

City of Corvallis

Natural Features Inventory

Local Wetlands Inventory

City Council Acceptance

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Introduction

This Local Wetlands Inventory (LWI) is a part of the 2003 Corvallis Natural Resources Inventory. The LWI includes all wetlands within the Urban Growth Boundary (UGB) at least 0.5 acres in size and uses the standards and procedures of Oregon Administrative Rules (OAR) 141-86-110 through 141-86-240. The LWI also includes an assessment of the quality and function of the inventoried wetlands and a determination of their significance. The “significance” of a wetland is determined by state administrative rules for Locally Significant Wetlands (Oregon Revised Statute (ORS) 197.279(3)(b)). The *Oregon Freshwater Wetland Assessment Methodology* (OFWAM)¹ was developed for the Division of State Lands (DSL) and is used to assess whether or not a wetland meets the criteria for a Locally Significant Wetland (LSW).

The maps and documents produced for the LWI are intended for planning purposes only. Mapped wetland boundaries are accurate to within 25 feet; however, there may be unmapped wetlands that are subject to regulation. In all cases, actual field conditions determine wetland boundaries.

Wetlands and water resources in Oregon are regulated by the DSL under the Removal-Fill Law (ORS 196.800-196.990) and by the US Army Corps of Engineers (COE) through Section 404 of the Clean Water Act. Currently, DSL and COE reviews are based upon the National Wetlands Inventory (NWI) and specific wetland delineations. The LWI will be reviewed by DSL and, when concurred with will become a part of the Statewide Wetlands Inventory (SWI), replacing the National Wetlands Inventory for the study area.

An LWI provides greater detail and accuracy than the existing NWI and also includes a classification of all wetlands identified within a defined study area. An approved LWI is used by cities and counties in lieu of the NWI when notifying the DSL of land use applications that may affect mapped wetlands. An LWI also fulfills the wetland inventory requirements for Goal 5 and Goal 17, Oregon Statewide Planning Goals and Guidelines related to protecting and conserving natural resources. Local governments administer local land use laws and ordinances to protect locally significant wetlands. Regardless of any local wetland protection program, the DSL and COE are still responsible for regulating activity in wetlands.

This report begins with a summary of wetland types and overall wetland acreages in the Corvallis LWI; it follows with a discussion of wetland functions and the methodology used to conduct the inventory fieldwork, and concludes with the results of the LWI. Data sheets accompanying this report include those for the OFWAM, the wetland determination data sheets, and the significant wetlands criteria.

¹ OFWAM methodology was developed for DSL. Copies of the document may be reviewed at many public libraries or ordered through DSL.

Summary

Field work was conducted in the spring, summer, and fall of 2002, as well as the spring of 2003. Each wetland unit was assigned a unique code based on the watershed. A wetland characterization and wetland assessment was completed for each wetland unit. The wetland assessment was based on the OFWAM.

Two general types of wetlands were identified in the LWI for the Corvallis UGB. These have been identified on the maps as:

- Locally Significant Wetlands (LSW) – wetlands identified using the COE Wetland Delineation Manual Technical Report Y-87-1 and meeting the criteria for Locally Significant Wetlands in state statutes (ORS 197.279(3)(b) – see page IV-6 for criteria).
- Non-Locally Significant Wetlands (Non-LSW) – wetlands identified using the COE Wetland Delineation Manual Technical Report Y-87-1 but that did not meet the criteria for Locally Significant Wetlands in state statute (ORS 197.279(3)(b)).

In addition to the LWI designations above, three sites in South Corvallis (the Corvallis Airport, S-MAR-W-3 and S-MAR-W-7) were previously reviewed using the United States Department of Agriculture (USDA) *National Food Security Act Manual* (1994) (NFSAM). The NFSAM identifies two types of wetlands, prior converted wetlands (PC) and farmed wetlands (FW). Please see the appendix for further discussion of the implications of NFSAM.

One hundred and twenty-two (122) wetland units were identified in the project area. These wetlands cover approximately 2,608 acres, or 15 percent of the 17,965-acre Corvallis LWI study area (see Table 1). The average wetland size is approximately 21.4 acres.

Table 1. Local Wetland Inventory Summary (acres)

Wetland Type	Corvallis UGB	North	South	West Central	City of Corvallis	Benton County
Locally Significant Wetlands (LSW)	1,247	299	433	515	402	845
Non-Locally Significant Wetlands	1,361	183	890	288	146	1,214
Total Wetland Acres	2,608	482	1,323	803	548	2,059
Average Size of Wetlands	21.4	21.1	32.3	14.1	15.7	23.9

All 122 wetland units were assessed using OFWAM. The result of OFWAM identified 59 wetlands as locally significant. These locally significant wetlands (LSWs) total 1,247 acres, or 48 percent of the total wetland area. The average size of a LSW is 21.1 acres. Of the LSWs, eleven are of Special Interest for Protection, due to the presence of known habitat for rare, threatened, or endangered plant species. Non-locally significant wetlands total 1,361 acres, or 52 percent of the total wetland area. The average size of a non-locally significant wetland is 21.6 acres.

The conclusion that just over half of Corvallis' wetlands do not meet LSW criteria can be attributed to the fact that large areas of wetlands are actively farmed. The non-locally significant wetlands may provide important functions, but do not meet the LSW criteria.

The most abundant wetland type by acreage is palustrine emergent farmed (66 percent), followed by palustrine emergent (16 percent), palustrine forested (10 percent), palustrine scrub shrub (8 percent), and palustrine open water (<1 percent).

Functional Values

Wetlands are “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (DSL, 1995). Therefore, wetlands may include wet fields, swales or depressions, as well as bogs and marshes. They may be forested, grassy, or scrub shrub and may or may not have standing water in them. They can be located on slopes as well as adjacent to streams or in floodplains, and may be isolated or connected to other wetlands or surface waters.

Wetlands act as sources, sinks, or channels for energy and materials. A wetland may serve as a source area for a fishery, part of a corridor for animal migration, or as a sink area for water borne pollutants. Not all wetlands have the same ability to function as a source, sink, or channel. That depends on the wetland's physical and biological structure and location. Human disturbance can impair a wetland's function, and wetland enhancement can increase a wetland's ability to function (OFWAM, 1996).

Wetlands perform a variety of functions. For example, stormwater runoff during and following rain events can be naturally collected and stored, reducing the frequency and severity of downstream flooding and allowing for the filtration of floodwater. Stored water also contributes to the recharge of local groundwater, instead of allowing the water to flow away in drainage ditches and storm sewers. Wetlands contribute to fish and wildlife habitat by providing places of refuge and connectivity within otherwise developed areas. Wetlands also provide recreational and educational opportunities due to the fact they attract wildlife and provide a place for natural processes to be observed and enjoyed.

Wetlands in the Corvallis area are mostly derived from precipitation that perches on the heavy clay soils common in the study area. These types of wetlands slowly recharge the groundwater system that feeds local streams. There are also wetlands that are derived more from groundwater or surface water. In the hills on the western edge of the study area, there are numerous seeps and springs that may be seasonal or perennial. Within the floodplains of Squaw, Oak, Jackson, and Frazier Creeks, wetlands may be subject to seasonal flooding, with shallow inundation in depressional wetlands or backwater channels of the creeks.

Methods

The Local Wetlands Inventory (LWI) was conducted according to the standards established under OAR 141-86-180 through 141-86-240 (adopted February 15, 2001). The wetland boundaries were identified using the COE Wetland Delineation Manual Technical Report Y-87-1 (Environmental Laboratory, 1987), which defines wetlands as requiring indicators of hydric soils, a dominance of hydrophytic vegetation, and wetland hydrology. When access to land was allowed, the wetland boundaries were verified in the field. If access was not granted, the boundaries were based on aerial photo interpretation, review of available information, such as the soil survey or previous inventories, and observations from adjacent roads or properties.

Wetland inventories previously conducted within the UGB that are more than three years old were field verified with additional data collection and mapping if the land use had changed significantly from when the inventories were completed and if access was allowed. DSL-approved wetland delineations were incorporated into the wetland inventory and the boundaries were checked in the field where access was allowed. A list of previous delineations performed on Corvallis area wetlands is included in the appendices of this report. Permit numbers for wetland fill or removal are also listed. Other previous wetland studies performed for the City of Corvallis that were reviewed for this inventory include a Local Wetlands Inventory for Jackson-Frazier Basin (1997) and a Local Wetlands Inventory for Squaw Creek Basin (1994).

Off-site mapping of potential wetland areas was conducted prior to fieldwork to determine the approximate location of wetland boundaries. This mapping process included the review of the USGS topographic quadrangles, the Soil Survey of Benton County, the National Wetlands Inventory maps, wetland delineations submitted to DSL, wetland inventories for Squaw and Jackson-Frazier watersheds, and 1998 digital orthophoto maps at a scale of 1-inch equals 200 feet. These potential wetlands were digitized into a GIS database and mapped for verification. In the field, stereo pairs of February 2002 black and white aerial photographs at a scale of 1 inch equals 600 feet were used as base maps, as well as the 1998 orthophotos. Final inventory maps were mapped on 2002 color aerial photos.

Where property access permission was granted, on-site observation and inspection of soils, vegetation, and hydrology were made using the "Routine On-site method" of the 1987 manual. Soil pits were excavated up to a depth of 18 inches in selected locations. The soil profiles were examined for hydric soils and wetland hydrology field indicators. The percent-cover of the dominant species of the plant community for a maximum 30-foot radius was estimated at each sampling location. Sampling locations are chosen to document a change in the wetland boundary or individual plant community. No wetland boundaries were staked or flagged in the field.

Field Methodology

Prior to beginning field work, the inventory team reviewed the Oregon Department of Environmental Quality (DEQ) 303(d) list, and Oregon Department of Fish and Wildlife (ODFW) essential salmonid habitat information. In addition, Pacific Habitat Services (PHS), a member of the inventory team, contacted Gary Galovich at ODFW to discuss other fish species that may be

present in the Corvallis streams. This information was used in answering specific questions during the assessment. DEQ has listed the Willamette River and Marys River as water quality limited. Oak Creek, the Marys River, the Willamette River, the Mill Race, and lower Booneville channel are considered Essential Salmonid Habitat by ODFW. Most other creeks in the study area may have resident cutthroat trout, even in intermittent streams that have persistent pools. The lower reaches of all low gradient streams may also have juvenile chinook (Gary Galovich, pers. comm.).

During the process of determining the boundaries for the LWI, a field data sheet was used to answer the OFWAM questions. The data is entered into a spreadsheet form, which automatically determines if the wetland meets the criteria for Locally Significant Wetlands. In addition, observational and anecdotal data were collected for the purpose of completing the Wetland Characterization section of OFWAM.

Field surveys were conducted on-site where access permission was obtained. Where access was not obtained, assessments were “field verified” with observations from adjacent roads, public lands, or properties that had granted access. For difficult to observe sites, an off-site assessment was conducted using aerial photographs and existing data sources. If the wetland determination was off-site, the OFWAM section and wetland characterizations are based on review of the aerial photographs and knowledge of other similar or adjacent wetlands. Table 2 provides a breakdown between the on-site, field verified and off-site surveys for each resource.

Table 2. Analysis of On-site vs. Off-site Methods

Method	No. of Sites	%	Acres	%
On-site	60	49%	995	38%
Field Verified	43	36%	1,237	47%
Off-site	19	15%	375	15%

Wetlands of Special Interest for Protection

The first filter in OFWAM is to determine whether the wetland contains either federal or state listed species, is in a management plan, is protected by regulatory rules or statutes, is a protected mitigation site, or is an uncommon wetland type in Oregon. Ten questions are answered for each wetland, and a "yes" answer to any of the questions puts the wetland into the "special interest for protection" category (see Table 1). If the wetland falls into this category, it is noted on the wetland characterization sheet.

Locally Significant Wetlands

Local jurisdictions determining significant wetlands must use the criteria adopted by DSL (ORS 197.279(3)(b)). These criteria, published in the OFWAM manual, identify Locally Significant Wetlands (LSWs). The significance evaluation is divided into three sections (exclusions, mandatory criteria, and optional criteria), as described in the table below. Through the Natural Features Scoping Project, the City of Corvallis chose to include the optional criteria to identify LSWs.

Table 3. Criteria for Determining Goal 5 Locally Significant Wetlands (from ORS)

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

² Note: Through the Natural Features Scoping Project, the City of Corvallis chose to include the optional criteria to identify LSWs.

Mapping

All wetlands were coded and data points numbered with a unique field code on field maps. The field maps were then digitized into the GIS system and re-coded.

Each wetland is assigned a code beginning with the Study Area (*e.g.* West Central, North or South), the three-letter stormwater basin designation from the City, a wetland designation letter, and a wetland number (*e.g.* WC-DIX-W-1 for a wetland in the West-Central area in Dixon Creek). Data points are numbered consecutively. For example a wetland data point within Dixon Creek may have a code such as DIX-W-20. The stormwater basins were determined by the City and in some cases, do not reflect the natural watersheds of the study area. Wetlands that consist of a mosaic or mix of wetlands interspersed with upland areas are noted by the letter “M” followed by a number that represents the portion of the resource area that is wetland. For example, N-SEQ-M70-1 is a mosaic wetland that is 70% wetland and 30% upland. The mosaic wetlands are interspersed with upland areas that it is difficult to determine a wetland boundary without preparing a wetland delineation.

Wetland Quality Assessment

The quality and functions of wetlands in the study area were assessed using OFWAM. OFWAM determines the relative quality of six functions and three conditions for each of the wetlands. A description of each of the functions and conditions is included below.

Wetland Functions

Wildlife habitat: Evaluates the habitat diversity for species usually associated with wetlands, without emphasizing one particular species. Good plant community diversity increases animal community diversity. Structural diversity is also important. If several layers of vegetation are present, more diverse habitat types are available. OFWAM assessed whether wetlands provide diverse habitat for wildlife, provide habitat for some wildlife species, or provide no habitat function.

Fish habitat: Evaluates how a wetland contributes to fish habitat in streams, ponds or lakes associated with a wetland. The questions are suitable for both warm water and coldwater fish and no particular species are emphasized. Wetlands that contribute to habitat for fish include dense, overhanging vegetation. This vegetation provides shade, cover, and food sources to adjacent resources. Wetlands assessed by OFWAM can have fish habitat function intact, impacted or degraded, or lost or not present.

Water quality: Evaluates the potential of a wetland to reduce the impacts of excess nutrients in storm water runoff on downstream waters. Essentially equivalent to pollution removal, a wetland contributes to water quality by trapping sediment during periods of heavy rainfall, keeping it from entering adjacent downstream resources. They also trap nutrients such as nitrogen and phosphorus, helping to prevent or minimize algal blooms and subsequent oxygen deficiencies downstream. A wetland’s water quality function can be assessed by OFWAM as intact, impacted or degraded, or lost or not present.

Hydrologic control: Evaluates the effectiveness of a wetland to reduce downstream flood peaks and store floodwaters. Wetlands act as flood regulators, trapping water during periods of high precipitation or flooding, and then slowly releasing the flow downstream. A wetland's hydrologic control functions can be assessed by OFWAM as intact, impacted or degraded, or lost or not present.

Education: Evaluates the suitability of a wetland to provide educational opportunity and act as an "outdoor classroom." Easily accessible, publicly owned wetlands with a diversity of plants and animals are useful in outdoor education. A wetland assessed by OFWAM can have educational uses, have the potential to provide, or not be appropriate for educational uses.

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

Wetland Conditions

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

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

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

OFWAM determines the relative quality of six functions and three conditions for each of the wetlands. The quality is determined by compiling the answers to 52 questions (58 if the wetland has fish habitat) regarding the wetland and its surroundings. Some of the questions can be answered prior to performing field visits, as they pertain to the region, project area, or watershed that the wetland is located in. The remainder are answered on-site and pertain to conditions specific to that wetland. All questions are grouped so as to relate specifically to one or more functions or conditions.

The results of each OFWAM assessment are presented on four sheets (see appendix). The first is the Wetland Assessment Summary Sheet. It includes the answers for all 58 questions. The second sheet is the Functions and Conditions Summary Sheet. It summarizes the results of the

questions, as they relate to each wetland function and value. The third sheet identifies the questions pertaining to the mandatory and optional criteria used to establish locally significant wetlands, and the answers to those questions (Table 1). The fourth sheet is the Wetland Characterization Sheet. This sheet includes specific details about the wetland including size, location, wetland classification, and associated mapped soils, as well as a brief description of the wetland and surrounding areas.

In addition to the OFWAM forms, a Wetland Determination Data Form was used for all on-site wetland assessments (see appendix). Field verified and off-site wetland assessments do not have associated Wetland Determination Data Forms. The form includes field data collected at the time of assessment as well as additional data regarding the wetland location. The upper portion of the form displays information such as the project name, general sample site location, and initials of the investigator. The remainder of the form includes any evidence of hydrology noted at the sample site, mapped soils series, observed soils characteristics, and a record of observed vegetation. In order for a sample site to satisfy wetland criteria, there must be documented evidence of wetland hydrology, hydric soils, and a hydrophytic (i.e., wetland) plant community.

Inventory Results

Wetland Acreage and Distribution

One hundred and twenty-two (122) wetland units covering approximately 2,608 acres were identified within the 17,965-acre Corvallis Urban Growth Boundary (UGB). This is approximately 15 percent of the study area. The average size of the wetlands is approximately 21.4 acres. They range in size from one-half acre to 398 acres. The number of wetlands by study area is as follows: North Corvallis- 23; South Corvallis- 42; and West Central Corvallis- 57.

All 122 wetland units were assessed using OFWAM. The result of OFWAM identified 59 wetlands as locally significant. These locally significant wetlands (LSWs) total 1,247 acres, or 48 percent of the total wetland area. The average size of a LSW is 21.1 acres. Of the LSWs, eleven are of Special Interest for Protection, due to the presence of known habitat for rare, threatened, or endangered plant species. Non-locally significant wetlands total 1,361 acres, or 52 percent of the total wetland area. The average size of a non-locally significant wetland is 21.6 acres.

A large percentage of the non-locally significant wetlands, by acreage, are wetlands on active farmland. Wetlands identified within active agricultural areas total 1,728 acres within the Corvallis UGB. The largest (S-MAR-W-2) is a 398-acre wetland complex located north of the municipal airport. Portions of these areas, however, have been designated as prior converted cropland and, consequently, are not regulated by DSL or COE.

North Corvallis Study Area Wetland Characteristics

The North Corvallis Study Area includes Sequoia, Garfield, Village Green, Northeast Corvallis, Jackson, Frazier, and Lewisburg stormwater basins. The first three basins are largely developed. Sequoia Creek is piped for long reaches west of Highway 99. Stewart Slough is located in the

Garfield basin and the Village Green Creek flows south from the Jackson Frazier wetland located outside the UGB. Northeast Corvallis is a very small basin with a large agricultural wetland that drains to the Jackson Frazier wetland.

Jackson and Frazier Creeks both originate in McDonald State Forest. The Jackson Creek portion of the watershed contains over 1,500 acres, and the Frazier Creek watershed contains over 2,200 acres. Both watersheds are largely rural in nature, with forest in their upper reaches, giving way to agricultural fields in the flatter portions of the watershed. Development has been limited mainly to rural residential housing. The largest wetland in the North Corvallis Study Area is N-JAC-W-4, a 234-acre wetland complex that extends from south of Jackson Creek into the agricultural areas north of Frazier Creek.

Within the study area, the Jackson, Frazier, and Lewisburg basins are mostly agricultural and contain extensive areas of wetlands. The majority of the wetlands are farmed, however there are also large areas along the creeks that have been left in forested or scrub shrub cover, providing important habitat corridors for wildlife. The Jackson and Frazier creeks converge in a broad floodplain area west of Highway 99. East of Highway 99 and outside the UGB, their combined flow enters the Jackson-Frazier Wetlands.

Four wetlands (37.43 acres) were mapped using on-site methods. Twelve (12) wetlands were field verified, accounting for approximately 77 percent of the wetland area, of the North Corvallis Study Area, but seven of those wetlands (approximately 333 acres or 69 percent) had been assessed with a previous DSL-approved wetland delineation, assessment or permit. Seven (7) wetlands (70.47 acres) were mapped using off-site methods.

West Central Study Area Wetland Characteristics

The West Central Study Area includes the Squaw, Oak, and Dixon Creek drainage basins. Squaw Creek has large wetlands near Reservoir Road, with the north branch encompassing agricultural fields and the old log ponds near the County Fairgrounds and the south branch originating near the City reservoir and encompassing extensive undeveloped and agricultural lands between West Hills Road and Highway 34. High quality forested wetlands are located along the south branch of Squaw Creek in the vicinity of Starker Park. As the area becomes more urbanized to the east, wetlands are diminished and the creek becomes more confined by development.

Oak Creek also has extensive agricultural wetlands in the area north of Oak Creek Road and west of 53rd Street. Much of this land is owned by Oregon State University (OSU) and the City owns a portion of both the north branch of Oak Creek in Walnut Park and the southern branch in Bald Hills Park. As the topography flattens, Oak Creek meanders in its floodplain, and several seasonal backwater channels/wetlands are located in the area south of Harrison Boulevard and between 35th and 53rd Streets. Oak Creek then flows through the developed portion of the OSU campus and converges with Marys River south of Highway 34 and opposite Avery Park.

The Dixon Creek basin is mostly developed. Areas currently undeveloped north of Walnut Boulevard are in the process of being developed for residential housing. Therefore, due to the urbanization of this area, wetlands are relatively small and scattered. The Timberhill development site has the largest portion of wetlands in the basin.

Thirty-six (36) wetlands, accounting for approximately 52 percent of the wetland area, of the West-Central Corvallis Study Area, were assessed on-site. Eighteen (18) wetlands (approximately 373 acres or 46 percent) were mapped using field verified methods, but eight (8) of these wetlands (approximately 234 acres) had been assessed with a previous DSL-approved wetland delineation, assessment or permit. Four (4) wetlands (12.64 acres) were mapped using off-site methods, with one (1) of those wetlands (5.22 acres) having a previous DSL-approved wetland delineation, assessment or permit.

South Corvallis Study Area Wetland Characteristics

The South Corvallis Study Area includes the Marys River, Mill Race, Ryan Creek, Willamette River, Goodnight Creek, and Dry Creek drainage basins. The Marys River Watershed extends well beyond the borders of the study area. It includes wetlands in agricultural and rural residential areas that flow north and east to the Marys River or Squaw Creek. The Mill Race basin includes a golf course and Avery Park. The Ryan Creek basin includes Crystal Lake. The Willamette River basin includes most of Willamette Park and isolated wetlands in farmed and residential areas. The Dry Creek basin includes areas near the airport. The Goodnight Creek basin includes agricultural lands east of Highway 99 and south of existing residential areas.

The Marys River and Dry Creek basins have extensive areas of farmed wetlands. Many of these areas are zoned industrially and have previous delineations for Prior Converted Cropland or Farmed Wetland. Most of these wetlands are low quality due to farming and lack of natural vegetative cover.

Twenty (20) wetlands, accounting for approximately 41 percent of the wetland area, of the South Corvallis Study Area, were assessed on-site. Thirteen (13) wetlands (approximately 490 acres or 37 percent) were mapped using field verified methods, but eight (8) of these wetlands (approximately 444 acres) had been assessed with a previous DSL-approved wetland delineation, assessment or permit. Nine (9) wetlands (290 acres) were mapped using off-site methods, with two (2) of those wetlands (254 acres) having a previous DSL-approved wetland delineation, assessment or permit.

The following table summarizes the distribution of wetlands within the UGB of Corvallis.

Table 4. Wetland Areas Within Each Watershed Basin

Stormwater Basin	Wetland (acres)
Oak Creek	362.08
Squaw Creek	402.01
Dixon Creek	32.90
Sequoia	20.33
Northeast Corvallis	30.16
Garfield	41.03
Village Green	18.28
Frazier Creek	73.56
Lewisburg	59.96
Jackson Creek	239.03
Marys River	964.26
Mill Race	2.00
Ryan	2.42
Dry Creek	224.65
Goodnight	68.58
Willamette River	66.72
Total Wetland Acreage	2607.96

Wetland Classification

The U.S. Fish and Wildlife Service, as part of the National Wetlands Inventory (NWI) program, has mapped numerous wetlands in the study area. The NWI maps are generated primarily on the basis of interpretation of relatively large-scale color infrared aerial photographs (*e.g.*, scale of 1:58,000) with limited "ground truthing" conducted to confirm the interpretations. Wetlands on the NWI maps are classified according to the Cowardin system (Cowardin et al, 1979). As described in the sections above, the NWI maps are used as the basis for the initial off-site mapping. This LWI provides greater detail and accuracy and also includes classifications according to the Cowardin system. This LWI is expected to replace the NWI maps and be incorporated into the statewide wetlands inventory once it is approved by the City of Corvallis and DSL.

Cowardin classes identified within the study area are discussed briefly as follows:

- Emergent Wetland (PEM) -These wetlands have rooted herbaceous vegetation, which stand erect above the water or ground surface.
- Emergent Wetland, farmed (PEMf) -These wetlands have rooted herbaceous vegetation; the soil surface has been mechanically or physically altered for the production of crops, but hydrophytes will become reestablished if farming is discontinued.
- Scrub-shrub Wetland (PSS) - Wetlands dominated by shrubs and tree saplings that are less than 20 feet high.
- Forested Wetland (PFO) - Wetlands dominated by trees that are greater than 20 feet high.
- Open Water (POW) - A wetland class consisting of areas of water less than 6.6 feet deep.

Cowardin classes were assigned to the 121 separate wetland units mapped during the inventory. The most common Cowardin class is palustrine emergent, farmed (PEMf), which accounts for 66 percent of all of the wetlands. These areas are farmed fields, which are typically seeded with a grass crop, but which contain hydric soils and wetland hydrology.

Palustrine emergent (PEM) wetlands account for 16 percent, palustrine forested (PFO) account for 10 percent and palustrine scrub shrub (PSS) account for 8 percent of the Cowardin classes identified within the study area. Small areas (<0.01 percent) of wetlands were palustrine open water (POW). These were typically excavated ponds. Most of the forested wetlands are dominated by Oregon ash, and the scrub shrub wetlands by various willow species. Forested and scrub shrub wetlands are usually associated with the many creeks and waterways that flow through the study area, including Oak Creek, Squaw Creek, Jackson and Frazier Creeks, Dixon Creek, Sequoia Creek, and the Marys River.

Table 5 is a summary of wetland classifications for the Corvallis LWI study area. Table 6 is a list of all of the wetlands and their individual Cowardin classifications.

Table 5. Wetland Classifications

Wetland Classification		Total Area	Percent
PEMf	Palustrine emergent farmed	1728.44	66%
PEM	Palustrine emergent	406.85	16%
PFO	Palustrine forested	257.83	10%
PSS	Palustrine scrub shrub	204.28	8%
POW	Palustrine open water	10.56	>0.01%

Table 6. List of Wetlands and Individual Cowardin Classifications

Wetland Code	USFWS Wetland Classification					Total Acreage
	PFO	PSS	PEM	PEMf	POW	
N-FRA-W-1			7.32			7.32
N-FRA-W-2			0.60			0.60
N-FRA-W-3	3.17	6.33	22.17	31.66		63.33
N-FRA-W-4	0.46		0.23	1.62		2.31
N-GAR-W-1	26.67	3.14	1.57			31.38
N-GAR-W-2	0.70	2.11	0.70			3.51
N-GAR-W-3	0.48	0.48			3.86	4.82
N-GAR-W-4			1.32			1.32
N-JAC-W-1					1.52	1.52
N-JAC-W-2			0.27	0.81		1.08
N-JAC-W-3				2.15		2.15
N-JAC-W-4	46.85	23.43	23.44	140.56		234.28
N-LEW-W-1	7.05	5.28	3.52	19.37		35.22
N-LEW-W-2			4.95	19.79		24.74
N-NOR-W-1	6.03			24.13		30.16
N-SEQ-M70-1		2.20	8.80			11.00
N-SEQ-W-2	0.10		0.86			0.96
N-SEQ-W-3			0.70			0.70
N-SEQ-W-4			0.64			0.64
N-SEQ-W-5	0.70	2.81	3.52			7.03
N-VIL-M70-1	0.31	0.10	1.63			2.04
N-VIL-W-2		0.34	3.07			3.41
N-VIL-W-3			12.83			12.83
S-DRY-W-1				10.88		10.88
S-DRY-W-2				72.04		72.04
S-DRY-W-3				2.40		2.40
S-DRY-W-4				125.00		125.00
S-DRY-W-5		0.39	1.54			1.93
S-DRY-W-6	3.57					3.57

Wetland Code	USFWS Wetland Classification					Total Acreage
	PFO	PSS	PEM	PEMf	POW	
S-DRY-W-7			0.12	5.59		5.71
S-DRY-W-8				3.12		3.12
S-GOO-W-1			5.89			5.89
S-GOO-W-2		1.04	2.61	48.49		52.14
S-GOO-W-3			0.65			0.65
S-GOO-W-4		4.34	0.77			5.11
S-GOO-W-5		0.27	2.40			2.67
S-GOO-W-6	1.38	0.21	0.53			2.12
S-MAR-W-1				212.67		212.67
S-MAR-W-2				398.14		398.14
S-MAR-W-3				99.95		99.95
S-MAR-W-4		0.04	0.75			0.79
S-MAR-W-5			3.81			3.81
S-MAR-W-6			4.24			4.24
S-MAR-W-7				26.48		26.48
S-MAR-W-8		1.71	15.36			17.07
S-MAR-W-9			1.58			1.58
S-MAR-M50-10	1.30	1.32				2.62
S-MAR-W-11	5.31	0.76	1.52			7.59
S-MAR-W-12	0.22	0.66	0.58			1.46
S-MAR-W-13		1.89				1.89
S-MAR-W-14	7.90	4.31	0.72		1.44	14.37
S-MAR-W-15			8.85			8.85
S-MAR-W-16				154.36		154.36
WC-MAR-W-16			2.03			2.03
WC-MAR-W-17		0.09	0.77			0.86
WC-MAR-W-18			3.17			3.17
S-MIL-W-1		0.30	1.70			2.00
S-RYA-W-1					1.85	1.85
S-RYA-W-2			0.57			0.57
S-WIL-W-1			1.44			1.44
S-WIL-W-2	0.86					0.86
S-WIL-W-3		0.09	0.78			0.87
S-WIL-W-4		0.50		9.41		9.91
S-WIL-W-5				36.66		36.66
S-WIL-W-6		0.10	0.91			1.01
S-WIL-W-7	6.97	0.96	1.93			9.85
S-WIL-W-8			1.42			1.42
S-WIL-W-9	3.05	0.57	1.06			4.68
WC-DIX-W-1		12.36	8.42			20.78

Wetland Code	USFWS Wetland Classification					Total Acreage
	PFO	PSS	PEM	PEMf	POW	
WC-DIX-W-2			5.22			5.22
WC-DIX-W-3		0.32	0.47			0.79
WC-DIX-W-4		2.13	1.41			3.54
WC-DIX-W-5	1.24					1.24
WC-DIX-W-6			1.33			1.33
WC-OAK-W-1			4.60			4.60
WC-OAK-W-2			1.59			1.59
WC-OAK-W-3				16.38		16.38
WC-OAK-W-4			0.76			0.76
WC-OAK-W-5	0.97		0.96			1.93
WC-OAK-W-6	0.36	0.55	0.90			1.81
WC-OAK-W-7				3.60		3.60
WC-OAK-W-8			3.30			3.30
WC-OAK-W-9			7.85			7.85
WC-OAK-W-10				16.08		16.08
WC-OAK-W-11				1.53		1.53
WC-OAK-W-12				0.59		0.59
WC-OAK-W-13		16.28	8.78			25.06
WC-OAK-M80-14	15.04	4.30	7.09	16.54		42.97
WC-OAK-M80-15	0.11		2.18			2.29
WC-OAK-W-16	1.13	0.50	0.88			2.51
WC-OAK-M90-17			12.50	112.50		125.00
WC-OAK-W-18			4.19			4.19
WC-OAK-W-19		0.21	0.88			1.09
WC-OAK-W-20		0.39	3.54			3.93
WC-OAK-W-21	0.18	0.18	0.86			1.22
WC-OAK-W-22			0.72			0.72
WC-OAK-W-23	1.17	0.26	0.25			1.68
WC-OAK-W-24	12.10	3.62	8.46			24.18
WC-OAK-W-25	1.71	1.22	1.95			4.88
WC-OAK-M75-26			1.68			1.68
WC-OAK-W-27		0.10	0.89			0.99
WC-OAK-W-28			5.75	7.19	1.44	14.38
WC-OAK-W-29	0.76	0.76	6.03			7.55
WC-OAK-W-30		0.72	4.09			4.81
WC-OAK-W-31	6.41	19.24	6.41			32.06
WC-OAK-M90-32		0.35	0.52			0.87
WC-SQU-W-1			4.78			4.78
WC-SQU-M60-2	17.21	2.30	3.43			22.94

Wetland Code	USFWS Wetland Classification					Total Acreage
	PFO	PSS	PEM	PEMf	POW	
WC-SQU-W-3	6.71		2.24			8.95
WC-SQU-W-4	2.93	2.93	3.92			9.78
WC-SQU-W-5		0.45	1.81			2.26
WC-SQU-W-6	2.59	0.87	0.87			4.33
WC-SQU-W-7			1.48	8.42		9.90
WC-SQU-W-8	36.74	45.92	55.40	45.64		183.70
WC-SQU-W-9				2.22		2.22
WC-SQU-W-10				1.47		1.47
WC-SQU-W-11	13.63	8.18	4.09	1.35		27.25
WC-SQU-W-12			5.43		0.45	5.88
WC-SQU-W-13	13.76	13.76	41.26			68.78
WC-SQU-W-14		0.49	0.74			1.23
WC-SQU-W-15		0.12	1.10			1.22
WC-SQU-W-16				47.32		47.32
TOTAL	257.83	204.28	406.85	1728.44	10.56	2607.96

Oregon Freshwater Wetland Assessment Results

Wetland Quality Assessment

An assessment of quality for each of the wetlands identified through the inventory was conducted using OFWAM (Roth et al, April 1996).

Although OFWAM provides qualitative information on the relative value of wetlands and does not have a numerical ranking, numbers were assigned to the assessment criteria to easily compare the results. Table 7 is a key to the numbers assigned to the assessment criteria for each of the functions and conditions. A number 3 was assigned to wetlands receiving the highest function or condition result (e.g., intact, diverse), a number 1 was assigned to the wetlands receiving the lowest result (lost or not present, not appropriate), and a number 2 was assigned to the results which do not fit the other criteria (potential, impacted or degraded). Table 8 shows the results of the quality assessment conducted on all of the wetlands identified through the inventory. Some functions or conditions were not applicable to certain wetlands. For instance the methodology states that if a wetland receives an assessment of "diverse wildlife habitat" then the enhancement potential assessment is not applicable. In addition, if there was no likelihood of fish habitat in the wetlands, the fish habitat assessment was not applicable.

Table 7. Key to the OFWAM Ranking

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

Table 8. OFWAM Ranking Results

Wetland Code	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Sensitivity to Impact	Enhancement Potential	Education	Recreation	Aesthetic Quality	Size (acres)
N-FRA-W-1	2	n/a	2	2	2	2	1	1	3	7.32
N-FRA-W-2	2	n/a	2	2	2	2	1	1	3	0.60
N-FRA-W-3	2	n/a	2	2	2	2	1	1	3	63.33
N-FRA-W-4	2	2	2	2	2	2	1	1	2	2.31
N-GAR-W-1	2	2	3	3	2	3	2	2	3	31.38
N-GAR-W-2	2	n/a	3	3	2	3	2	2	2	3.51
N-GAR-W-3	2	3	3	3	2	3	1	1	3	4.82
N-GAR-W-4	2	n/a	2	2	2	2	1	1	1	1.32
N-JAC-W-1	2	2	2	2	2	3	1	1	3	1.52
N-JAC-W-2	2	n/a	2	2	2	2	1	1	3	1.08
N-JAC-W-3	2	n/a	2	2	2	2	1	1	3	2.15
N-JAC-W-4	2	3	2	2	2	2	1	1	3	234.28
N-LEW-W-1	2	2	2	2	2	2	1	1	3	35.22
N-LEW-W-2	2	n/a	2	2	2	2	1	1	2	24.74
N-NOR-W-1	2	2	2	2	2	2	1	1	3	30.16
N-SEQ-M70-1	2	n/a	2	2	2	2	1	1	3	11.00
N-SEQ-W-2	2	2	3	2	2	3	1	1	3	0.96
N-SEQ-W-3	2	n/a	2	2	2	2	1	1	1	0.70
N-SEQ-W-4	2	n/a	2	2	2	2	1	1	1	0.64
N-SEQ-W-5	2	2	2	3	2	3	1	1	3	7.03
N-VIL-M70-1	2	n/a	2	2	2	2	3	3	3	2.04
N-VIL-W-2	2	n/a	3	2	2	2	3	2	2	3.41
N-VIL-W-3	2	n/a	2	2	2	2	1	1	3	12.83
S-DRY-W-1	2	n/a	2	2	2	2	1	1	1	10.88
S-DRY-W-2	2	n/a	2	2	2	2	2	1	2	72.04

Wetland Code	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Sensitivity to Impact	Enhancement Potential	Education	Recreation	Aesthetic Quality	Size (acres)
S-DRY-W-3	2	n/a	2	2	2	2	1	1	1	2.40
S-DRY-W-4	2	n/a	2	2	2	2	1	1	1	125.00
S-DRY-W-5	2	n/a	2	2	2	2	1	1	2	1.93
S-DRY-W-6	2	2	3	3	2	3	1	1	2	3.57
S-DRY-W-7	2	n/a	2	2	2	3	1	1	3	5.71
S-DRY-W-8	2	n/a	2	2	2	3	1	1	3	3.12
S-GOO-W-1	2	n/a	3	3	2	2	1	3	2	5.89
S-GOO-W-2	2	n/a	2	2	2	3	1	1	1	52.14
S-GOO-W-3	2	n/a	2	2	2	3	1	2	1	0.65
S-GOO-W-4	2	n/a	2	2	2	3	1	1	2	5.11
S-GOO-W-5	2	n/a	2	2	2	2	1	1	2	2.67
S-GOO-W-6	2	n/a	3	3	3	3	3	3	3	2.12
S-MAR-W-1	2	n/a	2	2	2	2	1	1	1	212.67
S-MAR-W-2	2	n/a	2	2	2	2	1	1	2	398.14
S-MAR-W-3	2	n/a	2	2	2	2	1	1	2	99.95
S-MAR-W-4	2	n/a	2	2	2	3	1	1	2	0.79
S-MAR-W-5	2	n/a	2	2	2	2	1	1	2	3.81
S-MAR-W-6	2	n/a	2	2	2	3	1	2	1	4.24
S-MAR-W-7	2	n/a	2	2	2	3	1	1	2	26.48
S-MAR-W-8	2	n/a	2	2	2	2	1	1	3	17.07
S-MAR-W-9	2	n/a	2	2	2	1	1	1	3	1.58
S-MAR-M50-10	2	n/a	2	2	2	3	1	3	2	2.62
S-MAR-W-11	2	2	2	3	2	3	1	2	3	7.59
S-MAR-W-12	2	2	3	2	2	3	1	1	3	1.46
S-MAR-W-13	3	2	3	3	2	n/a	1	2	3	1.89
S-MAR-W-14	2	2	3	3	3	3	3	2	3	14.37

Wetland	Wildlife		Water	Hydrologic		Enhancement			Aesthetic	Size
	Habitat	Habitat	Quality	Control	to Impact	Potential	Education	Recreation	Quality	(acres)
S-MAR-W-15	2	2	2	2	2	3	3	2	3	8.85
S-MAR-W-16	2	n/a	2	2	2	2	1	1	2	154.36
WC-MAR-W-16	2	n/a	2	2	3	2	1	1	2	2.03
WC-MAR-W-17	2	n/a	2	2	2	2	1	2	2	0.86
WC-MAR-W-18	2	n/a	2	2	2	2	1	1	2	3.17
S-MIL-W-1	2	n/a	2	2	2	2	1	1	2	2.00
S-RYA-W-1	2	2	2	3	2	3	1	1	1	1.85
S-RYA-W-2	2	n/a	2	1	2	2	1	2	1	0.57
S-WIL-W-1	2	n/a	2	2	2	2	1	1	2	1.44
S-WIL-W-2	3	3	3	3	2	n/a	1	2	3	0.86
S-WIL-W-3	2	n/a	2	2	2	2	1	1	2	0.87
S-WIL-W-4	2	n/a	2	2	2	3	1	1	2	9.91
S-WIL-W-5	2	n/a	2	2	3	2	1	1	2	36.66
S-WIL-W-6	2	2	3	3	2	2	1	2	2	1.01
S-WIL-W-7	2	2	3	3	2	3	2	2	3	9.85
S-WIL-W-8	2	n/a	1	2	2	1	3	2	1	1.42
S-WIL-W-9	3	2	3	3	2	n/a	3	3	3	4.68
WC-DIX-W-1	2	3	2	2	2	3	3	3	2	20.78
WC-DIX-W-2	2	n/a	2	2	2	3	1	1	1	5.22
WC-DIX-W-3	2	2	3	3	2	3	1	2	1	0.79
WC-DIX-W-4	2	2	2	3	2	3	3	3	2	3.54
WC-DIX-W-5	2	n/a	2	2	2	3	1	1	3	1.24
WC-DIX-W-6	2	n/a	2	2	2	3	1	1	3	1.33
WC-OAK-W-1	2	n/a	2	2	2	2	2	2	3	4.60
WC-OAK-W-2	2	n/a	2	2	2	2	2	1	3	1.59
WC-OAK-W-3	2	2	2	2	2	2	1	1	3	16.38

Wetland Code	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Sensitivity to Impact	Enhancement Potential	Education	Recreation	Aesthetic Quality	Size (acres)
WC-OAK-W-4	2	2	2	2	2	3	2	1	3	0.76
WC-OAK-W-5	3	n/a	2	2	2	n/a	2	1	2	1.93
WC-OAK-W-6	2	3	3	2	2	3	2	2	3	1.81
WC-OAK-W-7	2	n/a	2	2	2	3	2	2	3	3.60
WC-OAK-W-8	2	n/a	3	2	2	2	2	3	3	3.30
WC-OAK-W-9	2	n/a	2	2	2	3	1	1	3	7.85
WC-OAK-W-10	2	n/a	2	2	2	2	2	2	2	16.08
WC-OAK-W-11	2	2	3	2	1	3	2	1	3	1.53
WC-OAK-W-12	2	2	3	2	1	3	2	1	3	0.59
WC-OAK-W-13	3	2	2	2	2	n/a	1	1	3	25.06
WC-OAK-M80-14	2	2	3	3	2	3	2	2	3	42.97
WC-OAK-M80-15	2	n/a	2	2	2	3	2	2	3	2.29
WC-OAK-W-16	3	2	2	2	2	n/a	2	2	3	2.51
WC-OAK-M90-17	2	2	2	2	2	2	1	1	3	125.00
WC-OAK-W-18	2	n/a	2	1	1	2	2	1	3	4.19
WC-OAK-W-19	2	n/a	2	1	1	3	1	1	3	1.09
WC-OAK-W-20	2	n/a	2	2	2	3	2	2	3	3.93
WC-OAK-W-21	2	n/a	3	2	2	3	1	3	3	1.22
WC-OAK-W-22	2	n/a	3	2	2	2	3	3	3	0.72
WC-OAK-W-23	2	n/a	2	2	2	3	1	1	1	1.68
WC-OAK-W-24	3	2	2	2	2	n/a	3	3	3	24.18
WC-OAK-W-25	3	n/a	2	2	2	n/a	1	1	3	4.88
WC-OAK-M75-26	2	n/a	2	2	2	3	1	1	3	1.68

Wetland Code	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Sensitivity to Impact	Enhancement Potential	Education	Recreation	Aesthetic Quality	Size (acres)
WC-OAK-W-27	2	n/a	3	2	2	2	1	1	3	0.99
WC-OAK-W-28	2	2	2	2	2	2	1	1	3	14.38
WC-OAK-W-29	2	3	2	2	1	3	2	3	3	7.55
WC-OAK-W-30	2	2	3	2	2	2	1	1	3	4.81
WC-OAK-W-31	3	n/a	2	2	2	n/a	2	3	3	32.06
WC-OAK-M90-32	2	2	2	2	2	3	1	1	2	0.87
WC-SQU-W-1	2	2	3	2	2	2	2	1	3	4.78
WC-SQU-M60-2	2	3	2	3	2	3	3	3	3	22.94
WC-SQU-W-3	2	3	2	3	2	3	3	3	2	8.95
WC-SQU-W-4	2	3	3	3	2	3	1	1	1	9.78
WC-SQU-W-5	2	2	3	2	2	2	2	1	1	2.26
WC-SQU-W-6	2	3	3	3	2	3	2	3	1	4.33
WC-SQU-W-7	2	n/a	2	2	2	2	1	1	3	9.90
WC-SQU-W-8	3	3	3	3	2	n/a	1	3	3	183.70
WC-SQU-W-9	2	n/a	2	2	2	2	1	1	3	2.22
WC-SQU-W-10	2	n/a	2	2	2	2	1	1	3	1.47
WC-SQU-W-11	3	3	3	3	2	n/a	1	1	3	27.25
WC-SQU-W-12	2	2	2	2	2	3	1	1	2	5.88
WC-SQU-W-13	3	2	3	2	2	n/a	1	1	2	68.78
WC-SQU-W-14	2	n/a	2	2	2	2	1	1	2	1.23
WC-SQU-W-15	2	2	2	2	2	3	1	3	3	1.22
WC-SQU-W-16	2	n/a	2	2	1	2	1	1	3	47.32

Table 9. Summary of OFWAM Results

Summary of Results										
Number of wetlands within each category										
	Wildlife	Fish	Water	Hydrologic	Sensitivity	Enhancement			Aesthetic	
	Habitat	Habitat	Quality	Control	to Impact	Potential	Education	Recreation	Quality	
1 (Low)	0	0	1	3	6	2	85	80	19	
2 (Med)	110	36	89	95	112	52	24	24	35	
n/a	0	73	0	0	0	12	0	0	0	
3 (High)	12	12	32	24	4	51	13	18	68	
Percentage of wetlands within each category										
1 (Low)	0%	0%	1%	2%	5%	2%	69%	65%	16%	
2 (Med)	90%	75%	73%	78%	92%	51%	20%	20%	28%	
n/a	0%	66%	0%	0%	0%	11%	0%	0%	0%	
3 (High)	10%	25%	26%	20%	3%	47%	11%	15%	56%	
Number assessed in each category	122	48	122	122	122	110	122	122	122	

The majority of the wetlands (110 of 122, or 90 percent) provided habitat for some wildlife species, with only 10 percent providing diverse wildlife habitat. This is likely due to urban encroachment and agricultural impacts that have disturbed much of the native vegetation and reduced the complexity and, therefore, the diversity of habitat within the wetlands.

Most of the wetlands (73 percent) were not associated with streams and, therefore, were not assessed for their ability to provide fish habitat. The majority of those that were assessed had their fish habitat impacted or degraded (75 percent). Only 25 percent of those assessed had intact fish habitat. The majority of the wetlands (73 percent) also had their water quality function impacted or degraded. Ninety-five (78 percent) of the wetlands also had hydrologic control impacted or degraded. This is likely due to the fact that a majority of the wetlands are located in areas highly influenced by agricultural activities. Typical farming practices alter hydrology through draining, tiling, and filling of low areas, which changes the natural hydrology of wetlands.

The fact that many of the wetlands are within urban areas or are already disturbed accounted for the fact that 92 percent of the wetlands are potentially sensitive to impacts. The large number of wetlands in privately owned agricultural areas likely accounts for the fact that only 11 percent of the wetlands provide educational uses and that 69 percent are not appropriate for educational uses. Just over half of the wetlands (56 percent) are considered aesthetically pleasing.

Significant Wetlands Determination

Applying Significant Wetland Criteria to the LWI Study Area

Of the 122 wetlands identified in the inventory, fifty-nine (or 48 percent) were found to satisfy the locally significant wetlands (LSW) criteria. These significant wetlands cover approximately 1,247 acres and have an average size of approximately 21.1 acres. The sixty-four wetlands that did not satisfy the LSW criteria cover approximately 1,360 acres and have an average size of approximately 21.6 acres.

The LSW criteria do not rely on the size of the wetland to determine whether a wetland is significant. Consequently, many of the larger wetlands surrounding the airport in South Corvallis, in the industrially zoned land to the north of the airport, and those in the agricultural areas near Oak Creek and Squaw Creek are not considered significant. Although these wetlands provide valuable functions, such as seasonal habitat for birds, many functions are impacted by on-going agricultural activity and past clearing of trees and shrubs. Consequently, many of the functions assessed by OFWAM are impacted or degraded.

The highest quality wetlands were generally associated with forested or scrub shrub wetlands that provide water quality or hydrologic control. Due to the complexity and vegetative structure, many of these wetlands provide diverse wildlife habitat. Other wetlands met the mandatory criteria for significance due to their proximity (1/4 mile) to a 303(d) listed stream (i.e. Marys River, Willamette River), or a direct surface water connection to an ODFW mapped Essential Salmonid Habitat stream (Oak Creek, Marys River, Mill Race, lower Booneville Channel and

Willamette River). Frazier Creek is Essential Salmonid Habitat in its lower reaches outside the UGB.

Table 10 is a list of all of the wetlands determined to be significant within the Corvallis LWI study area.

Table 10. Locally Significant Wetlands in the Corvallis LWI Study Area

N-SEQ-W-2	S-GOO-W-1	WC-OAK-M80-14
N-SEQ-W-5	S-GOO-W-2	WC-OAK-W-16
N-JAC-W-4	S-GOO-W-6	WC-OAK-W-21
N-VIL-M70-1	S-MIL-W-1	WC-OAK-W-22
N-VIL-W-2	S-RYA-W-1	WC-OAK-W-24
N-VIL-W-3	S-WIL-W-2	WC-OAK-W-25
N-GAR-W-1	S-WIL-W-5	WC-OAK-W-27
N-GAR-W-2	S-WIL-W-6	WC-OAK-W-29
N-GAR-W-3	S-WIL-W-7	WC-OAK-W-30
S-DRY-W-6	S-WIL-W-9	WC-OAK-W-31
S-MAR-W-3	WC-DIX-W-1	WC-SQU-W-1
S-MAR-W-8	WC-DIX-W-3	WC-SQU-M60-2
S-MAR-W-9	WC-DIX-W-4	WC-SQU-W-3
S-MAR-M50-10	WC-OAK-W-4	WC-SQU-W-4
S-MAR-W-11	WC-OAK-W-5	WC-SQU-W-5
S-MAR-W-12	WC-OAK-W-6	WC-SQU-W-6
S-MAR-W-13	WC-OAK-W-8	WC-SQU-W-8
S-MAR-W-14	WC-OAK-W-11	WC-SQU-W-11
S-MAR-W-15	WC-OAK-W-12	WC-SQU-W-13
S-MAR-W-16	WC-OAK-W-13	

The break down of locally significant wetlands compared to total number of wetlands identified by project area are as follows:

North – 9 of 23 (39%)
 West Central – 29 of 57 wetlands (51%)
 South – 21 of 42 (50%)

The criteria for significance and the number of wetlands that qualified for each of the criteria are identified in the following table.

Table 11. Criteria for Locally Significant Wetlands

	West	South	North	Total
Mandatory Criteria				
Provides diverse wildlife habitat	9	3	0	12
Fish habitat function intact	9	1	2	12
Water quality function intact	17	10	5	32
Hydrologic control function intact	9	11	4	24
Less than 1/4 mile from a water quality limited water body & WQ function present	1	17	2	19
Contains a rare plant community	5	1	2	8
Inhabited by sensitive, threatened, or endangered species	7	1	2	10
Connected to ODFW designated essential salmonid habitat	5	6	2	13
Optional Criteria				
Locally unique native plant community	2	0	2	4
Public land used by school & provides educational uses	0	0	2	2
Total Number of Locally Significant Wetlands by Project Area	29	42	23	

A majority (65%) of the locally significant wetlands satisfied more than one of the above criteria. Nearly 20 percent satisfied four or more criteria. S-MAR-W-13 and N-GAR-W-1 satisfied five criteria; WC-SQU-W-8 satisfied six; and S-WIL-W-2 satisfied all of the mandatory criteria, except the presence of a rare plant community, for a total of seven.

Table 9 indicates the condition of wetlands within Corvallis, as a whole. Of the 122 wetlands greater than one-half acre identified, only twelve provide diverse wildlife habitat, with North Corvallis having none. Just 32 (26%) provide a non-impacted water quality function, while 24 (20%) provide a hydrologic control function. Of the 20 wetlands within one-quarter mile of a water quality limited water body, either the Marys River or the Willamette River, 17 are located in South Corvallis. Eight of these 17 in South Corvallis were identified as locally significant solely due to their proximity to these two water bodies.

Of the wetlands identified as locally significant under the optional criteria, only wetland N-VIL-W-3 was not identified as locally significant under one of the mandatory criteria. N-VIL-W-3 is a City property west of Conser Street that is identified as having educational uses, and is currently used by students from Cheldelin Middle School.

Wetlands of Special Interest for Protection

Twelve of the wetlands were determined to be of Special Interest for Protection. Each contained either mitigation sites or provided known habitat for a rare, threatened, or endangered species. Based on a review of the Oregon Natural Heritage Information Center database, several wetlands may contain habitat for either Bradshaw's lomatium (*Lomatium bradshawii*) or Nelson's checkermallow (*Sidalcea nelsoniana*). Bradshaw's lomatium is a federal and state listed endangered species. Nelson's checkermallow is a federal and state listed threatened species.

Table 12. Wetlands of Special Interest for Protection

WC-SQU-W-3	WC-OAK-W-24	N-GAR-W-1
WC-SQU-W-4	WC-OAK-W-29	N-VIL-W-2
WC-SQU-W-13	WC-OAK-W-30	S-MAR-W-5
WC-OAK-M80-14	WC-OAK-W-31	S-WIL-W-2

Wetland Restoration Potential

Many of the wetlands in the Corvallis area have degraded functions. This is often due to the land use practices such as farming and grazing. Historically this area contained extensive areas of native wet prairie; however, very little of this remains in the UGB. In addition there are very few (8 percent) scrub shrub wetlands within the study area with the majority occurring in the Jackson and Frazier basins.

A wetland enhancement project on OSU land near the Irish Bend Bridge consisted of shallow excavation within a grassy area and the establishment of more native wet prairie species. This also occurred on a mitigation site near the Jackson Frazier wetland. These areas could serve as models for future wetland restoration and enhancement projects.

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Wetland Environment Technologies, Inc. March 1997. Local Wetlands Inventory for Jackson-Frazier Basin. Prepared for the City of Corvallis.

Appendix A. Previously Approved Delineations and Permits

Previously approved wetland delineations and permits within the Corvallis UGB.

Wetland Code	DSL Determination Number	Permit Number
N-FRA-W-3	WD# 97-0528	
N-GAR-W-1	WD#'s 97-0381, 95-0264	
N-GAR-W-2	WD# 98-0315	
N-GAR-W-4	WD# 93-0024	
N-JAC-W-1	WD#'s 97-0026, 96-0098, 97-0018	
N-JAC-W-4	WD#'s 98-0234, 90-0113	
N-SEQ-M70-1	WD#'s 98-0520, 97-0382	FP# 21862
N-SEQ-W-2	WD# 96-0001	
N-SEQ-W-3	WD# 99-0339	
N-SEQ-W-5	WD#'s 96-0003, 95-0290	
N-VIL-M70-1	WD#'s 94-0187, 91-0115	
N-VIL-W-2	WD# 97-0382	
N-VIL-W-3	WD#'s 98-0520, 91-0028	
S-DRY-W-1	WD# 02-0591	
S-DRY-W-2	WD# 02-0591	
S-DRY-W-3	WD# 02-0591	
S-DRY-W-4	WD# 02-0591	
S-DRY-W-5	WD# 02-0591	
S-GOO-W-4	WD# 93-0305	
S-GOO-W-5	WD# 96-0396	
S-GOO-W-6	WD# 97-0167	
S-MAR-W-1	WD# 02-0591	
S-MAR-W-14	WD#'s 98-0282, 95-0059	
S-MAR-W-15	WD# 95-0059	
S-MAR-W-16	WD# 91-0080	
S-MAR-W-2	WD# 03-0047	
S-MAR-W-3	WD# 91-0080	
S-MAR-W-5	WD# 96-0280	FP# 14855
S-MAR-W-6	WD# 90-0114	
S-MAR-W-7	WD# 97-0503	
S-MIL-W-1	WD#'s 96-0475, 96-0033	
S-RYA-W-1	WD# 95-0159	
S-WIL-W-9	WD# 97-0167	
WC-DIX-W-1	WD#'s 00-0131, 92-0092, 00-0391, 99-0233	FP# 22349
WC-DIX-W-2	WD#'s 02-0533, 99-0233	
WC-DIX-W-4	WD#'s 01-0171, 99-0283	
WC-DIX-W-5	WD#'s 01-0171, 00-0619	FP# 23770
WC-DIX-W-6	WD# 93-0188	
WC-MAR-W-18	WD# 01-0633	
WC-OAK-M80-14	WD# 96-0633	

Wetland Code	DSL Determination Number	Permit Number
WC-OAK-M80-15	WD# 96-0633	
WC-OAK-W-13	WD# 99-0556	RF# 21911
WC-OAK-W-21	WD# 98-0326	
WC-OAK-W-24	WD#'s 95-0101, 91-0095, 95-0060	
WC-OAK-W-3	WD# 00-0601	
WC-OAK-W-4	WD# 99-0528	
WC-SQU-M60-2	WD#'s 95-0346, 91-0141, 94-0111, 94-0325, 95-0105	
WC-SQU-W-10	WD# 02-0596	
WC-SQU-W-14	WD# 97-0377	
WC-SQU-W-3	WD#'s 94-0384, 94-0325	
WC-SQU-W-4	WD# 95-0257	
WC-SQU-W-8	WD# 98-0154	
PW (map N_2)	WD# 91-0136	
PW (map S_4)	WD# 98-0179	RF# 15327
PW (map W_4)	WD#'s 02-0366, 98-0235	
PW (map W_4)	WD# 99-0562	
PW (map W_11)	WD# 99-0151	
PW (map W_16)	WD# 02-0136	

Appendix B. South Corvallis Sites Delineated using the USDA's National Food Security Act Manual (NFSAM)

Wetlands within the Corvallis Airport, S-MAR-W-7 and S-MAR-W-3 (Map Sheet S-5) were delineated in the early 1990s using the United States Department of Agriculture (USDA's) National Food Security Act Manual (USAM (1998 and 1994)). The delineations for these sites continue to be under review by the Division of State Lands (DSL) and the U.S. Army Corps of Engineers (Corps) for excavation and fill permits.

The National Food Security Act Manual is used to determine wetlands on land that is actively farmed. A wetland delineation using the NFSAM often designates areas as "Prior Converted Cropland (PC)" or "Farmed Wetland (FW)."

Prior to 1998, DSL did not require permits to impact (fill) areas designated as PC, but did require permits for areas designated as FW. On March 1, 1998, DSL decided to stop accepting wetland delineations using the NFSAM on lands that were not zoned as exclusive farm use. This means that a permit is now required from the DSL to impact areas satisfying PC and FW criteria.

DSL and the Corps may determine, however, that they would still honor the NFSAM concurrence they had issued in the early 1990s, for specified properties. This means that although the Corvallis LWI identified larger wetlands using the COE's 1987 manual on the Corvallis Airport site and the industrial property identified as S MAR W 3, for these sites, DSL and the Corps may only require permits to impact the areas designated as FW, not the PC or other wetlands listed in the LWI.

A description of the criteria for PC and FW areas is included below:

Prior Converted Croplands (PC)

Prior converted cropland is defined in the NFSAM, as "...wetlands that were drained, dredged, filled, leveled, or otherwise manipulated, including the removal of woody vegetation, before December 23, 1985, for the purpose of, or to have the effect of, making the production of an agricultural commodity possible, and an agricultural commodity was planted or produced at least once prior to December 23, 1985" (USDA, National Food Security Act Manual, 1994).

In addition to the hydrological manipulation and commodity crop production, the area must not be inundated for more than 15 consecutive days during the growing season, and must not have been abandoned for more than five consecutive years, in order to be considered prior converted cropland. Abandonment is defined as the cessation of cropping, forage production, or management.

As discussed above, areas now designated as PC require permits from the COE and the DSL. The criteria for Prior Converted Cropland determination is summarized as follows:

- The area was manipulated to make the production of an agricultural commodity possible before December 23, 1985;

- The area was used to produce an agricultural commodity at least once prior to December 23, 1985;
- The area floods or ponds for less than 15 consecutive days during the growing season, or less than 10 percent of the growing season, whichever is less;
- The area has not been abandoned (in terms of agricultural production) for more than five consecutive years.

Farmed Wetlands (FW)

Farmed wetlands are wetlands that have been manipulated and cropped before December 23, 1985, but that continue to exhibit important wetland values. Farmed wetlands include areas that pond water 15 consecutive days or more during the growing season. Farmed wetlands are subject to state and federal wetland jurisdiction.

Appendix C. Wetland Site Tax Lot Identification Numbers

WETLAND ID	TAX LOT
N-FRA-W-1	11513BA01100, 11513BA01300
N-FRA-W-2	11511C000800
N-FRA-W-3	11511C000100, 11511C000200, 11511C000300, 11511C000500, 11511C001101, 11511C001190, 11511C001300, 11511C001900, 11511C002100, 11511C002200, 11514B000100, 11515A000100
N-FRA-W-4	11510D001600, 11511C001400, 11511C001600, 11511C002200
N-GAR-W-1	115250001202, 115260000500, 115260000600
N-GAR-W-2	Not Available
N-GAR-W-3	115250001202
N-GAR-W-4	Not Available
N-JAC-W-1	11515D001200
N-JAC-W-2	11514B000400
N-JAC-W-3	115140000100
N-JAC-W-4	11513B000100, 11513B000200, 11513BA01800, 115140000100, 11514A000100, 11514A000101, 11514A000104, 11514A000200, 11514A000300, 11514A000500, 11514A000501, 11514A000600, 11514A000713, 11514AC01600, 11514AC01900, 11514AC02000, 11514AC02700, 11514D000300, 11514D000500, 11514D001000
N-LEW-W-1	11511A000400, 11512BA00300, 11512BA00600, 11512BB00300, 11512BB00301, 11512BC00100, 11512BC00200, 11512BC00400, 11512BC00401, 11512BC00500, 11512BD00100, 11512BD00200
N-LEW-W-2	Not Available
N-NOR-W-1	11523A000200X1, 11523AA00200
N-SEQ-M70-1	11524DC00200, 11524DC00201, 11524DC00300, 11524DC00400, 11524DC00500, 11524DC00600, 11524DC00700, 11524DC00800, 11524DC01000, 11524DC01100, 11524DC01200, 11524DC01300, 11524DC01600, 11524DC01700, 11524DC01800, 11524DC01900, 11524DC02000, 11524DC02200, 11524DC02300, 11524DC02400, 11524DC02500, 11524DC02600, 11524DC02700, 11524DC02800, 11524DC02900, 11524DC03000, 11524DC03100, 11524DC03200, 11524DC03300, 11524DC03400, 11524DC03500, 11524DC03600, 11524DC03700, 11524DC07800
N-SEQ-W-2	115230001900, 115230002100

WETLAND ID	TAX LOT
N-SEQ-W-3	11523A000200X1
N-SEQ-W-4	11526AC00500, 11526AC00600, 11526AC00700
N-SEQ-W-5	11525B000201, 11525B000300, 11525B000400, 11525B000500, 11525B000600, 11525B000601, 11525B002400
N-VIL-M70-1	11524B000500, 11524B000900, 11524B001000
N-VIL-W-2	11524B000300, 11524B000400
N-VIL-W-3	11524DA00600, 11524DA00800, 11524DC00100, 11524DC00101, 11524DC03800, 11524DC03900
S-DRY-W-1	125220000300
S-DRY-W-2	125220000300
S-DRY-W-3	125220000300, 125220001100
S-DRY-W-4	125220000300, 125220000306
S-DRY-W-5	125220000300
S-DRY-W-6	125270000101, 125270000103, 125270000104
S-DRY-W-7	125220000400, 125220000500, 125220000501, 125270000101
S-DRY-W-8	12523CC00400, 12523CC00500, 12523CC00600
S-GOO-W-1	12514AB00100, 12514AB00200
S-GOO-W-2	125140000500, 12514A000100, 12514A000900, 12514BD00100, 12514BD00101, 12514BD01000
S-GOO-W-3	12514A000600
S-GOO-W-4	125110000300, 12511DA00400, 12511DA00401, 12511DA00500, 12511DA00501, 12511DA00600
S-GOO-W-5	12511CA00300, 12511CA00501, 12511CA01403
S-GOO-W-6	125110000300
S-MAR-W-1	125220000300, 125280000200, 125280000500
S-MAR-W-2	125140000800, 12514BC02100, 12514CC00100, 12514CC00200, 12514CC00300, 12514CC00400, 12514CC00500, 12514CC00600, 125220000300, 125220000400, 12523BC01000, 12523BC01400, 12523CB02100, 12523CB02200
S-MAR-W-3	125100000700, 125150000100, 125150000200, 125150000400, 125150000500, 125150000501, 125150000600
S-MAR-W-4	12523BC01600, 12523BC02300
S-MAR-W-5	12514BC00800, 12514BC00900, 12514BC01000, 12514BC01100, 12514BC01200, 12514BC01300, 12514BC01400, 12514BC01500

WETLAND ID	TAX LOT
S-MAR-W-6	12514BA03400, 12514BA03500, 12514BA03600, 12514BA13700, 12514BA13900, 12514BA14000, 12514BA14100, 12514BA14200, 12514BA14300
S-MAR-W-7	12511CC00600, 125140000600
S-MAR-W-8	12510A000700, 12510D000500, 12510D000600
S-MAR-W-9	12510D000500
S-MAR-M50-10	12502CA00200, 12502CA00201, 12502CA00203
S-MAR-W-11	12503D000100, 12503D000190, 12503D001100, 12503D001700, 12503D001800, 12503D001900, 12503D002000
S-MAR-W-12	12503D001500, 12503D001600, 12510A000100
S-MAR-W-13	12510A000400, 12510A000500, 12510A000700, 12510A000900
S-MAR-W-14	12503C002000, 12503D001000, 12510BA00100, 12510BA00300, 12510BA00400, 12510BA00500, 12510BA00600, 12510BA00700, 12510BA00800, 12510BA00900, 12510BA01000, 12510BA01100, 12510BA01200, 12510BA01300, 12510BA01400, 12510BA01500, 12510BA01700, 12510BA01800, 12510BA01900, 12510BA02100, 12510BA05300, 12510BD00100, 12510BD00101, 12510BD00102, 12510BD00200, 12510BD00201, 12510BD00290, 12510C000500, 12510C000800, 12510C000801, 12510CC03300, 12510CC04500
S-MAR-W-15	12510C000800, 12510CC01300, 12510CC01400, 12510CC01500, 12510CC01600, 12510CC01700, 12510CC01800, 12510CC01900
S-MIL-W-1	12511BA05800, 12511BA05900, 12511BA06000, 12511BA06100, 12511BA06200, 12511BA06507, 12511BA06700, 12511BA07900, 12511BA08000, 12511BA08200
S-RYA-W-1	12502D000400
S-RYA-W-2	12511AC02600, 12511AC02601, 12511DB00500
S-WIL-W-1	12523CA00201
S-WIL-W-2	125230000200
S-WIL-W-3	12523BC02000, 12523BC02100, 12523BC02200
S-WIL-W-4	125230000300, 12523BB00200, 12523BB00300
S-WIL-W-5	125140001500
S-WIL-W-6	125110000300
S-WIL-W-7	125110000101, 125110000200, 12511A000200, 12511A000400
S-WIL-W-8	125110000101
S-WIL-W-9	12502D000302, 125120000400

WETLAND ID	TAX LOT
WC-DIX-W-1	115220000400, 115220000405, 115220000600, 115220000603, 115220000609, 11522BD00800, 11522BD00900, 11522BD04000, 11522BD04100, 11522BD04200, 11522CA00100, 11522CA00200, 11522CA00300, 11522CA01100, 11522CA01200, 11522CA01300, 11522CA01400, 11522CA01500, 11522CA01600, 11522CA01700, 11522CA01800, 11522CA01900, 11522CA02000, 11522CA02100, 11522CA06600, 11522CA06800, 11522CA06900, 11522CA07000, 11522CA07100, 11522CA07200, 11522CA07300, 11522CA07500, 11522CA07600, 11522CA07700, 11522CD00700
WC-DIX-W-2	115220000100, 115220000400, 11527AB00100
WC-DIX-W-3	11522CC06600, 11522CC08400, 11522CC08500, 11522CC08600, 11522CC08700, 11522CC09100, 11522CC12500, 11522CD03300
WC-DIX-W-4	115210000100, 115220000600, 11522BC02100
WC-DIX-W-5	115220000600
WC-DIX-W-6	115210000506, 11521B001200, 11521B001300, 11521B001400
WC-MAR-W-16	12509D000900, 12509D001000, 12509D001100, 12509D001200, 12509D001300
WC-MAR-W-17	12509D000300, 12509D000301
WC-MAR-W-18	12509CA00300, 12509CA01000, 12509CA01100, 12509CA01700, 12509CA01800, 12509CA01900, 12509CA02400, 12509CD00201
WC-OAK-W-1	12503B000100, 12503BD01700
WC-OAK-W-2	12503B000100
WC-OAK-W-3	12503B000300, 12503B000800, 12503B000801, 125040000100
WC-OAK-W-4	115330000300
WC-OAK-W-5	115330000300, 115330000600
WC-OAK-W-6	115330000300, 115330000500, 115330000600
WC-OAK-W-7	115330000300, 115330000600
WC-OAK-W-8	115330000300
WC-OAK-W-9	115330000300
WC-OAK-W-10	115330000300
WC-OAK-W-11	115330000300
WC-OAK-W-12	115330000300
WC-OAK-W-13	115280002300, 115330000200, 115330000900, 115330001000, 115330001100, 115330001101
WC-OAK-M80-14	115330000300, 115330001000

WETLAND ID	TAX LOT
WC-OAK-M80-15	115330000300
WC-OAK-W-16	115280001100, 115330000300
WC-OAK-M90-17	115280001100, 115290000290, 115290000300, 115290000400, 115290000500, 11529C000305, 11529C000600, 11529C000700, 11532A000100, 11532A000200, 11532A000201, 11532A000300, 11532A000700, 11532A000800, 115330000300
WC-OAK-W-18	115280001100, 115330000300
WC-OAK-W-19	115280001100
WC-OAK-W-20	115280002000, 11528D000100
WC-OAK-W-21	115280002000, 115280002000
WC-OAK-W-22	115280000801
WC-OAK-W-23	11521CB00200, 11521CB00300, 11521CB00400
WC-OAK-W-24	115200001000, 11520DC05500, 115280000800, 115280000801, 115280000900, 115290000205
WC-OAK-W-25	115200000100, 115200000105, 115200000107, 115200000109, 115200000700
WC-OAK-M75-26	115200000100, 115200000110, 115200000800
WC-OAK-W-27	115200000100
WC-OAK-W-28	11532D000100, 11532D000102, 11532D000400
WC-OAK-W-29	115320000100, 115320000400, 11532A000500
WC-OAK-W-30	115290000290, 115290000400, 115290000500, 11532A000100
WC-OAK-W-31	115320000200, 115320000300, 115320000400
WC-OAK-M90-32	115200000103, 115200000501, 115200000700
WC-SQU-W-1	12503C000100
WC-SQU-M60-2	12503CB03301, 12504DA01400, 12504DB03800, 12504DB04000, 12504DB05200, 12504DD00202, 12504DD00400, 12504DD00401, 12504DD01000, 12504DD01700, 12504DD07600, 12504DD13700, 12504DD13800, 12504DD13900, 12504DD14000, 12504DD14100, 12504DD15000, 12504DD15100, 12504DD15200, 12504DD15400, 12504DD15500, 12504DD15800
WC-SQU-W-3	125040001000, 12504DC00100, 12504DC00200, 12504DD07800, 12509AA01600, 12509AA01800, 12509AA01900, 12509AA02200
WC-SQU-W-4	12504CD00600, 12504CD00703, 12504CD00800, 12509BA00200
WC-SQU-W-5	12509BA00200, 12509BA04700, 12509BA04900

WETLAND ID	TAX LOT
WC-SQU-W-6	12504CC02901, 12504CC02902, 12504CC02903, 12504CC02905, 12504CC02907, 12504CC03000, 12504CC03800, 12504CC03801
WC-SQU-W-7	125080000100, 12508AA00700
WC-SQU-W-8	115320000500, 125050000200A1, 125050000202, 125050000301, 125050000302, 125050000400, 125050000402, 125050000403, 125050000600, 125050000700, 125050001201, 12505B000101, 12505B000102, 12505B000103, 12505B000200, 12505B000300, 12505B000400, 12505DA00100, 12505DA00701, 12505DA00800, 12505DB00100, 12505DB00400, 12505DB00500, 12505DC00100, 12505DC00101, 12505DC00200, 12505DC00300, 12505DC00400, 12505DD00100, 12505DD00200, 12505DD00300, 12505DD00400, 12505DD00500, 12505DD00600, 12505DD00700, 12505DD00800, 12505DD00900, 12505DD01000, , 12505DD01100, 12505DD01200, 12505DD01300, 12505DD01400, 12505DD01500, 12505DD01600, 12508BA00100, 12508BA00200, 12508BA00301, 12508BA00303, 12508BA00400, 12508BA00401, 12508BA00500, 12508BA00600, 12508BA00700
WC-SQU-W-9	12505DA00100
WC-SQU-W-10	12505AD04400
WC-SQU-W-11	125040000300, 125040000400, 12504AC00200, 12504AC00300, 12505AA02702, 12505AA02703
WC-SQU-W-12	115330000300
WC-SQU-W-13	115320000100, 115320000400, 115320000500, 115320000600, 115320000700, 11532D000500, 11532D000501L1
WC-SQU-W-14	125050001201
WC-SQU-W-15	115320000600, 115320000800, 115320000801
WC-SQU-W-16	115320000100, 115320000400, 11532D000300, 11532D000400

Appendix D. Staff Qualifications

Appendix E. OFWAM and Wetland Determination Data Sheets