Nature Conservancy, Oregon Division of State Lands, the Oregon Natural Heritage Program.

Wetland 1	*Wetland 2*	*Wetland 3*

Wetland Characterization

The Wetland Characterization is designed for information collection in a systematic manner. The Characterization is divided into a landscape section, for which all the information can be gathered in the office with appropriate maps and references (and maybe a few phone calls), and a site-specific section, which requires field observation and measurement. (*Questions that must be answered in the field are marked with a check.*) You may want to record the observation, not just the letter answer, when given the choice, because you might find the descriptive information useful later. Also, take some blank sheets of paper into the field for making sketches of the wetland area that you can refer to later. Another alternative is to put an overlay on an aerial photo and sketch and note information on the overlay. If done thoroughly, this should prevent you from having to return to the field or having to seek additional information when completing the assessment.

Watershed Notes

The information gathered is used to answer function and condition assessment questions (copies of these questions appear directly following the Characterization). The Characterization should not lead you to any conclusions; this will be done as the assessment sheets are completed.

What you need to take with you into the field:

- Clipboard
- Pencils (various colors for sketching)
- Blank paper to sketch on
- Long tape measure (200 feet if you have one), or measure your pace before going into the field
- Aerial photos (you may want to attach a mylar overlay to draw on)
- Ruler
- Base maps (optional or make copies)
- Binoculars (optional)

Watershed setting

All questions pertaining to the watershed can be answered in the office from aerial photographs, U.S. Geological Service topographical maps, and other reference materials. (See Appendix A.) The answers to these questions are used to give decision makers a broader understanding of ecological functions and land uses in the watershed. The answers are summarized on the Watershed Summary Sheet at the end of the Assessment Questions section.

Drainage basin

The Oregon Water Resources Department has divided the state into 18 drainage basins. Check the map in Appendix H to see which drainage basin contains the study site.

1. What is the name of the drainage basin that contains your assessment area?

Physical characteristics of the watershed being assessed (within the drainage basin)

Topography

2. What is the watershed's area in square miles? The watershed area is often much smaller than the drainage basin (see Appendix E).
3. Calculate the average slope of the watershed (see Appendix F).

Hydrologic profile

4. Is the stream flow in the watershed modified by dams, channelization or levees? (Choose all that are appropriate.)
   a. Tributary streams to the main stem stream are modified.
   b. Main stem stream is modified.
   c. Stream flow is not modified (free-flowing.)
5. Is water being taken out of the stream(s) through active diking, drainage or irrigation districts in the watershed upstream of the assessment area?
   a. Yes.
   b. No.

Watershed Notes

Land uses within the watershed

6. What is the dominant land use in the watershed upstream from the assessment area?
   a. Urban.
   b. Urbanizing (mix of urban, agriculture and forest uses).
   c. Agriculture (farming, ranching or grazing).
   d. Forested or natural area.

Water quality *(Use more specific water quality information, if available. Contact local DEQ office, or call the DEQ lab at (503) 229-5983 for sampling information.)*

7. Consult the most recent State of Oregon Department of Environmental Quality 305(b) Report to determine whether any streams in the study area are listed as a *water quality limited.* (You may want to ask DEQ whether there are any proposed changes.) This information is included in Clean Water Act section 303(d) reporting.
   a. Streams or portions of streams within the study area are listed as *water quality limited.*
   b. No streams or portions of streams within the study area are listed as *water quality limited.*
8. Consult the most recent *Oregon Statewide Assessment of Nonpoint Sources of Water Pollution* to determine the water quality condition of stream reaches in the watershed upstream from the assessment area. (If both "b" and "c" apply, choose "c.")
   a. All upstream reaches are listed as *no problem* (or no data available).
   b. One or more upstream reaches are listed in *moderate* water quality condition.
   c. One or more upstream reaches are listed in *severe* water quality condition.

Watershed Notes

Biological characteristics of the watershed

9. Fisheries: Select all that are appropriate and list type if known. (Contact local Oregon Department of Fish and Wildlife office for this information.)

Type

a. Cold water.
b. Warm water.
c. Anadromous.
d. Wild population.
e. Introduced or hatchery populations.
f. None.
g. Other (list).

10. Are known sensitive, threatened or endangered fish species present in the watershed? If so, list which species.

Species

a. Yes.
b. No.
c. Unknown.

11. Wildlife species: Select all that are appropriate and list species if known. (Contact local Oregon Department of Fish and Wildlife office for this information.)

Species

a. Migratory birds.
b. Big game.
c. Nesting birds.

12. Are known sensitive, threatened or endangered plant species or wildlife species other than fish present in the watershed? If so, list which species. (Contact local ODFW office or Natural Heritage Council for this information.)

Species

a. Yes.
b. No.
c. Unknown.

Watershed Notes

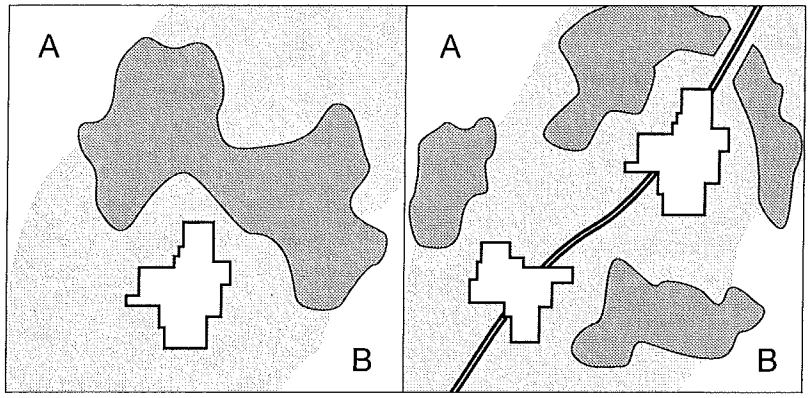


Figure 1. Watersheds as corridors for wildlife movement.
Areas A and B are the end points of a movement corridor through the watershed. Natural areas are shaded darkly, the irregular polygons represent highly developed areas, and the thick black line represents an impassable barrier such as an interstate highway. In the first part of the illustration, the contiguous natural area connects both ends of the corridor. The developed area is a barrier, but it does not obstruct species movement. The second half of the illustration shows fragmented natural areas with an impassable barrier. If the barrier stopped at the smaller developed area and did not continue off the lower left, species movement would still be possible.

13. Does the watershed provide a natural corridor for fish or wildlife movement? (Observe from aerial photographs.) **List whether for fish, wildlife or both.** Consider fences, dams and other barriers to travel. Aerial photographs of the watershed area are the best source of information. Fragmented systems have barriers to movement or a section where the natural area is broken by developed area.

    A corridor is a landscape feature that enables fish or wildlife species to travel between broad geographical areas. (See Figure 1.)

    a. There are contiguous natural areas that allow species movement, and if barriers exist, they do not stop animal or fish movement.
    b. The natural areas are fragmented, but species movement is still possible.
    c. The habitat system is fragmented, and there are barriers to species movement.

14. What are the landscape features at both ends of the movement corridor? (These may lie outside the assessment area.) From an aerial photo, observation or local knowledge, determine whether there are large natural areas at either end of the movement corridor. The natural area does not have to be a wetland.

    a. Large natural habitat areas are at both ends.
    b. One end has a natural habitat area and the other end is developed.
    c. Both ends are developed.

Watershed Notes

Wetland 1	Wetland 2	Wetland 3

Individual wetland sites

Fill out this part of the characterization for each wetland in the assessment area. Some of the information can be gathered in the office; some must be gathered at the site. You may want to do a rough sketch of the site (doesn't have to be to scale) to refer to back in the office.

Wetland structure and relation to surrounding landscape

✓15. What percentage of the area within 500 feet of the wetland's edge is dedicated to the land uses listed below? (From overlay 2 or in the field.)

It is best to determine the land uses from a recent aerial photo. If an aerial photo is not available, measure 500 feet in the field to get an idea of distance to evaluate. Use the following ranges for your answers for each land-use category:

a. Less than 20%.
b. Between 20% and 50%.
c. Greater than 50%.

1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).
2. Agriculture (pasture, cropped lands, orchards, range land).
3. Exclusive Forest Use lands.
4. Developed uses (residential, commercial or industrial—rural and urban).
5. Other (list).

✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15.

17. What is the wetland's area in acres? (Measure the entire area of contiguous wetland, not just the portion within the assessment area. Use the dimensions of the wetland as outlined on the base map.)

a. Greater than 5 acres.
b. Between 0.5 acres and 5 acres.
c. Less than 0.5 acres.

✓ *Questions preceded by a check mark can be completed in the field.*

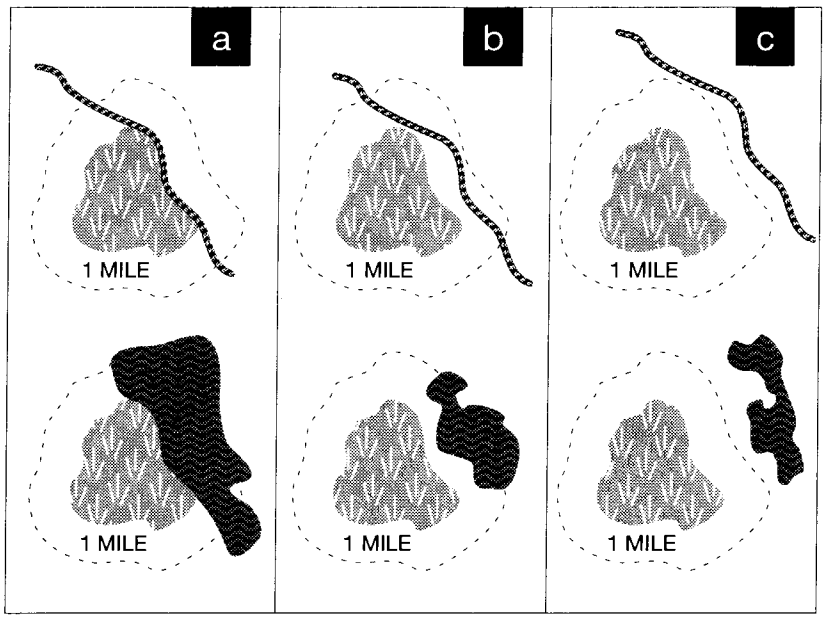


Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile but no surface connection, and part "c" shows no stream, lake or pond within 1 mile and no surface connection.

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.
19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

	Wetland 1	*Wetland 2*	*Wetland 3*

	Wetland 1	Wetland 2	Wetland 3
20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?			
Use the following ranges for your answers:			
a. Less than 20%			
b. Between 20% and 50%			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not lands zoned for Exclusive Forest Use).			
2. Agriculture (pasture, cropped lands, orchards, range land).			
3. Exclusive Forest Use lands.			
4. Developed uses (residential, commercial, industrial).			
5. Other (list).			

Wetland habitat

✓21. What percentage of the wetland's area is covered by the following Cowardin wetland classes? (Cowardin wetland classes refer to a classification of wetland type by vegetation cover. See Appendix D.) Only list those that compose 10% or more of the overall wetland.			
The percentages can be estimated in the field or from aerial photographs. Use the following categories for your answers:			
a. Between 70% and 100%.			
b. 50% or more, but less than 70%.			
c. 20% or more, but less than 50%.			
d. 10% or more, but less than 20%.			
1. Open water (deep water habitat, greater than or equal to 6.6 feet or 2 meters).			
2. Emergent (includes floating aquatics—herbaceous plants that can tolerate flooding and living in wet soils).			
3. Scrub-shrub (woody vegetation under 20 feet tall).			
4. Forested (woody vegetation 20 feet or taller).			
✓22. For urban areas, how many wetland plant species are present? (You need not list the species name.)			
a. More than 5 plant species.			
b. Between 2 and 5 plant species.			
c. 1 plant species (monotypic).			
✓23. What is the dominant wetland vegetation cover type?			
a. Woody vegetation (forested and scrub-shrub).			
b. Emergent vegetation and ponding, or open water only.			
c. Emergent vegetation only or wet meadow.			

	Wetland 1	Wetland 2	Wetland 3
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.).			

Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland.

a. High.
b. Moderate.
c. Low.

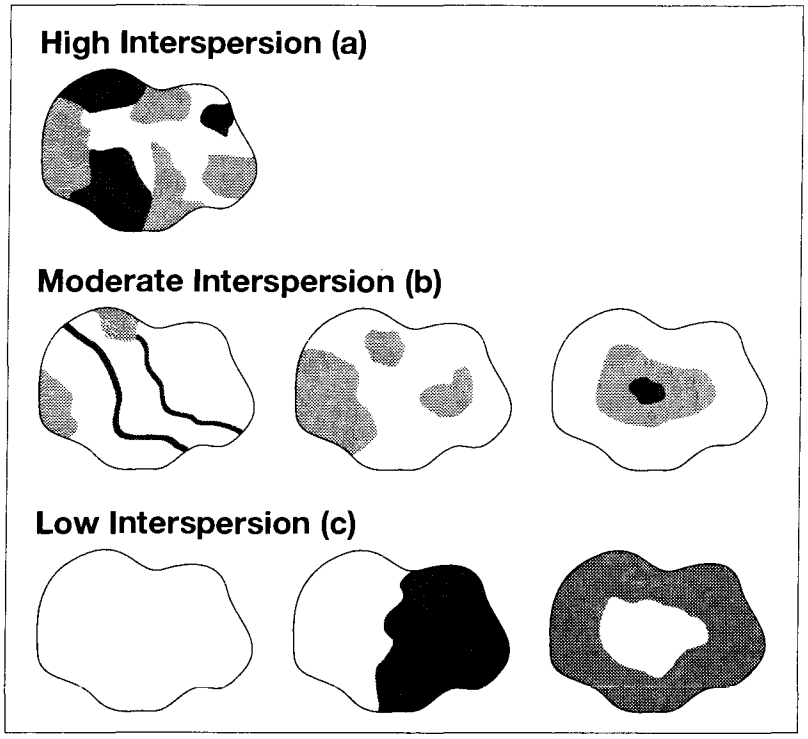


Figure 3. Interspersion of Cowardin classes and upland inclusions.

	Wetland 1	*Wetland 2*	*Wetland 3*
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.) a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake. b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius. c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland. a. More than 3 acres. b. Greater than 1 acre, up to 3 acres. c. Between 0.5 acre and 1 acre. d. Less than 0.5 acre.			

	Wetland 1	Wetland 2	Wetland 3

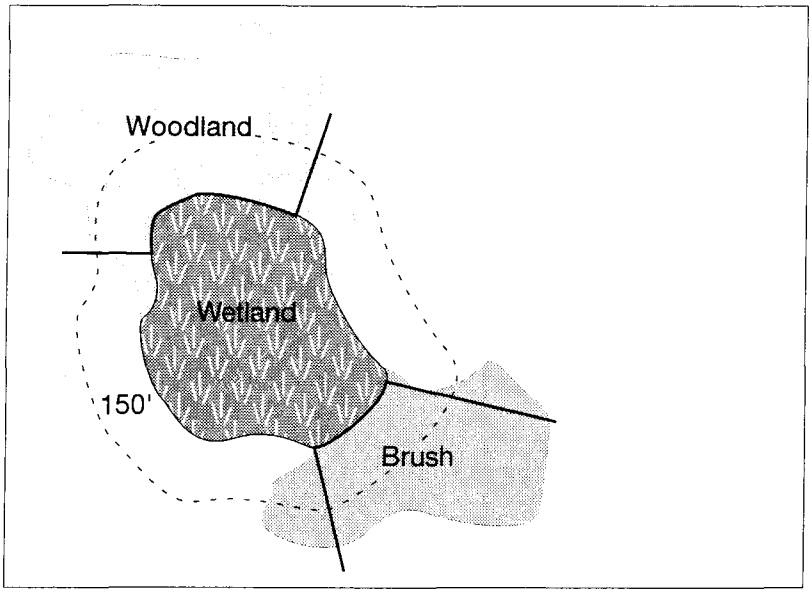


Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland habitat is at least 150 feet wide. The dark lines (portions of the wetland bordered by upland habitat at least 150 feet wide) make up roughly one-third (between 10% and 40%) of the wetland perimeter.

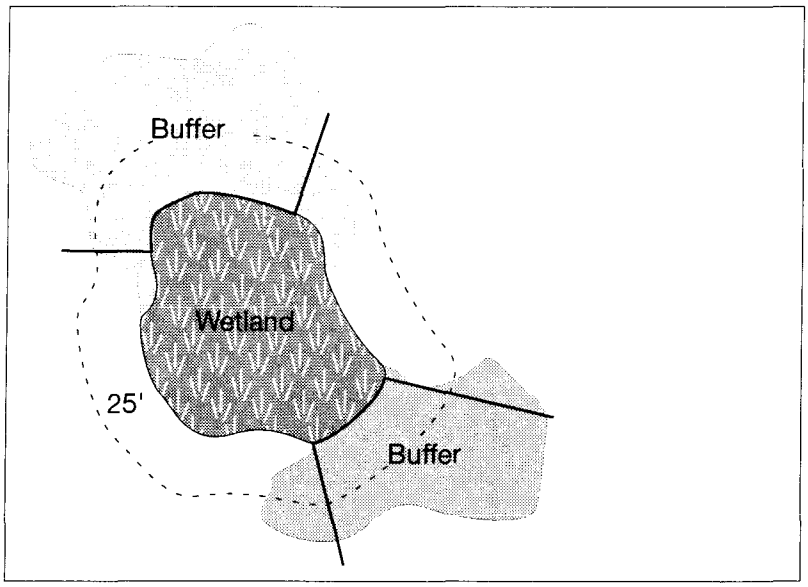


Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the wetland habitat is at least 25 feet wide. The dark lines (portions of the wetland bordered by a vegetative buffer at least 25 feet wide) make up roughly one-third (between 10% and 40%) of the wetland perimeter.

	Wetland 1	Wetland 2	Wetland 3

Fisheries habitat

29. Are fish present in a stream, lake or pond connected to the wetland.
    a. Salmon, trout or sensitive species are present at some time during the year.
    b. Species not covered in "a" are present at some time during the year.
    c. No species are present at any time during the year.

Streams connected to the wetland

Complete this section only if the wetland being assessed has an unimpeded surface water connection to a stream.

✓30. What is the physical character of the stream channel? To observe stream channel modifications, look for built rock banks, cement sides, straightened areas or other human-created features.
    a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.
    b. Only portions of the stream are modified.
    c. The stream is extensively modified or confined in a non-vegetated channel or pipe.

✓31. What percentage of the stream is shaded by streamside (riparian) vegetation?
    a. Greater than 75%.
    b. Between 50 and 75%.
    c. 25% or more, but less than 50%.
    d. Less than 25%.

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

	Wetland 1	*Wetland 2*	*Wetland 3*
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.			
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%			

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.			
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.			
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.			

	Wetland 1	*Wetland 2*	*Wetland 3*
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.			
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.			

Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*

41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.			
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).			
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.			

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.			
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)			
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.			

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.			

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland?			
a. Yes, developed or maintained trails or viewing areas exist.			
b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat.			
c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.			
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water.			
a. Yes (either all or part of the year).			
b. No.			
c. Not applicable.			
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.)			
a. Yes (either all or part of the year).			
b. No.			

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.)			
a. Significant contrast with surrounding landscape.			
b. Limited contrast with surrounding landscape.			
c. Little or no contrast with surrounding landscape.			
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.)			
a. Open space or naturally landscaped areas.			
b. Areas landscaped or manipulated by people.			
c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland?			
a. Yes.			
b. No.			
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily?			
a. Yes.			
b. No.			

	Wetland 1	Wetland 2	Wetland 3
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)?			
a. Natural, pleasant odors only.			
b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times.			
c. Unpleasant odors are distinct and continuously present.			



Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?			
a. Bird and wildlife noises and other naturally occurring sounds.			
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.			
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.			
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.			
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.			
a. Greater than 50%.			
b. Between 25% and 50%.			
c. Less than 25%.			
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)			
a. More than two.			
b. Two			
c. One			

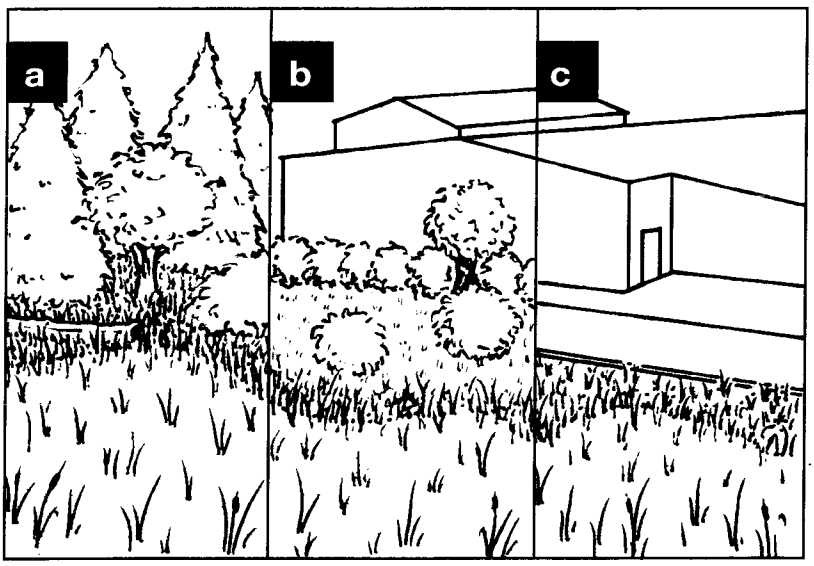


Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

Function & condition assessment questions

VI.

This chapter includes a set of **assessment questions** for each of the nine functions and conditions evaluated using the Oregon Method.

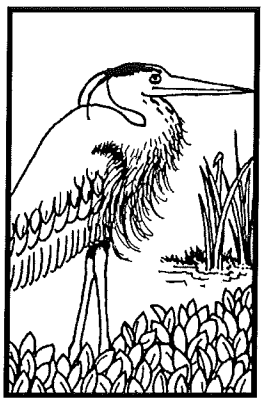
Listed after each assessment question you will find **directions** explaining which questions from the Wetland Characterization you should refer to when determining your answer. Some of the questions are followed by examples.

Then, following the directions for each question, is a **rationale** paragraph that explains the importance of the information you are asked to gather.

Duplicates of all question sets—without the rationales—appear in Appendix C. *Once you are familiar with the directions and rationale for each question, detach the appendix and photocopy it for use in the field.* This will reduce the possibility of losing portions of the main document.

At the end of the chapter (and in Appendix C) is an **answer sheet**, where you can enter your responses to all assessment questions, as well as a **function and condition summary sheet,** where you can enter the results of the assessment criteria for each function and condition and where you can write an overall description of a wetland's functions and conditions. The **watershed summary sheet** is also included at the end of this chapter.





Wildlife habitat

Wetlands provide habitat for many wildlife species. A single wetland often cannot satisfy all require ments for wildlife use, so its proximity to other bodies of water or upland areas is important. Buffers and corridors are also essential for this reason, and they reduce human disturbance as well. Many species also have special habitat requirements: Good water quality is necessary for amphibians and mammals; structural diversity is important for birds; and a combination of open water and grazing areas is important for waterfowl.

Notes

For this assessment, **urban wetlands are those within urban growth boundaries or urban or rural service areas.** Because of the impacts of human activities, urban wetlands may not satisfy as many habitat requirements as wetlands in undeveloped areas. This should not be interpreted to mean that urban wetlands have limited value for all wildlife. The importance of an urban wetland may be increased because of its location and surroundings.

Assessment questions

Question 1

How many Cowardin wetland classes are present?

Directions

See question 21 in the Wetland Characterization. Count only those Cowardin classes for which you answered "a," "b" or "c." For urban areas, also consider the mix of species (Question 22 in the Wetland Characterization.)

Rural areas:

a. Three or four.

b. Two.

c. One.

Urban areas:

a. Two or more.

b. One class with more than five plant species.

c. One class with five or fewer plant species.

Rationale

In Northwest wetlands, vegetation is the most important component of wildlife habitat. It is widely recognized that plant community diversity increases animal community diversity. The existence of two Cowardin classes adjacent to each other may also improve wildlife habitat value because some wetland wildlife species use the edge between plant communities. ("Edge" describes the border between vegetation types or between a vegetation type and open water.)

Structural diversity is also important. If several layers of vegetation are present, more diverse habitat types are provided. (Different birds nest in different layers.) In addition, the number of layers affects the amount of natural debris, which is necessary for amphibians and other wildlife.

Question 2

What is the dominant wetland vegetation cover type?

a. Woody vegetation.
b. Emergent vegetation and ponding, or open water only.
c. Emergent vegetation or wet meadow.

Directions

See question 23 in the Wetland Characterization.

Rationale

Wooded and shrub wetlands provide habitat for the largest overall species assemblages. Emergent wetlands associated with open water are also an essential habitat for a large number of wetland species, particularly waterfowl, amphibians and wading birds. Emergent wetlands without open water provide habitat for wetland species to a lesser degree.

Question 3

What is the degree of Cowardin class interspersion for the wetland being observed?

a. High.
b. Moderate.
c. Low.

Directions

See question 24 in the Wetland Characterization.

Rationale

Interspersion occurs when two or more wetland types or upland inclusions create a mosaic or pattern. In a wetland composed of approximately concentric bands of vegetation, such as cattails ringed by shrubs, interspersion is low. At the opposite extreme, small patches of shrubs scattered throughout an emergent marsh represent a high degree of interspersion.

When two or more vegetation types are highly interspersed, a great deal of edge is created. Edge is important because many wildlife species are edge dwellers. Generally, the greater the edge, the greater the diversity of wildlife.

Notes

Question 4

If the wetland contains unvegetated open water, how many acres of unvegetated open water are present?

Directions

See question 28 in the Wetland Characterization.

Rural areas:

a. More than 3 acres .
b. Between 0.5 and 3 acres.
c. Less than 0.5 acres.

Urban areas:

a. More than 1 acre.
b. Between 0.5 and 1 acre.
c. Less than 0.5 acres.

Rationale

Open water is essential to a number of wetland wildlife species, including waterfowl, wading birds, amphibians and some reptiles.

Question 5

How is the wetland connected to another body of water, such as a stream, lake or pond?

Directions

See question 18 in the Wetland Characterization.

a. The wetland is connected by surface water to another body of water.
b. No surface water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

Rationale

Wetland wildlife species will often use surface water to travel between a wetland and deep water. Also, water must be available during critical phases for the wildlife that use it. Water available during the nesting season is more valuable to wildlife than water available only during the winter.

Notes

Question 6 *(for Western OR only)*

How is the wetland connected to other wetlands?

Directions

See question 27 in the Wetland Characterization.

a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.

Rationale

Proximity to other wetlands increases a wetland's utility as habitat. Nearby wetlands sometimes contain features absent from the assessment wetland. For example, birds such as the great blue heron may roost near one wetland but travel to another to fish if the wetland where they roost doesn't have an ample supply of fish.

This criterion applies only in western Oregon. Because of the dry climate in eastern Oregon, isolated wetlands provide important habitat to both local and migratory species.

Question 7

What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?

Directions

See questions 7 and 8 in the Wetland Characterization. If both "a" and "b" apply, choose "a."

a. No upstream or adjacent reaches are listed as *water quality limited,* and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants.
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants.
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants.

Rationale

Poor water quality can harm many terrestrial and aquatic species. The character of a wetland ecosystem can change when exposed to nutrients and other chemicals beyond tolerable limits. Excess nutrients, for example, can cause oxygen deficiencies, which in turn can cause a change in the species composition of both plant and animal communities. Studies in Washington and elsewhere have indicated that amphibians are especially sensitive to water quality.

Notes

Question 8

What is the dominant existing land use within 500 feet of the wetland's edge?

a. Exclusive Forest Use or Open Space.
b. Agriculture.
c. Developed uses.

Directions

See question 15 in the Wetland Characterization. If the responses you gave to question 15 in the Characterization indicate that two or more land-use categories are equally dominant, pick the one that will yield the lowest letter response for this question. (Example: In question 15 of the Wetland Characterization, you responded "b. Between 20% and 50%" to both *Exclusive Forest Use lands* and *developed uses,* and the remainder of your responses to question 15 were "a. Less than 20%." For this Wildlife Habitat question, you would respond "a. Exclusive Forest Use or Open Space.")

Rationale

Wildlife habitat generally deteriorates as land use changes from forested land to agricultural land to urban land. Certain game species, such as deer and some waterfowl, may benefit from land clearing. However, the majority of wildlife species are affected adversely when the land is developed because of fencing, lighting and loss of habitat.

Notes

Question 9a

For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide?

a. Greater than 40%.
b. Between 10% and 40%.
c. Less than 10%.

Question 9b

For **urban areas:** What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?

a. Greater than 40%.
b. Between 10 and 40%.
c. Less than 10%.

Directions

For rural areas, see question 25 in the Wetland Characterization. For urban areas, see question 26 in the Wetland Characterization.

Rationale

A buffer zone, an uncut or undisturbed area of vegetation providing wildlife cover, increases a wetland's wildlife habitat potential. It provides habitat for both upland animals and wetland dependent species that require upland habitat for parts of their life cycle. A buffer zone also decreases the impacts of disturbance on the wetland. This is particularly important for nesting birds, which may be disturbed by people and household pets.

Well-vegetated buffer areas and corridors are particularly significant in urban areas because of their beneficial effect on water quality as well as their value for wildlife.

Wildlife habitat: assessment criteria

The wetland provides diverse wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides habitat for some wildlife species if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is lost or not present if:	All questions are answered "c."

Notes



Fish habitat

Notes

This index assesses the contribution of wetlands connected to streams, rivers, lakes or ponds to fish habitat. **or this index, "connected to" implies a surface-water connection.** The assessment should be done on the reach of the stream or on a section of lake that actually borders the wetland or is contained within the wetland.

A stream is defined as a waterbody with a distinct channel and flow. Examples include sloughs, perennial streams and intermittent streams. If dikes or berms have been built on the stream banks between the stream and wetland that do not allow continual exchange of surface water, do not complete this index. If both a stream and lake are present, choose the one with the longest wetland surface connection.

Wetlands that contribute to habitat for fish include areas with dense, overhanging vegetation. This vegetation provides shade, cover and food sources to related waterways and lakes. Wetlands also provide spawning, rearing and resting opportunities for fish. However, a wetland need not actually contain fish to contribute to fish habitat because wetlands may perform important functions for fish-bearing waters downstream.

The assessment of fish habitat is divided into two parts. Part A evaluates the wetland habitat connected to rivers and streams. If there is no stream or river associated with the wetland, then leave Part A out of the assessment. Part B evaluates the wetland habitat connected to ponds (water greater than 6 feet deep) and lakes. If there is no lake or pond connected to the wetland, then leave Part B out of the assessment. If no stream, river, pond or lake is connected to the wetland, then leave this index out of the assessment altogether.

Assessment questions: Part A—streams

Question 1

What percentage of the stream is shaded by stream-side (riparian) vegetation?

Directions

See question 31 in the Wetland Characterization.

Western Oregon:

a. More than 75%.

b. Between 50% and 75%.

c. Less than 50%.

Eastern Oregon:

a. 50% or more.

b. 25% or more, but less than 50%.

c. Less than 25%.

Rationale

Many Oregon streams are unsuitable for anadromous and resident fish because riparian vegetation has been cleared. High water temperatures that result from removal of stream-side vegetation can make a stream unsuitable for some fish species. Salmonids and some resident fish are particularly susceptible to elevated water temperatures. The amount and type of stream-bank cover also affects the amount of large woody debris in the stream or river system. In addition, stream-bank vegetation provides habitat for insects, an important food source for salmonids.

Question 2

What is the physical character of the stream channel?

Directions

See question 30 in the Wetland Characterization.

a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.

b. Only portions of the stream channel are modified.

c. The stream is extensively modified or confined in a non-vegetated channel or pipe.

Rationale

Although the species or age composition of low- and high-gradient streams is different, both can provide habitat for fish. Artificially channelized or extensively modified streams, however, usually do not provide fish habitat as well as natural stream channels.

Notes

Question 3

What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?

a. More than 25%.
b. Between 10% and 25%.
c. Less than 10%.

Directions

See question 32 in the Wetland Characterization.

Rationale

Cover is essential for good fish habitat. It provides refuge from predators and serves as substrate for insect larva, which are a good food source for some fish species. The presence of large pieces of woody material in pools is essential for providing adequate winter habitat for salmonid species. In addition, large pieces of woody material contribute to bank stability, dissipate energy, generate pool formation and encourage meandering. The breakdown of this material is also important in the nutrient cycle of the stream or river.

Question 4

What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?

a. No upstream or adjacent reaches are listed as *water quality limited,* and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants.
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants.
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants.

Directions

See questions 7 and 8 in the Wetland Characterization. If both "a" and "b" apply, choose "a."

Rationale

Poor water quality can harm many aquatic species. The whole character of a wetland ecosystem can change when it is exposed to nutrients and other chemicals beyond tolerable limits. Excess nutrients, for example, can cause oxygen deficiencies, which in turn can cause a species composition change in both plant and animal communities.

Notes

Question 5

What is the dominant existing land use within 500 feet of the wetland's edge?

a. Exclusive Forest Use or Open Space.
b. Agriculture.
c. Developed uses.

Directions

Refer to the directions for question 8 of the wildlife habitat assessment questions.

Rationale

Fish habitat generally deteriorates as land use becomes more intensive, e.g., changes from forested land to agricultural land (including rangeland) to urban land. The change in intensity often changes the structure of the habitat and increases runoff, pollutant loading and sedimentation.

Question 6

Are fish present in a stream, lake or pond associated with the wetland?

a. Salmon, trout or sensitive species are present at some time during the year.
b. Species not covered in "a" are present at some time during the year.
c. No species are present at any time during the year.

Directions

See question 29 in the Wetland Characterization.

Rationale

The potential for a wetland to benefit fish is directly related to the presence of fish in the stream or river reach within or adjacent to the wetland.

Part B—lakes and ponds

Question 1

Does the lake or pond contain areas of both deep and shallow water?

a. Yes.
b. Cannot be determined.
c. No.

Directions

See question 33 in the Wetland Characterization.

Rationale

The depth of the pond or lake is important for spawning and may be important for rearing. A mixture of shallow, medium and deeper water is optimum to provide different habitat types.

Notes

Question 2

What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?

a. More than 25%.
b. Between 10% and 25%.
c. Less than 10%.

Directions

See question 35 in the Wetland Characterization.

Rationale

Cover is essential for good fish habitat. It provides refuge from predators and serves as substrate for insect larva, which are a food source for some fish species. The presence of large pieces of woody material in wetlands is essential for providing adequate winter habitat for salmonid species. In addition, large pieces of woody material contribute to bank stability and dissipate energy. The breakdown of this material is also important in the nutrient cycle of the pond or lake.

Question 3

What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?

a. 60% or more.
b. 20% or more, but less than 60%.
c. Less than 20%.

Directions

See question 34 in the Wetland Characterization.

Rationale

Shoreline cover provides shading, which moderates water temperature in lakes and ponds. High water temperatures that result from removal of lake-side vegetation can make a lake unsuitable for some fish species. Shoreline vegetation also provides food, large pieces of woody debris and cover from predators. Woodland and scrubland vegetation provides more shading than herbaceous vegetation.

Notes

Question 4

What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?

Directions

See questions 7 and 8 in the Wetland Characterization. If both "a" and "b" apply, choose "a."

a. No upstream or adjacent reaches are listed as *water quality limited,* and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants.
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants.
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants.

Rationale

See Part A question 4.

Question 5

What is the dominant existing land use within 500 feet of the wetland's edge?

Directions

Refer to the directions for question 8 of the wildlife habitat assessment questions.

a. Exclusive Forest Use or Open Space.
b. Agriculture.
c. Developed uses.

Rationale

See Part A question 5.

Question 6

Are fish in a stream, lake or pond associated with the wetland?

Directions

See question 29 in the Wetland Characterization.

a. Salmon, trout or sensitive species are present at some time during the year.
b. Species not covered in "a" are present at some time during the year.
c. No species are present at any time during the year.

Rationale

The potential for a wetland to benefit fish is directly related to the presence of fish in the pond or lake.

Notes

Fish habitat: assessment criteria

The wetland's fish habitat function is intact if:	Any three questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is impacted or degraded if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is lost or not present if:	All questions are answered "c."

Notes



Water quality (pollutant removal)

Notes

Sediment trapping

During periods of heavy rainfall, water runoff may cause erosion and increase solids suspended in receiving surface waters. The excess sediment entering water systems can damage aquatic ecosystems. For example, sediment accumulation in stream bottoms can smother spawning areas and kill aquatic insect larvae. It can also reduce the storage capacity of downstream water supply reservoirs.

Wetlands perform an important function by trapping sediment from waters that pass through them. As water flows through wetlands, it is slowed by vegetation, and sediment settles to the bottom before the water moves farther downstream. As much as 90% of the solids suspended in the water may be removed as the water moves through wetlands, resulting in cleaner water entering streams, rivers, lakes and estuaries.

Nutrient attenuation

Nitrogen and phosphorus are the two nutrients most often associated with water pollution. They are also main ingredients of fertilizers used on agricultural fields and lawns, and both are found in high concentrations in discharges from sewage treatment plants and livestock operations. Excessive amounts of nitrogen and phosphorus in lakes and slow-moving streams can cause algal blooms and subsequent oxygen deficiencies, which may kill fish and reduce water quality. The processes that occur as a result of excess nutrients are lumped together under the term "eutrophication." Within limits, wetlands can reduce nutrient levels so that the effects of eutrophication on downstream areas are prevented or reduced. This index considers only point and non-point pollutant sources that are due to land uses in the watershed.

Assessment questions

Question 1

What is the wetland's primary source of water?

a. Surface flow, including streams and ditches.
b. Precipitation or sheet flow.
c. Groundwater, including seeps and springs.

Directions

See question 36 in the Wetland Characterization.

Rationale

Wetlands bordering a perennial or intermittent stream or lake are areas into which floodwaters spread during periods of high runoff, enabling the wetlands to remove pollutants.

Question 2

Is there evidence of flooding or ponding during a portion of the growing season?

a. Yes.
b. Unable to determine or not applicable.
c. No.

Directions

See question 37 in the Wetland Characterization.

Rationale

Water level fluctuation in the wetland indicates the ability to retain water. Impounded or standing water acts as a sediment trap because it greatly slows the flow of the incoming water, allowing suspended solids to settle out. Additionally, the slower velocity increases the contact time of the water with vegetation, resulting in uptake of nutrients by the vegetation. These actions function to reduce pollutant loads.

Question 3

What is the degree of wetland vegetation cover?

a. High (greater than 60%).
b. Moderate (approximately 60%).
c. Low (less than 60%).

Directions

See question 21 in the Wetland Characterization. Add the lower end of the ranges for forest, scrub-shrub and emergent vegetation to get the result. If the result is 60% or more, answer "high." If the result is 60%, answer "moderate." Answer "low" for other results.

Rationale

The more dense the vegetation, the greater the wetland's ability to take up nutrients. A dense stand of persistent emergent plants (such as cattail and rush) along with floating and submerged aquatics would tend to provide maximum nutrient uptake during the growing season. Wooded and scrub-shrub wetlands remove nutrients mainly through settling of suspended solids in runoff and flood waters.

Notes

Question 4

What is the wetland's area in acres?

Directions

See questions 17 and 27 in the Wetland Characterization.

a. More than 5 acres.
b. Between 0.5 acres and 5 acres; or wetland area is less than 0.5 acres, and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake.
c. Less than 0.5 acres, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake.

Rationale

The larger the wetland, the greater its capacity and ability to filter pollutants. Small wetlands connected by surface water act as a series of filters and thus function similarly to a larger wetland.

Question 5

What is the dominant, existing land use within 500 feet of the wetland's edge?

Directions

Refer to the directions for question 8 of the wildlife habitat assessment questions.

a. Developed uses.
b. Agriculture.
c. Exclusive Forest Use or Open Space.

Rationale

Urbanized areas have more impervious surface areas and concentrate pollution sources. Wetlands in urban areas are important for filtering the runoff water before it enters a stream.

Notes

Question 6

What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?

Directions

See questions 7 and 8 in the Wetland Characterization. If both "a" and "b" apply, choose "a."

a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants.

b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants.

c. No upstream or adjacent reaches are listed as *water quality limited,* and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants.

Rationale

A watershed with upstream pollutant loading sources needs wetlands to reduce pollutant levels in water before it is delivered downstream.

Water quality: assessment criteria

A wetland's water-quality function is intact if:	Question 1 is answered "a" or "b," questions 2 and 3 are answered "a," and any other question is answered "a" or "b."
A wetland's water-quality function is impacted or degraded if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is lost or not present if:	Four out of six questions are answered "c."

Notes



Hydrologic control
(flood control & water supply)

Notes

Wetlands function as natural water-storage areas during periods of high runoff and stream flooding. At times they act as flood regulators by holding floodwater then slowly releasing it downstream. This temporary storage reduces the amount of water downstream during floods, thereby reducing peak flows. Through this flood storage mechanism, wetlands associated with tributaries of streams or rivers can prevent water from all tributaries reaching the stream or river at the same time (this is called desynchronization). Wetlands can also act as floodwater "brakes." For example, water flowing through riverine wetlands during floods is slowed by trees, shrubs, reeds, rushes and other wetland vegetation. Wetlands acting as brakes can reduce flood peaks and thereby reduce flood damage, bank and bed erosion, and other adverse effects caused by fast moving water.

Wetlands also have long-term water holding abilities. Wetlands may store water for longer periods, sometimes for months. The slow draining of these wetlands to surface water or ground water as the water level in the wetland recedes may contribute to maintenance of baseflows in streams hydrologically connected to the wetland. The ability of this long-term water storage to maintain stream flows is called "flow conservation."

Assessment questions

Question 1

Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?

a. Yes.
b. No.

Directions

See question 19 in the Wetland Characterization.

Rationale

Wetlands located within a floodplain or enclosed basin have a greater opportunity to receive and store water from surface flows and to release it slowly downstream or into the groundwater.

Question 2

Is there evidence of flooding or ponding during a portion of the growing season?

a. Yes.
b. Unable to determine or not applicable.
c. No.

Directions

See question 37 in the Wetland Characterization.

Rationale

Water marks are valid indicators of seasonal and episodic stage fluctuations in wetlands and, as such, are strong indicators of storage function.

Question 3

What is the wetland's area in acres?

a. More than 5 acres.
b. Between .5 acres and 5 acres.
c. Less than .5 acres.

Directions

See question 17 in the Wetland Characterization.

Rationale

Generally, the larger the wetland, the greater its ability to store and attenuate flood flows.

Question 4

Is waterflow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)?

a. Yes, the outlet is restricted or the wetland has no outlet.
b. Minor restrictions slow down the water (i.e., undersized culvert.)
c. No, the outlet has unrestricted flow.

Directions

See question 38 in the Wetland Characterization.

Rationale

Wetlands with no outlets or with restricted or controlled outlets generally will store greater amounts of water than wetlands with unrestricted flow outlets. Also, the wetland can store water for slower release into the water system.

Notes

Question 5

What is the dominant wetland vegetation cover type?

a. Woody vegetation.
b. Emergent vegetation and ponding, or open water only.
c. Emergent vegetation or wet meadow.

Directions

See question 23 in the Wetland Characterization.

Rationale

Densely vegetated wetlands with vegetation greater than 6 feet tall are better able to control flood flows than wetlands dominated by open water or low growing vegetation, which generally offers little resistance.

Question 6

What is the dominant existing land use, within 500 feet of the wetland on the downstream or down-slope edge of the wetland?

a. Developed uses.
b. Agriculture.
c. Exclusive Forest Use and Open Space.

Directions

See question 16 in the Wetland Characterization.

Rationale

If the wetland is upstream from developed areas, its ability to control floods becomes more important.

Question 7

What is the dominant land use in the watershed upstream from the assessment area?

a. Urban or urbanizing.
b. Agriculture.
c. Forested or natural area.

Directions

See question 6 in the Wetland Characterization.

Rationale

Runoff volume is directly related to the level of development in the watershed: The more development, the more runoff. The opportunity for the wetland to provide flood control and flow conservation to a community is greater where runoff is greater.

Notes

Hydrologic control: assessment criteria	
A wetland's hydrologic control function is intact if:	Four or more questions are answered "a."
A wetland's hydrologic control function is is impacted or degraded if:	Answers do not satisify the above- or below-listed criteria.
A wetland's hydrologic control function is lost or not present if:	Four or more questions are answered "c."

Notes

Cottage Grove LWI - Characterization Results

Wetland Code		1a-c	1d-f	2	3	4	5	6 & 7	8a-d	9	10	11,12, 14	13	15	16	17-19	20 & 21	22	23	24	25	26
Characterization Questions - Refer to the attached guide for the list of questions	15.1	C	C	A	C	A	B	C	C	C	C	C	C	C	C	C	C	B	A	A	A	A
	15.2	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C
	15.3	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	15.4	B	B	C	B	C	B	B	B	B	B	B	B	B	B	B	B	C	C	C	B	B
	16	1	1	4	4	2	4	4	4	4	1	1	1	1	1	1	1	4	4	4	2	2
	17	A	B	C	B	C	C	B	A	B	B	B	B	B	C	B	B	C	C	B	A	B
	18	A	A	A	A	B	A	A	A	A	A	B	B	B	A	B	A	B	A	B	A	A
	19	B	B	B	A	B	A	A	A	A	A	A	A	A	A	A	A	B	B	B	B	B
	20.1	C	C	A	B	A	A	B	C	C	C	C	C	C	C	C	C	A	A	A	C	A
	20.2	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	A	A	A	C
	20.3	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	20.4	B	B	C	A	C	C	C	C	A	A	A	A	A	A	A	A	B	B	C	A	A
	21.1	N/A	D	N/A	D	N/A	N/A	C	C	D	D	D	D	D	D	D	D	N/A	N/A	N/A	D	D
	21.2	D	B	A	C	A	B	C	C	C	B	B	B	C	D	B	C	A	D	A	C	A
	21.3	D	D	N/A	C	N/A	D	D	D	D	D	D	D	D	D	D	C	D	C	N/A	D	D
	21.4	B	D	D	B	N/A	D	D	D	C	D	D	D	C	B	D	C	N/A	B	N/A	C	N/A
	22	A	A	A	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	23	A	B	B	A	V	B	B	B	B	B	B	B	B	B	B	B	C	A	C	A	B
	24	B	B	C	A	C	B	B	B	A	A	A	A	A	A	A	B	B	B	C	B	B
	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	26	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	27	A	A	A	A	B	A	A	A	A	A	B	B	B	A	B	A	B	A	B	B	A
	28	D	D	D	N/A	N/A	D	B	B	D	D	B	B	B	D	B	B	D	D	N/A	C	D
	29	B	B	N/A	A	N/A	A	A	A	A	A	B	B	B	A	B	B	N/A	C	N/A	C	B
	30	C	N/A	N/A	A	N/A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A	N/A	B	N/A
	31	B	N/A	N/A	C	N/A	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A	N/A	B	N/A
	32	C	N/A	N/A	A	N/A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	B	N/A	C	N/A
	33	N/A	A	N/A	N/A	N/A	N/A	A	A	A	A	C	A	A	A	A	C	N/A	N/A	N/A	N/A	B
	34	N/A	B	N/A	N/A	N/A	N/A	B	B	C	C	C	C	B	B	B	A	N/A	N/A	N/A	N/A	C
	35	N/A	A	N/A	N/A	N/A	N/A	B	B	A	A	B	A	B	B	B	A	N/A	N/A	N/A	N/A	C
	36	A	A	A	A	C	A	A	A	A	A	C	C	C	A	C	A	C	A	B	A	A
	37	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	38	A	A	A	C	A	C	A	B	C	C	A	C	A	C	A	B	A	A	A	A	A

Cottage Grove LWI - Characterization Results

Wetland Code		27	28	1992-0202-1-5	1992-0202-6	1992-0202-7	1992-0202-8	1994-0190	1996-0030-1	1996-0030-2	1999-0485-1	1999-0485-2	1999-0485-3	2001-0460	2001-0471-1a-d & 2	2003-0461
Characterization Questions - Refer to the attached guide for the list of questions	15.1	A	A	C	C	C	C	A	A	A	B	B	B	A	C	C
	15.2	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A
	15.3	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	15.4	B	B	B	B	B	B	C	C	C	C	C	C	C	A	A
	16	2	2	1	1	1	1	4	4	4	4	4	4	4	4	4
	17	A	B	B	B	B	B	A	A	C	C	C	C	C	A	A
	18	A	B	B	B	B	A	B	A	B	B	A	B	A	A	A
	19	B	B	A	A	A	A	B	B	B	B	B	B	B	B	A
	20.1	A	A	C	C	C	C	A	A	A	A	A	A	A	A	B
	20.2	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A
	20.3	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	20.4	A	A	A	A	A	A	C	C	C	C	C	C	A	C	A
	21.1	N/A	D	D	D	D	C	D	N/A	N/A	N/A	D	N/A	N/A	D	D
	21.2	C	B	B	D	D	B	B	D	A	A	D	A	A	D	C
	21.3	D	D	D	D	D	D	C	D	N/A	N/A	D	N/A	D	D	D
	21.4	A	D	D	C	C	D	D	A	N/A	N/A	B	B	N/A	B	B
	22	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	23	B	B	B	B	B	B	C	A	C	C	A	C	B	A	A
	24	B	C	A	A	A	A	B	C	C	C	B	C	C	C	C
	25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	26	A	A	A	A	A	A	A	A	A	A	A	B	C	A	A
	27	A	A	B	B	B	A	A	A	B	B	A	B	A	A	A
	28	D	B	B	B	B	D	N/A	D	D	N/A	D	N/A	N/A	N/A	D
	29	B	B	B	A	A	B	N/A	N/A	N/A	N/A	C	N/A	N/A	B	A
	30	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	B	N/A	N/A	A	A
	31	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	B	N/A	N/A	A	A
	32	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C	N/A	N/A	B	B
	33	N/A	B	A	C	C	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	34	N/A	B	B	A	A	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	35	N/A	B	B	B	B	A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	36	A	A	C	C	C	A	B	C	B	B	A	B	A	A	A
	37	A	A	A	A	A	A	A	A	B	A	A	B	A	A	A
	38	A	A	A	C	C	A	A	A	A	A	B	A	A	A	C

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung, Alison Sigler
Project Name:	Cottage Grove LWI		
WetlandCode:	1a-c	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	B	Q1:		Q1:	A	Q1:	B
Q2:	A	Q2:	C	Q2:		Q2:	A	Q2:	A
Q3:	B	Q3:	C	Q3:		Q3:	A	Q3:	B
Q4:	C	Q4:	B	Q4:		Q4:	B	Q4:	A
Q5:	A	Q5:	A	Q5:		Q5:	C	Q5:	A
Q6:	A	Q6:	B	Q6:		Q6:	B	Q6:	C
Q7:	B							Q7:	A
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	The wetland's fish habitat function is impacted or degraded.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	1d-f	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	A	Q1:	B
Q2:	B	Q2:		Q2:	A	Q2:	A	Q2:	A
Q3:	B	Q3:		Q3:	B	Q3:	B	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	A
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	A	Q6:		Q6:	B	Q6:	B	Q6:	A
Q7:	B							Q7:	A
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Loverna Wilson, Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	2	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	A	Q1:	Q1:	Q1:	A	Q1:	B
Q2:	B	Q2:	Q2:	Q2:	A	Q2:	A
Q3:	C	Q3:	Q3:	Q3:	A	Q3:	C
Q4:	C	Q4:	Q4:	Q4:	B	Q4:	A
Q5:	A	Q5:	Q5:	Q5:	A	Q5:	B
Q6:	A	Q6:	Q6:	Q6:	A	Q6:	A
Q7:	A					Q7:	A
Q8:	C						
Q9a:							
Q9b:	C						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is intact.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung, Loverna Wilson
Project Name:	Cottage Grove LWI		
WetlandCode:	3	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	C	Q1:		Q1:	A	Q1:	A
Q2:	A	Q2:	A	Q2:		Q2:	A	Q2:	A
Q3:	A	Q3:	A	Q3:		Q3:	A	Q3:	B
Q4:	C	Q4:	B	Q4:		Q4:	B	Q4:	C
Q5:	A	Q5:	A	Q5:		Q5:	C	Q5:	A
Q6:	A	Q6:	A	Q6:		Q6:	B	Q6:	A
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	The wetland's fish habitat function is intact.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/19/2010	**Investigator(s):**	Loverna Wilson, Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	4	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	C	Q1:	Q1:	Q1:	B	Q1:	B
Q2:	C	Q2:	Q2:	Q2:	C	Q2:	C
Q3:	C	Q3:	Q3:	Q3:	A	Q3:	C
Q4:	C	Q4:	Q4:	Q4:	C	Q4:	C
Q5:	B	Q5:	Q5:	Q5:	A	Q5:	C
Q6:	B	Q6:	Q6:	Q6:	A	Q6:	B
Q7:	A					Q7:	B
Q8:	C						
Q9a:							
Q9b:	A						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is lost or not present.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung, Loverna Wilson
Project Name:	Cottage Grove LWI		
WetlandCode:	5	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	B	Q1:		Q1:	A	Q1:	A
Q2:	B	Q2:	A	Q2:		Q2:	A	Q2:	A
Q3:	B	Q3:	A	Q3:		Q3:	A	Q3:	B
Q4:	C	Q4:	B	Q4:		Q4:	B	Q4:	C
Q5:	A	Q5:	A	Q5:		Q5:	C	Q5:	B
Q6:	A	Q6:	A	Q6:		Q6:	B	Q6:	A
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	The wetland's fish habitat function is intact.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	6, 7	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	C	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	C	Q3:		Q3:	B	Q3:	C	Q3:	B
Q4:	B	Q4:		Q4:	B	Q4:	B	Q4:	A
Q5:	B	Q5:		Q5:	C	Q5:	A	Q5:	B
Q6:	B	Q6:		Q6:	A	Q6:	B	Q6:	A
Q7:	B							Q7:	A
Q8:	C								
Q9a:									
Q9b:	B								

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung, Alison Sigler
Project Name:	Cottage Grove LWI		
WetlandCode:	8a-d	**ProjectNumber:**	209503.2

Wildlife Habitat		**Fish Habitat Streams**	**Fish Habitat Lakes/Ponds**		**Water Quality**		**Hydrologic Control**	
Q1:	A	Q1:	Q1:	A	Q1:	A	Q1:	A
Q2:	B	Q2:	Q2:	B	Q2:	A	Q2:	A
Q3:	B	Q3:	Q3:	B	Q3:	C	Q3:	A
Q4:	A	Q4:	Q4:	B	Q4:	A	Q4:	B
Q5:	A	Q5:	Q5:	A	Q5:	C	Q5:	B
Q6:	A	Q6:	Q6:	A	Q6:	B	Q6:	A
Q7:	B						Q7:	A
Q8:	A							
Q9a:								
Q9b:	A							

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	9	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	A	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	C	Q3:	B	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	C
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	A	Q6:		Q6:	A	Q6:	B	Q6:	A
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	10	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	A	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	B	Q3:		Q3:	C	Q3:	B	Q3:	B
Q4:	B	Q4:		Q4:	B	Q4:	B	Q4:	C
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	A	Q6:		Q6:	A	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	11, 12 , 14	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	C	Q1:	C	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	C	Q3:	C	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	A
Q5:	B	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	B	Q6:		Q6:	B	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	13	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	A	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	B	Q3:		Q3:	C	Q3:	B	Q3:	B
Q4:	B	Q4:		Q4:	B	Q4:	B	Q4:	C
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	A	Q6:		Q6:	A	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	15	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	C	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	B	Q3:	C	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	A
Q5:	B	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	B	Q6:		Q6:	B	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	16	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	A	Q1:	A
Q2:	A	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	B	Q3:	B	Q3:	C
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	C
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	A
Q6:	A	Q6:		Q6:	A	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	17, 18, 19	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	C	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	B	Q3:	C	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	A
Q5:	B	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	B	Q6:		Q6:	B	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	20, 21	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	C	Q1:	C	Q1:	A
Q2:	A	Q2:		Q2:	A	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	A	Q3:	A	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	B
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	A
Q6:	A	Q6:		Q6:	B	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	22	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:		Q1:	C	Q1:	B
Q2:	C	Q2:		Q2:		Q2:	A	Q2:	A
Q3:	B	Q3:		Q3:		Q3:	A	Q3:	C
Q4:	C	Q4:		Q4:		Q4:	C	Q4:	A
Q5:	B	Q5:		Q5:		Q5:	A	Q5:	C
Q6:	B	Q6:		Q6:		Q6:	A	Q6:	A
Q7:	A							Q7:	A
Q8:	C								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	23	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	A	Q1:		Q1:	A	Q1:	B
Q2:	A	Q2:	A	Q2:		Q2:	A	Q2:	A
Q3:	B	Q3:	B	Q3:		Q3:	A	Q3:	C
Q4:	C	Q4:	A	Q4:		Q4:	B	Q4:	A
Q5:	A	Q5:	C	Q5:		Q5:	A	Q5:	A
Q6:	A	Q6:	C	Q6:		Q6:	A	Q6:	A
Q7:	A							Q7:	A
Q8:	C								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	The wetland's fish habitat function is impacted or degraded.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is intact.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Loverna Wilson, Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	24	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	B	Q1:	Q1:	Q1:	B	Q1:	B
Q2:	C	Q2:	Q2:	Q2:	A	Q2:	A
Q3:	C	Q3:	Q3:	Q3:	A	Q3:	B
Q4:	C	Q4:	Q4:	Q4:	B	Q4:	A
Q5:	B	Q5:	Q5:	Q5:	A	Q5:	C
Q6:	B	Q6:	Q6:	Q6:	A	Q6:	A
Q7:	A					Q7:	A
Q8:	C						
Q9a:							
Q9b:	A						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is intact.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Loverna Wilson, Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	25	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	B	Q1:		Q1:	A	Q1:	B
Q2:	A	Q2:	B	Q2:		Q2:	A	Q2:	A
Q3:	B	Q3:	C	Q3:		Q3:	A	Q3:	A
Q4:	C	Q4:	A	Q4:		Q4:	A	Q4:	A
Q5:	A	Q5:	B	Q5:		Q5:	C	Q5:	A
Q6:	B	Q6:	C	Q6:		Q6:	A	Q6:	B
Q7:	A							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse wildlife habitat.
Fish Habitat - Streams:	The wetland's fish habitat function is impacted or degraded.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Loverna Wilson, Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	26	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	B	Q1:	A	Q1:	B
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	B	Q3:		Q3:	C	Q3:	C	Q3:	B
Q4:	B	Q4:		Q4:	A	Q4:	B	Q4:	A
Q5:	A	Q5:		Q5:	B	Q5:	B	Q5:	B
Q6:	A	Q6:		Q6:	B	Q6:	A	Q6:	B
Q7:	A							Q7:	B
Q8:	B								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse habitat for wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Loverna Wilson, Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	27	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	C	Q1:		Q1:	A	Q1:	B
Q2:	A	Q2:	B	Q2:		Q2:	A	Q2:	A
Q3:	B	Q3:	C	Q3:		Q3:	A	Q3:	A
Q4:	C	Q4:	A	Q4:		Q4:	A	Q4:	A
Q5:	A	Q5:	B	Q5:		Q5:	B	Q5:	A
Q6:	B	Q6:	B	Q6:		Q6:	A	Q6:	B
Q7:	A							Q7:	B
Q8:	B								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse habitat for wildlife species.
Fish Habitat - Streams:	The wetland's fish habitat function is impacted or degraded.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is intact. .
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD1992-0202-1-5	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	C	Q1:	A
Q2:	B	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	B	Q3:	C	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	A
Q5:	B	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	B	Q6:		Q6:	B	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse habitat for wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD1992-0202-6	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	C	Q1:	A	Q1:	A
Q2:	A	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	A	Q3:	B	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	C
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	A
Q6:	A	Q6:		Q6:	A	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse habitat for wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD1992-0202-7	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	C	Q1:	A	Q1:	A
Q2:	A	Q2:		Q2:	B	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	A	Q3:	B	Q3:	B
Q4:	C	Q4:		Q4:	B	Q4:	B	Q4:	C
Q5:	A	Q5:		Q5:	A	Q5:	C	Q5:	A
Q6:	A	Q6:		Q6:	A	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse habitat for wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD1992-0202-8	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	A	Q1:	C	Q1:	A
Q2:	B	Q2:		Q2:	A	Q2:	A	Q2:	A
Q3:	A	Q3:		Q3:	A	Q3:	C	Q3:	B
Q4:	B	Q4:		Q4:	B	Q4:	B	Q4:	A
Q5:	B	Q5:		Q5:	A	Q5:	C	Q5:	B
Q6:	B	Q6:		Q6:	B	Q6:	B	Q6:	C
Q7:	B							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides diverse habitat for wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is intact.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD1994-0190	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	A	Q1:	Q1:	Q1:	B	Q1:	B
Q2:	C	Q2:	Q2:	Q2:	A	Q2:	A
Q3:	B	Q3:	Q3:	Q3:	A	Q3:	A
Q4:	C	Q4:	Q4:	Q4:	A	Q4:	A
Q5:	B	Q5:	Q5:	Q5:	A	Q5:	C
Q6:	A	Q6:	Q6:	Q6:	A	Q6:	A
Q7:	A					Q7:	A
Q8:	C						
Q9a:							
Q9b:	A						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is intact.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/19/2010	**Investigator(s):**	Sarah Hartung, Alison Sigler
Project Name:	Cottage Grove LWI		
WetlandCode:	WD1996-0030-1	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	A	Q1:	Q1:	Q1:	A	Q1:	B
Q2:	A	Q2:	Q2:	Q2:	A	Q2:	A
Q3:	C	Q3:	Q3:	Q3:	A	Q3:	A
Q4:	C	Q4:	Q4:	Q4:	A	Q4:	A
Q5:	A	Q5:	Q5:	Q5:	A	Q5:	A
Q6:	A	Q6:	Q6:	Q6:	A	Q6:	A
Q7:	A					Q7:	A
Q8:	C						
Q9a:							
Q9b:	A						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is intact.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/19/2010	**Investigator(s):**	Alison Sigler
Project Name:	Cottage Grove LWI		
WetlandCode:	WD1996-0030-2	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	B	Q1:	Q1:	Q1:	B	Q1:	B
Q2:	C	Q2:	Q2:	Q2:	A	Q2:	A
Q3:	C	Q3:	Q3:	Q3:	A	Q3:	C
Q4:	C	Q4:	Q4:	Q4:	C	Q4:	A
Q5:	B	Q5:	Q5:	Q5:	A	Q5:	C
Q6:	B	Q6:	Q6:	Q6:	A	Q6:	A
Q7:	A					Q7:	A
Q8:	C						
Q9a:							
Q9b:	A						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Sarah Hartung, Alison Sigler
Project Name:	Cottage Grove		
WetlandCode:	WD1999-0485-1	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	B	Q1:	Q1:	Q1:	B	Q1:	B
Q2:	C	Q2:	Q2:	Q2:	A	Q2:	A
Q3:	C	Q3:	Q3:	Q3:	B	Q3:	C
Q4:	C	Q4:	Q4:	Q4:	C	Q4:	A
Q5:	B	Q5:	Q5:	Q5:	A	Q5:	C
Q6:	B	Q6:	Q6:	Q6:	A	Q6:	A
Q7:	A					Q7:	C
Q8:	C						
Q9a:							
Q9b:	A						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Sarah Hartung, Alison Sigler
Project Name:	Cottage Grove		
WetlandCode:	WD1999-0485-2	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	B	Q1:		Q1:	A	Q1:	B
Q2:	A	Q2:	B	Q2:		Q2:	A	Q2:	A
Q3:	B	Q3:	C	Q3:		Q3:	B	Q3:	C
Q4:	C	Q4:	A	Q4:		Q4:	B	Q4:	B
Q5:	A	Q5:	C	Q5:		Q5:	A	Q5:	A
Q6:	A	Q6:	C	Q6:		Q6:	A	Q6:	A
Q7:	A							Q7:	C
Q8:	C								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	The wetland's fish habitat function is impacted or degraded.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is intact.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Sarah Hartung, Alison Sigler
Project Name:	Cottage Grove		
WetlandCode:	WD1999-0485-3	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	B	Q1:	Q1:	Q1:	B	Q1:	B
Q2:	C	Q2:	Q2:	Q2:	B	Q2:	B
Q3:	C	Q3:	Q3:	Q3:	A	Q3:	C
Q4:	C	Q4:	Q4:	Q4:	C	Q4:	A
Q5:	B	Q5:	Q5:	Q5:	A	Q5:	C
Q6:	B	Q6:	Q6:	Q6:	A	Q6:	A
Q7:	A					Q7:	C
Q8:	C						
Q9a:							
Q9b:	B						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is impacted or degraded.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/21/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD2001-0460	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams	Fish Habitat Lakes/Ponds	Water Quality		Hydrologic Control	
Q1:	A	Q1:	Q1:	Q1:	A	Q1:	B
Q2:	B	Q2:	Q2:	Q2:	A	Q2:	A
Q3:	C	Q3:	Q3:	Q3:	A	Q3:	C
Q4:	C	Q4:	Q4:	Q4:	C	Q4:	A
Q5:	A	Q5:	Q5:	Q5:	A	Q5:	B
Q6:	A	Q6:	Q6:	Q6:	C	Q6:	A
Q7:	A					Q7:	A
Q8:	C						
Q9a:							
Q9b:	C						

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD2001-0471-1a-d,-2	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	A	Q1:		Q1:	A	Q1:	B
Q2:	A	Q2:	A	Q2:		Q2:	A	Q2:	A
Q3:	C	Q3:	B	Q3:		Q3:	A	Q3:	A
Q4:	C	Q4:	A	Q4:		Q4:	A	Q4:	A
Q5:	A	Q5:	A	Q5:		Q5:	C	Q5:	A
Q6:	A	Q6:	B	Q6:		Q6:	C	Q6:	A
Q7:	A							Q7:	C
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	The wetland's fish habitat function is intact.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Loverna Wilson, Sarah Hartung
Project Name:	Cottage Grove LWI		
WetlandCode:	WD2003-0461	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:	A	Q1:		Q1:	A	Q1:	A
Q2:	A	Q2:	A	Q2:		Q2:	A	Q2:	A
Q3:	C	Q3:	B	Q3:		Q3:	A	Q3:	A
Q4:	C	Q4:	C	Q4:		Q4:	A	Q4:	C
Q5:	A	Q5:	A	Q5:		Q5:	C	Q5:	A
Q6:	A	Q6:	A	Q6:		Q6:	B	Q6:	A
Q7:	B							Q7:	A
Q8:	A								
Q9a:									
Q9b:	A								

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	The wetland's fish habitat function is intact.
Fish Habitat - Lakes/Ponds:	N/A
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Date(s):	4/20/2010	**Investigator(s):**	Sarah Hartung, Alison Sigler
Project Name:	Cottage Grove LWI		
WetlandCode:	WD2008-0033	**ProjectNumber:**	209503.2

Wildlife Habitat		Fish Habitat Streams		Fish Habitat Lakes/Ponds		Water Quality		Hydrologic Control	
Q1:	A	Q1:		Q1:	B	Q1:	B	Q1:	B
Q2:	A	Q2:		Q2:	A	Q2:	A	Q2:	A
Q3:	B	Q3:		Q3:	B	Q3:	A	Q3:	B
Q4:	C	Q4:		Q4:	C	Q4:	B	Q4:	A
Q5:	A	Q5:		Q5:	C	Q5:	A	Q5:	A
Q6:	A	Q6:		Q6:	B	Q6:	C	Q6:	A
Q7:	C							Q7:	A
Q8:	C								
Q9a:									
Q9b:	B								

Wildlife Habitat:	The wetland provides habitat for some wildlife species.
Fish Habitat - Streams:	N/A
Fish Habitat - Lakes/Ponds:	The wetland's fish habitat function is impacted or degraded.
Water Quality:	The wetland's water quality function is impacted or degraded.
Hydrologic Control:	The wetland's hydrologic control function is intact.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	1a-c	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is the dominant cover type. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is impacted or degraded.	50% to 75% of stream shaded by riparian vegetation. Physical character of stream channel extensively modified/piped. Stream contains less than 10% of instream structures. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-salmonid fish species present during the year.
Fish Habitat - Lakes/Ponds	N/A	N/A
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is > 5 acres. Waterflow out of wetland is restricted or no outlet. Woody vegetation is the dominant cover type. Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	1f-d	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Deep and shallow water present. Between 20% to 60% of shoreline shaded by riparian vegetation. Pond contains greater than 25% of of complex cover. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-salmonid fish species present during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate (60%) degree of wetland vegetation cover. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area 0.5 to 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding, or open water only is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	2	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is intact.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland and connected to other wetlands within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	Not located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is less than 0.5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding , or open water only is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	3	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is dominant vegetation cover. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is intact.	Less than 50% of stream shaded by riparian vegetation. Stream channel natural/returning to natural physical character. Stream contains more than 25% of instream structures. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is unrestricted. Woody vegetation is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	4	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	One Cowardin wetland class with 5 or fewer plant species. Emergent veg. or wet meadow. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Sheet flow is wetland's primary source of water. No evidence of flooding or ponding during the growing season. High (>60%) degree of wetland vegetation cover. Less than 0.5 acre and wetland is not connected to other wetland within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is lost or not present.	No part of wetland located within 100-year floodplain or enclosed basin. No evidence of flooding or ponding during the growing season. Area is less than 0.5 acre. Waterflow out of wetland is unrestricted. Emergent veg. or wet meadow is dominant cover type. Agricultural land use within 500 ft of wetland on downstream or down-slope edge of wetland. Agricultural land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	5	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is intact.	Between 50 and 75% of stream shaded by riparian vegetation. Stream channel natural/returning to natural physical character. Stream contains more than 25% of instream structures. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is unrestricted. Emergent veg. and ponding , or open water only is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	6, 7	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Low degree of Cowardin class interspersion. 0.5 to 1 acre of unvegetated open water present. Not connected to another body of water by surface water: unconnected wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Residential/Industrial land use within 500 feet of wetland edge. 10-40% of wetland's edge bordered by vegetative buffer.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Deep and shallow water present. Between 20 and 60% of shoreline shaded by riparian vegetation.10% to 25% complex cover. One or more upstream reaches are listed moderate water quality. Residential/Industrial land use within 500 feet of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Low (<60%) degree of wetland vegetation cover. Size is 0.5 and 5 acres. Residential/Industrial land use within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted. Emergent veg. and ponding , or open water only is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	8a-d	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Moderate degree of Cowardin class interspersion. More than 1 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Deep and shallow water present. 20-60% of shoreline shaded by riparian vegetation. Pond contains between 10% and 25% of complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Low (<60%) degree of wetland vegetation cover. Greater than 5 acres of wetland and connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is greater than 5 acres. Minor restrictions slow down waterflow out of the wetland. Emergent veg. and ponding , or open water only is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	9	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Deep and shallow water present. Less than 20% of shoreline shaded by riparian vegetation. Wetland has >25% complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland and connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is unrestricted. Emergent veg. and ponding, or open water only is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	10	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Deep and shallow water present. Less than 20% of shoreline shaded by riparian vegetation. Wetland has >25% complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland and connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is unrestricted. Emergent veg. and ponding, or open water only is dominant cover type. Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	11, 12, 14	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Only shallow water present. Less than 20% of shoreline shaded by riparian vegetation. Pond contains less than 10% to 25% of complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-Salmonid, non-sensitive fish species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater (including seeps and springs) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Low (< 60%) degree of wetland vegetation cover. Total wetland size is 0.5 to 5 acres. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding , or open water only is dominant cover type. Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural areas in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	13	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Moderate degree of Cowardin class interspersion. 0.5 to 1 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Deep and shallow water present. Less than 20% of shoreline shaded by riparian vegetation. Portions of stream channel modified. Pond has >25% complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland and connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is unrestricted. Emergent veg. and ponding , or open water only is dominant cover type. Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	15	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. High degree of Cowardin class interspersion. More than 1 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Deep and shallow water present. Between 20% to 60% of shoreline shaded by riparian vegetation. Pond contains 10% to 25% of complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-Salmonid, non-sensitive fish species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater (including seeps and springs) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Low (< 60%) degree of wetland vegetation cover. Total wetland size is 0.5 to 5 acres. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding , or open water only is dominant cover type. Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural areas in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	16	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is the dominant cover type. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Deep and shallow water present. Between 20 to 60% of shoreline shaded by riparian vegetation. Pond has 10% to 25% complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is less than 0.5 acre. Waterflow out of wetland is unrestricted. Woody vegetation is the dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	17-19	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. High degree of Cowardin class interspersion. More than 1 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Deep and shallow water present. Between 20% to 60% of shoreline shaded by riparian vegetation. Wetland contains between 10% to 25% of complex cover. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-Salmonid, non-sensitive fish species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater (including seeps and springs) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Low (< 60%) degree of wetland vegetation cover. Total wetland size is 0.5 to 5 acres. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding , or open water only is dominant cover type. Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural areas in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	20, 21	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is the dominant cover type. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland is connected to another body of water, seasonal connection with wetland 8. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Only shallow water present. More than 60% of shoreline shaded by riparian vegetation. Wetland has >25% of complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-Salmonid, non-sensitive fish species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater (including seeps and springs) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland and connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Minor restrictions slow the water down. Woody vegetation is the dominant cover type. Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural areas in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	22	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Emergent veg. or wet meadow. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater (including seeps and springs) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Less than 0.5 acre and wetland is not connected to other wetland within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	Not located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is less than 0.5 acre. Waterflow out of wetland is restricted or no outlet. Emergent veg. or wet meadow is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or urbanizing land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	23	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Woody vegetation is dominant vegetation cover. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is impacted or degraded.	More than 75% of stream shaded by riparian vegetation. Stream channel natural/returning to natural physical character. Stream contains between 10 and 25% of instream structures. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. No fish species present during the year.
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is intact.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland connected to other wetlands within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is less than 0.5 acre. Waterflow out of wetland is restricted or no outlet. Woody vegetation is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	24	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	One Cowardin wetland class with more than 5 plant species. Emergent veg. or wet meadow. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is intact.	Precipitation or sheet flow is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland connected to other wetlands within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. or wet meadow is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	25	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is dominant vegetation cover. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. Upstream not listed as water quality limited. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is impacted or degraded.	Between 50 and 75% of stream shaded by riparian vegetation. Portions of stream channel modified. Stream contains less than 10% of instream structures. Upstream not listed as water quality limited. Agricultural land use within 500 ft of wetland edge. No fish species present during the year.
Fish Habitat - Lakes/Ponds	N/A	N/A
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. More than 5 acres of wetland area. Exclusive Forest use or Open Space within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is more than 5 acres. Waterflow out of wetland is restricted or no outlet. Woody vegetation is dominant cover type. Agricultural land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	26	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Moderate degree of Cowardin class interspersion. 0.5 to 1 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands, by a ditch. No upstream reaches are listed water quality limited. Agricultural land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Cannot determine number of depth classes. Less than 20% of shoreline shaded by riparian vegetation. Wetland contains less than 20% of complex cover objects. No upstream reaches are listed water quality limited. Agricultural land use within 500 ft of wetland edge. Non-salmonid species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate degree of wetland vegetation cover. Between 0.5 to 5 acres of wetland area. Agricultural land use within 500 feet of wetland edge. No upstream reaches are listed water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding , or open water only is dominant cover type. Agricultural land use within 500 ft of wetland on downstream or down-slope edge of wetland. Agricultural land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	27	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is the dominant cover type. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. No upstream reaches are listed water quality limited. Agricultural land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is impacted or degraded.	Less than 50% of stream shaded by riparian vegetation. Portions of stream channel modified. Stream contains less than 10% of instream structures. No upstream reaches are listed water quality limited. Agricultural land use within 500 ft of wetland edge. Non-salmonids present sometime during the year.
Fish Habitat - Lakes/Ponds	N/A	N/A
Water Quality	The wetland's water quality function is intact.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. More than 5 acres of wetland area. Agricultural land use within 500 feet of wetland edge. No upstream reaches are listed water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is more than 5 acres. Waterflow out of wetland is restricted or no outlet. Woody vegetation is the dominant cover type. Agricultural land use within 500 ft of wetland on downstream or down-slope edge of wetland. Agricultural land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1992-0202-1-5	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Deep and shallow water present. Between 20% to 60% of shoreline shaded by riparian vegetation. Wetland contains between 10% to 25% of complex cover. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-Salmonid, non-sensitive fish species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater (including seeps and springs) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Low (< 60%) degree of wetland vegetation cover. Total wetland size is 0.5 to 5 acres. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding , or open water only is dominant cover type. Forested/Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural areas in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1992-0202-6	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is dominant cover type. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Only shallow water present. More than 60% of shoreline shaded by riparian vegetation. Pond has 10% to 25% complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland and connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is unrestricted. Woody vegetation is the dominant cover type. Forested/Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1992-0202-7	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Woody vegetation is dominant cover type. High degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Only shallow water present. More than 60% of shoreline shaded by riparian vegetation. Pond has 10% to 25% complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland and connected to other wetlands within a 3 mile radius. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is unrestricted. Woody vegetation is the dominant cover type. Forested/Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1992-0202-8	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides diverse wildlife habitat.	Two or more Cowardin wetland classes. Emergent veg. and ponding or open water only. High degree of Cowardin class interspersion. 0.5 to 1 acre of unvegetated open water present. Wetland not connected to another body of water by surface water. Wetland not connected to other wetlands, but other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is intact.	Deep and shallow water present. More than 60% of shoreline shaded by riparian vegetation. Pond has greater than 25% complex cover objects. One or more upstream reaches are listed moderate water quality. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-salmonid fish present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Groundwater is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. Low degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland. Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed moderate water quality stream reaches in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding, or open water only is dominant cover type. Forested/Open Space within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1994-0190	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Emergent veg. or wet meadow. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland connected to other wetlands within a 3 mile radius. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is intact.	Precipitation or sheet flow is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. More than 5 acres of wetland area. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is more than 5 acres. Waterflow out of wetland is restricted or no outlet. Emergent veg. or wet meadow is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1996-0030-1	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Woody vegetation is dominant vegetation cover. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is intact.	Sheet flow is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Greater than 5 acres of wetland. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area greater than 5 acres of wetland. Waterflow out of wetland is restricted or no outlet. Woody vegetation is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1996-0030-2	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	One Cowardin wetland class with more than 5 plant species. Emergent veg. or wet meadow. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Precipitation or sheet flow is wetland's primary source of water. Evidence of flooding or ponding during the growing season. High (>60%) degree of wetland vegetation cover. Less than 0.5 acre and wetland is not connected to other wetland within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is less than 0.5 acre. Waterflow out of wetland is restricted or no outlet. Emergent veg. or wet meadow is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1999-0485-1	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	One Cowardin wetland class with more than 5 plant species. Emergent veg. or wet meadow. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Sheetflow is wetland's primary source of water. Evidence of flooding or ponding during the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Less than 0.5 acre and wetland is not connected to other wetland within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	Not located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is less than 0.5 acre. Waterflow out of wetland is restricted or no outlet. Emergent veg. or wet meadow is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1999-0485-2	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two Cowardin wetland classes. Woody vegetation is dominant vegetation cover. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Connected to other wetlands within 3 miles by a stream. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is impacted or degraded.	Between 50 and 75% of stream shaded by riparian vegetation. Portions of stream channel modified. Stream contains less than 10% of instream structures. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge. No fish species present during the year.
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is intact.	Surface flow is wetland's primary source of water. Evidence of flooding or ponding during the growing season. Moderate (approx. 60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland connected to other wetlands within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	Not located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Minor restrictions slow down waterflow out of the wetland. Woody vegetation is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD1999-0485-3	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	One Cowardin wetland class with more than 5 plant species. Emergent veg. or wet meadow. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland not connected to another body of water, but water within 1 mile. Wetland not connected to other wetlands, but within 3 mile radius of other wetlands. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Sheet flow is wetland's primary source of water. Unable to determine evidence of flooding or ponding during the growing season (or unapplicable). High degree of wetland vegetation cover. Less than 0.5 acre and wetland is not connected to other wetland within a 3 mile radius. Residential/Industrial and use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is impacted or degraded.	Not located within 100-year floodplain or enclosed basin. Unable to determine evidence of flooding or ponding during the growing season (or not applicable). Area is less than 0.5 acre. Waterflow out of wetland is restricted or no outlet. Emergent veg. or wet meadow is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD2001-0460	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Emergent veg. & ponding or open water only. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. Upstream not listed as water quality limited. Residential/Industrial land use within 500 feet of wetland edge.
Fish Habitat - Streams	N/A	
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Less than 0.5 acre and wetland is not connected to other wetland within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is less than 0.5 acre. Waterflow out of wetland is restricted or no outlet. Emergent veg. and ponding , or open water only is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD2001-0471-1a-d,-2	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Woody vegetation is dominant vegetation cover. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. Upstream not listed as water quality limited. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is intact.	More than 75% of stream shaded by riparian vegetation. Stream channel natural/returning to natural physical character. Stream contains between 10 and 25% of instream structures. Upstream not listed as water quality limited. Exclusive Forest use or Open Space within 500 ft of wetland edge. Non-salmonids present sometime during the year.
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. More than 5 acres of wetland area. Exclusive Forest use or Open Space within 500 feet of wetland edge. Upstream not listed as water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	No part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is more than 5 acres. Waterflow out of wetland is restricted or no outlet. Woody vegetation is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Forested or natural area land use upstream.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD2003-0461	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Woody vegetation is dominant vegetation cover. Low degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed moderate water quality condition. Exclusive Forest use or Open Space within 500 feet of wetland edge. More than 40% of wetland edge bordered by veg. buffer 25 or more feet wide.
Fish Habitat - Streams	The wetland's fish habitat function is intact.	More than 75% of stream shaded by riparian vegetation. Stream channel natural/returning to natural physical character. Stream contains between 10 and 25% of instream structures. One or more upstream reaches are listed water quality limited. Exclusive Forest use or Open Space within 500 ft of wetland edge. Salmon, trout, or sensitive species present sometime during the year.
Fish Habitat - Lakes/Ponds	N/A	
Water Quality	The wetland's water quality function is impacted or degraded.	Surface flow (including streams and ditches) is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Greater than 5 acres of wetland Exclusive Forest use or Open Space within 500 feet of wetland edge. One or more upstream reaches are listed in moderate water quality condition.
Hydrologic Control	The wetland's hydrologic control function is intact.	All or part of wetland located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is greater than 5 acres. Waterflow out of wetland is unrestricted. Woody vegetation is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

OREGON FRESHWATER WETLAND ASSESSMENT METHODOLGY

Function and Condition Summary Sheet for the Oregon Method

WetlandCode:	WD2008-0033	**ProjectNumber:**	209503.2

Function	Evaluation Descriptor	Rationale
Wildlife Habitat	The wetland provides habitat for some wildlife species.	Two or more Cowardin wetland classes. Woody vegetation is dominant vegetation cover. Moderate degree of Cowardin class interspersion. Less than 0.5 acre of unvegetated open water present. Wetland connected to another body of water by surface water. Wetland connected to other wetlands within a 3 mile radius. One or more upstream reaches are listed water quality limited. Residential/Industrial land use within 500 feet of wetland edge.
Fish Habitat - Streams	N/A	N/A
Fish Habitat - Lakes/Ponds	The wetland's fish habitat function is impacted or degraded.	Unable to determine depth classes. Between 20% to 60% of pond shaded by riparian vegetation. Pond contains less than 10% complex cover. One or more upstream reaches are listed water quality limited. Residential/Industrial land use within 500 feet of wetland edge. Non-salmonid fish present sometime during the year.
Water Quality	The wetland's water quality function is impacted or degraded.	Sheetflow is wetland's primary source of water. Evidence of flooding or ponding during part of the growing season. High (>60%) degree of wetland vegetation cover. Between 0.5 and 5 acres of wetland connected to other wetlands within a 3 mile radius. Residential/Industrial land use within 500 feet of wetland edge. One or more upstream reaches are listed water quality limited in watershed or adjacent to the wetland.
Hydrologic Control	The wetland's hydrologic control function is intact.	Not located within 100-year floodplain or enclosed basin. Evidence of flooding or ponding during the growing season. Area is between 0.5 and 5 acres. Waterflow out of wetland is restricted or no outlet. Woody vegetation is dominant cover type. Residential/Industrial land use within 500 ft of wetland on downstream or down-slope edge of wetland. Urban or Urbanizing land use in watershed upstream from area.

Cottage Grove LWI: Wetlands of Special Interest Scores

Wetland Code	1a-f	1a-f: Comments	2	3	3: Comments	4	5	5: Comments	6	6: Comments	7	7: Comments	8a	8a: Comments	8b-d	9	9: Comments	10
Question 1	A	Northern Red-legged Frog	B	A	Chinook Salmon (Upper Willamette River ESU, Spring Run), Willamette Coastal Cutthroat Trout	B	B	Chinook Salmon (Upper Willamette River ESU, Spring Run), Willamette Coastal Cutthroat Trout	A	Chinook Salmon (Upper Willamette River ESU, Spring Run), Willamette Coastal Cutthroat Trout	A	Chinook Salmon (Upper Willamette River ESU, Spring Run), Willamette Coastal Cutthroat Trout	A	Northern (Pacific) Pond Turtle, Chinook Salmon (Upper Willamette River ESU, Spring Run), Northern Red-legged Frog, Willamette Coastal Cutthroat Trout	B	A	Northern (Pacific) Pond Turtle, Chinook Salmon (Upper Willamette River ESU, Spring Run), Northern Red-legged Frog, Willamette Coastal Cutthroat Trout	A
Question 2	B		B	B		B	B		B		B		B		B	B		B
Question 3	B		B	B		B	B		B		B		B		B	B		B
Question 4	B		B	B		B	B		B		B		B		B	B		B
Question 5	B		B	B		B	B		B		B		B		B	B		B
Question 6	B		B	B		B	B		B		B		B		B	B		B
Question 7	C	North Regional Park	B	B		B	B		B		B		C	East Regional Park	B	C	East Regional Park	C
Question 8	C		C	C		C	C		C		C		C		C	C		C
Question 9	C		C	C		C	C		C		C		C		C	C		C
Question 10	B		B	B		B	B		B		B		B		B	B		B
Wetland of Special Interest?	Yes		No	Yes		No	Yes		Yes		Yes		Yes		No	Yes		Yes

Wetland Code	10: Comments	11	11: Comments	12	12: Comments	13	13: Comments	14	14: Comments	15	15: Comments	16	16: Comments	17	17: Comments	18
Question 1	Northern (Pacific) Pond Turtle, Chinook Salmon (Upper Willamette River ESU, Spring Run), Northern Red-legged Frog, Willamette Coastal Cutthroat Trout	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A	Northern (Pacific) Pond Turtle, Chinook Salmon (Upper Willamette River ESU, Spring Run), Northern Red-legged Frog, Willamette Coastal Cutthroat Trout	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A	Northern (Pacific) Pond Turtle, Chinook Salmon (Upper Willamette River ESU, Spring Run), Northern Red-legged Frog, Willamette Coastal Cutthroat Trout	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A
Question 2		B		B		B		B		B		B		B		B
Question 3		B		B		B		B		B		B		B		B
Question 4		B		B		B		B		B		B		B		B
Question 5		B		B		B		B		B		B		B		B
Question 6		B		B		B		B		B		B		B		B
Question 7	East Regional Park	C	East Regional Park	C	East Regional Park	C	East Regional Park	C	East Regional Park	C	East Regional Park	C	East Regional Park	C	East Regional Park	C
Question 8		C		C		C		C		C		C		C		C
Question 9		C		C		C		C		C		C		C		C
Question 10		B		B		B		B		B		B		B		B
Wetland of Special Interest?		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes

Wetland Code	18: Comments	19	19: Comments	20	20: Comments	21	21: Comments	22	23	24	25	25: Comments	26	27	1992-0202-1-5, -8	1992-0202-1-5, -8	1992-0202-6	1992-0202-6: Comments
Question 1	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	B	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	B	B	B	B		B	B	A	Northern (Pacific) Pond Turtle, Northern Red-legged Frog	A	Northern (Pacific) Pond Turtle, Chinook Salmon (Upper Willamette River ESU, Spring Run), Northern Red-legged Frog, Willamette Coastal Cutthroat Trout
Question 2		B		B		B		B	B	B	B		B	B	B		B	
Question 3		B		B		B		B	B	B	B		B	B	B		B	
Question 4		B		B		B		B	B	B	B		B	B	B		B	
Question 5		B		B		B		B	B	B	B		B	B	B		B	
Question 6		B		B		B		B	B	B	B		B	B	B		B	
Question 7	East Regional Park	C	East Regional Park	C	East Regional Park	C	East Regional Park	B	B	B	C	zoned as Lane County Parks and Rec	B	B	C	East Regional Park	C	East Regional Park
Question 8		C		C		C		C	C	C	C		C	C	C		C	
Question 9		C		C		C		C	C	C	C		C	C	C		C	
Question 10		B		B		B		B	B	B	B		B	B	B		B	
Wetland of Special Interest?		Yes		Yes		Yes		No	No	No	No		No	No	Yes		Yes	

Wetland Code	1992-0202-7	1992-0202-7: Comments	1994-0190	1996-0030-1	1996-0030-2	1999-0485-1-3	2001-0460	2001-0471-1a-d & 2	2003-0461	2003-0461: Comments	2008-0033
Question 1	A	Northern (Pacific) Pond Turtle, Chinook Salmon (Upper Willamette River ESU, Spring Run), Northern Red-legged Frog, Willamette Coastal Cutthroat Trout	B	B	B	B	B	B	A	Chinook Salmon (Upper Willamette River ESU, Spring Run), Willamette Coastal Cutthroat Trout, Northern Red-legged Frog, Northern (Pacific) Pond Turtle	B
Question 2	B		B	B	B	B	B	B	B		B
Question 3	B		B	B	B	B	B	B	B		B
Question 4	B		B	B	B	B	B	B	B		B
Question 5	B		B	B	B	B	B	B	B		B
Question 6	B		B	B	B	B	B	B	B		B
Question 7	C	East Regional Park	B	B	B	B	B	B	C	local park	B
Question 8	C		C	C	C	C	C	C	C		C
Question 9	C		C	C	C	C	C	C	C		C
Question 10	B		B	B	B	B	B	B	B		B
Wetland of Special Interest?	Yes		No	No	No	No	No	No	Yes		No

APPENDIX E: WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 17-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 01

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 20 T 20S R 3W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.8029 **Long.:** -123.0703 **Datum:** NAD83

Soil Map Unit Name: 45C: Dupee silt loam, 3 to 20 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Juncus effusus	20	☑ 20.0%	FACW
2. Unidentified grasses	80	☑ 80.0%	FAC
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	20	**x 2 =**	40
FAC species	80	**x 3 =**	240
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	100	**(A)**	280 **(B)**

Prevalence Index = B/A = 2.800

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Unidentified grasses assumed FAC.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

SOILS MOIST BASED ON GEOMORPHIC POSITION, OFF-SITE; Assume hydric.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☑ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Aerial Photo

Remarks:

HYDROLOGY ON AERIAL PHOTO SUPPLIED BY LCOG, GEOMORPHIC POSITION HYDROLOGY INDICATOR

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 17-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 02

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 29 T 20S R 3W

Landform (hillslope, terrace, etc.): Toeslope **Local relief (concave, convex, none):** convex **Slope:** / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7987 **Long.:** -123.0775 **Datum:** NAD83

Soil Map Unit Name: 78: McAlpin silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
ON SITE,SMALL POND TO THE NORTH IS INCLUDED, WETLAND DOES EXTEND OFFSITE

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Rubus discolor	15	☑ 100.0%	FACU
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	15	= Total Cover	
Herb Stratum (Plot size:)			
1. Veronica americana	5	☐ 5.9%	OBL
2. Carex amplifolia	80	☑ 94.1%	FACW
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	85	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 15

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	5	**x 1 =**	5
FACW species	80	**x 2 =**	160
FAC species	0	**x 3 =**	0
FACU species	15	**x 4 =**	60
UPL species	0	**x 5 =**	0
Column Totals:	100 **(A)**		225 **(B)**

Prevalence Index = B/A = 2.250

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR	3/1	90%	10YR	3/4	10%	C	PL	Clay Loam	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: DENSE ROOTS

Depth (inches): 10

Hydric Soil Present? Yes ◉ No ○

Remarks:

DENSE ROOTS RESTRICT HOLE DEPTH TO 10 INCHES

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	1
Water Table Present?	Yes ◉	No ○	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 17-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 03

Investigator(s): LOVERNA WILSON, SARAH HARTUNG **Section, Township, Range:** S 29 T 20S R 3W

Landform (hillslope, terrace, etc.): Hillside **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7953 **Long.:** -123.0844 **Datum:** NAD83

Soil Map Unit Name: 78: McAlpin silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
LOCATED IN A LARGE FIELD, WETLAND EXTENDS OFFSITE NEAR SOUTHWESTERN CORNER

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Camassia quamash	70	☑ 70.0%	FACW
2. Ranunculus repens	10	☐ 10.0%	FACW
3. Hypochaeris radicata	5	☐ 5.0%	FACU
4. Festuca arundinacea	15	☐ 15.0%	FAC
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	80	**x 2 =**	160
FAC species	15	**x 3 =**	45
FACU species	5	**x 4 =**	20
UPL species	0	**x 5 =**	0
Column Totals:	100 **(A)**		225 **(B)**

Prevalence Index = B/A = 2.250

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR	4/1	80%	10YR	4/6	20%	C	PL	Silty Clay	
9-20	10YR	4/1	60%	10YR	5/6	40%	C	M	Clay	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	0.25
Water Table Present?	Yes ◉	No ○	Depth (inches):	8
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 17-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 04

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 32 T 20S R 3W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7851 **Long.:** -123.0753 **Datum:** NAD83

Soil Map Unit Name: 130: Waldo silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
ON EDGE OF WETLAND MITIGATION SITE FOR HIGH SCHOOL

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Fraxinus latifolia	70	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Rubus discolor	15	☑ 100.0%	FACU
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	15	= Total Cover	
Herb Stratum (Plot size:)			
1. Juncus effusus	83	☑ 83.0%	FACW
2. Geum macrophyllum	2	☐ 2.0%	FACW
3. Veronica americana	5	☐ 5.0%	OBL
4. Sisyrinchium idahoense	5	☐ 5.0%	FACW
5. Sidalcea campestris	5	☐ 5.0%	UPL
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	5	**x 1 =**	5
FACW species	160	**x 2 =**	320
FAC species	0	**x 3 =**	0
FACU species	15	**x 4 =**	60
UPL species	5	**x 5 =**	25
Column Totals:	185	**(A)**	410 **(B)**

Prevalence Index = B/A = 2.216

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR	4/1	60%	10YR	5/6	40%	C	M	Clay	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: EXTREME SATURATION

Depth (inches): 12

Hydric Soil Present? Yes ◉ No ○

Remarks:

EXTREME SATURATION, UNABLE TO OBTAIN SOIL SAMPLE BELOW 12 INCHES

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉ No ○	Depth (inches):	1	
Water Table Present?	Yes ◉ No ○	Depth (inches):	0	
Saturation Present? (includes capillary fringe)	Yes ◉ No ○	Depth (inches):	0	**Wetland Hydrology Present?** Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 17-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 05

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 32 T 20S R 3W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7829 **Long.:** -123.0762 **Datum:** NAD83

Soil Map Unit Name: 85: Natroy silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
IN LARGE FIELD, WETLAND DRAINS INTO DITCH TO THE NORTH. DITCH IS FLOWING WITH 1 FT OF WATER

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Rubus discolor	5	☑ 100.0%	FACU
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	5	= Total Cover	
Herb Stratum (Plot size:)			
1. Lupinus polyphyllus	10	☐ 10.0%	FAC
2. Alopecurus pratensis	75	☑ 75.0%	FACW
3. Daucus carota	5	☐ 5.0%	UPL
4. Ranunculus repens	5	☐ 5.0%	FACW
5. Hypochaeris radicata	5	☐ 5.0%	FACU
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	80	**x 2 =**	160
FAC species	10	**x 3 =**	30
FACU species	10	**x 4 =**	40
UPL species	5	**x 5 =**	25
Column Totals:	105	**(A)**	255 **(B)**

Prevalence Index = B/A = 2.429

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 05

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR	3/2	85%	10YR	4/6	15%	C	PL	Silty Clay Loam	
10-20	10YR	4/1	75%	10YR	4/6	25%	C	M	Clay	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☑ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	1
Water Table Present?	Yes ◉	No ○	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 17-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 06

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 32 T 20S R 3W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7922 **Long.:** -123.0798 **Datum:** NAD83

Soil Map Unit Name: 78: McAlpin silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present?	Yes ◉	No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉	No ○	
Wetland Hydrology Present?	Yes ◉	No ○	

Remarks:

WETLAND DRAINS INTO DRAINAGE CANALS ON THE N & S ENDS OF WETLAND, PEM WETLAND SECTION OF THIS LARGE MOSAIC COMPLEX ON ELEMENTARY SCHOOL PROPERTY

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Ranunculus repens	15	☐ 15.0%	FACW
2. Festuca arundinacea	40	☑ 40.0%	FAC
3. Veronica americana	20	☑ 20.0%	OBL
4. Festuca rubra	15	☐ 15.0%	FAC
5. Alisma gramineum	10	☐ 10.0%	OBL
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	30	**x 1 =**	30
FACW species	15	**x 2 =**	30
FAC species	55	**x 3 =**	165
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	100 **(A)**		225 **(B)**

Prevalence Index = B/A = 2.250

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

MENTHA PULEGIUM PRESENT BUT IS DEAD FROM LAST SEASON

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR	3/1	100%						Silty Clay Loam	
3-20	10YR	4/1	70%	10YR	4/6	30%	C	M	Clay	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	3
Water Table Present?	Yes ◉	No ○	Depth (inches):	6
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

POOL ON EDGE OF SAMPLE PLOT

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 07

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 32 T 20S R 3W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** concave **Slope:** 2.0% / 1.1 °

Subregion (LRR): LRR A **Lat.:** 43.7936 **Long.:** -123.0820 **Datum:** NAD83

Soil Map Unit Name: 130: Waldo silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus balsamifera	15	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Rubus discolor	40	☑ 50.0%	FACU
2. Salix hookerana	30	☑ 37.5%	FACW
3. Cornus stolonifera	10	☐ 12.5%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	80	= Total Cover	
Herb Stratum (Plot size:)			
1. Carex obnupta	100	☑ 100.0%	OBL
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	**x 1 =**	100
FACW species	40	**x 2 =**	80
FAC species	15	**x 3 =**	45
FACU species	40	**x 4 =**	160
UPL species	0	**x 5 =**	0
Column Totals:	195	**(A)**	385 **(B)**

Prevalence Index = B/A = 1.974

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR	3/1	100%						Silty Clay	
9-20	10YR	2/1	60%	7.5YR	4/6	40%	C	M	Clay	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Procedure for Problematic Hydric Soils: 1) Verify that one or more indicators of hydrophytic veg are present: Yes; 2) Verify that at least one primary or two secondary indicators of wetland hydrology are present, Yes (A2, A3); 3) Describe the soil profile and landscape: See soil profile description above. Landscape: Flat area adjacent to ball field and forested area, micro-landscape is concave. 4) BPJ indicates that soils would remain saturated for at least two weeks during the growing season, April, May or June, given that the soils were saturated to the surface with the water table at 10″ depth. February was on the drier end of the normal range and only 0.5″ of rain fell in early March.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ◉	No ○	Depth (inches):	10
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 08

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 29 T 20S R 3W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 2.0% / 1.1 °

Subregion (LRR): LRR A **Lat.:** 43.7943 **Long.:** -123.0799 **Datum:** NAD83

Soil Map Unit Name: 78: McAlpin silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF-SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Rel.Strat. Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)				
1.	0	0.0%	☐	
2.	0	0.0%	☐	
3.	0	0.0%	☐	
4.	0	0.0%	☐	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)				
1.	0	0.0%	☐	
2.	0	0.0%	☐	
3.	0	0.0%	☐	
4.	0	0.0%	☐	
5.	0	0.0%	☐	
	0	= Total Cover		
Herb Stratum (Plot size:)				
1. Ranunculus repens	10	10.0%	☐	FACW
2. Alopecurus pratensis	15	15.0%	☐	FACW
3. Festuca arundinacea	70	70.0%	☑	FAC
4. Daucus carota	5	5.0%	☐	UPL
5.	0	0.0%	☐	
6.	0	0.0%	☐	
7.	0	0.0%	☐	
8.	0	0.0%	☐	
9.	0	0.0%	☐	
10.	0	0.0%	☐	
11.	0	0.0%	☐	
	100	= Total Cover		
Woody Vine Stratum (Plot size:)				
1.	0	0.0%	☐	
2.	0	0.0%	☐	
	0	= Total Cover		

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	25	**x 2 =**	50
FAC species	70	**x 3 =**	210
FACU species	0	**x 4 =**	0
UPL species	5	**x 5 =**	25
Column Totals:	100	**(A)**	285 **(B)**

Prevalence Index = B/A = 2.850

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDRIC SOILS ASSUMED BY PERSISTENT SATURATION AND WATER

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	2
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

AERIAL PHOTOS

Remarks:

SURFACE WATER AND SATURATION VISIBLE OFF-SITE

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 09

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 32 T 20S R 3W

Landform (hillslope, terrace, etc.): Shoulder slope **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7888 **Long.:** -123.0806 **Datum:** NAD83

Soil Map Unit Name: 102C: Panther silty clay loam, 2 to 12 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF-SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Alnus rubra	90	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Rubus discolor	65	☑ 81.3%	FACU
2. Cornus stolonifera	15	☐ 18.8%	FACW
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	80	= Total Cover	
Herb Stratum (Plot size:)			
1. Veronica americana	15	☐ 17.6%	OBL
2. Polystichum munitum	5	☐ 5.9%	FACU
3. Oenanthe sarmentosa	20	☑ 23.5%	OBL
4. Juncus effusus	10	☐ 11.8%	FACW
5. Tolmiea menziesii	25	☑ 29.4%	FAC
6. Festuca arundinacea	10	☐ 11.8%	FAC
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	85	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 15

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	35	**x 1 =**	35
FACW species	25	**x 2 =**	50
FAC species	125	**x 3 =**	375
FACU species	70	**x 4 =**	280
UPL species	0	**x 5 =**	0
Column Totals:	255 **(A)**		740 **(B)**

Prevalence Index = B/A = 2.902

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 09

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDRIC SOILS ASSUMED BY PERSISTENT SATURATION

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 10

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 32 T 20S R 3W

Landform (hillslope, terrace, etc.): **Local relief (concave, convex, none):** flat **Slope:** 2.0% / 1.1 °

Subregion (LRR): LRR A **Lat.:** 43.7826 **Long.:** -123.0722 **Datum:** NAD83

Soil Map Unit Name: 134: Wapato silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus balsamifera	5	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	5	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Fraxinus latifolia	5	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	5	= Total Cover	
Herb Stratum (Plot size:)			
1. Alopecurus pratensis	15	☐ 16.7%	FACW
2. Festuca arundinacea	40	☑ 44.4%	FAC
3. Camassia quamash	20	☑ 22.2%	FACW
4. Juncus effusus	15	☐ 16.7%	FACW
5. Trifolium pratense	0	☐ 0.0%	FACU
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	90	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 10

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	55	**x 2 =**	110
FAC species	45	**x 3 =**	135
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	100 **(A)**		245 **(B)**

Prevalence Index = B/A = 2.450

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR	3/2	100%						Silty Clay	
8-20	10YR	4/2	85%	10YR	3/4	15%	C	M	Clay Loam	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ◉	No ○	Depth (inches):	11
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	5

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 11

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 5 T 21S R 3W

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** flat **Slope:** 1.0% / 0.6 °

Subregion (LRR): LRR A **Lat.:** 43.7747 **Long.:** -123.0765 **Datum:** NAD83

Soil Map Unit Name: 78: McAlpin silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Juncus effusus	15	☑ 20.0%	FACW
2. Juncus tenuis	10	☐ 13.3%	FACW
3. Alopecurus pratensis	50	☑ 66.7%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	75	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	75	**x 2 =**	150
FAC species	0	**x 3 =**	0
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	75 **(A)**		150 **(B)**

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR	3/1	75%	10YR	3/6	25%	C	PL	Silty Clay Loam	
4-20	10YR	3/1	55%	10YR	3/6	45%	C	M	Silty Clay	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	1
Water Table Present?	Yes ◉	No ○	Depth (inches):	4
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 12

Investigator(s): SARAH HARTUNG **Section, Township, Range:** S 5 T 21S R 3W

Landform (hillslope, terrace, etc.): Toeslope **Local relief (concave, convex, none):** concave **Slope:** 3.0% / 1.7 °

Subregion (LRR): LRR A **Lat.:** 43.7754 **Long.:** -123.0799 **Datum:** NAD83

Soil Map Unit Name: 102C: Panther silty clay loam, 2 to 12 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Fraxinus latifolia	50	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Spiraea douglasii	20	☑ 40.0%	FACW
2. Rubus discolor	10	☑ 20.0%	FACU
3. Salix lasiandra	20	☑ 40.0%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	50	= Total Cover	
Herb Stratum (Plot size:)			
1. Carex obnupta	20	☑ 20.0%	OBL
2. Juncus effusus	10	☐ 10.0%	FACW
3. Juncus tenuis	10	☐ 10.0%	FACW
4. Festuca arundinacea	40	☑ 40.0%	FAC
5. Geum macrophyllum	10	☐ 10.0%	FACW
6. Galium aparine	10	☐ 10.0%	FACU
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	**x 1 =**	20
FACW species	120	**x 2 =**	240
FAC species	40	**x 3 =**	120
FACU species	20	**x 4 =**	80
UPL species	0	**x 5 =**	0
Column Totals:	200	**(A)**	460 **(B)**

Prevalence Index = B/A = 2.300

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR	4/1	60%	10YR	4/6	40%	C	M	Silt Loam	
12-20	10YR	4/1	30	10YR	3/6	70	C	M	Clay Loam	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	3
Water Table Present?	Yes ◉	No ○	Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 13

Investigator(s): SARAH HARTUNG **Section, Township, Range:** S 5 T 21S R 3W

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** concave **Slope:** 1.0% / 0.6 °

Subregion (LRR): LRR A **Lat.:** 43.7728 **Long.:** -123.0695 **Datum:** NAD83

Soil Map Unit Name: 26: Chehalis silty clay loam, occasionally flooded **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF-SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Fraxinus latifolia	40	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Cornus stolonifera	20	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	20	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	90	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	90	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	150	x 2 =	300
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	150 (A)		300 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

ASSUMED HYDRIC SOILS BASED ON PERSISTANT SATURATION/SEASONAL SURFACE WATER

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 14

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 4 T 21S R 3W

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7777 **Long.:** -123.0664 **Datum:** NAD83

Soil Map Unit Name: 1A: Abiqua silty clay loam, 0 to 3 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF-SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Unidentified grasses	100	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	0	**x 2 =**	0
FAC species	100	**x 3 =**	300
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	100 **(A)**		300 **(B)**

Prevalence Index = B/A = 3.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
Unidentified grasses assumed FAC.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDRIC SOILS ASSUMED BASED ON WETLAND HYDROLOGY.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	1
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

AERIAL PHOTO

Remarks:

SURFACE WATER VISIBLE OFF-SITE

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 15

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 27 T 20S R 3W

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** concave **Slope:** 3.0% / 1.7 °

Subregion (LRR): LRR A **Lat.:** 43.8073 **Long.:** -123.0343 **Datum:** NAD83

Soil Map Unit Name: 48: Fluvents, nearly level **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus balsamifera	30	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Salix lasiandra	20	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	20	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	70	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	70	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	90	**x 2 =**	180
FAC species	30	**x 3 =**	90
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	120 **(A)**		270 **(B)**

Prevalence Index = B/A = 2.250

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 4/2	70%	5YR 4/6	30%	C	M	Silty Clay Loam	W/ LARGE ROCKS

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ROCK; FILL

Depth (inches): 7

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	3
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

SURFACE WATER 2 FEET AWAY; 3-12 IN DEEP

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 24-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 16

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 34 T 20S R 3W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** convex **Slope:** 2.0% / 1.1 °

Subregion (LRR): LRR A **Lat.:** 43.7918 **Long.:** -123.0296 **Datum:** NAD83

Soil Map Unit Name: 110: Pits **NWI classification:** PSS1/EM1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Alnus rubra	5	☑ 33.3%	FAC
2. Populus balsamifera	10	☑ 66.7%	FAC
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Salix lasiandra	20	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	20	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	60	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	60	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	80	**x 2 =**	160
FAC species	15	**x 3 =**	45
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	95 **(A)**		205 **(B)**

Prevalence Index = B/A = 2.158

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

AQUATIC PLANTS IN POND

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR	3/2	100%						Loam	DENSE ROOTS
3-8	10YR	4/2	100%						Loam	
8-13	10YR	4/1	50%	5YR	5/6	50	C	M	Silt Loam	SOME GRAVELS

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

ASSUME HYDRIC SOILS BASED ON WETLAND HYDROLOGY.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	2
Water Table Present?	Yes ◉	No ○	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

DEPTH OF POND EST. AT 2 FT.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 22-Jul-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 17

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 27 T 20S R 3W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7983 **Long.:** -123.0323 **Datum:** NAD83

Soil Map Unit Name: 22: Camas gravelly sandy loam, occasionally flooded, 48: Fluvents **NWI classification:** PSS1/EM1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
VERIFICATION ON EDGE OF PEDESTRIAN TRAIL.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Salix lasiandra	20	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Salix lasiandra	30	☑ 60.0%	FACW
2. Rubus discolor	5	☐ 10.0%	FACU
3. Alnus rubra	15	☑ 30.0%	FAC
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	50	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	15	☑ 37.5%	FACW
2. Alopecurus pratensis	10	☑ 25.0%	FACW
3. Juncus effusus	15	☑ 37.5%	FACW
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	40	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	90	**x 2 =**	180
FAC species	15	**x 3 =**	45
FACU species	5	**x 4 =**	20
UPL species	0	**x 5 =**	0
Column Totals:	110	**(A)**	245 **(B)**

Prevalence Index = B/A = 2.227

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

ASSUME HYDRIC SOILS BASED ON WETLAND HYDROLOGY.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	24
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Pond estimated to be 2 feet deep.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 22-Jul-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 18

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 27 T 20S R 3W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.7983 **Long.:** -123.0322 **Datum:** NAD83

Soil Map Unit Name: 48: Fluvents, nearly level, W: Water **NWI classification:** PSS1/EM1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF-SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Salix lasiandra	70	☑ 87.5%	FACW+
2. Alnus rubra	10	☐ 12.5%	FAC
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	80	= Total Cover	
Herb Stratum (Plot size:)			
1. Unidentified grasses	20	☑ 100.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	20	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	70	**x 2 =**	140
FAC species	10	**x 3 =**	30
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	80	**(A)**	170 **(B)**

Prevalence Index = B/A = 2.125

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:
80% open water

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

ASSUME HYDRIC SOILS BASED ON WETLAND HYDROLOGY.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	24
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Pond at least 2 feet deep.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 24-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 19

Investigator(s): SARAH HARTUNG **Section, Township, Range:** S 34 T 20S R 3W

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** concave **Slope:** 2.0% / 1.1 °

Subregion (LRR): LRR A **Lat.:** 43.7912 **Long.:** -123.0331 **Datum:** NAD83

Soil Map Unit Name: 79: McBee silty clay loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF-SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Salix lasiandra	30	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Physocarpus capitatus	5	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	5	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	50	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	50	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	85	**x 2 =**	170
FAC species	0	**x 3 =**	0
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	85 **(A)**		170 **(B)**

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

ASSUMED HYDRIC SOILS BASED ON PERSISTANT INUNDATION

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	2
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 25-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 20

Investigator(s): SARAH HARTUNG **Section, Township, Range:** S 27 T 20S R 3W

Landform (hillslope, terrace, etc.): Undulating **Local relief (concave, convex, none):** concave **Slope:** 2.0% / 1.1 °

Subregion (LRR): LRR A **Lat.:** 43.8071 **Long.:** -123.0325 **Datum:** NAD83

Soil Map Unit Name: 48: Fluvents, nearly level **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present? Yes ○ No ◉	
Wetland Hydrology Present? Yes ○ No ◉	

Remarks:
At the airport, verifying upland conditions.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Festuca arundinacea	80	☑ 80.0%	FAC
2. Alopecurus pratensis	20	☑ 20.0%	FACW
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	20	**x 2 =**	40
FAC species	80	**x 3 =**	240
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	100 **(A)**		280 **(B)**

Prevalence Index = B/A = 2.800

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR	3/2	100%						Silt Loam	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

SOILS SLIGHTLY MOIST

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 25-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 21

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 28 T 20S R 3W

Landform (hillslope, terrace, etc.): Swale **Local relief (concave, convex, none):** concave **Slope:** 3.0% / 1.7 °

Subregion (LRR): LRR A **Lat.:** 43.8073 **Long.:** -123.0581 **Datum:** NAD83

Soil Map Unit Name: 24: Chapman loam **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:
OFF-SITE VERIFICATION

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus balsamifera	10	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Salix lasiandra	20	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	20	= Total Cover	
Herb Stratum (Plot size:)			
1. Carex obnupta	30	☑ 100.0%	OBL
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	30	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	30	**x 1 =**	30
FACW species	20	**x 2 =**	40
FAC species	10	**x 3 =**	30
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	60	**(A)**	100 **(B)**

Prevalence Index = B/A = 1.667

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

ASSUMED HYDRIC SOILS BASED ON PERSISTANT SATURATION/SEASONAL SURFACE WATER

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	1
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 22

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 4 T 21S R 3W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** undulating **Slope:** 3.0% / 1.7 °

Subregion (LRR): LRR A **Lat.:** 43.8039 **Long.:** -123.0308 **Datum:** NAD83

Soil Map Unit Name: 1A: Abiqua silty clay loam, 0 to 3 percent slopes **NWI classification:**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1.		☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Cornus stolonifera	10	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	10	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	30	☑ 30.0%	FACW
2. Solanum nigrum	30	☑ 30.0%	FACU
3. Dipsacus sylvestris	10	☐ 10.0%	FAC
4. Urtica dioica	20	☑ 20.0%	FAC
5. Iris pseudacorus	10	☐ 10.0%	OBL
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	**x 1 =**	10
FACW species	40	**x 2 =**	80
FAC species	30	**x 3 =**	90
FACU species	30	**x 4 =**	120
UPL species	0	**x 5 =**	0
Column Totals:	110	**(A)**	300 **(B)**

Prevalence Index = B/A = 2.727

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

Acer macrophyllum rooted above plot.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: EnterID

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR	4/2	100%						Silty Clay	
8-20	10YR	3/2	95%	10YR	5/6	5%	C	M	Silty Clay	W/GRAVELS 10%

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches):	6
Water Table Present?	Yes ◉	No ○	Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Surface water 1-2 feet away from plot.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 18-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 23

Investigator(s): SARAH HARTUNG, ALISON SIGLER **Section, Township, Range:** S 27 T 20S R 3W

Landform (hillslope, terrace, etc.): Floodplain **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.8011 **Long.:** -123.0294 **Datum:** NAD83

Soil Map Unit Name: 48: Fluvents, nearly level **NWI classification:** R2UBH

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus balsamifera	15	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. Cornus stolonifera	15	☑ 37.5%	FACW
2. Rubus discolor	25	☑ 62.5%	FACU
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	40	= Total Cover	
Herb Stratum (Plot size:)			
1. Phalaris arundinacea	55	☑ 55.0%	FACW
2. Urtica dioica	25	☑ 25.0%	FAC
3. Agrostis stolonifera	20	☑ 20.0%	FAC
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	100	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	**x 1 =**	0
FACW species	70	**x 2 =**	140
FAC species	60	**x 3 =**	180
FACU species	25	**x 4 =**	100
UPL species	0	**x 5 =**	0
Column Totals:	155	**(A)**	420 **(B)**

Prevalence Index = B/A = 2.710

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: EnterID

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR	3/2	100%						Silty Clay	
8-20	10YR	3/2	95%	10YR	5/6	5%	C	M	Silty Clay	

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches):	0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: COTTAGE GROVE LWI **City/County:** COTTAGE GROVE **Sampling Date:** 19-Mar-10

Applicant/Owner: LANE COUNCIL OF GOVERNMENTS **State:** OR **Sampling Point:** SP 24

Investigator(s): ALISON SIGLER, SARAH HARTUNG **Section, Township, Range:** S 27 T 20S R 3W

Landform (hillslope, terrace, etc.): Valley bottom **Local relief (concave, convex, none):** concave **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR A **Lat.:** 43.8066 **Long.:** -123.0456 **Datum:** NAD83

Soil Map Unit Name: 79: McBee silty clay loam **NWI classification:** PFO1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, et

Hydrophytic Vegetation Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present? Yes ◉ No ○	
Wetland Hydrology Present? Yes ◉ No ○	

Remarks:

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)			
1. Populus balsamifera	20	☑ 100.0%	FAC
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size:)			
1. Festuca arundinacea	10	☐ 18.2%	FAC
2. Veronica americana	15	☑ 27.3%	OBL
3. Iris pseudacorus	30	☑ 54.5%	OBL
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
11.	0	☐ 0.0%	
	55	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

% Bare Ground in Herb Stratum: 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	**x 1 =**	45
FACW species	0	**x 2 =**	0
FAC species	30	**x 3 =**	90
FACU species	0	**x 4 =**	0
UPL species	0	**x 5 =**	0
Column Totals:	75	**(A)**	135 **(B)**

Prevalence Index = B/A = 1.800

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrologic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **5 - Wetland Non-Vascular Plants** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

45% herb stratum was open water

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil

Sampling Point: SP 24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (except in MLRA 1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDRIC SOILS BY INUNDATION

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (LRR A)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (LRR A)
- ☐ Frost Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ◉ No ○	Depth (inches):	6	
Water Table Present?	Yes ○ No ◉	Depth (inches):	0	
Saturation Present? (includes capillary fringe)	Yes ◉ No ○	Depth (inches):	0	**Wetland Hydrology Present?** Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX F: COTTAGE GROVE WETLAND INVENTORY MAPS

Maps are available as separate PDFs on the DSL website.

APPENDIX G: WETLAND SUMMARY SHEETS

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/19/2010

Investigator(s): Alison Sigler, Sarah Hartung

Data Sheet Numbers: SP 24

Wetland Mapping Code: 1a-f

Size (acres): 11.07

Wetland 1a-c = 6.72 ac
Wetland 1d-f = 4.35 ac

Location

Legal: T 20S R 3W S 27 NW 1/4 NW 1/4, T 20S R 3W S 22 SW 1/4 SW 1/4 and NW 1/4 SW 1/4

TaxLot: 200, 800, 1000

Other: West and south of I-5, east of the raceway

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48, 79, 96, 110, 118

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PFO1Yd, PABHh, PSSY, PABH
HGM: Slope Valley (Wetland 1a-c), Riverine Impounding (Wetland 1d-f).

Dominant Vegetation and Comments:

Trees: Populus balsamifera (Black cottonwood), Herbs: Festuca arundinacea (Tall fescue), Iris pseudacorus (Yellow flag iris), Veronica americana (American speedwell). Comments: On-site determination. Locally Significant Wetland. Intermittent/seasonal hydrological connection between 1d and 1b, but assessed 1a-c separately from 1d-f due to different HGM class.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/25/2010

Wetland Mapping Code: 2

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.28

Data Sheet Numbers: SP 21

Location

Legal: T 20S R 3W S 28 NE 1/4 NW 1/4

TaxLot: 1210, 1233

Other: South of Bennett Creek Road, West of the Coast Fork

Basin: Coast Fork Willamette River

Soils

Mapped Series: 24, 121B, 135E

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PEMY; HGM: Slope Valley

Dominant Vegetation and Comments:

Trees: Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow). Herbs: Carex obnupta (Slough sedge). Comments: Locally Significant Wetland. Off-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/25/2010

Wetland Mapping Code: 3

Investigator(s): Sarah Hartung

Size (acres): 3.42

Data Sheet Numbers: SP 22

Location

Legal: T 20S R 3W S 27 L2, L3 TaxLot: 1200

Other: East of airport runway, west bank of Row River

Basin: Row River

Soils

Mapped Series: W: Water, 22:Camas gravelly sandy loam, 48:Fluvents, nearly level

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PABH, PFO1Y; HGM: Riverine Impounding

Dominant Vegetation and Comments:

Shrubs: Cornus stolonifera (Pacific dogwood), Herbs: Phalaris arundinacea (Reed canary grass), Solanum nigrum (Black nightshade), Urtica dioica (Stinging nettle). Comments: Locally Significant Wetland. On-site determination. Continued Wetland Class: Riverine Flow-through.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: 4

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.72

Data Sheet Numbers: SP 01

Location

Legal: T 20S R 3W S 29 SE 1/4 NE 1/4 TaxLot: 1301

Other: Southwest of Holly Avenue, east of Dogwood Avenue

Basin: Coast Fork Willamette River

Soils

Mapped Series: 45C: Dupee silt loam, 135C: Willakenzie clay loam

Hydrology

Hydrologic Source: Overland Flow

Wetland Classification(s): PEMY; HGM: Slope Headwater

Dominant Vegetation and Comments:

Herbs: Juncus effusus (Common rush), unidentified grasses. Comments: Off-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/18/2010

Wetland Mapping Code: 5

Investigator(s): Sarah Hartung, Alison Sigler

Size (acres): 0.2

Data Sheet Numbers: SP 23

Location

Legal: T 20S 3W S 27 L4

TaxLot: 100, 614

Other: North of Row River Road, south bank of the Row River

Basin: Row River

Soils

Mapped Series: 48: Fluvents, nearly level, W: Water

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PFO1Y; HGM: Riverine Impounding

Dominant Vegetation and Comments:

Trees: Populus balsamifera (Black cottonwood), Shrubs: Rubus discolor (Himalayan blackberry), Cornus stolonifera (Pacific dogwood), Herbs: Urtica dioica (Stinging Nettle), Phalaris arundinacea (Reed canary grass), Agrostis stolonifera (Creeping bentgrass). Comments: Locally Significant Wetland. On-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 6

Investigator(s): Sarah Hartung, Alison Sigler

Size (acres): 0.52

Data Sheet Numbers: SP 18

Location

Legal: T 20 S R 3 W S 27 NE1/4 SE 1/4 TaxLot: 614

Other: Southwest of airport runway on the west side of Row River

Basin: Row River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PUBHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Shrubs: Salix lasiandra (Pacific willow), Herbs: Unidentified grasses. Comments: Locally Significant Wetland. Off-site determination. Assessed with Wetland 7 due to proximity; collective wetland area is 1.81 acres.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 7

Investigator(s): Sarah Hartung, Alison Sigler

Size (acres): 1.29

Data Sheet Numbers: SP 17

Location

Legal: T 20S R 3W S 27 NE 1/4 SE 1/4, NW 1/4 SE 1/4, T 20S R 3W S 27 SW 1/4 SE 1/4, SE 1/4 SE 1/4

TaxLot: 608, 613, 614

Other: East of Row River Road, west bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 22:Camas gravelly sandy loam, 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional

Dominant Vegetation and Comments:

Shrubs: Salix lasiandra (Pacific willow), Alnus rubra (Red alder), Herbs: Phalaris arundinacea (Reed canary grass), Alopecurus pratensis (Meadow foxtail), Juncus effusus (Common rush), Comments: Locally Significant Wetland. Off-site determination. Patches of woody vegetation are less than 0.25 acre. Assessed with Wetland 6 due to proximity; collective wetland area is 1.81 acres.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24, 3/25/2010

Wetland Mapping Code: 8a-d

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 6.12

Data Sheet Numbers: SP 19

Location

Legal: T 20S R 3W S 27 SW 1/4 SE 1/4, SE 1/4 SE 1/4, L5

TaxLot: 100, 300, 1300, 1400

Other: North of Row River Road in the park, continuing southwest of Row River Road

Basin: Coast Fork Willamette River

Soils

Mapped Series: 22, 48, 79, 110

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PSS1H, PFO1H, PUBHh; HGM: Riverine Flow-Through

Dominant Vegetation and Comments:

Trees: Salix lasiandra (Pacific willow), Shrubs: Physocarpus capitatus (Pacific ninebark), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. Off-site and on-site determination. Continued legal description: T 20S R 3W S 34 NW 1/4 NE 1/4, L1. Continued Wetland Class: HGM: Riverine Impounding. Fringe of woody vegetation along Wetland 8a.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 9

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.73

Data Sheet Numbers: N/A

Location

Legal: T 20SE R 3W S 27 SE 1/4 SE 1/4, L5 TaxLot: 1400

Other: South of Row River within East Regional Park, north of Row River Road

Basin: Coast Fork Willamette River

Soils

Mapped Series: W: Water, 48: Fluvents, nearly level, 110: Pits

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PFO1H, PABH; HGM: Riverine Impounding

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination. Surface water connection to the Row River.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 10

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 1.64

Data Sheet Numbers: N/A

Location

Legal: T 20 S R 3 W S 27 L5

TaxLot: 1400

Other: South of Row River within East Regional Park, north of Row River Road

Basin: Coast Fork Willamette River

Soils

Mapped Series: 110: Pits

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PABHx; HGM: Riverine Impounding/Depressional Outflow

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. Wetland/Upland Mosaic. On-site determination. Fill material has created upland areas with very high banks. Surface connection to the Row River.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 11

Investigator(s): Sarah Hartung

Size (acres): 0.13

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 27 L5, T 20S R 3W S 34 L1 TaxLot: 1400

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination. Assessed with Wetlands 12 and 14 due to close proximity and similar hydrology/vegetation. Collective wetland acreage is 0.81 acre.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 12

Investigator(s): Sarah Hartung

Size (acres): 0.32

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 27 L5, T 20S R 3W S 34 L1 TaxLot: 1400

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PFOH; HGM: Depressional

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination. Assessed with Wetlands 11 and 14 due to close proximity and similar hydrology and vegetation. Collective wetland acreage is 0.81 acre.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 13

Investigator(s): Sarah Hartung

Size (acres): 2

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 27 SE 1/4 SE 1/4, L5, T 20S R 3W S 34 L1, NE 1/4 NE 1/4

TaxLot: 1400, 1500, 2000

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: W: Water, 48: Fluvents, nearly level, 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Outflow/Riverine Impounding

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination. Surface water connection to the Row River.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 14

Investigator(s): Sarah Hartung

Size (acres): 0.36

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 34 L1

TaxLot: 100, 1400

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination. Assessed with Wetland 11 and 12 due to close proximity and similar vegetation and hydrology. Collective wetland acreage is 0.81 acre.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 15

Investigator(s): Sarah Hartung

Size (acres): 1.59

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 34 L1, NE 1/4 NE 1/4

TaxLot: 100, 1400, 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PFO1Yx, PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 16

Investigator(s): Sarah Hartung

Size (acres): 0.2

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 26 SW 1/4 SW 1/4, T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500, 2000

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PFO1F; HGM: Riverine Impounding

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 17

Investigator(s): Sarah Hartung

Size (acres): 1.15

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500, 2000

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination.
Assessed with Wetlands 18 and 19 due to proximity and same HGM; collective wetland area is 1.97 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 18

Investigator(s): Sarah Hartung

Size (acres): 0.37

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 34 NE 1/4 NE 1/4, T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination.
Assessed with Wetlands 17 and 19 due to proximity and same HGM; collective wetland area is 1.97 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 19

Investigator(s): Sarah Hartung

Size (acres): 0.45

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4 TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination.
Assessed with Wetlands 17 and 18 due to proximity; collective wetland area is 1.97 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 20

Investigator(s): Sarah Hartung, Alison Sigler

Size (acres): 1.1

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 34 L1

TaxLot: 100, 1500

Other: North of Row River Road, west bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PFO1Yx, PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination. Assessed with Wetland 21 due to proximity and same HGM class.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: 21

Investigator(s): Sarah Hartung, Alison Sigler

Size (acres): 1.54

Data Sheet Numbers: SP 16

Location

Legal: T 20S R 3W S 34 NE 1/4 NE 1/4, L1

TaxLot: 100, 1500

Other: North of Row River Road, west bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PSS1Y; HGM: Depressional Permanently Flooded

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. On-site determination. Assessed with Wetland 20 due to proximity and same HGM class.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: 22

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.15

Data Sheet Numbers: SP 02

Location

Legal: T 20S R 3W S 29 NW 1/4 SE 1/4

TaxLot: 300, 501

Other: West of W Ash Avenue

Basin: Coast Fork Willamette River

Soils

Mapped Series: 78: McAlpin silty clay loam, 135E: Willakenzie clay loam

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PEMYx; HGM: Slope Valley

Dominant Vegetation and Comments:

Shrubs: Rubus discolor (Himalayan blackberry), Herbs: Carex amplifolia (Bigleaf sedge). Comments: Locally Significant Wetland. On-site determination. A portion of the wetland has been excavated below the groundwater table.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/18/2010

Wetland Mapping Code: 23

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.48

Data Sheet Numbers: SP 09

Location

Legal: T 20S R 3W S 32 SE 1/4 NW 1/4 TaxLot: 503

Other: South of Blue Sky Drive where the road ends

Basin: Coast Fork Willamette River

Soils

Mapped Series: 102C: Panther silty clay loam

Hydrology

Hydrologic Source: Overland Flow

Wetland Classification(s): PFO1Y; HGM: Slope Valley

Dominant Vegetation and Comments:

Trees: Alnus rubra (Red alder), Shrubs: Rubus discolor (Himalayan blackberry), Herbs: Oenanthe sarmentosa (Pacific water parsley), Tolmiea menziesii (Piggyback plant). Comments: Locally Significant Wetland. Off-site determination. Neighbor reports an excavated pond.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/18/2010

Wetland Mapping Code: 24

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.63

Data Sheet Numbers: SP 10

Location

Legal: T 20S R 3W S 32 SE 1/4 SE 1/4 TaxLot: 1300

Other: South of Sweet Lane, west of Highway 99

Basin: Coast Fork Willamette River

Soils

Mapped Series: 134: Wapato silty clay loam

Hydrology

Hydrologic Source: Sheet flow (Precipitation)

Wetland Classification(s): PEMB; HGM: Slope Valley

Dominant Vegetation and Comments:

Trees: Populus balsamifera (Black cottonwood), Shrubs: Fraxinus latifolia (Oregon ash), Herbs: Festuca arundinacea (Tall fescue), Camassia quamash (Common camas), Comments: Locally Significant Wetland. On-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/18/2010

Wetland Mapping Code: 25

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 18.93

Data Sheet Numbers: SP 11, SP 12

Location

Legal: T 21S R 3W S 5 SW 1/4 NE 1/4, NW 1/4 NE 1/4, L3, T 21S R 3W S 5 NE 1/4 NW 1/4, SE 1/4 NW 1/4

TaxLot: 201, 202, 300, 400

Other: North of Dugan Lane, northwest of Highway 99

Basin: Coast Fork Willamette River

Soils

Mapped Series: 8, 78, 89E, 102C

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PFO1F, PFO1Y, PEMY, PUBZ (Flooded Area)

Dominant Vegetation and Comments:

Trees: Fraxinus latifolia (Oregon ash), Shrubs: Spiraea douglasii (Douglas spiraea), Rubus discolor (Himalayan blackberry), Salix lasiandra (Pacific willow), Herbs: Juncus effusus (Common rush), Alopecurus pratensis (Meadow foxtail), Carex obnupta (Slough sedge), Festuca arundinacea (Tall fescue). Comments: Locally Significant Wetland. Continued Wetland Class: HGM: Slope Valley and Slope Headwater. Combined with off-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/18/2010

Wetland Mapping Code: 26

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 1.09

Data Sheet Numbers: SP 14

Location

Legal: T 21S R 3W S 5 NE 1/4 NE 1/4, SE 1/4 NE 1/4 TaxLot: 1400

Other: South of Cleveland Avenue, north of Goddard Lane

Basin: Coast Fork Willamette River

Soils

Mapped Series: 79: McBee silty clay loam

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PUBHx; HGM: Slope Headwater

Dominant Vegetation and Comments:

Herbs: Unidentified grasses. Comments: Off-site determination, very limited view of wetland. Locally Significant Wetland.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/18/2010

Wetland Mapping Code: 27

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 9.46

Data Sheet Numbers: SP 13

Location

Legal: T 21S R 3W S 4 NW 1/4 SW 1/4, SW 1/4 NW 1/4 TaxLot: 2200, 2202, 2300

Other: South of Goddard Lane, north of I-5

Basin: Coast Fork Willamette River

Soils

Mapped Series: 26: Chehalis silty clay loam, 99H: Ochrepts & Umbrepts, 134: Wapato silty clay loam

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PFO1Y; HGM: Slope Headwater

Dominant Vegetation and Comments:

Trees: Fraxinus latifolia (Oregon ash), Shrubs: Cornus stolonifera (Pacific dogwood), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Off-site determination. Locally Significant Wetland.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/19/2010

Wetland Mapping Code: 28

Investigator(s): Sarah Hartung

Size (acres): 3.85

Data Sheet Numbers: N/A

Location

Legal: T 21S R 3W S5 NE 1/4 NE 1/4, SE 1/4 NE 1/4, SW 1/4 NE 1/4

TaxLot: 1001

Other: East of Hwy 99, South of Rachel Road, west of Coast Fork Willamette River

Basin: Coast Fork Willamette River

Soils

Mapped Series: W: Water, Unknown

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PUBHx; HGM: Depressional

Dominant Vegetation and Comments:

Off-site (office) determination; not able to view in field. Based on aerial imagery, wetland appears to contain very little vegetation, but judged to have some pockets of floating aquatic vegetation. Locally Significant Wetland.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-1

Investigator(s): Sarah Hartung

Size (acres): 0.13

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination.

Assessed with Wetlands WD 1992-0202-2 to 5 due to proximity and same HGM; collective wetland area is 2.31 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-2

Investigator(s): Sarah Hartung

Size (acres): 1.13

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination.

Assessed with Wetlands WD 1992-0202-1, -3 to -5 due to proximity; collective wetland area is 2.31 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-3

Investigator(s): Sarah Hartung

Size (acres): 0.28

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level, 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination.
Assessed with Wetlands WD 1992-0202-1, -2, -4, and -5 due to proximity; collective wetland area is 2.31 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-4

Investigator(s): Sarah Hartung

Size (acres): 0.51

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination.
Assessed with WD 1992-0202-1 to -3 and -5 due to proximity; collective wetland area is 2.31 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-5

Investigator(s): Sarah Hartung

Size (acres): 0.26

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level, 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PABHx; HGM: Depressional Closed Permanently Flooded

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination.
Assessed with WD 1992-0202-1 to -4 due to proximity; collective wetland area is 2.31 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-6

Investigator(s): Sarah Hartung

Size (acres): 0.66

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4 TaxLot: 1500

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PFO1Y; HGM: Depressional/Riverine Impounding

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination. Surface water connection to the Row River.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-7

Investigator(s): Sarah Hartung

Size (acres): 1.89

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 35 NW 1/4 NW 1/4, SW 1/4 NW 1/4, L 1

TaxLot: 1500, 1501

Other: North of Row River Road, south bank of the Row River

Basin: Coast Fork Willamette River

Soils

Mapped Series: 48: Fluvents, nearly level, 110: Pits

Hydrology

Hydrologic Source: Flooding

Wetland Classification(s): PFO1Y; HGM: Riverine Impounding/Depressional

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination. Surface water connection to the Row River.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/24/2010

Wetland Mapping Code: WD1992-0202-8

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 4.09

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 34 L1, NE 1/4 NE 1/4, T 20S R 3W S 35 NW 1/4 NW 1/4

TaxLot: 100, 1500

Other: North of Row River Road in the park

Basin: Coast Fork Willamette River

Soils

Mapped Series: W: Water, 110: Pits

Hydrology

Hydrologic Source: Groundwater

Wetland Classification(s): PUBHx, PABHx, PSSH, HGM: DCPF

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination. HGM: DCPF= Depressional Closed Permanently Flooded. Patches of woody vegetation in eastern portion- willows, alder, black cottonwood. Aquatic vegetation includes duckweeds (Lemna spp.), waterweeds (Elodea spp.), reed canarygrass.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17, 3/18/2010

Wetland Mapping Code: WD1994-0190

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 36.50

Data Sheet Numbers: SP 03, SP 06, SP 07, SP 08

Location

Legal: T 20S R 3W S 32 NW 1/4 NW 1/4, NE 1/4 NW 1/4 TaxLot: 101, 1300, 1400, 1501, 1600

Other: North of W Harrison Avenue, west of S R St, mostly on school lot

Basin: Coast Fork Willamette River

Soils

Mapped Series: 43E, 45C, 78, 85, 130

Hydrology

Hydrologic Source: Overland flow (Sheet flow)

Wetland Classification(s): PEMF, PEMYd, PSS1Ed (partially ditched/drained); HGM: Slope Valley

Dominant Vegetation and Comments:

Trees: Populus balsamifera (Black cottonwood), Shrubs: Rubus discolor (Himalayan blackberry), Salix hookeriana (Dune willow), Herbs: Camassia quamash (Common camas), Festuca arundinacea (Tall fescue), Veronica americana (American speedwell), Carex obnupta (Slough sedge). Comments: Continued legal description: T 20S R 3W S 32 NW 1/4 NE 1/4, T 20S R 3W S 29 SE 1/4 SW 1/4, SW 1/4 SW 1/4. On-site and off-site determination of previous delineation. Locally Significant Wetland.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: WD1996-0030-1

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 7.42

Data Sheet Numbers: SP 05

Location

Legal: T 20S R 3W S 32 SW 1/4 SE 1/4, T 21S R 3W S 5 NW 1/4 NE 1/4

TaxLot: 400, 500, 600, 700, 800, 900, 1200, 1300

Other: South of Sweet Lane

Basin: Coast Fork Willamette River

Soils

Mapped Series: 78: McAlpin silty clay loam, 85:Natroy silty clay loam, 89E: Nekia silty clay loam, 130: Waldo silty clay loam

Hydrology

Hydrologic Source: Overland flow (Sheet flow)

Wetland Classification(s): PFO1E, PEMY, PEMB; HGM: Slope Headwater

Dominant Vegetation and Comments:

Shrubs: Fraxinus latifolia (Oregon ash), Rubus discolor (Himalayan blackberry), Herbs: Alopecurus pratensis (Meadow foxtail). Comments: On-site and off-site determination of previous delineation. Locally Significant Wetland.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/18/2010

Wetland Mapping Code: WD1996-0030-2

Investigator(s): Alison Sigler

Size (acres): 0.09

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 32 SE 1/4 SE 1/4

TaxLot: 600

Other: Northwest corner, north of Carnegie Way and west of Highway 99

Basin: Coast Fork Willamette River

Soils

Mapped Series: 96: Newberg loam

Hydrology

Hydrologic Source: Overland flow (Sheet flow)

Wetland Classification(s): PEMB; HGM: Slope Valley

Dominant Vegetation and Comments:

Locally Significant Wetland. Off-site determination of previous delineation. Partially filled by gravel road and pavement.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: WD1999-0485-1

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.17

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 29 NE 1/4 SW 1/4, NW 1/4 SE 1/4 TaxLot: 5300, 5600, 6200

Other: East of Pond Turtle Way

Basin: Coast Fork Willamette River

Soils

Mapped Series: 78: McAlpin silty clay loam

Hydrology

Hydrologic Source: Overland flow (Sheet flow)

Wetland Classification(s): PEMB; HGM: Slope Valley

Dominant Vegetation and Comments:

Wetland partially filled and now has housing. Off-site determination.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: WD1999-0485-2

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.28

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 29 NE 1/4 SW 1/4

TaxLot: 6100

Other: East of Blue Bird Street, west of Pond Turtle Way and north of Ash Street

Basin: Coast Fork Willamette River

Soils

Mapped Series: 78: McAlpin silty clay loam, 102C:Panther silty clay loam

Hydrology

Hydrologic Source: Surface flow (Flooding)

Wetland Classification(s): PFO1Y; HGM: Slope Valley

Dominant Vegetation and Comments:

Off-site determination of previous delineation. Locally Significant Wetland.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: WD1999-0485-3

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.32

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 29 NE 1/4 SW 1/4

TaxLot: 6100

Other: East of Blue Bird Street, west of Pond Turtle Way and north of Ash Street

Basin: Coast Fork Willamette River

Soils

Mapped Series: 78: McAlpin silty clay loam

Hydrology

Hydrologic Source: Sheet flow (Precipitation)

Wetland Classification(s): PEMB; HGM: Slope Valley

Dominant Vegetation and Comments:

Partially filled. Off-site determination of previous delineation.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 4/21/2010

Wetland Mapping Code: WD2001-0460

Investigator(s): Sarah Hartung

Size (acres): 0.17

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 27 NE 1/4 NW 1/4, SE 1/4 NW 1/4 TaxLot: 401

Other: East of the eastern clover leaf for I-5 Northbound

Basin: Coast Fork Willamette River

Soils

Mapped Series: 24: Chapman loam, 79: McBee silty clay loam, 118: Salem gravelly silty loam

Hydrology

Hydrologic Source: Overland flow (Sheet flow)

Wetland Classification(s): PEMYx; HGM: Slope Valley

Dominant Vegetation and Comments:

Off-site determination of previous delineation.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: WD2001-0471-1a-d

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 5.76

Data Sheet Numbers: SP 04

Location

Legal: T 20S R 3W S 32 NW 1/4 SE 1/4, SW 1/4 NE 1/4 TaxLot: 601, 1700, 1800

Other: North of Sweet Lane, west of the school

Basin: Coast Fork Willamette River

Soils

Mapped Series: 78: McAlpin silty clay loam , 85: Natroy silty clay loam, 108F: Philomath cobbly silty clay ,130: Waldo silty clay loam

Hydrology

Hydrologic Source: Sheet flow

Wetland Classification(s): PFO1E,PEMY; HGM: Slope Valley

Dominant Vegetation and Comments:

Trees: Fraxinus latifolia (Oregon ash), Shrubs: Rubus discolor (Himalayan blackberry), Herbs: Juncus effusus (Common rush). Comments: Locally Significant Wetland. On-site determination of previous delineation.

Assessed with WD 2001-0471-2 due to proximity and same HGM; collective area is 5.89 ac.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: WD2001-0471-2

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 0.13

Data Sheet Numbers: N/A

Location

Legal: T 20S R 3W S 32 NW 1/4 SE 1/4 TaxLot: 601

Other: North of Sweet Lane, west of the school

Basin: Coast Fork Willamette River

Soils

Mapped Series: 85: Natroy silty clay loam

Hydrology

Hydrologic Source: Sheet flow

Wetland Classification(s): PEMY, HGM: Slope Valley

Dominant Vegetation and Comments:

Locally Significant Wetland. On-site determination of previous delineation. Assessed with WD2001-0471-1a-d due to proximity.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/19, 3/24/2010

Wetland Mapping Code: WD2003-0461

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 7.27

Data Sheet Numbers: SP 15

Location

Legal: T 20S R 3W S 22 NE 1/4 SW 1/4, NW 1/4 SE 1/4, L6, T 20S R 3W S 22 SW 1/4 SE 1/4

TaxLot: 200, 600

Other: Mostly east of I-5 corridor along the south side of the Row River, north of golf course and housing

Basin: Coast Fork Willamette River

Soils

Mapped Series: 22:Camas gravelly sandy loam, 48: Fluvents, nearly level, 96: Newberg loam, 114: Riverwash

Hydrology

Hydrologic Source: Flooding (Surface water)

Wetland Classification(s): PFO1F; HGM: Riverine Flow-Through and Impounding

Dominant Vegetation and Comments:

Trees: Populus balsamifera (Black cottonwood), Shrubs: Salix lasiandra (Pacific willow), Herbs: Phalaris arundinacea (Reed canary grass). Comments: Locally Significant Wetland. Off-site and on-site determination of previous delineation.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

Cottage Grove LWI

- Wetland Summary Sheet -

Date(s) of Field Verification: 3/17/2010

Wetland Mapping Code: WD2008-0033

Investigator(s): Alison Sigler, Sarah Hartung

Size (acres): 1.47

Data Sheet Numbers: N/A

Location

Legal: T 20 S R 3 W S 32 SE 1/4 NE 1/4

TaxLot: 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 8000, 10100

Other: South of Harrison St, east of River Rd

Basin: Coast Fork Willamette River

Soils

Mapped Series: 27: Chehalis-Urban land complex

Hydrology

Hydrologic Source: Sheet flow

Wetland Classification(s): PFO1Y; HGM: Depressional

Dominant Vegetation and Comments:

Locally Significant Wetland. Off-site determination of previous delineation.

Wetland Classification Codes:

PFO = palustrine forested	PSS = palustrine scrub-shrub	RSB = riverine streambed (intermittent)
PEM = palustrine emergent	POW = palustrine open water	RUB = riverine unconsolidated bottom

APPENDIX H: GLOSSARY OF COWARDIN TERMS FOR LWI MAPS

Table H-1 describes Cowardin classes, subclasses, water regimes and special modifiers identified in the Cottage Grove LWI study area. For further information about Cowardin class, water regime and special modifiers refer to *Classification of Wetlands and Deepwater Habitats of the United States* document (Cowardin et al., 1979).

Table H-1. Cowardin Wetland Habitat Classes and Water Regimes found in the Cottage Grove Local Wetland Inventory

Labeled Feature on Map	Cowardin Class / Subclass	Water Regime	Special Modifier
PABH, PABHh, PABHx	PAB: Palustrine Aquatic Bed	H: Permanent	h: Diked/Impounded x: Excavated
PEMB	PEM: Palustrine Emergent	B: Saturated	--
PEMC	PEM: Palustrine Emergent	C: Seasonally Flooded	--
PEME	PEM: Palustrine Emergent	E: Seasonally Flooded/Saturated	--
PEMF, PEMFd	PEM: Palustrine Emergent	F: Semipermanent	d: Partially Drained/Ditched
PEMY, PEMYd, PEMYx	PEM: Palustrine Emergent	Y: Saturated/Semi-permanent/ Seasonally Flooded	d: Partially Drained/Ditched x: Excavated
PFO1E	PFO: Palustrine Forested; Broad-leaved Deciduous	E: Seasonally Flooded/Saturated	--
PFOF, PFO1F	PFO: Palustrine Forested; Broad-leaved Deciduous	F: Semipermanent	--
PFO1H	PFO: Palustrine Forested; Broad-leaved Deciduous	H: Permanent	--
PFOYd, PFO1Y, PFO1Yx	PFO: Palustrine Forested; Broad-leaved Deciduous	Y: Saturated/Semi-permanent/ Seasonally Flooded	d: Partially Drained/Ditched x: Excavated
PSS1Ed	PSS: Palustrine Scrub-shrub; Broad-leaved Deciduous	E: Seasonally Flooded/Saturated	d: Partially Drained/Ditched
PSS1H, PSS1Hx	PSS: Palustrine Scrub-shrub; Broad-leaved Deciduous	H: Permanent	x: Excavated

Labeled Feature on Map	Cowardin Class / Subclass	Water Regime	Special Modifier
PSSYx	PSS: Palustrine Scrub-shrub	Y: Saturated/Semi-permanent/ Seasonally Flooded	x: Excavated
PUBHh, PUBHx	PUB: Palustrine Unconsolidated Bottom	H: Permanent	h: Diked/Impounded x: Excavated
PUBZ	PUB: Palustrine Unconsolidated Bottom	Z: Intermittently Exposed/Permanent	--