

South Cooper Mountain Annexation Area

Local Wetland Inventory

Prepared for
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Prepared by



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1. INTRODUCTION

This Local Wetland Inventory (LWI) has been conducted for the South Cooper Mountain Annexation Area (SCMAA), which was brought into the City of Beaverton urban growth boundary in 2011. This LWI was prepared in concert with the South Cooper Mountain Concept Plan. The Concept Plan project covers areas beyond the 2011 annexation area, including areas outside of City of Beaverton jurisdiction. This LWI only covers areas within the SCMAA. The SCMAA LWI study area is shown in Appendix A, Figure 1. Tax lots covered by the LWI are shown in Figure 2, including those tax lots in which site access was available and on-site wetland delineation methods were used.

This LWI should be considered an amendment to the City's existing LWI. It is intended to cover the new SCMAA. No work was performed to revise existing LWI mapping for other areas of the City.

The LWI is intended to support planning level decision making and is not intended to replace more detailed site level wetland delineation work that may be needed for compliance with local, state, or federal regulations governing the protection of wetlands and surface waters. The LWI purpose and applicability, as provided in the Oregon Administrative Rules, are provided verbatim in *italics text* below.

OAR 141-086-0180 Purpose

Pursuant to Oregon Revised Statute (ORS) 196.674 pertaining to the Statewide Wetlands Inventory (SWI), these rules establish a system for uniform wetland identification and comprehensive mapping. These rules also establish wetlands inventory standards for cities or counties developing a wetland conservation plan (WCP) pursuant to ORS 196.678. A Local Wetlands Inventory (LWI) is developed for all or a portion of a city or county according to the standards and guidelines contained in these rules (OAR 141-086-0180 through 141-086-0240).

OAR 141-086-0185 Applicability

(1) Once approved by the Department of State Lands (Department), the LWI must be used in place of the National Wetlands Inventory (NWI) and is incorporated into the SWI.

(2) The approved LWI must be used by cities and counties in lieu of the NWI for notifying the Department of land use applications affecting mapped wetlands and other waters (ORS 215.418 and 227.350).

(3) An LWI fulfills the wetlands inventory requirements for Goal 5 and Goal 17 (OAR 660-015 and 660-023). An LWI that meets the additional WCP requirements specified in these rules must be used as the wetlands inventory basis for a WCP.

(4) A wetland function and condition assessment of mapped wetlands must be conducted as part of the LWI using the Oregon Freshwater Wetland Assessment Methodology (OFWAM) published by the Department in 1996. An equivalent functional assessment methodology may be used or adjustments may be made to OFWAM upon written approval by the Director. The assessment results are used to determine the relative quality (functions, values, and condition) of the mapped wetlands and to designate significant wetlands (OAR 141-086-0300 through 141-086-0350) as required for Goal 5, or to assess wetland functions and values for a WCP.

(5) An LWI is used by the Department, other agencies and the public to help determine if wetlands or other waters are present on particular land parcels.

(6) An LWI provides information for planning purposes on the location of potentially regulated wetlands and other waters such as lakes and streams, but is not of sufficient detail for permitting purposes under the state Removal-Fill Law (ORS 196.800 through 196.990). Smaller wetlands may not be mapped, and wetlands may be missed due to lack of onsite access, tree canopy cover and other constraints. A wetland delineation or determination report may be needed for parcels without LWI-mapped wetlands. A Department-approved wetland delineation report for wetlands identified in an LWI is usually needed prior to site development.

(7) All wetlands inventory procedures and products are subject to review and approval by the Department before the products:

- (a) Are incorporated into the SWI;
- (b) Can be used in lieu of the NWI for Wetland Land Use Notification purposes; or
- (c) Can be used by a city or county for Goal 5, Goal 17 or WCP purposes.

2. METHODS

2.1 GENERAL

Methods included a review of project area background materials, and drive-by and on-site field reconnaissance visits. Field work was conducted during the week of March 18, 2013. Wetland delineation was conducted at a reconnaissance level of accuracy suitable for LWI documentation and City planning purposes.

This LWI follows the Oregon Department of State Lands (DSL) rules, specifically Oregon Administrative Rule (OAR) 141-086. All wetlands one-half acre in size or larger were mapped as wetlands, while smaller wetlands were mapped as “probable wetlands.” Although DSL only requires that probable wetlands be mapped as point features (meaning that a single point would represent the wetland), for this project, these wetlands were mapped as polygons. This was done to aid the City planning process, as these features will likely need to be avoided or encroachment minimized.

Where site access was available within the SCMAA LWI area, a single sample plot documenting typical conditions for the respective wetland was completed and boundaries mapped using geographic positioning system (GPS).

Data collection and wetland boundary delineation followed the Level 2 Routine Delineation Method described in the U.S. Army Corps of Engineers (Corps) Wetlands Delineation Manual (Environmental Laboratory 1987) and further supported by the Western Mountains, Valleys, and Coast Region (Corps 2010) regional supplement (Supplement). This method requires the simultaneous presence of hydrophytic vegetation, hydric soils, and positive wetland hydrology in wetland delineations.

2.2 PRELIMINARY RESOURCE REVIEW

Reference materials were reviewed prior to the field investigation to provide information regarding the possible presence of wetlands, water features, hydric soils, wetland hydrology, site topography, and habitat conditions. The materials reviewed included:

- Clean Water Services (CWS) GIS streams layer shapefile (2013).
- Environmental Systems Research Institute (ESRI) National Geographic World Map for ArcGIS (2013)
- ESRI ArcGIS OnlineWorld Imagery aerial photo imagery for ArcGIS (2009)
- Metro Regional Land Information System (RLIS) GIS wetlands layer, hydric soils layer, and GIS streams layer (2013).
- Metro Technical Report for Fish and Wildlife Habitat (April 2005)
- Metro Cooper Mountain Natural Resource Management Plan (November 2005)
- Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database for Washington County, Oregon (2010).

- Oregon Biodiversity Information Center (ORBIC) Oregon Wetlands Cover, version 20091030 (2009)
- Oregon Department of Fish and Wildlife (ODFW) Fish distribution GIS layers (2013)
- Shapiro & Associates, Inc. City of Beaverton Local Wetland Inventory and GIS data (2000)
- U.S. Fish and Wildlife Service. National Wetland Inventory Wetland Mapper (2013)
- U.S. Geological Survey (USGS) National Hydrographic Database National Hydrographic Database (NHD) GIS streams layer (2013)
- City of Beaverton January 2013 LIDAR derived contours (January 2013)
- City of Beaverton January 2013 high resolution aerial photography (January 2013)
- DSL wetland determination/delineation database search results for SCMAA study area (March 2013)
- Fox Hollow Wetland/Goal 5 Natural Resource Determination (18200 SW Horse Tale Drive Washington County, Oregon, Tax Map 1S131000, lot 1602) Technical Memorandum (ESA 2013)
- Oregon Goal 5 and Metro Title 13 Natural Resources Determination –Scholls Ferry Road Properties (Tax Map 2S10600, lots 301, 302, and 700) Technical Memorandum (ESA 2013)

2.3 MAPPING PROCEDURES AND ESTIMATED ACCURACY

The Metro-RLIS wetlands layer and existing LWI-DSL layer provided by the City were merged and used as a starting point for mapping wetland resources within the SCMAA LWI study area. Obvious wetland boundary adjustments were made based on review of the 2013 aerial photography and roadside reconnaissance. For example, wetland polygons that clearly overlapped with developed areas were reduced in size so that only the undeveloped portion of the polygon remained. All wetlands were assigned a Cowardin class (i.e., vegetation type such as forested, emergent, etc.) and a hydrogeomorphic (HGM) class (i.e., slope, depression, etc.). Assigning of Cowardin and HGM classes was typically based on review of aerial photo and LIDAR contours, or field verification where possible.

For properties in which site access was available (see Appendix A Figure 2), wetland and waterway mapping was supported through use of a Trimble Geo XH resource grade geographic positioning system (GPS) unit with typical accuracy of one meter or better. Representative boundary and sample plot locations were collected, differentially corrected, and then exported to geographic information system (GIS) format (i.e., ESRI shapefile format). Although typical GPS accuracy is considered one meter or better, the mapping accuracy of field verified wetlands should be considered to be five meters (16.4 feet) or better, as sample plots, particularly unrecorded supplementary sampling, were conducted at a reconnaissance level of accuracy.

Streams and other waters were mapped in accordance with OAR 141-086-0210(19), which states that “Streams and other waters must be mapped, but no further documentation such as wetland summary sheets or OFWAM assessment is required. If an existing stream geospatial dataset is used, it may be necessary to adjust the layer to align with riparian or other linear wetlands.” Mapping of streams started with use of the Metro RLIS streams GIS layer. Stream lines were modified based on field observations where access was available. In other areas, stream lines were adjusted to match with topographic contours provided by the City LIDAR data (January 2013) and aerial photo interpretation based on the City’s January 2013 high resolution aerial imagery.

2.4 OFWAM FUNCTIONAL ASSESSMENT

Wetland functions were evaluated for wetlands greater than one half acre using the Oregon Freshwater Wetland Assessment Method (OFWAM). OFWAM results were used to determine if any of the SCMAA wetlands qualify as “locally significant wetlands” in accordance with criteria set forth in OAR 141-086-0350. Following DSL guidance, probable wetlands were not included in the evaluation of locally significant wetlands.

2.5 PUBLIC INVOLVEMENT PROCESS

All landowners within the SCMAA LWI study area were contacted by the City to inform them of the LWI project, which would be conducted as part of the greater South Cooper Mountain Planning project. The City requested property access to allow City’s consultant, David Evans and Associates, Inc. (DEA), to perform on-site wetland delineation work. As shown on Figure 2 of Appendix A, access was granted to seven tax lots. Two property owners elected to have their own consultants perform wetland delineation work and submit their findings to the City. These are also displayed on Figure 2. Tax map/lot 1S1310001602 information was provided in time to be included in the LWI and overall planning project work. However, information for tax map/lots 2S10600301, -302, and -700 came later and, therefore, has not been fully incorporated into this draft LWI report. Information for tax map/lots 2S10600301, -302, and -700 is displayed on the LWI results Figure 3 of Appendix A, but is not detailed further in this report. This information will be incorporated into the LWI report prior to final adoption by the City.

A formal public involvement process specific only to the SCMAA LWI has not been conducted. However, the LWI was conducted in concert with the South Cooper Mountain Planning project, which has had an extensive public involvement process. Public involvement has included meetings with a technical advisory committee, citizen’s advisory committee, multiple open house and community engagement sessions, and dissemination of information through the creation of a project website. LWI mapping results have been presented throughout these various meetings and engagements, and information made available to the public via the project website. As of November 2013, LWI results have not been presented as a stand-alone product for public review, but have instead been a part of combined natural resource reporting and mapping (DEA 2013), including wetlands, streams, buffers, and upland habitat resource mapping for the greater planning project study area.

3. RESULTS

LWI results documentation has been prepared in accordance with OAR 141-086-0220 LWI Reports and is provided herein.

3.1 STUDY AREA DESCRIPTION

OAR 141-086-0220(2)(a) A general description of the study area including a description of the landscape setting;

The project study area primarily consists of rural lands that are bordered to the east by suburban development and to the north, south, and west by rural land. Slopes range from gently rolling in the south half to moderately steep in the north half of the study area. The majority of the land drains to the south, with a portion of the area draining to the southeast. Land use is predominantly agricultural, with a mix of annual crop production, pasture, orchards, and viticulture. Several small remnant patches of native forest habitat occur within the area, including mixed upland fir-deciduous forest, Oregon ash dominated wetland forest, and patches of Oregon oak forest. Several fir dominated lots were being logged or had recently been logged as observed during the March 2013 site visits.

3.2 WETLAND INVENTORY PROCESS

OAR 141-086-0220(2)(b) A description of the wetland inventory process including the public involvement process; the inventory methods including the date(s) and scale(s) of source maps and aerial photos used; the offsite and onsite wetland determination procedures including procedures used for visual confirmation and probable wetland identification; and all mapping and map transfer procedures used;

See methods discussion above.

3.3 SUMMARY OF INVENTORY RESULTS

OAR 141-086-0220(2)(c) A summary of the inventory results including the total acreage of the study area and the total number and acreage of wetlands identified within the study area, excluding the acreage of deepwater habitat and artificially created wetlands such as detention ponds or aggregate extraction ponds;

The SCMAA study area occupies approximately 544 acres. The study area contains an estimated 19.37 acres of wetlands and probable wetlands. Table 1 provides a listing of individual wetlands, their size and HGM and Cowardin classifications. Study area wetlands are displayed in Appendix A Figure 3. Representative sample plots for each wetland are provided in Appendix B and summary sheets describing each wetland are provided in Appendix C.

The following discussion summarizes the range of wetland resources identified in the SCMAA LWI study area. Wetland A was the largest wetland identified within the SCMAA LWI study area and contained a large portion of intact forested wetland as well as emergent wetland dominated by pasture grasses. Probable wetland PW-G is situated in an agricultural field growing annual crops. This feature was mapped based on aerial photo reconnaissance and soil survey mapping that shows hydric soils in the field. This wetland was considered probable because it was very difficult to determine if wetland conditions actually exist and if they do, how wide an area they cover. All wetlands were considered to be

slope wetlands as the dominant source of hydrology is likely to be hillside seepage or shallow subsurface flow.

Table 1: LWI Wetland Summary Results

Wetland ID ¹	Acres	Cowardin Class	HGM Class
W-A	8.92	PFO, PEM	Slope
W-B	1.44	PFO, PEM	Slope
W-C	1.42	PFO	Slope
W-D	0.39	PFO, PEM	Slope
PW-E	0.22	PEM	Slope
PW-F	0.47	ag	Slope
PW-G	1.16	ag	Slope
W-H	4.51	PSS, PEM	Slope
PW-I	0.40	PFO, ag	Slope
PW-J	0.26	PEM	Slope
PW-K	0.09	PEM	Slope
PW-L	0.09	PEM	Slope
Total	19.37		

¹ "W" = wetland, "PW" = probable wetland

² PFO = palustrine forested, PSS = palustrine scrub-shrub, PEM = palustrine emergent, ag = agricultural wetland situated in a plowed field

3.4 OFWAM PROCESS AND RESULTS

OAR 141-086-0220(2)(d) A discussion of the OFWAM assessment process (e.g. how assessment units were defined) and the results;

Table 2 provides a summary of wetland functional assessment results for wetlands that are one-half acre or greater in size. Of the five wetlands evaluated, three met locally significant wetland criteria – Wetlands W-A, W-C, and W-H. This means at least one of the four functions evaluated rated highly. The remaining two wetlands did not meet locally significant wetland criteria due to their highly degraded conditions.

Table 2: Wetland Functional Assessment Results

Wetland ID	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Meets Locally Significant Criteria
W-A	Diverse	Intact	Degraded	Intact	Yes
W-B	Some Habitat	Degraded	Degraded	Degraded	No
W-C	Diverse	Intact	Degraded	Degraded	Yes
PW-G	Some Habitat	Degraded	Degraded	Degraded	No
W-H	Diverse	Intact	Degraded	Degraded	Yes

3.5 SUMMARY OF LOCALLY SIGNIFICANT WETLANDS

OAR 141-086-0220(2)(e) A summary of Locally Significant Wetlands, if identified (may be in table format);

Wetlands W-A, W-C, and W-H were determined to meet locally significant wetlands criteria. Wetland functions for these wetlands are summarized in Table 2. Wetland characteristics for these wetlands are summarized in the individual wetland summary sheets provided in Appendix C.

4. PREPARERS AND CONTRIBUTORS

Ethan Rosenthal, DEA Ecologist, authored this report. Phil Rickus, DEA Ecologist, provided the quality review. Dawn Afman, DEA Project Assistant, prepared the report drafts. Sara Gilbert, DEA GIS Specialist, conducted GIS analysis and prepared report figures.

5. BIBLIOGRAPHY

- City of Beaverton. 2013. LIDAR derived contours (flown January 2013)
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- Environmental Science & Assessment, LLC (ESA). 2013a. Memorandum to Matt Wellner, Metropolitan Land Group, LLC from Jack Dalton, RE: Fox Hollow Wetland/Goal 5 Natural Resource Determination (18200 SW Horse Tale Drive Washington County, Oregon). April 2, 2013.
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- Oregon Biodiversity Information Center (ORBIC). 2009. Oregon Wetlands Cover, version 20091030.
- Oregon Department of Fish and Wildlife (ODFW). 2013. Fish distribution GIS layers.
- Oregon Department of State Lands (DSL). 2013. Wetland determination/delineation database search results for SCMAA study area. March 2013.
- Shapiro & Associates, Inc. 2000. City of Beaverton Local Wetland Inventory and GIS data.
- U.S. Fish and Wildlife Service. 2013. National Wetland Inventory Wetland Mapper GIS data.
- U.S. Geological Survey (USGS). 2013. National Hydrographic Database National Hydrographic Database (NHD) GIS streams layer.

Date printed 12/12/13

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6. APPENDICES

Appendix A: Figures

OAR 141-086-0220(2)(f) All figures, with the study area clearly outlined.

**Figure 1
Vicinity Map**

**City of Beaverton
South Cooper Mountain
Annexation Area**

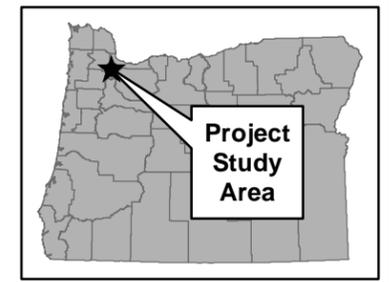
LOCAL WETLAND INVENTORY

Legend

-  LWI Study Area
-  Section
-  Beaverton City Limits
-  Park/Greenspace
-  Washington County Tax Lot
-  Arterial

Data Sources:
 LWI Study Area: Metro RLIS, 2012. Modified by DEA.
 PLSS, City Limits, Tax Lots, Parks/Greenspaces, Arterials:
 Metro RLIS, 2012
 Service Layer: ESRI World Topo Map

Disclaimer: Information shown on this map is for planning purposes, represents the conditions that exist at the map date, and is subject to change.



0 750 1,500 Feet



Information Current as of:
November 2013
 Printed on and Corrections as of:
November 13, 2013

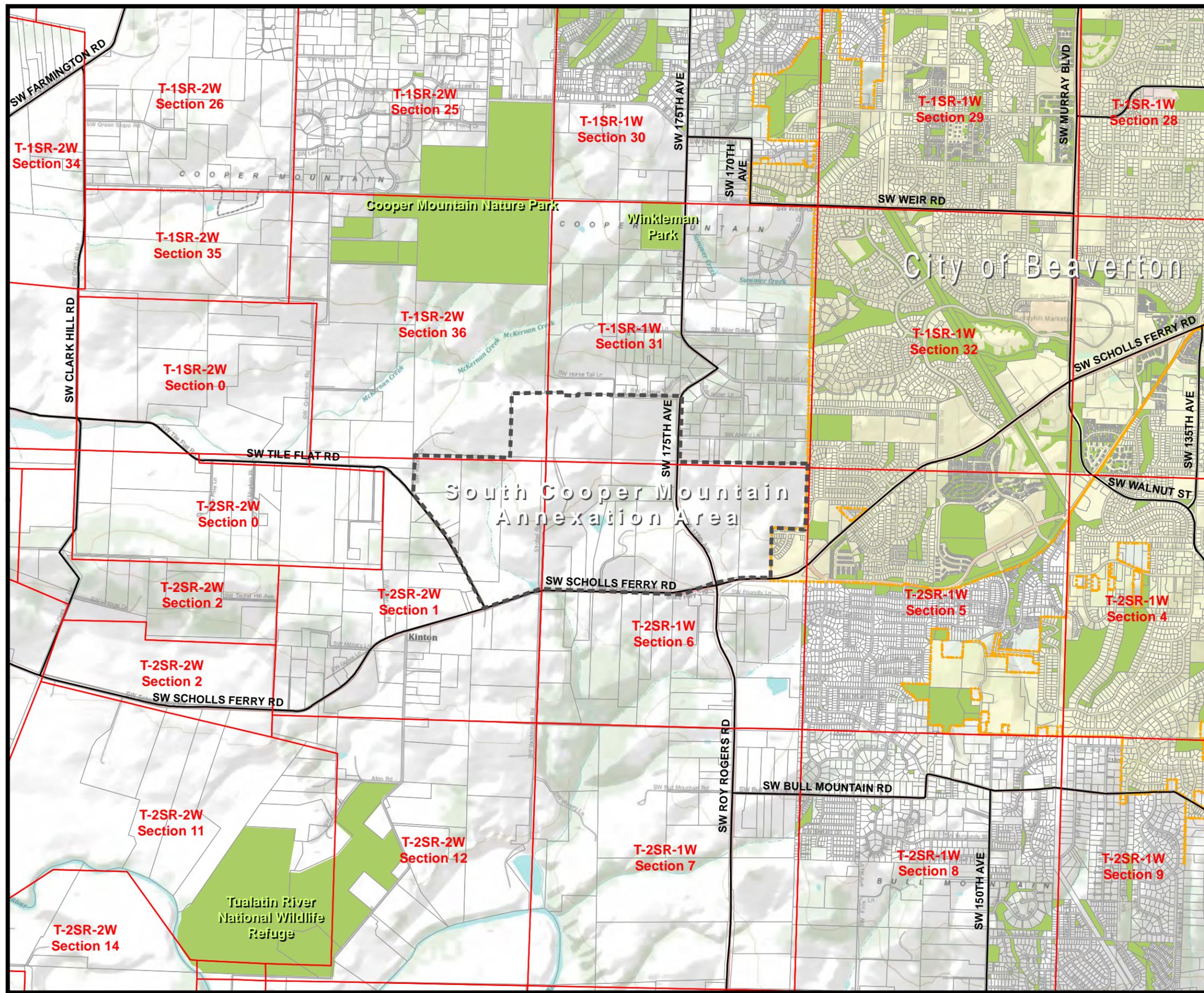


Figure 2 Tax Lots and Property Access Map

City of Beaverton South Cooper Mountain Annexation Area

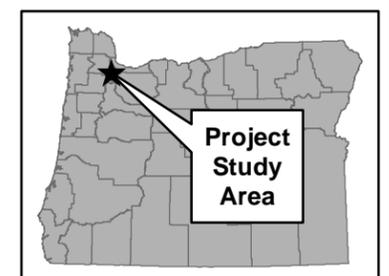
LOCAL WETLAND INVENTORY

Legend

-  LWI Study Area
-  Beaverton City Limits
-  Washington County Tax Lot
-  LWI Data Provided by Landowner
-  Property with Site Access
-  Arterial
-  Street

Data Sources:
LWI Study Area: Metro RLIS, 2012. Modified by DEA.
PLSS, City Limits, Tax Lots, Arterials, Streets: Metro RLIS, 2012

Disclaimer: Information shown on this map is for planning purposes, represents the conditions that exist at the map date, and is subject to change.



0 250 500 Feet



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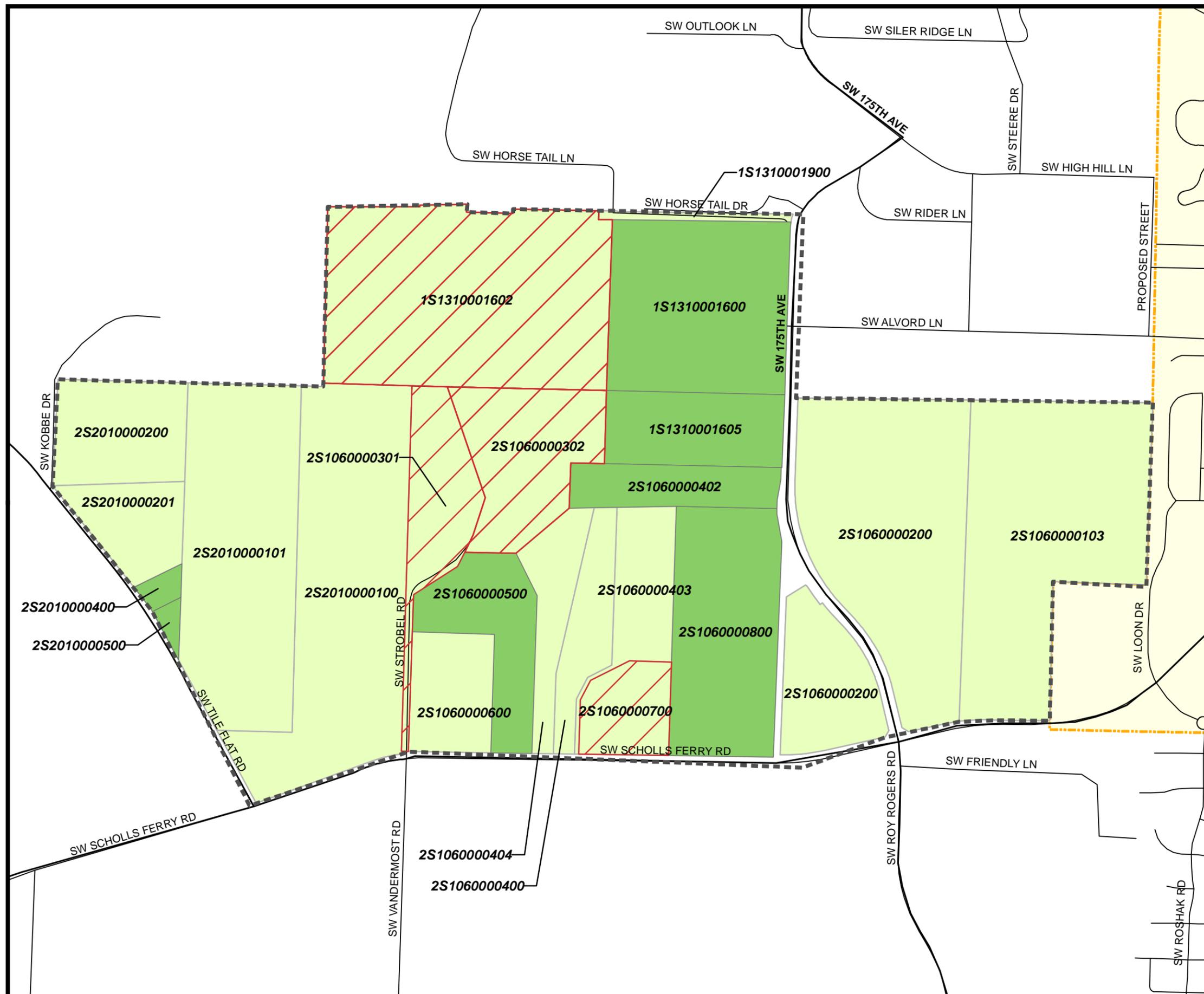
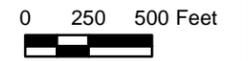


Figure 3
Local Wetland Inventory Map
City of Beaverton
South Cooper Mountain
Annexation Area

LOCAL WETLAND INVENTORY

Legend

- | | |
|---------------------------------------|--|
| LWI Study Area | Sample Point |
| Wetlands* | Additional wetland to be added for final LWI |
| Agricultural | Wetland area to be removed from final LWI |
| Forested (PFO) | |
| Emergent (PEM) | |
| Forested (PFO)/Agricultural | |
| Forested (PFO)/Emergent (PEM) | |
| Pond/Open Water (PUB) | |
| Scrub-Shrub (PSS)/Emergent (PEM) | |
| DSL LWI Wetland (CoB) | |
| Metro RLIS Wetland Outside Study Area | |
| Stream | * W = Wetlands |
| Section | PW = Probable Wetlands |
| Beaverton City Limits | |
| Washington County Tax Lot | |
| Arterial | |
| Street | |

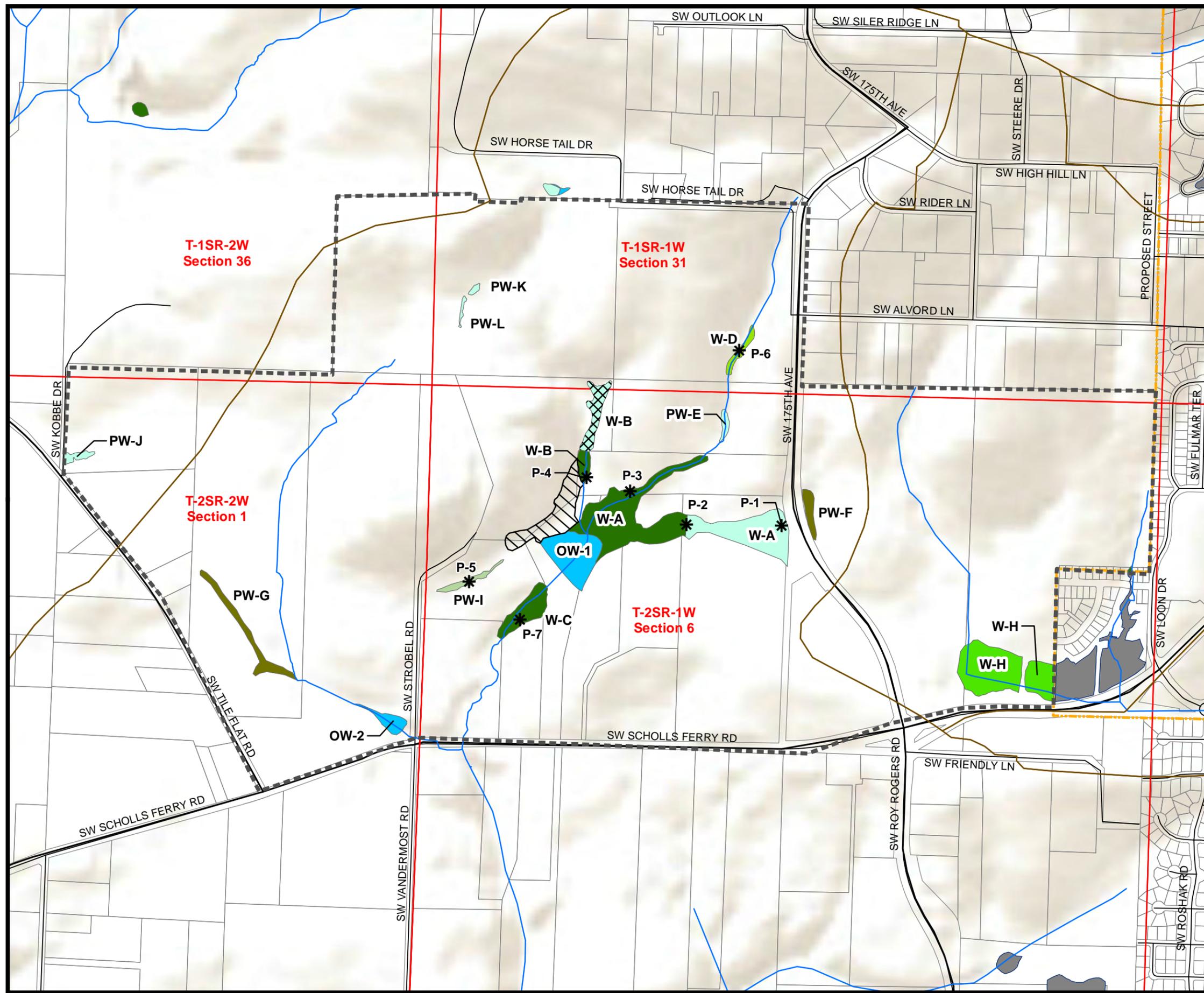


Data Sources:
 LWI Study Area: Metro RLIS, 2012. Modified by DEA.
 PLSS, City Limits, Arterials, Streets: Metro RLIS, 2012
 Wetlands, Streamsheds: City of Beaverton, Metro RLIS, 2012.
 Modified by DEA.
 Sample Points: DEA.
 Streams: Metro RLIS, 2012. Modified by DEA.
 Service Layers: ESRI

Disclaimer: Information shown on this map is for planning purposes, represents the conditions that exist at the map date, and is subject to change. The location and extent of wetlands and other waters is approximate. There may be unmapped wetlands and other waters present that are subject to regulation. A current Oregon Department of State Lands-approved wetland delineation is required for state removal-fill permits. You are advised to contact the Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.



Information Current as of:
November 2013
 Printed on and Corrections as of:
November 13, 2013



Appendix B: Data Sheets

OAR 141-086-0220(3)(a) Sample plot data on standard field data forms per OAR 141-090 et seq.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: South Cooper Mountain LWI City/County: Washington Sampling Date: March 19, 2013
 Applicant/Owner: City of Beaverton State: Oregon Sampling Point: 1
 Investigator(s): PRR, EJRO Section, Township, Range: see spreadsheet
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): A Lat: see spreadsheet Long: _____ Datum: _____
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Plot lies in a swale draining west. Wetland extends east and west out of study area.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>30'</u> radius)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u> radius)				
1. <u>Phalaris arundinacea</u>	5	n	FACW	
2. <u>Schedonorus phoenix</u>	70	y	FAC	
3. <u>Alepocurus pratensis</u>	40	y	FACW	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
115 = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> radius)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

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 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = _____
 FACW species _____ x 2 = _____
 FAC species _____ x 3 = _____
 FACU species _____ x 4 = _____
 UPL species _____ x 5 = _____
 Column Totals: _____ (A) _____ (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: South Cooper Mountain LWI City/County: Washington Sampling Date: March 19, 2013
 Applicant/Owner: City of Beaverton State: Oregon Sampling Point: 2
 Investigator(s): PRR, EJRO Section, Township, Range: see spreadsheet
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): A Lat: see spreadsheet Long: _____ Datum: _____
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Plot lies in a swale draining west, and was taken by viewing the plot area over a fence. Standing water visible at surface.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus latifolia</u>	100	y	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
100 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum	(Plot size: <u>30'</u> radius)			
1. <u>Rosa pisocarpa</u>	25	y	FACW	
2. <u>Crataegus douglasii</u>	20	y	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
45 = Total Cover				
Herb Stratum	(Plot size: <u>5'</u> radius)			
1. <u>Phalaris arundinacea</u>	20	y	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>grass sp.</u>	15	y	UNK	
3. <u>Ranunculus repens</u>	5	n	FACW	
4. <u>Veratrum californicum</u>	5	n	FACW	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
45 = Total Cover				
Woody Vine Stratum	(Plot size: <u>30'</u> radius)			
1. <u>Rubus ursinus</u>	5	y	FACU	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>40</u>				

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: South Cooper Mountain LWI City/County: Washington Sampling Date: March 19, 2013
 Applicant/Owner: City of Beaverton State: Oregon Sampling Point: 3
 Investigator(s): PRR, EJRO Section, Township, Range: see spreadsheet
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): A Lat: see spreadsheet Long: _____ Datum: _____
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Plot lies in a swale draining southwest fed by small creek, which lies approx 15' to the east, and is approx 1' wide.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus latifolia</u>	90	y	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. _____				
3. _____				
4. _____				
90 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30'</u> radius)				
1. <u>Rosa pisocarpa</u>	10	n	FAC	
2. <u>Oemleria cerasiformis</u>	35	y	FACU	
3. <u>Holodiscus discolor</u>	5	n	UPL	
4. <u>Symphoricarpos albus</u>	5	n	FACU	
5. _____				
55 = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Veratrum californicum</u>	10	n	FACW	
2. <u>Tolmeia menziesii</u>	5	n	FAC	
3. <u>Carex obnupta</u>	80	y	OBL	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
95 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: South Cooper Mountain LWI City/County: Washington Sampling Date: March 19, 2013
 Applicant/Owner: City of Beaverton State: Oregon Sampling Point: 4
 Investigator(s): PRR, EJRO Section, Township, Range: see spreadsheet
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): A Lat: see spreadsheet Long: _____ Datum: _____
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Plot lies in a swale draining southwest fed by small creek, which is approx 8" wide.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus latifolia</u>	80	y	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
80 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>30'</u> radius)				
1. <u>Rosa pisocarpa</u>	20	y	FAC	
2. <u>Oemleria cerasiformis</u>	40	y	FACU	
3. <u>Physocarpus capitatus</u>	20	y	FACW	
4. <u>Rubus armeniacus</u>	5	n	FACU	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
55 = Total Cover				
Herb Stratum (Plot size: <u>5'</u> radius)				
1. <u>Equisetum telmateia</u>	10	n	FACW	
2. <u>Tolmeia menziesii</u>	T	n	FAC	
3. <u>Carex obnupta</u>	65	y	OBL	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
75 = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>25</u>				

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: South Cooper Mountain LWI City/County: Washington Sampling Date: March 19, 2013
 Applicant/Owner: City of Beaverton State: Oregon Sampling Point: 5
 Investigator(s): PRR, EJRO Section, Township, Range: see spreadsheet
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): none Slope (%): 3
 Subregion (LRR): A Lat: see spreadsheet Long: _____ Datum: _____
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Plot lies near the base of slope in a wetland which extends into a wheat field to the southeast. Drain tiles present in field.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>30'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>5'</u> radius)				
1. <u>Phalaris arundinacea</u>	<u>5</u>	<u>n</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Schedonorus phoenix</u>	<u>15</u>	<u>y</u>	<u>FAC</u>	
3. <u>Alepcurus pratensis</u>	<u>10</u>	<u>y</u>	<u>FACW</u>	
4. <u>Triticum aestivum</u>	<u>15</u>	<u>y</u>	<u>UPL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>115</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: South Cooper Mountain LWI City/County: Washington Sampling Date: March 19, 2013
 Applicant/Owner: City of Beaverton State: Oregon Sampling Point: 6
 Investigator(s): PRR, EJRO Section, Township, Range: see spreadsheet
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 4
 Subregion (LRR): A Lat: see spreadsheet Long: _____ Datum: _____
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Plot lies in a swale draining south that was fenced off and impassible, so vegetation was assessed from 20' visually, and hydrology assumed.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus latifolia</u>	5	y	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30'</u> radius)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) <small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small>
1. <u>Poa pratensis</u>	90	y	FAC	
2. <u>Juncus effusus</u>	20	n	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

Grazing by goats.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: South Cooper Mountain LWI City/County: Washington Sampling Date: March 19, 2013
 Applicant/Owner: City of Beaverton State: Oregon Sampling Point: 7
 Investigator(s): PRR, EJRO Section, Township, Range: see spreadsheet
 Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): A Lat: see spreadsheet Long: _____ Datum: _____
 Soil Map Unit Name: see spreadsheet NWI classification: see spreadsheet

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Plot lies in a riparian wetland adjacent to a 1.5' wide drainage. The area has been recently mowed to remove Himalayan blackberry.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus latifolia</u>	85	y	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
85 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30'</u> radius)				
1. <u>Rosa pisocarpa</u>	10	y	FAC	
2. <u>Cornus sericea</u>	15	y	FACW	
3. <u>Rubus armeniacus</u>	5	n	FACU	
4. _____				
5. _____				
30 = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Poa pratensis</u>	40	y	FAC	
2. <u>Tolmeia menziesii</u>	10	n	FAC	
3. <u>Carex obnupta</u>	10	n	OBL	
4. <u>moss</u>	40			
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
60 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Remarks:

Appendix C: Wetland Summary Sheets (Wetlands less than 0.5 acres Not Included)

OAR 141-086-0220(3)(b) A summary sheet for each wetland that must at a minimum include:

- (A) The unique wetland code;
- (B) Street address or equivalent location description;
- (C) Township, Range, Section, Quarter Quarter Section and tax lot(s) that contain the mapped wetland;
- (D) Approximate wetland size (in acres);
- (E) Cowardin classification(s);
- (F) HGM classification(s);
- (G) Mapped soil unit(s);
- (H) Watershed boundaries at the 6th field Hydrologic Unit Code scale as defined by the US Geological Survey or finer;
- (I) Sample plot numbers, if any;
- (J) Department wetland determination or delineation file numbers, where applicable;
- (K) Scientific and common names of dominant plant species;
- (L) Primary hydrology sources;
- (M) Sampling or visual confirmation date(s) and method;
- (N) Locally Significant Wetland determination, if made; and
- (O) Comments that describe the wetland, including topographic position, land uses and significant alterations (including agricultural).



LOCAL WETLAND INVENTORY
Wetland Characterization Sheet

GENERAL INFORMATION		
Wetland Code:	W-A (Locally Significant)	Method: Onsite and Offsite
Wetland Size:	8.92 acres	Field Date(s): March 19, 2013
Cowardin Class:	PFO, PEM	Data Plot #s: 1, 2, 3
HGM Class:	Slope, RFT	Investigators: PRR, EJRO
LOCATION		
Street/landmark	North of Scholls Ferry Road, west of SW 175 th Ave	
Legal/tax map:	2S106000 TL0400, 0402, 0403, 0404, 0800	
Sub-basin code:	TR06.5 (Unnamed)	
WETLAND CHARACTERISTICS		
<p>Description: This rather large wetland is fed by groundwater and two small, unnamed tributaries to the Tualatin River (TR-1a, TR-1b). The eastern portion has been converted to pasture, and is dominated by non-native grasses Tall fescue (<i>Schedonorus phoenix</i>) and Meadow foxtail (<i>Alopecurus pratensis</i>), while the remainder consists of forested wetland. Site access was granted for only TL0402 and 0800, but representative plots were taken on those lots, and the rest was viewed from adjacent lots and appeared to be similar in nature. Forested wetland dominant species are provided below. Vegetative diversity and wildlife use in the wetland was fairly high.</p> <p>Soils: 16C – Delena silt loam, 3 to 12 percent slopes</p> <p>Hydrologic Source: Tributary to Summer Creek; groundwater discharge</p>		
Dominant Vegetation		
Trees	Shrubs	Vines/Herbs
Oregon ash <i>Fraxinus latifolia</i>	Pacific ninebark <i>Physocarpus capitatus</i> cluster rose <i>Rosa pisocarpa</i> Douglas' hawthorn <i>Crataegus douglasii</i> Indian plum <i>Oemleria cerasiformis</i>	slough sedge <i>Carex obnupta</i> Reed <i>Phalaris arundinacea</i> canarygrass
Potential Enhancement Opportunities:		
<ul style="list-style-type: none"> -Weed removal and native plantings, especially in the pasture area. -Drain tile removal in pasture area. -Limiting herbicide/fertilizer application on adjacent farm fields to protect water quality -Potential to remove dam for fish passage, but this should be weighed against providing open water habitat for wildlife and other opportunities and constraints. 		



LOCAL WETLAND INVENTORY
Wetland Characterization Sheet

GENERAL INFORMATION		
Wetland Code:	W-B	Method: Onsite and Offsite
Wetland Size:	1.44 acres	Field Date(s): March 19, 2013
Cowardin Class:	PFO, PEM	Data Plot #s: 4
HGM Class:	Slope, RFT	Investigators: PRR, EJRO
LOCATION		
Street/landmark	North of Scholls Ferry Road, west of SW 175 th Ave	
Legal/tax map:	2S106000 TL0302 and 402	
Sub-basin code:	TR06.5 (Unnamed)	
WETLAND CHARACTERISTICS		
<p>Description: This rather large wetland is fed by groundwater and two small, unnamed tributaries to the Tualatin River (TR-1a, TR-1b). The eastern portion has been converted to pasture, and is dominated by non-native grasses Tall fescue (<i>Schedonorus phoenix</i>) and Meadow foxtail (<i>Alopecurus pratensis</i>), while the remainder consists of forested wetland. Site access was granted for only TL0402 and 0800, but representative plots were taken on those lots, and the rest was viewed from adjacent lots and appeared to be similar in nature. Forested wetland dominant species are provided below. Vegetative diversity and wildlife use in the wetland was fairly high.</p> <p>Soils: 16C – Delena silt loam, 3 to 12 percent slopes</p> <p>Hydrologic Source: Tributary to Summer Creek; groundwater discharge</p>		
Dominant Vegetation		
Trees	Shrubs	Vines/Herbs
Oregon ash <i>Fraxinus latifolia</i>	Pacific ninebark <i>Physocarpus capitatus</i> cluster rose <i>Rosa pisocarpa</i> Douglas' hawthorn <i>Crataegus douglasii</i> Indian plum <i>Oemleria cerasiformis</i>	slough sedge <i>Carex obnupta</i> Reed <i>Phalaris arundinacea</i> canarygrass
Potential Enhancement Opportunities:		
<ul style="list-style-type: none"> -Weed removal and native plantings, especially in the pasture area. -Drain tile removal in pasture area. -Limiting herbicide/fertilizer application on adjacent farm fields to protect water quality -Potential to remove dam for fish passage, but this should be weighed against providing open water habitat for wildlife along with other opportunities and constraints. 		



LOCAL WETLAND INVENTORY
Wetland Characterization Sheet

GENERAL INFORMATION		
Wetland Code:	W-C (Locally Significant)	Method: Onsite and Offsite
Wetland Size:	1.42 acres	Field Date(s): March 19, 2013
Cowardin Class:	PFO	Data Plot #s: 7
HGM Class:	Slope, RFT	Investigators: PRR, EJRO
LOCATION		
Street/landmark	North of Scholls Ferry Road, west of SW 175 th Ave	
Legal/tax map:	2S106000 TL0404, 0500, and 0600	
Sub-basin code:	TR06.5 (Unnamed)	
WETLAND CHARACTERISTICS		
<p>Description: This wetland is fed by groundwater and an unnamed tributary to the Tualatin River (TR-1), and lies downslope of a small dam. The dam may have reduced historic extent of the wetland based on hydric soils mapping, and the fact that Himalayan blackberry (<i>Rubus armeniacus</i>) was present in the wetland, indicating drying during the summer months. Blackberry in the wetland was recently cut as a part of the adjacent residential construction. Dominant wetland species are provided below.</p> <p>Soils: 16C – Delena silt loam, 3 to 12 percent slopes</p> <p>Hydrologic Source: Unnamed tributary to the Tualatin River; groundwater discharge</p>		
Dominant Vegetation		
Trees	Shrubs	Vines/Herbs
Oregon ash <i>Fraxinus latifolia</i>	Red-osier dogwood <i>Cornus sericea</i> cluster rose <i>Rosa pisocarpa</i>	Kentucky bluegrass <i>Poa pratensis</i>
Potential Enhancement Opportunities:		
<ul style="list-style-type: none"> -Weed removal and native plantings, especially in the pasture area. -Limiting herbicide/fertilizer application on adjacent farm fields to protect water quality 		



LOCAL WETLAND INVENTORY

Wetland Characterization Sheet

GENERAL INFORMATION		
Wetland Code:	PW-G	Method: Offsite
Wetland Size:	1.16 acres	Field Date(s): March 19, 2013
Cowardin Class:	PEM (plowed field)	Data Plot #s: N/A
HGM Class:	Slope	Investigators: PRR, EJRO
LOCATION		
Street/landmark	North of Scholls Ferry Road, east of SW Tile Flat Road	
Legal/tax map:	2S201000 TL0101	
Sub-basin code:	TR06.5 (Unnamed)	
WETLAND CHARACTERISTICS		
<p>Description: This wetland lies in a swale within a recently plowed field, and contained no vegetation at the time of the site visit. It is connected to tributary TR-1a, which is impounded somewhat by a dam near Scholls Ferry Road.</p> <p>Soils: 7B – Cascade silt loam, 3 to 7 percent slopes 16C – Delena silt loam, 3 to 12 percent slopes</p> <p>Hydrologic Source: groundwater</p>		
Dominant Vegetation		
Trees	Shrubs	Vines/Herbs
None –plowed field	None – plowed field	None – plowed field
Potential Enhancement Opportunities:		
<ul style="list-style-type: none">-Weed removal and native plantings.-Limiting herbicide/fertilizer application on adjacent orchards to protect water quality		



LOCAL WETLAND INVENTORY
Wetland Characterization Sheet

GENERAL INFORMATION		
Wetland Code:	W-H (Locally Significant)	Method: Offsite
Wetland Size:	4.51 acres	Field Date(s): March 19, 2013
Cowardin Class:	PSS, PEM	Data Plot #s: N/A
HGM Class:	Slope, RFT	Investigators: PRR, EJRO
LOCATION		
Street/landmark	Just north of Scholls Ferry Road, east of SW 175 th Ave	
Legal/tax map:	2S106000 TL0103 and 0200	
Sub-basin code:	SMC (Summer Creek)	
WETLAND CHARACTERISTICS		
<p>Description: This wetland is fed by both groundwater and a small, unnamed tributary to Summer Creek. Although the wetland was only visible from Scholls Ferry Road, it appeared to be a mixture of pasture grasses and shrubs, with scattered Oregon ash in the overstory (approximately 50%). Data from DSL WD2006-0732, which is immediately downstream of this wetland (on the east side), indicates that shrub cover included ash and willow, with non-native pasture grasses beneath.</p> <p>Soils: 16C – Delena silt loam, 3 to 12 percent slopes</p> <p>Hydrologic Source: Tributary to Summer Creek; groundwater discharge</p>		
Dominant Vegetation		
Trees	Shrubs	Vines/Herbs
Oregon ash <i>Fraxinus latifolia</i>	Willow <i>Salix sp.</i>	Tall fescue <i>Schedonorus phoenix</i>
		Velvetgrass <i>Holcus lanatus</i>
		Colonial bentgrass <i>Agrostis capillaris</i>
		Meadow foxtail <i>Alopecurus pratensis</i>
Potential Enhancement Opportunities:		
<p>It appears that riparian vegetation could be increased and enhanced by weed removal and native plantings, especially in the herbaceous layer.</p> <p>The wetland extends upslope to the west a short distance into plowed pasture, where the tributary has been channelized along the eastern boundary of the field. Riparian restoration would be especially valuable in this area. Other opportunities:</p> <ul style="list-style-type: none"> - Limiting herbicide/fertilizer application on adjacent farm fields to protect water quality 		

Appendix D: Wetland Functional Assessment Results

OAR 141-086-0220(3)(c) OFWAM assessment results for each wetland assessment unit that must include:

- (A) Wetlands of Special Interest for Protection (OFWAM, Chapter Five);*
 - (B) Wetland Characterization results (OFWAM, Appendix B);*
 - (C) Assessment results represented in table format;*
 - (D) Answer sheets for all wetland assessment questions (OFWAM, Appendix C);*
 - (E) Function and condition summary sheets for fish habitat, wildlife habitat, water quality, hydrologic control and, if applicable, education and recreation (OFWAM, Appendix C); and*
 - (F) Watershed summary sheet (OFWAM, Appendix C).*
- (d) Technical staff members and qualifications.*

Watershed summary sheet for the Oregon Method

Watershed or community identification

Characteristic	Description
Physical characteristics of the watershed	Gentle to fairly steep slope south facing watershed. Drains to Tualatin River or tributaries of the Tualatin River. Drainages are typically headwater drainages, with much of the stream length likely only flowing intermittently, drying out in the late summer. Small irrigation dams/water control structures occur on two of the drainages.
Land uses within the watershed	Agricultural land uses dominate the watershed and include a mix of annual crops, pasture, orchards, and viticulture. Relatively small patches of upland and wetland forest are present. Rural single family residences are present.
Water quality	Riparian areas are lacking substantial native vegetation, especially trees and shrubs, along most streams reaches. This results in a lack of stream shading and affective water quality buffers to capture sediment from agricultural fields. These factors likely lead to reduced water quality.
Biological characteristics of the watershed	Native plant communities have largely been replaced by agricultural lands. Therefore sensitive wildlife species are presumed absent. Wildlife that persist or thrive in agricultural settings, such as deer, coyote, raccoon, etc. are present within the watershed. High quality native habitat exists to the north of the watershed within Cooper Mountain Nature Park and are generally accessible to wildlife that may occur within the LWI study area.
Narrative summary of watershed description	
<p>The project study area primarily consists of rural lands that are bordered to the east by suburban development and to the north, south, and west by rural land. Slopes range from gently rolling in the south half to moderately steep in the north half of the study area. The majority of the land drains to the south, with a portion of the area draining to the southeast. Land use is predominantly agricultural, with a mix of annual crop production, pasture, orchards, and viticulture. Several small remnant patches of native forest habitat occur within the area, including mixed upland fir-deciduous forest, Oregon ash dominated wetland forest, and patches of Oregon oak forest. Several fir dominated lots were being logged or had recently been logged as observed during the March 2013 site visits.</p>	

Wetland Assessment Questions: Answer Sheet

Wetland Identifier	W-A	W-B	W-C	PW-G
Wildlife habitat				
Question 1	A	A	A	C
Question 2	A	C	A	C
Question 3	C	-	B	C
Question 4	A	C	-	-
Question 5	A	A	A	A
Question 6	A	A	A	A
Question 7	A	A	A	A
Question 8	B	B	B	B
Question 9	A	C	A	C
Assessment Descriptor	Diverse	Some Habitat	Diverse	Some habitat

Fish habitat				
<i>Streams and rivers</i>				
Question 1	A	C	A	C
Question 2	A	A	A	B
Question 3	B	C	C	C
Question 4	A	A	A	A
Question 5	B	B	B	B
Question 6	B	C	B	C
<i>Lakes and ponds</i>				
Question 1	B	-	-	-
Question 2	C	-	-	-
Question 3	B	-	-	-
Question 4	A	-	-	-
Question 5	B	-	-	-
Question 6	B	-	-	-
Assessment Descriptor	Intact	Degraded	Intact	Degraded

Water quality				
Question 1	C	C	C	C
Question 2	C	C	C	C
Question 3	A	A	A	A
Question 4	A	B	B	B
Question 5	B	B	B	B
Question 6	C	C	C	C
Assessment Descriptor	Degraded	Degraded	Degraded	Degraded

Hydrologic control				
Question 1	A	A	A	A
Question 2	C	C	C	C
Question 3	A	B	C	B
Question 4	A	C	B	A
Question 5	A	C	C	C
Question 6	B	B	B	B
Question 7	A	A	A	A
Assessment Descriptor	Intact	Degraded	Degraded	Degraded