City of Happy Valley
2007 Local Wetland Inventory

Prepared for

The City of Happy Valley
and
Clackamas County Water Environment Services

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APPROVED WETLANDS INVENTORY
Oregon Department of State Lands

Meets Local Wetlands Inventory standards
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1 INTRODUCTION

Since the City of Happy Valley completed a Local Wetland Inventory (LWI) in 1997, the City's growth has continued to outpace that of other cities in the region. Its population has doubled since 2001. As a result of this growth, Happy Valley has increased the amount of land in both its city limits and urban growth boundaries.

The City of Happy Valley and Clackamas County Water Environment Services jointly contracted Vigil-Agrimis, Inc. to conduct an LWI for areas currently within the City's jurisdiction that were not included in the 1997 LWI. Figure 1 shows both the 1997 LWI study area and the study area for the 2007 LWI. It is important to note that not all land within the jurisdiction of the City of Happy Valley is covered by the two inventories.

The study area for the 2007 LWI includes uninventoried areas within the 1997 LWI study area, the Rock Creek/Aldridge Road Comprehensive Plan Area and the East Happy Valley Expansion Area. The uninventoried areas are either on the flanks of Mt. Scott or along Mt. Scott Creek and its tributaries. The comprehensive plan and expansion areas extend from the 1997 LWI study area boundary south to Highway 212-224 and east beyond SE 172 Avenue.

The 1997 LWI inventoried about 1,480 acres. The area inventoried for this LWI totals about 2,500 acres. Descriptions of the project area in subsequent sections of this report refer to this 2,500 acre area, not the City of Happy Valley as a whole which is about 4,513 acres in size. There is a little overlap between the 1997 LWI study area and that of the 2007 LWI. As a result the area not inventoried by either LWI is approximately 533 acres. Much of this land was developed in the years between the inventories and so was excluded from this LWI study area.

Because the 1997 and 2007 LWIs cover different areas, both documents will be used when reviewing environmental permitting requirements.

2 DEFINITIONS

2.1 Corps of Engineers Wetlands Delineation Manual (1987 Manual)

The main source document used in this investigation was the *Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory, 1987). This manual is recognized by the Oregon Department of State Lands and by the U.S. Army Corps of Engineers for the determination and delineation of wetlands within Oregon.

The accepted wetland definition provided in the Manual and used by the Corps of Engineers in implementing Section 404 of the Clean Water Act and by the Oregon Department of State Lands in administering the Removal/Fill Law is:

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

The Manual provides criteria, indicators, and procedures to be used in determining whether an area is a jurisdictional wetland. It requires that three technical criteria be met concurrently in undisturbed situations before areas can be considered wetland under federal or state jurisdiction. These criteria are hydric soils, hydrophytic vegetation, and wetland hydrology.

2.2 Cowardin Classification

The Cowardin Classification system (Cowardin et al. 1979) is based largely on vegetative cover. Plant cover or its absence can be reliably interpreted from aerial photographs allowing a basis for tracking changes in the surface area of wetlands over time through the National Wetland Inventory. Cowardin Classifications for freshwater wetlands like those in the Happy Valley area include riverine and palustrine systems. Classes within the palustrine system include forested (PFO), scrub-shrub (PSS) and emergent (PEM). Special modifiers used in this LWI include farmed (f), partially drained/ditched (d) and diked/impounded (h).

2.3 Hydrogeomorphic Classification (HGM)

HGM classification of wetlands (Brinson 1993) emphasizes the hydrologic and geomorphic controls on wetlands rather than the structure and species composition of the plant community. The approach places emphasis on the importance of abiotic features of wetlands for such functions as the chemical characteristics of water, habitat maintenance, and water storage and transport.

HGM classes for freshwater wetlands include riverine, depressional, flats and slope. Subclasses for Oregon wetlands (Adamus 2001) that might occur in the Happy Valley area include flow-through and impounding for riverine, closed and outflow for depressional and headwater and valley for slope.

2.4 Local Wetlands Inventory

The 1989 Oregon state legislature authorized the Department of State Lands (DSL) to develop a statewide wetlands inventory suitable for planning and regulatory purposes. In 1990, pursuant to ORS 196.674 and OARs 141-086-0180 through 0350, DSL adopted guidelines and rules for conducting LWIs within urban growth boundaries. The LWI rules were updated in February 2001. The purpose of an LWI is to survey a fairly large area to locate, classify and map wetlands. An LWI aims to map all wetlands 0.5 acres or larger at an accuracy of approximately 25 feet on a parcel-based map. Accuracy may be less in areas that could not be field verified.

An approved LWI will replace the National Wetlands Inventory maps and will be incorporated into the statewide wetlands inventory. The NWI is useful for many resource management and planning purposes but it is not accurate enough for use in parcel-based decision making.

2.5 Geographic Information System (GIS)

GIS is a computer-based system that is used to capture, store, retrieve, analyze and display spatial data. It combines layers of information about a place to give a more thorough understanding of that place. The layers of information can be combined in different ways depending on ones purpose.

Metro is a directly elected regional government that serves the 25 cities in the Portland metropolitan area in Clackamas, Multnomah and Washington counties. It protects open space and parks and plans for land use and transportation among other things. To support these efforts, Metro's Data Resource Center offers subscriptions to Regional Land Information System (RLIS), a compilation of data layers for use with desktop mapping software. This data includes topography, soils, NWI wetlands, floodplains and streams.

3 PROJECT METHODOLOGY

3.1 Cartography

For this LWI Metro's Data Resource Center RLIS lite subscription GIS data was augmented with GIS data from Clackamas County. The County supplied data was either more current or higher resolution than that available from RLIS. This data included 2-foot interval contour data derived from 1-foot contours, taxlot boundaries and ownership data, streams and 6-inch resolution georeferenced color aerial photography from 2005. For ease of reading, figures 1 thru 3a use a more simplified RLIS stream layer. The remaining figures use more detailed stream data provided by Clackamas County.

The project base map was created in GIS by overlaying the aerial photo with soils, NWI wetlands, streams, water features, watershed boundaries, hill slopes and taxlots. In addition, previously delineated wetland maps of file with DSL and the 1997 LWI map polygons were digitized and added to the base map. The last two sources include few landmarks that could be used to accurately locate the wetland boundaries. Hard copy maps of the study area were printed out at an approximate scale of 1" = 200' by section.

3.2 Information Processing

The approximate wetland boundaries and sample site locations were drawn on the base maps in the field. In addition, a global positioning system (GPS) was used to record sample plot locations and key boundary points. Previously delineated wetlands that were no longer evident were marked off on the maps and were deleted from or modified in the GIS data.

Wetlands were assigned a unique code. This code included a two letter watershed abbreviation (the 1997 LWI abbreviations were used) followed by a unique number. Watersheds included in the inventory include: Clackamas River (CR); Kelley Creek (KC) and Mitchell Creek (MC) that are tributaries to Johnson Creek; Mt Scott Creek (MS) and Rock Creek (RC). To avoid confusion between the 1997 LWI polygon identifiers, which began with 1 (e.g. MS-1), and those in the current LWI wetland numbering began at 101 for on-site method wetlands (e.g. MS-101) and at 501 for off-site method wetlands (e.g. MS-501).

3.3 Wetland Identification and Boundary Determination

The project area did not include lands inventoried in the 1997 LWI. The project area does include uninventoried areas within the 1997 study area, the Rock Creek/Aldridge Road Comprehensive Plan Area and the East Happy Valley Expansion Area (Figure 1). The uninventoried areas are either on the flanks of Mt. Scott or along Mt. Scott Creek and its tributaries and include small areas within Township 1 south Range 2 east sections 27, 26, 25 and 35. The Rock Creek/Aldridge Road Comprehensive Plan Area covers much of Township 1 south Range 2 east section 36 and Township 2 south Range 2 east sections 1 and 2. The East Happy Valley Expansion Area includes almost all of Township 2 south Range 3 east sections 7 and 6 and Township 1 south Range 3 east sections 30 and 31. The comprehensive plan and expansion areas extend south to Highway 212-224 and east beyond SE 172 Avenue from the 1997 boundary. The area inventoried in the 2007 LWI totals about 2,500 acres. Descriptions of the project area in subsequent sections of this report refer to this 2,500 acre area, not the City of Happy Valley as a whole.

3.3.1 Routine On-Site

The on-site method was employed where landowners explicitly granted access to private property. In these cases on-site observations of soil, hydrology and vegetation were made using

the routine on-site method in the 1987 Manual. Data was collected in paired plots at representative locations. Additional plots were dug in cases where the boundary was not clearly defined by topography. Data recorded at these plots was recorded on data sheets and included in Appendix B. Based on obvious changes in vegetation, hydrology and topography, approximate wetland boundaries were drawn on air photos. Plot locations were recorded using a Trimble GeoXT GPS. Boundary points were also recorded as needed to facilitate accurate boundary digitizing.

3.3.2 Routine Off-Site

The off-site option was used in areas where access was either denied or not explicitly granted to private property. Off-site determinations were made using high resolution aerial photography, 2-foot resolution contour data and reconnaissance from nearby public access vantage points. Observations included documentation of Cowardin and HGM class. Based on observed changes in vegetation, hydrology and topography, approximate wetland boundaries were drawn on air photos. This information was then digitized into GIS. In some cases the wetland determination boundaries on file with DSL could not be field verified. These wetlands were kept in the inventory unless the aerial photography clearly showed a structure or roadway in the wetlands location.

3.4 Wetland Function Assessment

The Oregon Freshwater Assessment Methodology, or OFWAM, (DSL 1993) was used to assess the relative quality of identified wetlands. The methodology is intended for use by planners, public officials, and community members for planning and educational purposes. It is not intended for evaluation of site-specific impacts on individual wetlands.

OFWAM requires that the same functions and conditions be evaluated for each wetland within a study area. The functions and conditions used in OFWAM include wildlife habitat, fish habitat, water quality, hydrologic control, sensitivity to future impact, enhancement potential, education, recreation and aesthetic quality. Off-site wetlands less than 0.5 acres in size were not assessed unless they were part of a larger wetland complex. Of the functions and conditions used in OFWAM we evaluated water quality, hydrologic control, wildlife habitat, fish habitat, sensitivity to impact and enhancement potential. We did not assess the education, recreation or aesthetic quality of the wetlands because all were on private property and were, therefore, not accessible to the public.

4 PROJECT AREA CHARACTERISTICS

4.1 Setting

The City of Happy Valley is located southeast of Portland in Clackamas County, Oregon and is one of the fastest growing cities in the state. The City is east of Interstate 205, north of Highway 212/224, and south and west of SE Foster Road. It has an area of approximately 4,300 acres (6.7 sq. miles) and a population of approximately 9,210 (2007). This LWI is focused on land that was not inventoried in the 1997 LWI. These include uninventoried areas within the 1997 boundary, the Rock Creek/Aldridge Road Comprehensive Plan Area and the East Happy Valley Expansion Area. This area is generally south and east of the area covered by the 1997 LWI.

The setting of the project area is diverse. Some areas are surrounded with dense residential development while others are still largely forested or in agricultural use. The least developed locations are on the eastern and southern edges of the project area and on the flanks of Scouter's Mountain.

4.2 Topography

The project area is generally associated with the East Buttes and Boring Lava Domes. This area is characterized by gently to steeply sloping uplands and a nearly flat valley floor. Elevations range from approximately 120 feet National Geodetic Vertical Datum (NGVD) at the Rock Creek confluence with the Clackamas River to approximately 950 feet at the top of Scouter's Mountain. The areas between hills consist of soils and gravels deposited by past flood events, including the Missoula floods. The boring lava flows are up to 100 feet below these alluvial soils. The Troutdale formation is deeper still. It forms an important aquifer in North Clackamas County. It is thought that the buttes and lava domes in this area may provide important recharge for the water table. There are a number of springs in the project area supporting this assertion. Many of the alluvial deposits between the hills have been eroded over time by rivers and streams. The southeastern corner of the project area is traversed by deep river canyons along Rock Creek and its tributaries.

4.3 Hydrology

The project area covers portions of a number of watersheds and sub-basins. Rock Creek is the major basin associated with the project area. It flows generally southwest to the Clackamas River. A small part of the Clackamas River basin is included along the southern edge of the project area. The Mt. Scott Creek watershed was the most significant basin in the 1997 LWI, but only a few uninventoried areas in that watershed were included in this LWI. This basin drains much of the urbanized area in the City of Happy Valley to Kellogg Creek and the Willamette River. The northern edge of the project area covers several subbasins of the Johnson Creek watershed including Veterans Creek, Mitchell Creek, and Kelley Creek as well as some unnamed tributaries to Johnson Creek. Springs associated with the Boring Lava Domes are generally not mapped but were considered in this LWI. Though they were not mapped as part of the LWI they may be regulated by state and federal agencies. Many of the low gradient areas in the farmed portions of the Rock Creek watershed have been ditched to promote the drainage of fields for forage and crops.

The LWI field assessment was conducted over a two week period between April 4 and 16, 2007. Weather in the month prior to the field work was alternately warmer and cooler than normal. Precipitation at Portland International Airport for March was 3.20 inches, 0.44 inches below normal. Precipitation since January 1 was 9.41 inches, 3.55 inches below normal. The month of April was similar with monthly precipitation at 2.01 inches, 0.63 below normal and annual rainfall at 11.42 inches, 4.18 inches below normal. This data was compared to wetland climate evaluation data from NRCS (Appendix D). Based on this evaluation, hydrology during the LWI field work was about a tenth of an inch below the low end of the normal precipitation range.

4.4 Soils

4.4.1 Overview

Twenty three soil types occur across the project area as mapped in the Soil Survey of Clackamas County (Soil Conservation Service, 1983) and shown in Figure 2. *Borges silty clay loam* (7B), *Delena silt loam* (30C), and *Huberly silt loam* (41) are all listed as hydric and have hydrologic classifications of D by the NRCS (formerly SCS, 1989).

Hydrologic Soil Group D soils have a very slow infiltration rate when thoroughly wetted. These soils have high clay content and are often associated with a permanently high water table. These soils may have a clay pan or clay layer near the surface or may be regularly flooded.

4.4.2 Soil Types

Borges silty clay loam (7B) is a deep, poorly drained soil found in concave areas on rolling uplands and high terraces. It formed in mixed clayey alluvium. It is classified as a *fine, mixed, nonacid, mesic Typic Humaquept*. A typical profile is very dark gray and very dark grayish brown silty clay loam about 12 inches thick. The subsoil is dark grayish brown silty clay loam about 6 inches thick. The upper 27 inches of the substratum is dark gray and grayish brown silty clay, and the lower part to a depth of 60 inches or more is brown and grayish brown clay loam.

Bornstedt silt loam (8B, 8C and 8D) is a deep, moderately well drained soil on high terraces and rolling uplands. It is formed in mixed old alluvium. It is classified as a *Typic Haploxerult.* A typical profile has a surface layer about 8 inches thick that is very dark brown silt loam. The upper 20 inches of the subsoil is reddish brown silty clay loam, and the lower 5 inches is brown silty clay loam. Below this to a depth of 60 inches or more is brittle, reddish brown and reddish gray clay and variegated reddish brown and brown silty clay. Depth to the brittle layer ranges from 30 to 40 inches.

Cascade silt loam (13B, 13C, 13D and 13E) is a deep, somewhat poorly drained soil found in convex areas of rolling uplands. This soil is formed in silty material. It is classified as a *fine-silty, mixed, mesic Typic Fragiumbrept. A* typical profile has a surface layer that is very dark grayish brown and dark brown silt loam to a depth of 11 inches and the subsoil is dark yellowish brown silt loam about 10 inches thick. To a depth of 60 inches or more is a dark yellowish-brown mottled silt loam and silty clay loam hardpan. Depth to the hardpan ranges from 20 to 30 inches.

Cascade silt loam, stony substratum (14C, 14D and 14E) is a deep, somewhat poorly drained soil found on rolling uplands. This soil is formed in silty material. It is classified as a *fine-silty, mixed, mesic Typic Fragiumbrept.* In the typical profile the surface layer is a dark brown silt loam about 15 inches thick. The upper 9 inches of the subsoil is a dark brown, mottled silt loam and the lower 8 inches is a brown silt hardpan. The substratum is reddish brown very stony silty clay loam to a depth of 60 inches or more.

Cornelius silt loam (23B, 23C and 23D) is a deep, moderately well drained soil on rolling uplands. It is formed in silty material. It is classified as a *Mollic Fragxeralf.* A typical profile has a surface layer about 9 inches thick that is very dark grayish brown and dark brown silt loam. The upper 7 inches of the subsoil is brown silt loam, and the lower 18 inches is dark yellowish brown silty clay loam. Below this to a depth of 60 inches or more is a dark, yellowish brown silty clay loam and yellowish brown, mottled silt loam hardpan. Depth to the hardpan ranges from 30 to 40 inches.

Delena silt loam (30C) is a deep, poorly drained soil on high terraces and rolling uplands. It is formed in silty alluvium. It is classified as a *fine-silty, mixed Humic Fragiaquepts.* A typical profile has a surface layer about 12 inches thick that is very dark grayish brown silt loam. The upper 13 inches of the subsoil is dark grayish brown and grayish brown silty clay loam, and the lower 35 inches is a grayish brown, dark grayish brown and yellowish red cemented silty clay loam hardpan. Depth to the hardpan ranges from 20 to 30 inches.

Huberly silt loam (41) is a deep, poorly drained soil in swales of valley terraces. It is formed in stratified glaciolacustrine deposits. It is classified as a *fine-silty, mesic Typic Fragiaquepts.* A typical profile has a surface layer about 8 inches thick that is very dark gray silt loam. The next 16 inches is grayish brown silt loam. Below this to a depth of 60 inches or more is a dark, grayish brown, gray, and brown silt loam hardpan. Depth to the hardpan ranges from 20 to 30 inches.

Powell silt loam (70B, 70C and 70D) is a moderately well drained soil which is slowly permeable and found in rolling terrain that formed in old alluvial silt. It is classified as a *fine-silty, mixed,*

mesic Typic Fragiochrept. A typical profile has a surface layer that is dark brown silt loam about 7 inches thick. The upper 5 inches of the subsoil is a dark brown and dark yellowish brown silt loam and the lower 3 inches is mottles, dark brown silt loam. Below this to a depth of 60 inches or more is a brown, dark grayish brown silt loam hardpan. This fragipan (seemingly cemented layer of silt or fine sand) ranges from a depth of 23 to 36 inches.

Saum silt loam (78B, 78C, 78D and 78E) is a well drained soil found in rolling uplands that formed in mixed silty material and colluvium derived from basalt. It is classified as a *fine-silty, mixed, mesic Typic Xerumbrept.* A typical profile has a surface layer of dark brown silt loam and silty clay loam about 15 inches thick. The upper 11 inches of the subsoil is dark reddish brown silty clay loam, and the lower 9 inches is reddish brown gravelly silty clay loam. The substratum is yellowish red gravelly silty clay loam. Basalt is at a depth of 50 inches. Depth to bedrock ranges from 40 to 60 inches.

Xerochrepts and Haploxerolls (92F) is a deep, well drained soil on terrace escarpments. It is formed in colluvium derived dominantly from igneous rock. It is classified as *mesic Xerochrepts* and *mesic Haploxerolls*. No single profile is typical, but one commonly observed has a surface layer about 8 inches thick that is dark brown silt loam. The upper 7 inches of the subsoil is dark brown gravelly loam, and the lower 33 inches is brown and dark yellowish brown gravelly clay loam. The substratum to a depth of 60 inches or more is brown very cobbly clay loam.

4.5 Vegetation

4.5.1 Overview

Since settlement began, vegetation in Happy Valley has been manipulated extensively through logging, agriculture and urbanization. Residential development has increasingly impacted native plant communities and the habitat that they provide.

The project area is located in the historic transition between Cascade Mountain conifer forests and the Willamette Valley oak/prairie grasslands. Douglas fir forest and woodland would have dominated much of the area. The lava domes were characterized by closed canopy old growth Douglas fir, grand fir, and bigleaf maple with hazelnut, Pacific dogwood, vine maple, and Pacific yew composing the under story. The valley floors also included western hemlock and western red cedar. Floodplains along or near the Clackamas River had closed hardwood forests, including Oregon ash, cottonwood, alder, maple, and white oak. There were small patches of conifer, including Douglas fir and western red cedar.

Today, much of the forest and woodland has been cleared for homes, businesses and agriculture or was historically logged. There are some areas of upland forest on the Buttes and some patches of relatively intact riparian forest still exist along streams and creeks in the area.

4.5.2 Vegetation Communities

Mixed Coniferous-Deciduous Forest
Douglas fir and big leaf maple are the dominant overstory species in this community which can also include red alder. The understory is relatively sparse. Shrub species include hazelnut, vine maple and Indian plum with Himalayan blackberry in disturbed areas. The herb layer includes sword fern.

Deciduous Forest
Big leaf maple is the dominant overstory species with red alder in some places. The understory is dense and includes hazelnut, vine maple, red elderberry, oceanspray, snowberry and Indian plum in the shrub layer. Herbaceous plants include sword fern and fringecup.

Upland Shrub
The upland shrub community is dense and includes alder and cottonwood saplings as well as hawthorn, wild cherry and some hazelnut.

Agricultural Grassland
There is a considerable amount of agricultural grassland especially in the eastern part of the project area. It includes forage species like fescues, as well as dandelion, clover, and sweet vernal grass.

Riparian Communities
In steep headwaters the riparian communities are dominated by Western red cedar and alder with salmon berry, spring beauty and lady fern. In lower elevation areas this transitions to Oregon ash, red alder and cottonwood with willow, red-osier dogwood, piggy-back plant and stinging nettle.

4.5.3 Wetland Communities

Forested Wetlands
The forested wetlands in the project area are largely associated with riparian areas and so include similar species. These are dominated by Oregon ash, red alder, cottonwood and willow.

Scrub-Shrub Wetlands
Scrub-shrub wetlands include saplings of the forested wetland species as well as hawthorn, red-osier dogwood, honeysuckle and Douglas spiraea.

Emergent Wetlands
Emergent wetlands were frequently dominated by meadow foxtail, fescue, soft rush and creeping buttercup. In disturbed areas reed canarygrass was also present.

4.5.4 Wetland Indicator Species

Trees found in wetland and riparian areas included: red alder (*Alnus rubra* FAC), Oregon ash (*Fraxinus latifolia* FACW), black cottonwood (*Populus trichocarpa [balsamifera]* FAC) and western red cedar (*Thuja plicata* FAC).

Shrub wetland indicators included: willow (*Salix species* FAC), red-osier dogwood (*Cornus stolonifera [sericea]* FACW), salmonberry (*Rubus spectabilis* FAC+), Douglas' spirea (*Spiraea douglasii* FACW) and black hawthorn (*Crataegus douglasii* FAC).

Emergent wetland species included: meadow foxtail (*Alopecurus pratensis* FACW), soft rush (*Juncus effusus* FACW), birdsfoot-trefoil (*Lotus corniculatus* FAC), common velvetgrass (*Holcus lanatus* FAC), reed canarygrass (*Phalaris arundinacea* FACW), stinging nettle (*Urtica dioica* FAC+) piggy-back plant (*Tolmiea menziesii* FAC), skunk cabbage (*Lysichiton americanum* OBL) and American speedwell (*Veronica americana* OBL).

5 DISCUSSION AND CONCLUSIONS

5.1 U.S. Fish & Wildlife Service NWI & 1997 LWI

U.S. Fish & Wildlife Service has mapped the project area as part of the National Wetland Inventory (NWI) program (Figure 3a). Most of the wetlands were associated with creeks, rivers and agricultural ponds. Cowardin classifications included: palustrine emergent persistent saturated / semipermanent / seasonal (PEM1Y), Palustrine scrub shrub broadleaf deciduous saturated / semipermanent / seasonal (PSS1Y), palustrine forested broadleaf deciduous saturated / semipermanent / seasonal (PFO1Y), palustrine open water artificial excavated (POWKZx) and palustrine open water artificial impounded (POWKZh).

A majority of the wetlands identified in the 1997 LWI were associated with the banks of Mt. Scott Creek and its tributaries (Figure 3b). These were generally dominated by riparian forest vegetation. The largest wetland was found near the headwaters of Mt. Scott Creek it is dominated by emergent and scrub-shrub vegetation.

5.2 Local Wetlands Inventory Results

5.2.1 Total Wetland Acreage

The 2007 Happy Valley LWI project area is approximately 2,500 acres in size. The potentially jurisdictional waters in the project area are primarily associated with saturated areas at the headwaters of Mt. Scott and Kelley Creeks and their tributaries, and with topographic depressions in the Rock Creek valley bottomland and the headwaters of tributary drainages in that system. The wetland summary sheets and plot data sheets are organized alphabetically by watershed and are located in Appendix A and B respectively. About one third of the wetlands were determined using the on-site method and the remainder using the off-site method.

The soils most commonly associated with wetlands in the project area are *Powell silt loam* (70B), *Cascade silt loam* (13C, 13D) and *Huberly silt loam* (41). *Powell silt loam* is a moderately well drained soil with a fragipan layer at 20 to 30 inches. *Cascade silt loam* and *Huberly silt loam* are poorly drained with a hardpan layer at about the same depth.

5.2.2 Distribution and Location of Wetlands

The inventory identified 61 potentially jurisdictional wetlands totaling 106.37 acres. This area is approximately distributed across the watersheds as follows: 59.70 acres in Rock Creek, 22.05 acres in Kelley Creek, 18.51 acres in Mt. Scott Creek, 4.67 acres in Clackamas River and 1.44 acres in Mitchell Creek.

Wetland summary sheets were completed for all wetlands evaluated on-site and for off-site evaluated wetlands greater than half an acre in size. Large wetlands and areas with a number of smaller wetlands are described in the geographic setting sections below. All wetlands are summarized in Tables 1 thru 5.

The largest wetlands are in the Kelley Creek, Mt. Scott Creek and Rock Creek watersheds. The general lack of urban development in the Rock and Kelly Creek watersheds is partly responsible for these high numbers. In Mt. Scott Creek watershed the large wetland areas are associated with remnant open spaces in what is now a dense urban fabric. In addition, there are a number of waterways that may be jurisdictional within the project area.

Kelley Creek – Rock Creek Headwaters

A small area of the headwaters of the Kelley Creek watershed is in the project area. The watershed abuts a headwater drainage of the Rock Creek watershed. Many of the large slope wetlands and slope wetland mosaics in this gradually sloped area extend across these watershed boundaries. Ground and surface water in this are either flows north into Johnson Creek or south into Rock Creek. Wetlands include KC-103, KC-501, KC-502, KC-503, KC-504, KC-505, KC-506, RC-101, RC-501, RC-502 and RC-503. A majority of these wetlands are open fields with hydrology from precipitation and surface water flow and groundwater. The vegetation is dominated by emergent vegetation like Reed canarygrass (*Phalaris arundinacea*), meadow foxtail (*Alopecurus pratensis*), creeping buttercup (*Ranunculus repens*), birds-foot trefoil (*Lotus corniculatus*), fescue (*Festuca spp.*) and soft rush (*Juncus effusus*). Many of these wetlands are drained by surface channels. In addition to the herbaceous vegetation, there are patches of scrub-shrub and forested wetland dominated by Oregon ash (*Fraxinus latifolia*).

Rock Creek Drainage
A large portion of the Rock Creek watershed was included in the project area. The watershed abuts the Clackamas River watershed to which it is a tributary. Many of the wetlands noted in this area were slope wetlands located at the headwaters of small drainages or tributaries. These include RC-101, RC-108, RC-111, RC-115, RC-510, RC-511, and RC-512. Wetland RC-108 is a depressional forested wetland with hydrology from precipitation and surface water flow. The vegetation is dominated by a canopy of Oregon ash (*Fraxinus latifolia*) with herbs including celery-leaved buttercup (*Ranunculus sceleratus*) and mannagrass (*Glyceria spp.*). It is drained by surface channels running to the north. There is a small surface road that separates this wetland from the RC-510 wetland to the south.

RC-510 is a slope wetlands dominated by herbaceous vegetation, with scrub-shrub communities in the upper portions. It is drained by surface channels along roads, culverts connect under the roads. Its hydrology is also from groundwater and precipitation. Dominant plant species include meadow foxtail (*Alopecurus pratensis*) and tall fescue (*Festuca arundinacea*). Scrub-shrub communities include Nootka rose (*Rosa nutkana*), willow (*Salix spp*.) and red-osier dogwood (*Cornus sericea*).

Other wetlands within the watershed are primarily forested slope wetlands associated with springs and seeps, and occasionally depressional wetlands, both along riparian corridors. The vegetation is dominated by woody plants including red alder (*Alnus rubra*), black cottonwood (*Populus trichocarpa [balsamifera]*) and western red cedar (*Thuja plicata*), red-osier dogwood (*Cornus sericea*), and salmonberry (*Rubus spectabilis*). Emergent wetland species included stinging nettle (*Urtica dioica*) piggy-back plant (*Tolmiea menziesii*), skunk cabbage (*Lysichiton americanum*) and American speedwell (*Veronica americana*).

Mt. Scott Creek Headwaters
The largest wetlands in the Mt. Scott Creek watershed are slope wetlands located at the headwaters of Mt. Scott Creek or its tributaries. The southernmost group includes MS-101, and MS-507. This complex is dominated by scrub shrub vegetation with hydrology from groundwater, precipitation and surface water flow. Water is detained on the site by undersized culverts. The vegetation is dominated by willow (*Salix spp.*), Nootka rose (*Rosa nutkana*), red-twigged dogwood (*Cornus sericea*), reed canarygrass (*Phalaris arundinacea*) and soft rush (*Juncus effusus*). Oregon ash (*Fraxinus latifolia*) is present along the creek.

Other large wetlands in the Mt. Scott Creek watershed include MS-504, MS-505 and MS-506 which are an extension of the wetland complex at the Happy Valley Nature Park (MS-14 from the 1997 LWI). These wetlands include scrub shrub and emergent areas. Hydrology is from groundwater, with input from precipitation and sheet flow. Vegetation includes Oregon ash (*Fraxinus latifolia*), willow (*Salix spp.*), Nootka rose (*Rosa nutkana*), red-twigged dogwood (*Cornus sericea*), Reed canarygrass (*Phalaris arundinacea*) and soft rush (*Juncus effusus*).

Other Areas
A majority of the other potentially jurisdictional waters are associated with small topographic depressions or intermittent and perennial streams. A number of small wetlands are located; on fringes of manmade ponds, in areas where tile drainage systems are failing, and on the downhill sides of impoundments.

A small number of wetlands less than a half acre in size were found associated with ground water seeps. These were either on the slopes of Scouter's Mountain or related to a water impoundment.

Table 1. Identified Wetlands Clackamas River Basin

Wetland ID		Area Acres	Cowardin Class	HGM Class	WD Number(s)
CR-101	√	0.20	PEMfd	slope	
CR-102	√	0.32	PEMfd	slope	
CR-501	√	0.61	PEM	slope	
CR-502	√	1.54	PFO	depressional	05-0519
CR-503		0.22	PFOd	slope	
CR-504	√	1.78	PSSd	slope	
		Total 4.67			

√ Summary Sheet included in Appendix A

Table 2. Identified Wetlands Kelley Creek Basin

Wetland ID		Area Acres	Cowardin Class	HGM Class	WD Number(s)
KC-101	√	0.31	PEMd	depressional	
KC-102	√	1.48	PFO	slope	
KC-103	√	11.96	PEMf	slope	
KC-501		3.73	PEMd	slope	92-0027
KC-502		0.92	PEMd	slope	92-0027
KC-503		0.05	PEM	slope	92-0027
KC-504		0.10	PEM	slope	92-0027
KC-505		0.01	PEM	slope	92-0027
KC-506		0.02	PEM	slope	92-0027
KC-507	√	1.94	PEM	slope	
KC-508		0.32	PEM	slope	
KC-509		0.39	PEM-PSS	slope	
KC-510	√	0.82	PEM-PSS	depressional	
		Total 22.05			

√ Summary Sheet included in Appendix A

Table 3. Identified Wetlands Mitchell Creek Basin

Wetland ID		Area Acres	Cowardin Class	HGM Class	WD Number(s)
MC-101	√	0.07	PEM-PSSh	depressional	
MC-501	√	1.37	PEM-PSS	slope	
		Total 1.44			

√ Summary Sheet included in Appendix A

Table 4. Identified Wetlands Mt. Scott Creek Basin

Wetland ID		Area Acres	Cowardin Class	HGM Class	WD Number(s)
MS-101	√	3.00	PSS-PFO	slope	97-0202, 98-0141, 02-0072
MS-501		0.10	PEM-POWh	depressional	01-0594
MS-502		0.15	PSS	depressional	94-0105, 06-0479
MS-503		0.05	PSS	depressional	94-0105
MS-504	√	4.35	PSS-PFO	slope	95-0179
MS-505	√	1.57	PSS	depressional	03-0481
MS-506		0.17	PSS	depressional	
MS-507	√	8.96	PEM-PSS	slope	94-0105, 07-0054
MS-508		0.16	PEM	depressional	02-0500
		Total 18.51			

√ Summary Sheet included in Appendix A

Table 5. Identified Wetlands Rock Creek Basin

Wetland ID		Area Acres	Cowardin Class	HGM Class	WD Number(s)
RC-101	√	16.14	PEMd	slope	92-0027
RC-102	√	0.17	PEMf	slope	
RC-103	√	0.09	PEM	slope	
RC-104	√	0.17	PEM	slope	
RC-105	√	0.05	PEMh	slope	
RC-106	√	0.06	PEM	slope	
RC-107	√	0.42	PEM	slope	
RC-108	√	2.41	PFO	depressional	
RC-109	√	0.64	PFO	depressional	
RC-110	√	2.47	PEM-PSS	slope	
RC-111	√	0.63	PEMd	slope	
RC-112	√	0.53	PEM	slope	
RC-113	√	0.13	PFO	slope	
RC-114	√	1.07	PEMfd	slope	
RC-115	√	1.56	PEM	slope	
RC-501		3.89	PFO	slope	92-0027
RC-502		3.28	PEMf	slope	
RC-503		1.61	PFO	slope	
RC-504		0.33	PEMfd	slope	
RC-505		0.41	PEMfd	slope	
RC-506	√	1.83	PFO	slope	
RC-507	√	1.35	PEM-PSSf	slope	
RC-508	√	1.13	PEMf	slope	
RC-509	√	0.65	PFOh	depressional	
RC-510		14.94	PEMf	slope	
RC-511		0.18	PFO-PSS	riverine	
RC-512	√	3.15	PEM-PSS	slope	
RC-513		0.04	PEM	slope	
RC-514		0.10	PFO	slope	
RC-515		0.02	PFO	slope	
RC-516		0.25	PSS	depressional	00-0578
		Total 59.70			

√ Summary Sheet included in Appendix A

5.3 Wetland Characterization and Functions

A Wetland Characterization and functional assessment was performed for 52 of the 61 wetlands identified in this inventory using the Oregon Freshwater Wetland Assessment Methodology (OFWAM). Off-site wetlands less than 0.5 acres in size were not assessed unless they were part of a larger wetland complex. Wetlands were assessed together when they were hydrologically connected either by culverts or drainages. Water quality, hydrologic control, wildlife habitat, fish habitat, sensitivity to impact and enhancement potential functions were assessed.

Mt. Scott Creek and Rock Creek are both 303(d) listed streams and anadromous fish use the lower reach of Rock Creek which is designated as critical habitat by NOAA fisheries (August 2005). No threatened or endangered species were found to inhabit the wetlands in the project area and we were unable to find any records that wetlands in the area had been identified by federal, state or local agencies or non-profits for protection. A majority of the assessed area is currently pasture, row crops, small farmsteads or wood lots. According to zoning and comprehensive plan designations much of the area will transition to low density residential with

some commercial development along major roadways. According to OFWAM no wetlands of special interest for protection were identified in the study area.

A majority of the assessed wetlands provided wildlife habitat for some species and had impacted water quality and hydrologic functions. Of the wetlands that provided fish habitat most had impacted habitat functions. Most wetlands were sensitive to future impacts, due in large part to the changes in land use that will result as the area urbanizes, and had moderate potential for enhancement. The watershed characterizations and answer sheets for the functional assessment are located in Appendix C. The wetlands included in each assessment and the findings are included on the wetland summary sheets in Appendix A.

5.4 Locally Significant Wetlands

Locally significant wetlands provide habitat, water quality and/or hydrologic benefits at significant levels. The determination of significance is based on the functional assessment results and professional judgment. Locally significant wetlands are identified to help state and local governments and agencies as well as private land owners make informed land use and development decisions. The designation does not provide additional legal protection. Wetlands less than one half acre in size were not evaluated for significance.

Fourteen wetlands were determined to be locally significant based on DSL mandatory criteria (Figure 12). This includes wetlands that provided diverse wildlife habitat or had intact fish habitat, water quality or hydrologic control functions. Locally significant wetlands are listed in Table 6. The functional assessment criteria that meet the significance threshold are italicized.

Table 6. Locally Significant Wetlands

Wetland ID	HGM Class	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control
CR-502	depressional	some species	na	impacted	*intact*
KC-102	slope	*diverse species*	na	impacted	impacted
MS-101	slope	some species	impacted	impacted	*intact*
MS-504	slope	*diverse species*	impacted	impacted	*intact*
MS-505	slope	*diverse species*	impacted	impacted	*intact*
MS-507	slope	*diverse species*	impacted	impacted	*intact*
RC-108	depressional	some species	na	*intact*	impacted
RC-109	depressional	some species	na	*intact*	*intact*
RC-110*	slope	some species	impacted	impacted	impacted
RC-112*	slope	some species	na	impacted	impacted
RC-507*	slope	some species	na	impacted	impacted
RC-508*	slope	some species	na	impacted	impacted
RC-509	depressional	some species	na	impacted	*intact*
RC-510*	slope	some species	na	impacted	impacted

***** Wetlands that met significance criteria because they are within a ¼ mile of a 303(d) listed stream

Of the fourteen locally significant wetlands four wetlands passed the threshold for significance in two categories. Wetlands MS-504, MS-505 and MS-507 provide habitat to diverse species and have intact hydrologic control functions. This is due in part to the fact that they have areas of woody vegetation and controlled outlets. These wetlands are each connected to other large wetlands encompassing most of the wetland area in the Mt. Scott Creek basin. MS-504 is connected to MS-14 and to MS-505. MS-507 and MS-101, which is significant due to intact hydrologic control functions, form the other large wetland area. All of these wetlands are also significant because they are within a ¼ mile of Mt. Scott Creek, a 303(d) listed stream. RC-109 has intact water quality and hydrologic control functions. Both of these functions are enhanced by the fact that this is a depressional wetland with a controlled outlet that is subject to flooding from Rock Creek and is adjacent to developed land.

Of the remaining significant wetlands five met one threshold for significance. One, KC-102, provides habitat for diverse species. Three, CR-502, MS-101 and RC-509 have intact hydrologic control functions and RC-108 has intact water quality functions. In addition, five wetlands were deemed significant because they are located within ¼ mile of a 303(d) listed stream – in this case Rock Creek. Of these, RC-510 likely has the greatest potential to effect water quality by filtering out agricultural pollutants and by providing a source of base flow for the stream system in the summer months. As described in OAR 141-086-0350(2)(b), local governments can change significance calls for wetland deemed significant solely based on its proximity to a 303(d) listed stream if that wetland does not provide the water quality improvement needed for the 303(d) list identified parameter(s).

Figure 1. Vicinity

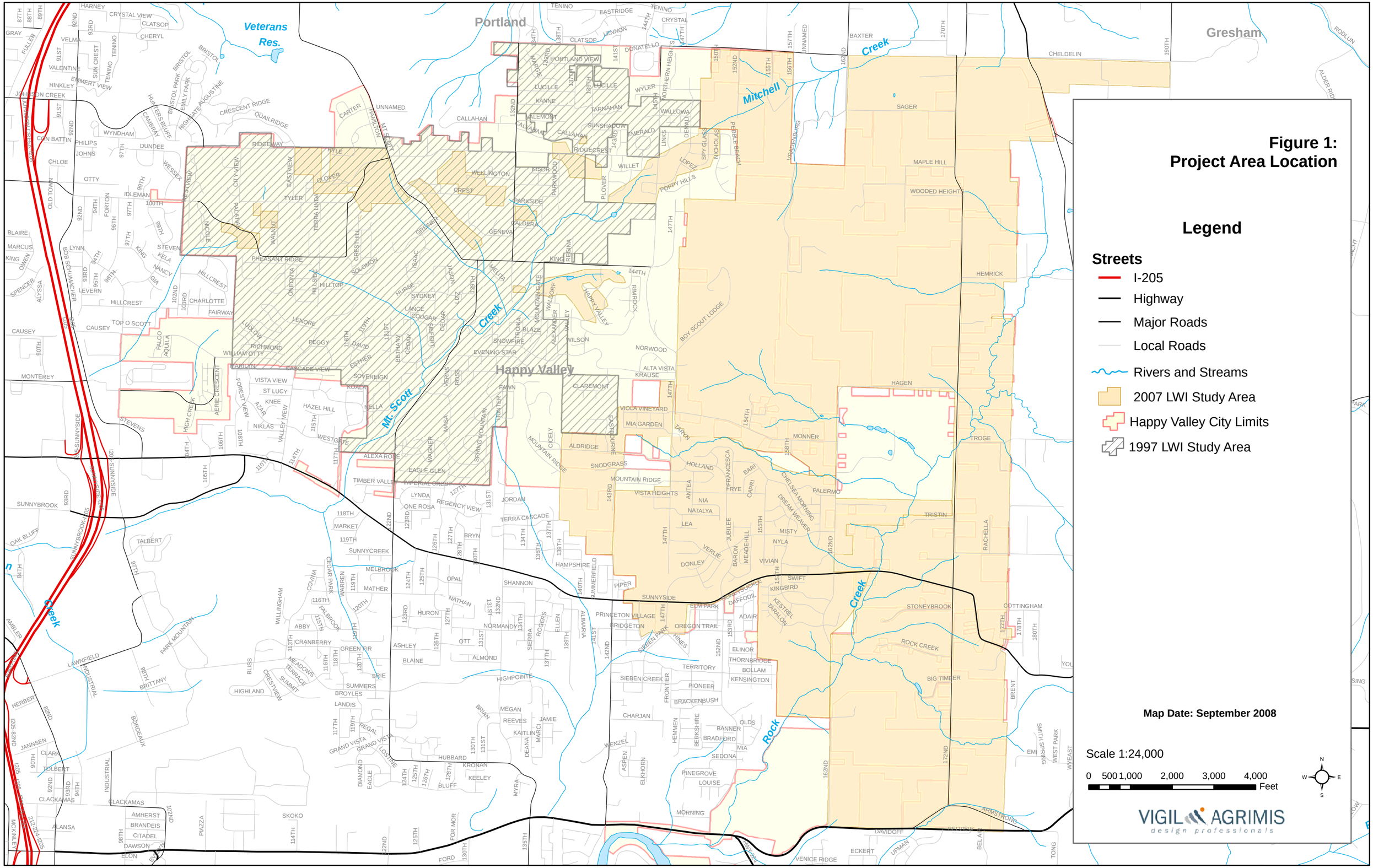
Portland
Gresham
Happy Valley
Veterans Res.
Mitchell Creek
Mt. Scott Creek
Rock Creek
Boring
Figure 1:
Project Area Location
Legend
Streets
I-205
Highway
Major Roads
Local Roads
Rivers and Streams
2007 LWI Study Area
Happy Valley City Limits
1997 LWI Study Area
Map Date: September 2008
Scale 1:24,000
0 500 1,000 2,000 3,000 4,000
Feet
N
W
E
S
VIGIL AGRIMIS
design professionals

Figure 2. Soils

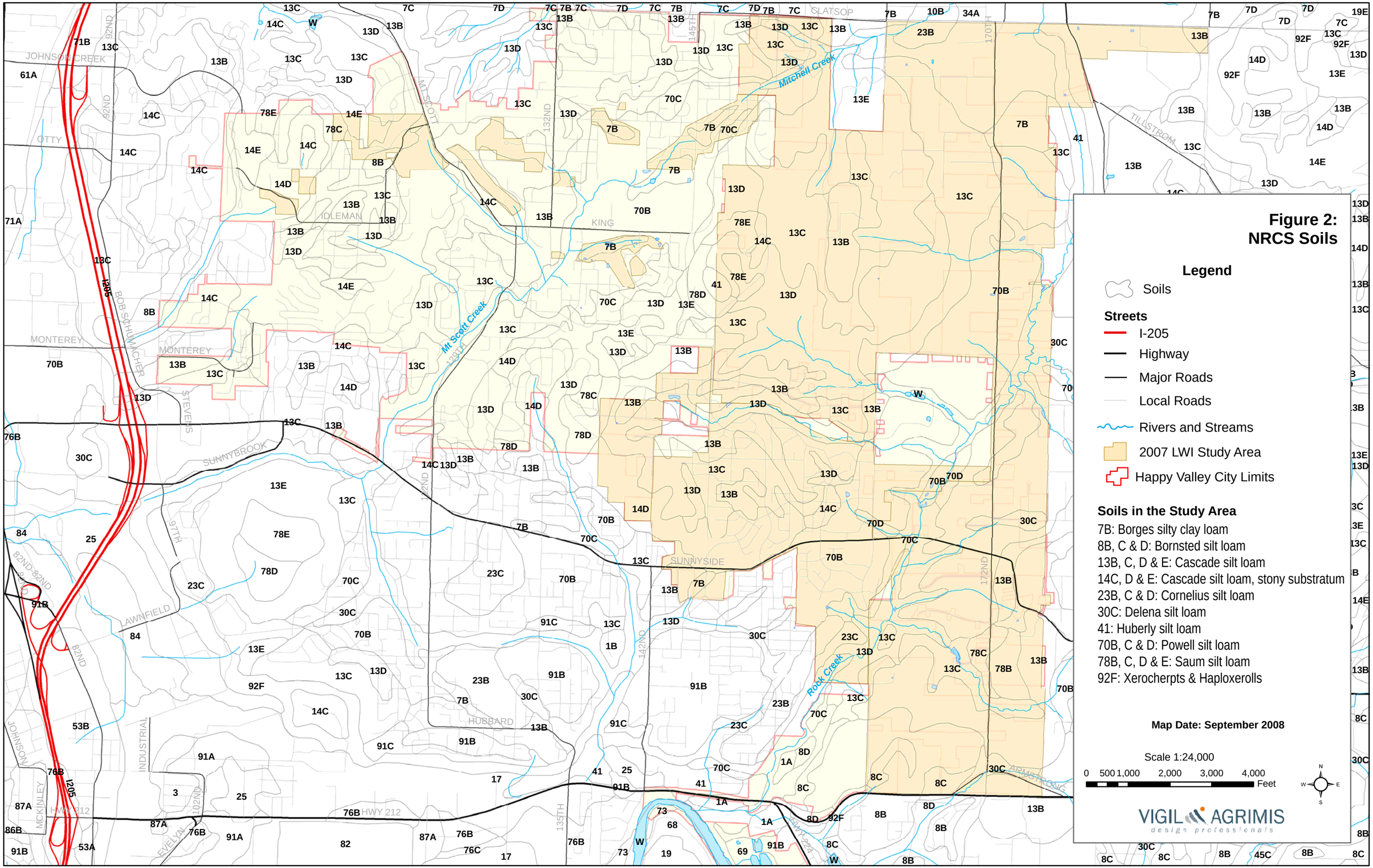
Figure 2:
NRCS Soils
Legend
Soils
Streets
I-205
Highway
Major Roads
Local Roads
Rivers and Streams
2007 LWI Study Area
Happy Valley City Limits
Soils in the Study Area
7B: Borges silty clay loam
8B, C & D: Bornsted silt loam
13B, C, D & E: Cascade silt loam
14C, D & E: Cascade silt loam, stony substratum
23B, C & D: Cornelius silt loam
30C: Delena silt loam
41: Huberly silt loam
70B, C & D: Powell silt loam
78B, C, D & E: Saum silt loam
92F: Xerocherpts & Haploxerolls
Map Date: September 2008
Scale 1:24,000
0 500 1,000 2,000 3,000 4,000
Feet
VIGIL AGRIMIS
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Mitchell Creek
Mt Scott Creek
Rock Creek
JOHNSON CREEK
OTTY
IDLEMAN
KING
MONTEREY
SUNNYBROOK
SUNNYSIDE
HUBBARD
AWNFIELD
SLATSOP
TILLSTROM
ARMSTRONG
BOB SCHUMACHER
HWY 212
I205

Figure 3. National Wetlands Inventory

Figure 3a:
National Wetlands Inventory

Legend

- National Wetlands Inventory

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area

Map Date: September 2008

Scale 1:24,000

0 500 1,000 2,000 3,000 4,000 Feet

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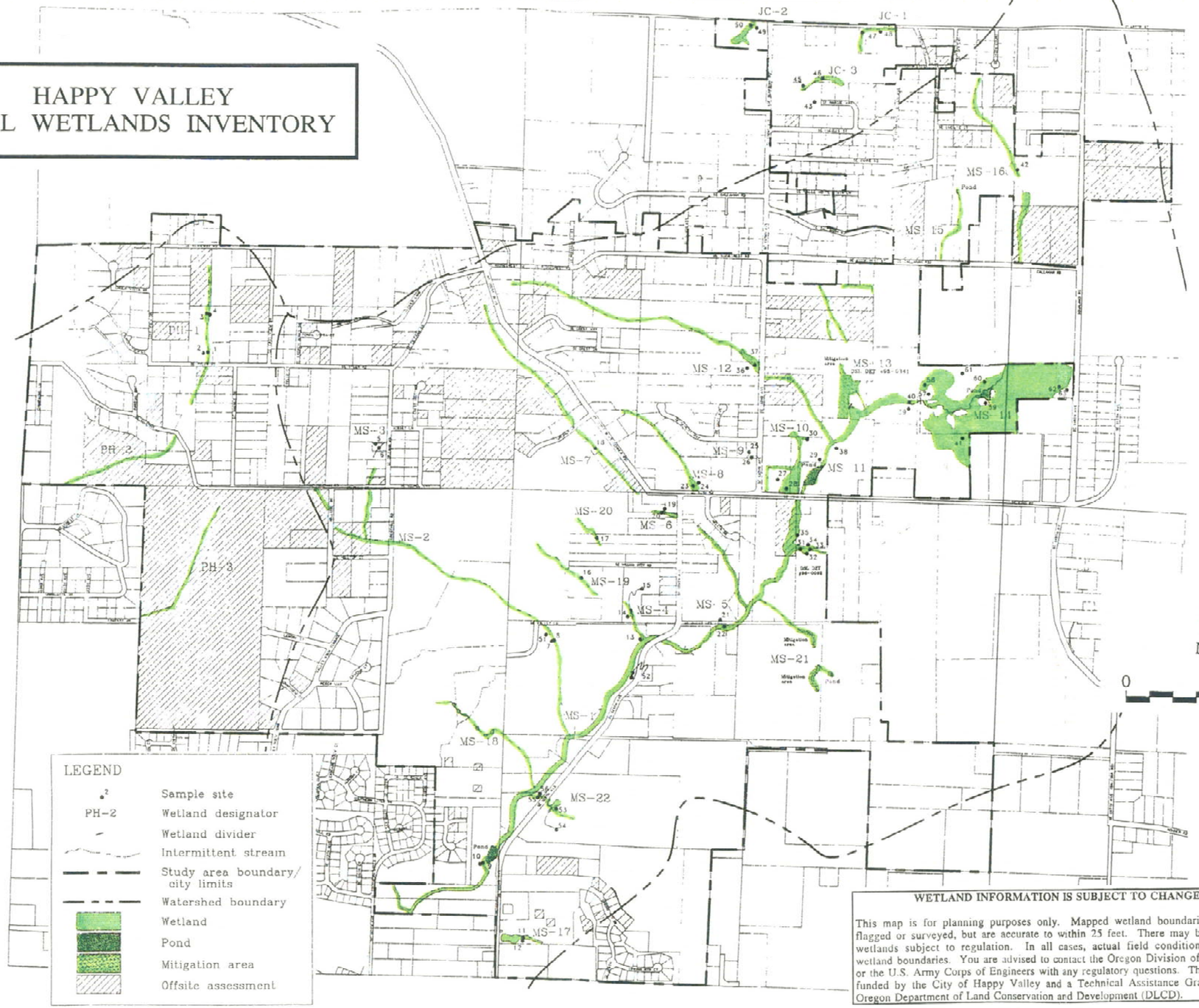
POWKZh
POWKZx
PEM1Y
PFO1W
PSS1Y
PEM1/OWY
R3OWZ
R3FLY U PFO1W
Portland
Gresham
Happy Valley
Veterans Res.
Mitchell Creek
Rock Creek
Mt. Scott Creek

HAPPY VALLEY
LOCAL WETLANDS INVENTORY



Potentially jurisdictional wetlands and sample sites for the Happy Valley Local Wetlands Inventory, Clackamas County, Oregon.

Figure 3b:
1997 Local Wetlands Inventory

SRI/SHAPIRO/AGCO

Figure 4. 2007 LWI Overview

Figure 4:
2007 LWI Overview

Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:24,000

0 500 1,000 2,000 3,000 4,000 Feet

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Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Oregon Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

Figure 5. 2007 LWI Sheet 1

Figure 5:
2007 LWI Sheet 1

Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:7,200

0 150 300 600 900 1,200 Feet

N W E S

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1s2e27
1s2e26
1s2e34
1s2e35
MS-501
01-0594
MS-508
02-0500
PW
SCOTTS SUMMIT
QUAIL RIDGE
HAMILTON
RIDGEWAY
RYLE
CALLAHAN
RIDGECREST
TARAHAN
COLE TRAIN
CHIANTI
143RD
BITTERN
WILLET
WARBLER
KISOR
MEADOWPARK
134TH
PARKWOOD
WELLINGTON
CARRINGTON
CREST
PARKSIDE
CALDERA
GENEVA
131ST
132ND
GREIMER
MT SCOTT
DORSET
CRESTHILL
SUN BURST
COLEMAN
TERRA LINDA
FRENCH CREEK
EASTVIEW
CITY VIEW
CARA WISA
SUNSET VIEW
TYLER
WALNUT
GALATIAL
COONER
PHEASANT RIDGE
TRUBERRY
HILLCREST
CHARLOTTE
CELANO
MURANDOL
ONEONTA
QUAIL RUN
HILLSIDE
HILLTOP
WAHKEENA
SOLOMON
FAIRWAY
LENORE
LUDLOW
BOLTON
LAVONA
CHARVIEW
PEGGY
RICHMOND
WILLIAM OTTY
118TH
MARILYN
CASCADE VIEW
VALLEY VIEW
VISTA VIEW
SOVEREIGN
ESTHER
DAVID
REGINALD
BETHANY
CEDAR
ADDLINE
149TH
141ST
ISYAC
JASON
AMBERLY
HURSE
SYDNEY
CLARK
LAMPERT
JIZZ
SCOTT CREEK
COUGAR
SHEFERT
SNOWFIRE
TROIKA
BLAZE
OREGOLD
MELITA
WATERFORD
TROP
129TH

Figure 6. 2007 LWI Sheet 2

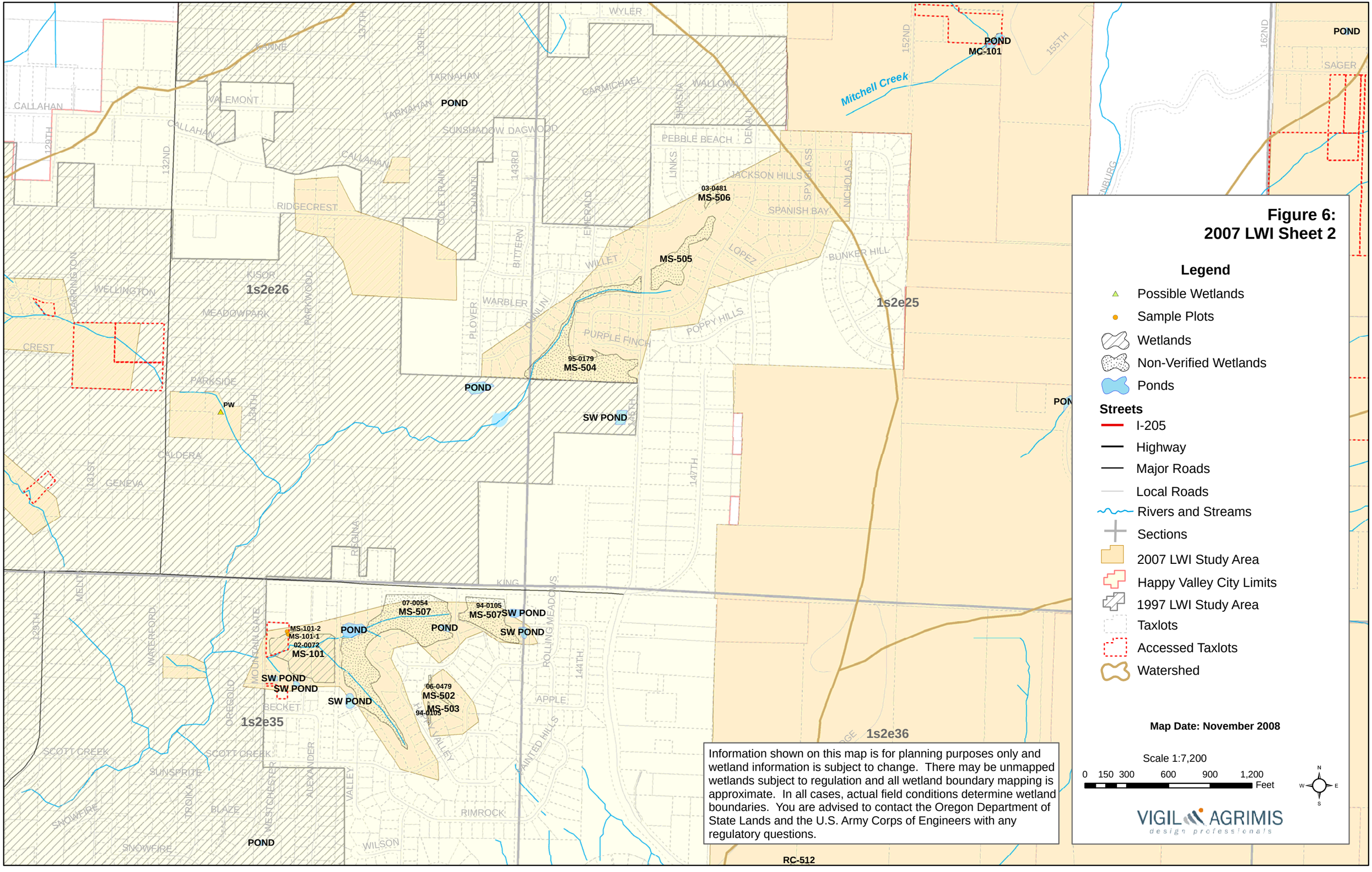

Figure 6: 2007 LWI Sheet 2

Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: November 2008

Scale 1:7,200

0 150 300 600 900 1,200 Feet

N W E S

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Figure 7. 2007 LWI Sheet 3

Figure 7:
2007 LWI Sheet 3

Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:7,200

0 150 300 600 900 1,200 Feet

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CLATSOP
1s2e24
1s3e19
CHELDELIN
1s3e20
155TH
156TH
162ND
170TH
172ND
VRADENBURG
FOSTER
SAGER
MAPLE HILL
WOODED HEIGHTS
HEMRICK
1s2e25
1s3e30
1s2e36
1s3e31
CALE
PW
POND
MC-501
KC-507
KC-508
KC-509
92-0027
KC-502
KC-503
KC-504
KC-505
KC-506
KC-501
KC-510
KC-101
KC-101-2
KC-101-1
KC-102
KC-102-1
KC-102-2
KC-103
KC-103-1
KC-103-2
RC-101
RC-501
RC-101-3
RC-101-2
RC-101-1
RC-502
RC-503
RC-505
RC-506
RC-504
RC-102
RC-102-1
RC-102-2

Figure 8. 2007 LWI Sheet 4

Figure 8:
2007 LWI Sheet 4

Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:7,200

0 150 300 600 900 1,200 Feet

N W E S

VIGIL AGRIMIS
design professionals

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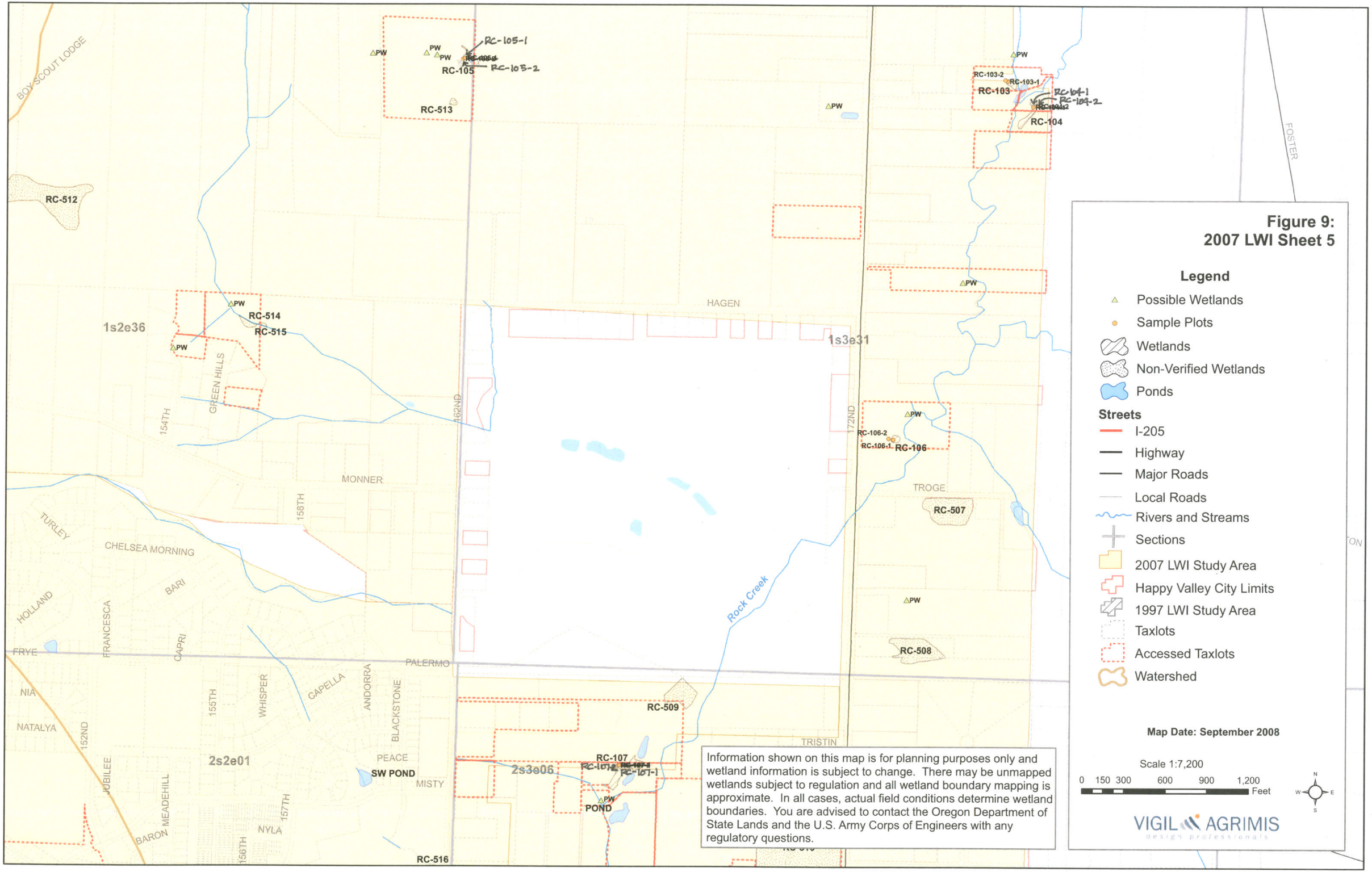
POND
RC-512
PW
RC-514
RC-515
SW POND
CR-501
1s2e34
1s2e35
2s2e03
2s2e02
BETHANY
CEDAR
ADOLINE
NELLA
129TH
EVENING STAR
NORTH STAR
SNOWFIRE
WESTCHESTER
MOUNTAIN GATE
VERNS
ROSS
EMICO
WINDFLOWER
DAWN
BUCKSKIN
HUNTER
WATERLEAF
CLAREMONT
MOUNTAIN GATE
REDHAWKS
SPRING MOUNTAIN
MASA
THOMPSON
ESSEX
WAGNER
DEERFIELD
EAGLE GLEN
SPRING MOUNTAIN
124TH
IMPERIAL CREST
LYNDA
125TH
127TH
129TH
131ST
WOODLAND
JORDAN
REGENCY VIEW
ONE ROSA
SUNPARK
123RD
QUIETWOODS
128TH
REGENCY VIEW
TERRA CASCADE
KATHRYN
TUMBLEWEED
BRYN
MAJESTIC
126TH
127TH
130TH
MARISA
SUNNYSIDE
SAGEBRUSH
122ND
124TH
125TH
126TH
127TH
OPAL
MATHER
128TH
MATHER
132ND
SHANNON
SIERRA
139TH
134TH
136TH
137TH
THURMONT
139TH
HAMPSHIRE
HAMPSHIRE
HAMPSHIRE
140TH
SUMMERFIELD
143RD
WINTERCRESS
ALDRIDGE
MOUNTAIN RIDGE
SNODGRASS
BADGER CREEK
BADGER CREEK
MOUNTAIN RIDGE
HOLLAND
VISTA HEIGHTS
147TH
ANTEA
NIA
NATALYA
SONORA
LEA
PAGE PARK
145TH
NORWOOD
ALTA VISTA
KRAUSE
147TH
VIOLA VINEYARD
EASTBOURNE
TOSCANA
CATINA
VILLANOVA
MIA GARDEN
TARYN

Figure 9. 2007 LWI Sheet 5

Figure 9:
2007 LWI Sheet 5



Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:7,200

0 150 300 600 900 1,200 Feet

Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Oregon Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

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design professionals

Figure 10. 2007 LWI Sheet 6

Figure 10:
2007 LWI Sheet 6

Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:7,200

0 150 300 600 900 1,200 Feet

N W E S

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Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Oregon Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

RC-509
POND
RC-107-2 RC-107-1
RC-107
POND
PW
POND
SW POND
RC-108-2 RC-108
RC-108-1
RC-510
RC-510
RC-510
RC-510
00-0578
RC-516
RC-511
2s2e01
2s3e06
RC-109-2
RC-109-1
RC-109
RC-110-2 RC-110-3
RC-110-1 RC-110
01-0481
SW POND
SW POND PW
ROCK CREEK
RC-111-1 RC-111-2
RC-111
POND
05-0519
CR-502
ELINOR
01-0497 SW POND
THORNBRIDGE
RC-112-1 RC-112-2
RC-112
PW
POND
PW
BIG TIMBER
PW
PW
POND
RC-113
RC-113-2
RC-114-2 RC-114-1
RC-114
POND RC-115-1
RC-115-2
RC-115
2s2e12
2s3e07
Rock Creek
MEADEHILL
SWEET VALENTINE
BLACKSTONE
155TH
MISTY
NYLA
156TH
VIVIAN
162ND
151TH
SWIFT
DOVE
TARALON
KINGBIRD
155TH
NUTHATCH
NIGHTINGALE
STONEYBROOK
TRISTIN
RACHELLA
172ND
VOGEL
COTTINGHAM
177TH
178TH
180TH
154TH
BOLLAM
KENSINGTON
156TH
154TH
OLDS
BRADFORD
155TH
162ND
BRENT

Figure 11. 2007 LWI Sheet 7

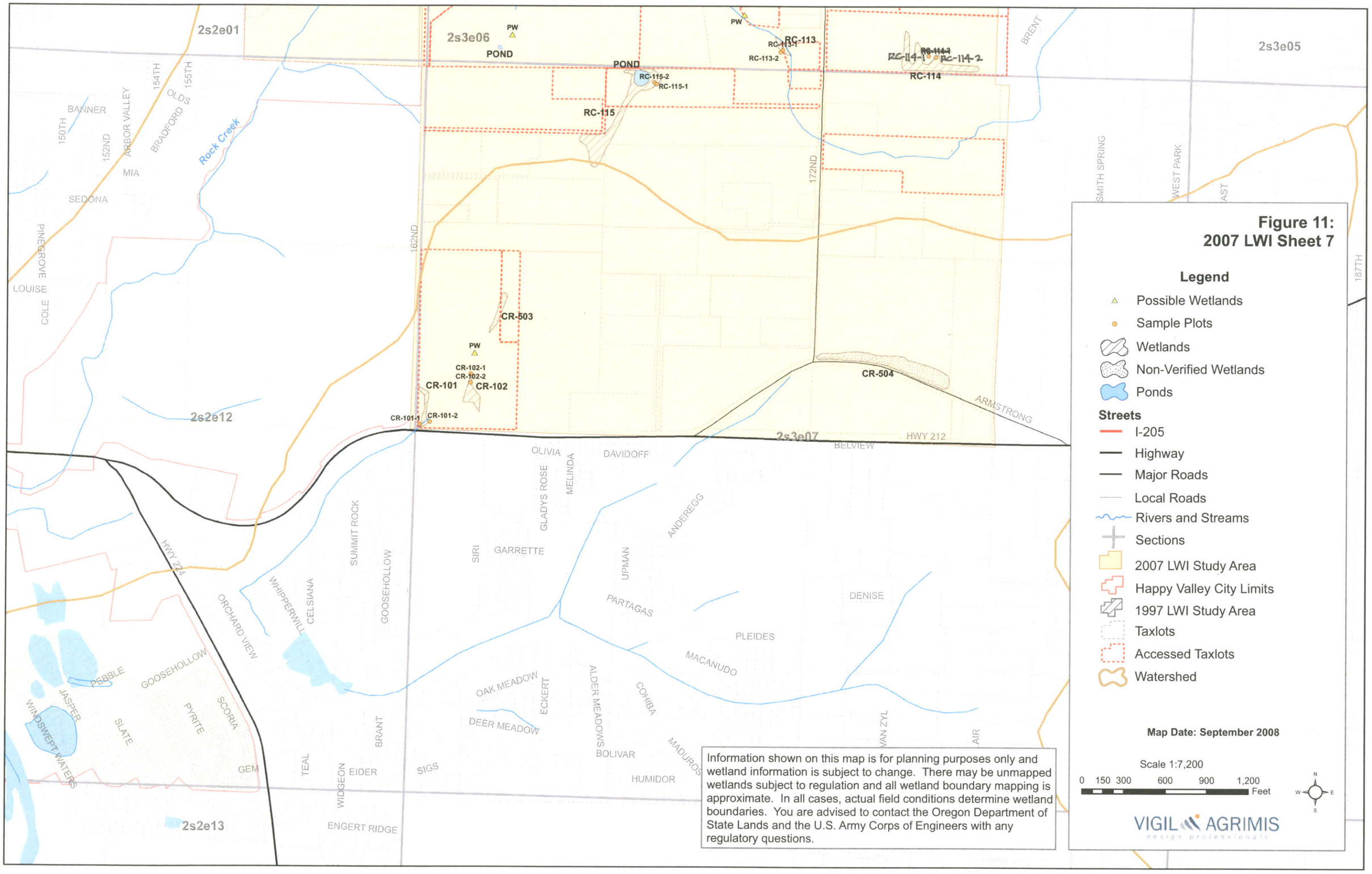

Figure 11: 2007 LWI Sheet 7

Legend

- Possible Wetlands
- Sample Plots
- Wetlands
- Non-Verified Wetlands
- Ponds

Streets

- I-205
- Highway
- Major Roads
- Local Roads
- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:7,200

0 150 300 600 900 1,200 Feet

N W E S

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Figure 12. Locally Significant Wetlands

Figure 12:
Locally Significant Wetlands

Legend

- Possible Wetlands
- Wetlands
- Non-Verified Wetlands
- Ponds
- Significant Wetland

Streets

- I-205
- Highway
- Major Roads
- Local Roads

- Rivers and Streams
- Sections
- 2007 LWI Study Area
- Happy Valley City Limits
- 1997 LWI Study Area
- Taxlots
- Accessed Taxlots
- Watershed

Map Date: September 2008

Scale 1:24,000

0 500 1,000 2,000 3,000 4,000 Feet

N W E S

VIGIL AGRIMIS
design professionals

Information shown on this map is for planning purposes only and wetland information is subject to change. There may be unmapped wetlands subject to regulation and all wetland boundary mapping is approximate. In all cases, actual field conditions determine wetland boundaries. You are advised to contact the Oregon Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.

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APPENDIX A

Wetland Summary Sheets

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date: 4/6/2007
Watershed: Clackamas River
Location: 16409 SE HWY 212
T.R.S.1/4S & Taxlot: 2s3e07 23E07B01001
Plot Numbers: 1&2

Wetland ID: CR-101
Classification
Cowardin: PEMfd
HGM: Slope
Wetland Size: 0.20 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
		Himalayan blackberry	Watson's willow-herb

Soils series: 92F, Xerochrepts & Haploxerolls
Taxonomy: mesic Xerochrepts & Haploxerolls

Hydrology: Primary source is sheetflow and precipitation, with some input from small creek.

Comments: Highly disturbed corner of agricultural field. Majority of vegetation cleared. Small creek on site is piped through field and daylights upstream of wetland CR-101. This creek connects the funtionally assessed wetlands. Field is tiled.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
CR-101, 102 & 503	some species	impacted	impacted	impacted	potentially	moderate

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Field Investigators: TLJ, RMM
Date: 4/6/2007
Watershed: Clackamas River
Location: 16409 SE HWY 212
T.R.S.1/4S & Taxlot: 2s3e07 23E07B01001
Plot Numbers: 1&2

Wetland ID: CR-102
Classification
Cowardin: PEMfd
HGM: Slope
Wetland Size: 0.32 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			reed canarygrass bluegrass

Soils series: 8C, Bornstedt silt loam
Taxonomy: Typic Haploxerult

Hydrology: Source is sheetflow, precipitation and groundwater, possibly from broken drain tiles.

Comments: Some of hydrology may be from leaking drain tiles or irrigation pipes up hill.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
w/ CR-101						

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date: 4/3/2007
Watershed: Clackamas River
Location: 13998 SE SNODGRASS LN
T.R.S.1/4S & Taxlot: 1s2e35 12E35D 00801
Plot Numbers: Off-site

Wetland ID: CR-501
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 0.61 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			reed canarygrass

Soils series: 13C, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept

Hydrology: Primary source is groundwater or seeps

Comments: Site is an open clearing on a hillside up hill of adjacent creeks and ponds.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
CR-501	some species	NA	impacted	impacted	potentially	high

Field Investigators: TLJ, RMM
Date:
Watershed: Clackamas River
Location: NE of SE 154th & SE Thornbridge intersection
T.R.S.1/4S & Taxlot: 2s2e01 22E01D 03400
Plot Numbers: Off-Site

Wetland ID: CR-502
Classification
Cowardin: PFO
HGM: Depressional
Wetland Size: 1.54 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	Oregon ash	Nootka rose	creeping buttercup

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is sheetflow and precipitation.

Comments: Forested depressional wetland, isolated. May have extended to south and east, but impacted by subdivision development.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
CR-502	some species	NA	impacted	intact	potentially	moderate

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date:
Watershed: Clackamas River
Location: N of SE Armstrong Cir E of SE 172nd Ave
T.R.S.1/4S & Taxlot: 2s3e07 23E07A 00700
Plot Numbers: Off-site

Wetland ID: **CR-504**
Classification
Cowardin: PSSd
HGM: Slope
Wetland Size: 1.78 ac
Significant: No

Dominant Veg:

Tree	Shrub	Herb
	Douglas spirea willow	cat-tail soft rush

Soils series: 30C, Delena silt loam
Taxonomy: fine-silty, mixed Humic Fragiaquepts

Hydrology: Primary source is precipitation or sheet flow, with occasional inputs from adjacent creek

Comments: Site is highly disturbed field in agricultural production. Wetland was noted on edge of agricultural field and along creek, but may extend further into field. Unable to determine due to plastic sheeting and row crops planted.

OFWAM Summary:

	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
CR-504	some species	impacted	impacted	impacted	potentially	moderate

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/3/2007
Watershed: Kelley Creek
Location: 17970 SE Cheldelin RD
T.R.S.1/4S & Taxlot: 1s3e30 13E30A 00200
Plot Numbers: 1&2

Wetland ID: KC-101
Classification
Cowardin: PEMd
HGM: Depressional
Wetland Size: 0.31 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			Mixed fescue

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is precipitation and sheetflow

Comments: Site has drainage ditches on the east side. A swale runs froim the wetland west to a pond.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
KC-101	some species	na	impacted	impacted	potentially	moderate

---

Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Kelley Creek
Location: S side of SE Sager RD W of SE 172nd AVE
T.R.S.1/4S & Taxlot: 1s3e30 13E30B 02500
Plot Numbers: 1&2

Wetland ID: KC-102
Classification
Cowardin: PFO
HGM: Slope
Wetland Size: 1.48 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	Oregon ash	Douglas spirea blackberry	Moss fringe cup

Soils series: 13C. Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is precipitation and sheetflow with some from intermitant stream

Comments: Site has drainage ditches on both the north and east sides.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
KC-102	diverse	na	impacted	impacted	potentially	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/10/2007
Watershed: Kelley Creek
Location: 9161 SE 172nd AVE
T.R.S.1/4S & Taxlot: 1s3e30 13E30B 02401
Plot Numbers: 1&2

Wetland ID: **KC-103**
Classification
Cowardin: PEMf
HGM: Slope
Wetland Size: 11.96 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			Fescue meadow foxtail soft rush

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is precipitation and sheetflow

Comments: The wetland is located at the watershed divide between Rock Creek and Kelley Creek. It touches all of the wetlands it is functionally assessed with.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
KC-103, RC-502 & 503	some species	na	impacted	impacted	potentially	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Kelley Creek
Location: 8855 SE 172ND AVE
T.R.S.1/4S & Taxlot: 1s3e30 13E30B 00200
Plot Numbers: Off-Site

Wetland ID: KC-507
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 1.94 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			Mixed fescue meadow foxtail soft rush

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is precipitation and sheetflow

Comments: Under power lines. Roadside ditches may drain some water.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
KC-507	some species	na	impacted	impacted	sensitive	moderate

Field Investigators: MFR, SAR
Date: 4/3/2007
Watershed: Kelley Creek
Location: 18728 SE CHELDELIN RD
T.R.S.1/4S & Taxlot: 1s3e29 13E29B 01203
Plot Numbers: Off-site

Wetland ID: KC-510
Classification
Cowardin: PEM-PSS
HGM: Depressional
Wetland Size: 0.82 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
		red alder rose	soft rush mixed grass

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is precipitation and sheetflow

Comments: somewhat disturbed. Evidence of vehicles and slash piles.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
KC-510	some species	na	impacted	impacted	sensitive	moderate

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/10/2007
Watershed: Mitchell Creek
Location: 9100 SE 152ND AVE
T.R.S.1/4S & Taxlot: 1s2e25 12E25A 02302
Plot Numbers: 1&2

Wetland ID: MC-101
Classification
Cowardin: PEM,PSSh
HGM: Depressional
Wetland Size: 0.07 ac
Significant: Yes

Dominant Veg:

Tree	Shrub	Herb
Western red cedar red alder	blackberry	Reed canarygrass small-fruited bulrush sedge

Soils series: 13E, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept

Hydrology: Primary source of hydrology is Mitchel Creek which is impounded below the wetland

Comments:

OFWAM Summary:

	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
MC-101, pond & creek	diverse	impacted	lost	impacted	potentially	moderate

---

Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Mitchell Creek
Location: 8820 SE 162ND AVE
T.R.S.1/4S & Taxlot: 1s3e30 13E30B 01000 & 00900
Plot Numbers: Off-Site

Wetland ID: MC-501
Classification
Cowardin: PEM,PSS
HGM: Slope
Wetland Size: 1.35 ac
Significant: No

Dominant Veg:

Tree	Shrub	Herb
black cottonwood	blackberry	mixed grasses soft rush

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source of hydrology is precipitation and sheetflow

Comments: This wetland was viewed from SE Sager Rd

OFWAM Summary:

	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
MC-501	some species	na	impacted	impacted	potentially	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date: 4/4/2007
Watershed: Mt. Scott Creek
Location: Near Mountain Gate and Tropicana
T.R.S.1/4S & Taxlot: 1s2e35 12E35AB 03000, 03100,
Plot Numbers: 1&2 03400 & 03600

Wetland ID: MS-101
Classification
Cowardin: PSS/PFO
HGM: Slope
Wetland Size: 3.0 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	Oregon ash	red-twig dogwood Sitka willow	soft rush Willamette Valley bittercress

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is groundwater, with input from sheet flow and seasonal surface connect

Comments: Site is in a residential neighhborhood, some portions are landscaped, others are natural.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
MS-101 & pond	some species	impacted	impacted	intact	potentially	high

Field Investigators: TLJ, SAR
Date: 5/10/2007
Watershed: Mt. Scott Creek
Location: W of SE Purple Finch Loop
T.R.S.1/4S & Taxlot: 1s2e26 12E26DA 12800, 05100, 08600
Plot Numbers: Off-Site

Wetland ID: MS-504
Classification
Cowardin: PSS/PFO
HGM: Slope
Wetland Size: 4.35 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
		Nootka rose Sitka willow	soft rush

Soils series: 7B, Borges silty clay loam
Taxonomy: fine, mixed, nonacid, mesic Typic Humaquept

Hydrology: Primary source is groundwater and sheetflow.

Comments: Wetland may extend off-site. It is hydrologically connected to other functional assessment wetlands by the creek.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
MS-504 & 505	diverse	impacted	impacted	intact	potentially	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, SAR
Date: 5/10/2007
Watershed: Mt. Scott Creek
Location: S of SE Jackson Hills Dr
T.R.S.1/4S & Taxlot: 1s2e25 12E25CB10600
Plot Numbers: Off-Site

Wetland ID: MS-505
Classification
Cowardin: PSS
HGM: Depressional
Wetland Size: 1.57 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
		Nootka rose Sitka willow	soft rush

Soils series: 7B, Borges silty clay loam
Taxonomy: fine, mixed, nonacid, mesic Typic Humaquept

Hydrology: Primary source is groundwater and sheetflow.

Comments: Wetland may extend off-site. This wetland along forms the headwaters of a tributary to Mt. Scott Creek.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
w/ MS-504						

Field Investigators: TLJ, RMM
Date: 4/4/2007
Watershed: Mt. Scott Creek
Location: S of SE Jackson Hills Dr
T.R.S.1/4S & Taxlot: 1s2e35 12E35A 00800, 00900
Plot Numbers: Off-Site 12E35AA07000, 07200, 07600

Wetland ID: MS-507
Classification
Cowardin: PSS/PEM
HGM: Slope
Wetland Size: 8.96 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
		Nootka rose Sitka willow	soft rush

Soils series: 7B, Borges silty clay loam
Taxonomy: fine, mixed, nonacid, mesic Typic Humaquept

Hydrology: Primary source is groundwater, with input from sheet flow and seasonal surface connect

Comments: This site was a previously delineated DSL wetland. Surface water and wetland vegetation were noted from the perimeter, which resulted in a boundary adjustment. This wetland forms the headwaters to Mt. Scott Creek.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
MS-507	diverse	impacted	impacted	intact	potentially	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Rock Creek
Location: 18164 SE Foster RD
T.R.S.1/4S & Taxlot: 1s3e30 13E30A 00901
Plot Numbers: 1,2&3

Wetland ID: RC-101
Classification
Cowardin: PEMd
HGM: Slope
Wetland Size: 16.14 ac
Significant: No

Dominant Veg:

Tree	Shrub	Herb
		Reed Canarygrass

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is precipitation and sheetflow with some groundwater

Comments: The wetland is located at the Rock Creek/Kelley Creek watershed divide . Site is artificially drained to south. The wetland extends south out of the project area. The functional assessment wetlands are all part of one upland/slope wetland mosaic.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-101, 501/KC-501-506	some species	na	impacted	impacted	potential	high

---

Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Rock Creek
Location: 10110 SE 172nd AVE
T.R.S.1/4S & Taxlot: 1s3e30 13E30D 02400
Plot Numbers: 1&2

Wetland ID: RC-102
Classification
Cowardin: PEMf
HGM: Slope
Wetland Size: 0.17 ac
Significant: No

Dominant Veg:

Tree	Shrub	Herb
		Reed canarygrass

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: groundwater seepage from pond upstream. Pond is drained by a pipe under the site.

Comments: Functional assessment wetlands are connected by and intermittant drainage.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-102, 504, 505 & pond	some species	impacted	impacted	impacted	potential	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Rock Creek
Location: 11058 SE 172ND AVE
T.R.S.1/4S & Taxlot: 1s3e31 13E31A 00901
Plot Numbers: 1&2

Wetland ID: RC-103
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 0.09 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			grazed grass

Soils series: 30 C, Delena silt loam
Taxonomy: fine-silty, mixed Humic Fragiaquepts

Hydrology: Primary source is precipitation and sheetflow with some from drainages.

Comments: Functional assessment wetlands abut opposite sides of Rock Creek.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-103-104, pond & stream	some species	impacted	impacted	impacted	potential	moderate

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Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Rock Creek
Location: 11050 SE 172nd AVE
T.R.S.1/4S & Taxlot: 1s3e31 13E31A 01002
Plot Numbers: 1&2

Wetland ID: RC-104
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 0.17 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			soft rush

Soils series: 30 C, Delena silt loam
Taxonomy: fine-silty, mixed Humic Fragiaquepts

Hydrology: Primary source is precipitation and sheetflow with some groundwater

Comments:

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
w/ RC-103						

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/5/2007
Watershed: Rock Creek
Location: 10560 SE Vradenburg RD
T.R.S.1/4S & Taxlot: 1s2e36 12E36A 00101
Plot Numbers: 1&2

Wetland ID: RC-105
Classification
Cowardin: PEMh
HGM: Slope
Wetland Size: 0.10 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
		red-twig dogwood blackberry	mown grass soft rush grooved rush

Soils series: 13B, C, D; Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is groundwater in concave landscape features

Comments:

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-105 & pond	diverse		lost	lost	potential	little

Field Investigators: MFR, SAR
Date: 4/11/2007
Watershed: Rock Creek
Location: 11245 SE 172nd AVE
T.R.S.1/4S & Taxlot: 1s3e31 13E31D 01200
Plot Numbers: 1&2

Wetland ID: RC-106
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 0.06 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
			meadow foxtail Horsetail

Soils series: 30 C, Delena silt loam
Taxonomy: fine-silty, mixed Humic Fragiaquepts

Hydrology: Primary source is precipitation and sheetflow with some from intermitant swales

Comments: The wetlands in this functional assessment abut Rock Creek.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-106, PW & creek	diverse	impacted	impacted	impacted	potential	moderate

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/12/2007
Watershed: Rock Creek
Location: 16571 SE SUNNYSIDE RD
T.R.S.1/4S & Taxlot: 2s3e06 23E06B 00300
Plot Numbers: 1&2

Wetland ID: RC-107
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 0.42 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	red alder		creeping buttercup lawn sedge

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is groundwater and seeps

Comments:

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-107 & ponds	some species	impacted	impacted	lost	potential	moderate

Field Investigators: TLJ, RMM
Date: 4/6/2007
Watershed: Rock Creek
Location: 12853 SE 172nd AVE
T.R.S.1/4S & Taxlot: 2s3e06 23E06BA 01100
Plot Numbers: 1&2

Wetland ID: RC-108
Classification
Cowardin: PFO
HGM: Depressional
Wetland Size: 2.41 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	Oregon ash		celery-leaved buttercup mannagrass

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is precipitation.

Comments: Wetland extends offsite to the north, and appears to connect to a short drainage ditch, connection from there unclear. Functional assessment wetlands are connected by culverts.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-108 & 510	some species	NA	intact	impacted	potential	moderate

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date: 4/9/2007
Watershed: Rock Creek
Location: Rock Creek Green
T.R.S.1/4S & Taxlot: 2s3e06 23E06C 06700
Plot Numbers: 1&2

Wetland ID: RC-109
Classification
Cowardin: PFO
HGM: Depressional
Wetland Size: 0.64 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	black cottonwood red alder	salmon berry red-twigged dogwood Sitka willow	piggy-back plant creeping buttercup skunk cabbage

Soils series: 13D, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is precipitation/sheet flow, with occasional overflow from adjacent creek.

Comments: Forested depressional wetland on bank adjacent to Rock Creek, well buffered from adjacent development with riparian vegetation.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-109	some species	NA	intact	intact	potential	high

Field Investigators: TLJ, RMM
Date: 4/9/2007
Watershed: Rock Creek
Location: Rock Creek Green
T.R.S.1/4S & Taxlot: 2s3e06 23E06C 06700
Plot Numbers: 1,2&3

Wetland ID: RC-110
Classification
Cowardin: PEM/PSS
HGM: Slope
Wetland Size: 2.47 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
		blackberry red-twiged dogwood Sitka willow	lawn creeping buttercup avens

Soils series: 13D, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is precipitation and sheet flow.

Comments: Grassy swale and adjacent slope within developed subdivision forming tributary headwaters. Functional assessment wetlands are connected by a drainage.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-110, 111 & creeks	some species	impacted	impacted	impacted	potential	moderate

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date: 4/4/2007
Watershed: Rock Creek
Location: 17580 SE Sunnyside RD
T.R.S.1/4S & Taxlot: 2s3e06 23E06DB01100, 23E06DB01200
Plot Numbers: 1&2

Wetland ID: RC-111
Classification
Cowardin: PEMd
HGM: Slope
Wetland Size: 0.63 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			tall fecue reed canarygrass

Soils series: 13C, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is groundwater, and springs.

Comments: Slope wetland at headwaters to tributary. Extensively ditched and altered to drain residential yards. Substantial hydrology. Wetland/ditch extends off-site.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
w/ RC-110						

Field Investigators: TLJ, RMM
Date: 4/12/2007
Watershed: Rock Creek
Location: 14400 SE 162nd AVE
T.R.S.1/4S & Taxlot: 2s3e06 23E06C 08001
Plot Numbers: 1&2

Wetland ID: RC-112
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 0.53 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
			tall fescue meadow foxtail

Soils series: 13C, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is groundwater and springs.

Comments: Small intermittent drainage and pond. No open water at time of site visit, but evidence of prior flooding.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-112 & pond	some species	NA	impacted	impacted	potential	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date: 4/3/2007
Watershed: Rock Creek
Location: 14491 SE 172nd AVE
T.R.S.1/4S & Taxlot: 2s3e06 23E06C 07500
Plot Numbers: 1&2

Wetland ID: RC-113
Classification
Cowardin: PFO
HGM: Slope
Wetland Size: 0.13 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	western red cedar red alder	vine maple ninebark	stinging nettle lady fern

Soils series: 13C, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is groundwater, with occasional flooding from creek.

Comments: Forested slope wetland on bank of creek. Wetland may continue off site. Additional similar wetlands seem likely downstream/off-site.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-113 & trib	diverse species	intact	impacted	intact	potential	high

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Field Investigators: TLJ, RMM
Date: 4/3/2007
Watershed: Rock Creek
Location: 14390 SE 172ND AVE
T.R.S.1/4S & Taxlot: 2s3e06 23E06D 00600
Plot Numbers: 1&2

Wetland ID: RC-114
Classification
Cowardin: PEMfd
HGM: Slope
Wetland Size: 1.07 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
			assorted weeds

Soils series: 13B, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is precipitation/sheet flow. Field likely tiled.

Comments: Severely altered agricultural field. Fingers of wetland evident, potentially from drain tile.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-114	some species	NA	impacted	impacted	potential	little

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date: 4/6/2007
Watershed: Rock Creek
Location: 14661 SE 172nd AVE
T.R.S.1/4S & Taxlot: 2s3e07 23E07B 00300
Plot Numbers: 1&2

Wetland ID: **RC-115**
Classification
Cowardin: PEM
HGM: Slope
Wetland Size: 1.56 ac
Significant: No

Dominant Veg:

Tree	Shrub	Herb
		meadow foxtail

Soils series: 13B, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is precipitation/sheet flow.

Comments: Wetland extends off-site to southeast, into pasture. Culvert exits pond to north off-site, potentially connecting to creek but not visible.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-115 & pond	some species	impacted	impacted	impacted	potentially	moderate

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/3/2007
Watershed: Rock Creek
Location: 17088 SE WOODED HEIGHTS DR
T.R.S.1/4S & Taxlot: 2s3e30 13E30C 00600
Plot Numbers: Off-site

Wetland ID: RC-506
Classification
Cowardin: PFO
HGM: Slope
Wetland Size: 1.83 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb
	red alder	blackberry	soft rush creeping buttercup

Soils series: 13C, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: primarily from precipitation and sheetflow

Comments:

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-506	some species	na	impacted	impacted	potentially	high

Field Investigators: MFR, SAR
Date: 4/5/2007
Watershed: Rock Creek
Location: E of SE 172nd Ave S of SE Troge Rd
T.R.S.1/4S & Taxlot: 1s3e31 13E31D 01501
Plot Numbers: Off-site

Wetland ID: RC-507
Classification
Cowardin: PEM-PSSf
HGM: Slope
Wetland Size: 1.35 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
		rose	soft rush

Soils series: 30C, Delena silt loam
Taxonomy: fine-silty, mixed Humic Fragiaquepts

Hydrology: primarily from precipitation and sheetflow

Comments:

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-507	some species	na	impacted	impacted	potentially	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: MFR, SAR
Date: 4/5/2007
Watershed: Rock Creek
Location: 12426 SE 172ND AVE
T.R.S.1/4S & Taxlot: 2s3e31 13E31D 01900
Plot Numbers: Off-site

Wetland ID: RC-508
Classification
Cowardin: PEMf
HGM: Slope
Wetland Size: 1.13 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
			soft-rush

Soils series: 30C, Delena silt loam
Taxonomy: fine-silty, mixed Humic Fragiaquepts

Hydrology: Likely a combination of precipitation and groundwater

Comments:

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-508	some species	na	impacted	impacted	potentially	moderate

Field Investigators: TLJ, RMM
Date:
Watershed: Rock Creek
Location: 12568 SE 162ND AVE
T.R.S.1/4S & Taxlot: 2s3e06 23E06BB00100
Plot Numbers: Off-site

Wetland ID: RC-509
Classification
Cowardin: PFOh
HGM: Depressional
Wetland Size: 0.65 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
	red alder	salmon berry red-twig dogwood	lady fern reed canarygrass american brooklime

Soils series: 70B, Powell silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept

Hydrology: Primary source is precipitation.

Comments: Wetland extends off-site.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
	some species	NA	impacted	intact	potentially	high

HAPPY VALLEY LOCAL WETLANDS INVENTORY

WETLAND SUMMARY SHEET

VIGIL AGRIMIS design professionals

Field Investigators: TLJ, RMM
Date:
Watershed: Rock Creek
Location: Intersection of SE 172nd Ave & SE Vogle Rd
T.R.S.1/4S & Taxlot: 2s3e06 23E06BA 01100, 23E06A 00301
Plot Numbers: Off-site 23E06B 00100, 23E06A 00300

Wetland ID: RC-510
Classification
Cowardin: PEMf
HGM: Slope
Wetland Size: 14.94 ac
Significant: Yes

Dominant Veg:	Tree	Shrub	Herb
		Nootka rose Sitka willow	soft rush meadow foxtail

Soils series: 30C, Delena silt loam
Taxonomy: fine-silty, mixed Humic Fragiaquepts

Hydrology: Primary source is precipitation and sheet flow.

Comments: Large wet meadow complex, connected under roads by culvert. Wetland may have greater extents than shown.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-510	some species	NA	impacted	impacted	potentially	moderate

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Field Investigators: TLJ, RMM
Date:
Watershed: Rock Creek
Location: 11282 SE 147TH AVE
T.R.S.1/4S & Taxlot: 2s3e36 12E36B 00100
Plot Numbers: Off-site

Wetland ID: RC-512
Classification
Cowardin: PEM-PSS
HGM: Slope
Wetland Size: 3.15 ac
Significant: No

Dominant Veg:	Tree	Shrub	Herb

Soils series: 13C, Cascade silt loam
Taxonomy: fine-silty, mixed, mesic Typic Fragiumberept

Hydrology: Primary source is precipitation and sheet flow.

Comments: Wetland appears to be headwaters to drainage. Site slopes away from road. Wetland may be larger than indicated, extending further downslope into trees.

OFWAM Summary:	Wildlife	Fish	Water Quality	Hydrologic	Sensitivity	Enhancement
RC-512	some species	NA	lost	impacted	potentially	moderate

APPENDIX B

Plot Data Sheets

Wetland Plot Data Sheet

Watershed:	Clackamas River	**Wetland ID**	CR-101
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Watson's willow-herb	**Date**	4/6/2007
Plot or Pit Location:	Corner of 162nd and Hwy. 224	**County**	Clackamas

Do normal conditions exist? **NO** **Explain:** Creek has been piped, field drain tiled. Creek is open at low point at corner

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 40%	50/20:	20%	/	8%
Epilobium watsonii [ciliatum]		**FACW-**	*	40%
Bare Ground		**-**		60%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 5%	50/20:	3%	/	1%
Rubus discolor		**FACU**	*	5%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 92F, Xerochrepts & Haploxerolls **Drainage Class:** C

Taxonomy: mesic Xerochrepts & Haploxerolls **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-8"		10 YR 3/2			silty clay	blocky	coarse
8-16"		10 YR 4/2	2.5 YR 4/8	many, dark	silty clay	blocky	coarse

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	Y	**Local Soil Survey Data**	N
		Drift lines	Y	**FAC-Neutral Test**	
		Sediment deposits	Y	**Other:**	
		Drainage patterns	Y		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Signs of ponding and drainage patterns
Highly disturbed corner of agricultural field is cleared with not much vegetation

Wetland Plot Data Sheet

Watershed:	Clackamas River	**Wetland ID**	CR-101
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:	Bluegrass and Himalayan blackberry	**Date**	4/6/2007
Plot or Pit Location:	North of Plot 1	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 50%	50/20:	25%	/	10%
Poa spp.		**FAC** est.	*	30%
Dactylis glomerata		**FACU**	*	20%
Holcus lanatus		**FAC**		TR
Epilobium watsonii [ciliatum]		**FACW-**		TR
Geranium molle		**UPL**		TR
Bare Ground				50%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%
Rubus discolor		**FACU**	*	5%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **3** = **33%**

Other Notable Species :

Soils:

Map Unit Name: 8B, Bornstedt silt loam **Drainage Class:** C

Taxonomy: Typic Haploxerult **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"		10 YR 4/3		few, faint	silty clay loam	crumbly	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Clackamas River	**Wetland ID**	CR-102
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	UP
Plant Community:	Bluegrass and reed canarygrass	**Date**	4/6/2007
Plot or Pit Location:	Just inside field, west of house	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 90%	50/20:	45%	/	18%
Poa species		**FAC** est.	*	50%
Phalaris arundinacea		**FACW**	*	30%
Geranium molle		**UPL**		5%
Lamium purpureum		**UPL**		5%
Trifolium repens		**FAC**		TR
Bare Ground				10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **2** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 8C, Bornstedt silt loam **Drainage Class:** C

Taxonomy: Typic Haploxerult **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"		10 YR 4/3		few, faint			

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: 0"	**Saturated in upper 12"** Y	**Water-stained leaves**	N
Depth to free water: >16"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **NO**

Comments: Saturation at surface but not deeper. Irrigation leak uphill with reed canarygrass and surface moisture but soils bright without mottling.

Wetland Plot Data Sheet

Watershed:	Clackamas River	**Wetland ID**	CR-102
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	WET
Plant Community:	Reed canarygrass	**Date**	4/6/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation:

Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Phalaris arundinacea		**FACW**	*	75%
Poa species		**-**		15%
Lamium purpureum		**UPL**		5%
Geranium molle		**UPL**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 8C, Bornstedt silt loam **Drainage Class:** C

Taxonomy: Typic Haploxerult **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-4"		2.5 YR 4/2	7.5 YR 4/6	many (almost 50%)	clay silt	crumbly/blocky	coarse
4-10"		2.5 YR 4/2	7.5 YR 4/6	few	clay silt	crumbly	coarse
Hard Clay Layer at 10"							

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>10"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N**	YES
Is the hydric soil criterion met?	**Y/N**	YES
Is the specific hydrology criterion met?	**Y/N**	YES
Is this plant community a wetland?	**Y/N**	**YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Kelley Creek	**Wetland ID**	KC-101
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	Red fescue, tall fescue	**Date**	4/3/2007
Plot or Pit Location:	near eastern fence line	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca rubra		**FAC+**	*	50%
Festuca arundinacea		**FAC-**	*	30%
Juncus effusus		**FACW**	*	20%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **3** = **67%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 3/1	5 YR 3/2	few, distinct	silty clay	crumbly	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	Y	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	10"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	12"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Kelley Creek	**Wetland ID**	KC-101
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	Pasture grass	**Date**	4/3/2007
Plot or Pit Location:	Southwest of Bearing tree	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca rubra		**FAC+**	*	50%
Festuca arundinacea		**FAC-**	*	25%
True Moss		**-**		20%
Trifolium spp.		**-**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **2** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 3/2			silty clay loam	crumbly	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments: Fescue is opportunistic and tollerates a wide range of conditions and so is not a strong indicator of wetland conditions.

Wetland Plot Data Sheet

Watershed:	Kelley Creek	**Wetland ID**	KC-102
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	UP
Plant Community:	Ash-Apple Forest	**Date**	4/11/2007
Plot or Pit Location:	Along Sager Road Property Line (mid way)	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 70%	50/20:	35%	/	14%
True Moss		-		70%
Bare Earth				30%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 80%	50/20:	40%	/	16%
Malus spp		-		60%
Fraxinus latifolia		**FACW**	*	20%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 60%	50/20:	30%	/	12%
Rubus discolor		**FACU**	*	60%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mesic Typic Fragiumberts **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-6"	A	7.5 YR 3/2			silty clay loam	blocky	fine
6-16"	A	10 YR 4/3	indistinct nodules		silty clay	blocky	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments: Some vegetation could not be identified

Wetland Plot Data Sheet

Watershed:	Kelley Creek	**Wetland ID**	KC-102
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	WET
Plant Community:	Ash Forest	**Date**	4/11/2007
Plot or Pit Location:	Along Sager Road Property Line (east)	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 50%	50/20:	25%	/	10%
Moss		-		30%
Tolmiea menziesii		**FAC**	*	15%
Geum macrophyllum		**FACW+**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Fraxinus latifolia		**FACW**	*	100%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 70%	50/20:	35%	/	14%
Spiraea douglasii		**FACW**	*	50%
Rubus discolor		**FACU**	*	20%
Rosa nutkana		**FAC**		Trace

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** = **75%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mesic Typic Fragiumberts **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-4"	A	7.5 YR 3/1			clay loam	crumbly	fine
4-16"	A	10 YR 5/1	Few indistinct nodules	10 YR 5/4	clay silt	blocky	fine
			Soft Iron Masses				

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	Depleted	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	1"	**Inundated**	Ponded	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	Y
Depth to free water:	0"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Kelley Creek	**Wetland ID**	KC-103
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	Pasture	**Date**	4/10/2007
Plot or Pit Location:	In swale near Sager Road Property Line	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 90%	50/20:	45%	/	18%
Lotus corniculatus		**FAC**	*	30%
Festuca arundinacea		**FAC-**	*	20%
Alopecurus pratensis		**FACW**	*	20%
Juncus effusus		**FACW**	*	20%
Open Water				10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **4** of **4** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 5/1	Pore linings		silty clay loam	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	Ponding	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	8"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Kelley Creek	**Wetland ID**	KC-103
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	Pasture	**Date**	4/10/2007
Plot or Pit Location:	Along Sager Road Property Line	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca rubra		**FAC+**	*	50%
Festuca arundinacea		**FAC-**	*	30%
Lupinus species		**FACU** est.	*	20%
Taraxacum officinale		**FACU**		trace

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 30%	50/20:	15%	/	6%
Planted Ornimentals		**-**	*	30%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 10%	50/20:	5%	/	2%
Rubus discolor		**FACU**	*	10%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **4** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 4/2	few indistinct concentrations		silty clay loam	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Mitchell Creek	**Wetland ID**	MC-101
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	UP
Plant Community:	Fir Indian plum forest	**Date**	4/10/2007
Plot or Pit Location:	northwest of plot 2	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum	**Ind. status**	**% Cover**
Total cover: 30% 50/20:	15% /	6%
True Moss	-	15%
Rosaceae spp.	-	10%
Carex deweyana	FACU	5%
Polystichum munitum	FACU	5%
Tolmiea menziesii	FAC	TR
Galium species	-	TR
Bare Earth		65%

Tree Stratum	**Ind. status**	**% Cover**
Total cover: 80% 50/20:	40% /	16%
Pseudotsuga menziesii	FACU *	60%
Acer macrophyllum	FACU *	20%

Sapling/ Shrub Stratum	**Ind. status**	**% Cover**
Total cover: 80% 50/20:	40% /	16%
Oemleria cerasiformis	FACU *	30%
Corylus cornuta	FACU *	20%
Acer circinatum	FAC- *	20%
Rubus discolor	FACU	10%
Gaultheria shallon	FACU	5%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **0** of **5** = **0%**

Other Notable Species :

Soils:

Map Unit Name: 13 E, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** NO

Depth	Horizon	Matrix Hue Color Chroma	Redox Conc.	Redox Desc.	Texture	Structure	Struct-Size
0-16"	A	7.5 YR 5/3			silty clay	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	> 16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	> 16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Mitchell Creek	**Wetland ID**	MC-101
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	WET
Plant Community:	Reed canarygrass	**Date**	4/10/2007
Plot or Pit Location:	Plume of deposited sediment up stream of pond on Mitchell Creek	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 40%	50/20:	20%	/	8%
Phalaris arundinacea		**FACW**	*	20%
Scirpus microcarpus		**OBL**		5%
Carex species		**-**		5%
Athyrium filix-femina		**FAC**		5%
Solanum dulcamara		**FAC+**		5%
Bare Earth				60%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 80%	50/20:	40%	/	16%
Thuja plicata		**FAC**	*	60%
Alnus rubra		**FAC**	*	20%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 40%	50/20:	20%	/	8%
Rubus discolor		**FACU**	*	40%
Salix species		**FAC**		TR

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** = **75%**

Other Notable Species :

Soils:

Map Unit Name: 13 E, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 5/4	few bright pore linings	10 YR 4/6	silty clay loam	crumbly	fine
		Depleted					

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	N	**Water-stained leaves**	Y
Depth to free water:	4"	**Water marks**	Y	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	Y	**Other:**	
		Drainage patterns	Y		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Mount Scott Creek	**Wetland ID**	MS-101
Field Investigator(s):	Tracy Johnson and Ryan Makie	**Plot No.**	1
		UP / WET	UP
Plant Community:	Lawn with landscape	**Date**	4/4/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 30%	50/20:	15%	/	6%
Unidentified mown grass		**-**		15%
Cardamine penduliflora		**OBL**	*	10%
Trifolium spp.		**-**		TR
Geranium molle		**UPL**		TR
Bare Ground				70%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 30%	50/20:	15%	/	6%
Abies grandis		**FACU-**	*	20%
Malus spp.		**-**		10%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"		10 YR 4/3			silty clay loam	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Mount Scott Creek	**Wetland ID**	MS-101
Field Investigator(s):	Tracy Johnson and Ryan Makie	**Plot No.**	2
		UP / WET	WET
Plant Community:	Lawn with landscape	**Date**	4/4/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Unidentified mown grass		**-**		70%
Festuca arundinacea		**FAC-**	*	20%
Rumex obtusifolius		**FAC**		5%
Taraxacum officinale		**FACU**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 10%	50/20:	5%	/	2%
Abies grandis		**FACU-**	*	10%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 0%	50/20:	0%	/	0%
Rosa nutkana		**FAC**		TR

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiochrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-4"		10 YR 3/2		faint concentrations	silty clay	crumbly	medium
4-10"		10 YR 3/1	7.5 YR 4/6	many, bright	silt	blocky	coarse
10-16"		10 YR 4/2	7.5 YR 4/6		silt	blocky	coarse

Hydric soil indicators:

Histosol	N	Reducing Conditions	Y	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	Y	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	6"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Gray silt layer starts at 10" - solid, somewhat impervious
Mown landscaped yard causes lack of vegetation

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-101
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	Reed Canarygrass pasture	**Date**	4/11/2007
Plot or Pit Location:	Stall Muck Pile along south Property Line	**County**	Clackamas

Do normal conditions exist? **No** **Explain:** Horse manure contributes to high organic content at surface

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Phalaris arundinacea		**FACW**	*	70%
Lamium purpureum		**UPL**	*	20%
Ranunculus sceleratus		**OBL**		10%
Galium species		**-**		10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-10"	A	10 YR 3/1			clay loam	crumbly	fine
10-16"	B	10 YR 6/1	10 YR 5/6	many, bright distinct	clay	blocky	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	Depleted	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	4"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	Y
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Vegetation is marginal but clover and dandelion form a distinct line between upland and wetland areas.

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-101
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	Mixed Pasture	**Date**	4/11/2007
Plot or Pit Location:	Near Stall and fire pit on North property line	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca rubra		**FAC+**	*	20%
Festuca arundinacea		**FAC-**	*	20%
Poa species		**FAC** est.	*	20%
Trifolium repens		**FAC**	*	20%
Taraxacum officinale		**FACU**		15%
Ranunculus sceleratus		**OBL**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** = **75%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-4"	A	10 YR 4/3			clay loam	crumbly	fine
4-10"	B	10 YR 4/4	10 YR 6/2 few		clay loam	blocky	medium
10-16"	B	10 YR 4/1			clay loam	blocky	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments: Clover and dandelinon form distinct line between upland and wetland hydrology.

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-101
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	3
		UP / WET	WET
Plant Community:	Reed Canarygrass	**Date**	4/11/2007
Plot or Pit Location:	Near gate along path	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Ranunculus sceleratus		**OBL**	*	50%
Lotus corniculatus		**FAC**	*	15%
Poa species		**-**		15%
Festuca arundinacea		**FAC-**		10%
Festuca rubra		**FAC+**		10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **2** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color**	**Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 3/1	5 YR 3/4	mottles & pore linings	7% bright distinct	clay loam	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** Ponding	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: 4" glistening	**Saturated in upper 12"** Y	**Water-stained leaves**	N
Depth to free water: 12"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-102
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	mown Reed canarygrass	**Date**	4/3/2007
Plot or Pit Location:	middle of back field along east property line	**County**	Clackamas

Do normal conditions exist? **No** **Explain:** Pond on drainage to the N is drained by pipe under the property to Rock Creek. Some seeping at pond edge.

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Phalaris arundinacea		**FACW**	*	90%
Taraxacum officinale		**FACU**		10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 3/2			silty clay w/ gravel	crumbly	fine/medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	N
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: >12"	**Saturated in upper 12"** N	**Water-stained leaves**	N
Depth to free water: >16"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments: Reed canarygrass is opportunistic and soils and hydrology are up

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-102
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	tall Reed canarygrass	**Date**	4/3/2007
Plot or Pit Location:	south east of pond in field	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Phalaris arundinacea		**FACW**	*	80%
Ranunculus repens		**FACW**		10%
Juncus effusus		**FACW**		10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 0%	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 0%	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 4/1	7.5 YR 4/6 concentrations and staining		silty clay	crumbly	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	10"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-103
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	Well grazed pasture	**Date**	4/5/2007
Plot or Pit Location:	North of small drainage to Rock Creek from west	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Unidentified grazed grass		-		80%
Lotus corniculatus		**FAC**	*	20%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: TR	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 30C, Delena silt loam **Drainage Class:** D

Taxonomy: fine-silty, mixed Humic Fragiaquepts **Is the soil on the hydric soils list? Y/N:** YES

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	7.5 YR 4/2	7.5 YR 3/4	many, bright, distinct	silty clay loam	crumbly	fine
		depleted matrix		concentrations and nodules			

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	Y
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	3"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: A majority of vegetation could not be identified due to grazing.

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-103
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	Well grazed pasture	**Date**	4/5/2007
Plot or Pit Location:	Northwest of plot 1	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Unidentified grazed grass		-		60%
Trifolium spp.		**FAC** est.	*	40%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 30C, Delena silt loam **Drainage Class:** D

Taxonomy: fine-silty, mixed Humic Fragiaquepts **Is the soil on the hydric soils list? Y/N:** YES

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	7.5 YR 3/2			silty clay loam	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments: A majority of the vegetation could not be identified.

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-104
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	Tall fescue and red fescue	**Date**	4/3/2007
Plot or Pit Location:	Southeast of Plot 2	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca arundinacea		**FAC-**	*	50%
Festuca rubra		**FAC+**	*	40%
				5%
				5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 30C, Delena silt loam **Drainage Class:** D

Taxonomy: fine-silty, mixed Humic Fragiaquepts **Is the soil on the hydric soils list? Y/N:** Yes

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 3/2			silty clay loam	crumbly	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-104
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	Soft rush	**Date**	4/3/2007
Plot or Pit Location:	On slope adjacent to reed canarygrass floodplain	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Juncus effusus		**FACW**	*	75%
Festuca arundinacea		**FAC-**		10%
Festuca rubra		**FAC+**		10%
Phalaris arundinacea		**FACW**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 30C, Delena silt loam **Drainage Class:** D

Taxonomy: fine-silty, mixed Humic Fragiaquepts **Is the soil on the hydric soils list? Y/N:** Yes

Depth	**Horizon**	**Matrix Hue Color Chroma**		**Redox Conc.**	**Redox Desc.**		**Texture**	**Structure**	**Struct-Size**
0-4"	A	10 YR 3/2		pore linings			silty clay loam	crumbly	medium
4-16"	A	10 YR 6/2	Depleted	concentrations	10 YR 4/6	many distinct	silty clay	crumbly	medium
				oxydized root channels & nodules					

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	Y
Depth to saturation: 14"	**Saturated in upper 12"** N	**Water-stained leaves**	N
Depth to free water: 16"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	Y
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-105
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	Pasture grass	**Date**	4/5/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:** 3/4 of wetland has been cleared for power lines or view (pond)

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Mown grass/ rush		-		40%
Juncus effusus		**FACW**	*	30%
Juncus patens		**FACW**	*	20%
Polystichum munitum		**FACU**		10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: TR	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 10%	50/20:	5%	/	2%
Rubus discolor		**FACU**	*	5%
Cornus stolonifera [[sericea]]		**FACW**	*	5%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** = **75%**

Other Notable Species :

Soils:

Map Unit Name: 13B, C and D, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mesic Typic Fragiumberts **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-6"	A	10 YR 5/3	7.5 YR 4/6	many, bright, distinct	silty clay	crumbly	fine
6-16"	A	10 YR 6/2		concentrations and nodules	silty clay	crumbly	fine
				w/ oxid. root channels			

Hydric soil indicators:

Histosol	N	Reducing Conditions	Y	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	Y	On Hydric Soils List (and soil profile matches)	NA
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	Y
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	10"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	Y		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-105
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	Mown Grass	**Date**	4/5/2007
Plot or Pit Location:	Southwest of plot 1	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**	**% Cover**
Total cover: 100%	50/20:	50% /	20%
Mown grass		-	100%

Tree Stratum		**Ind. status**	**% Cover**
Total cover:	50/20:	0% /	0%

Sapling/ Shrub Stratum		**Ind. status**	**% Cover**
Total cover:	50/20:	0% /	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **0** of **0** = **#DIV/0!**

Other Notable Species :

Soils:

Map Unit Name: 13B, C and D, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mesic Typic Fragiumberts **Is the soil on the hydric soils list? Y/N:** NO

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 4/3			silty clay loam	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N**
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N NO**

Comments: A majority of the vegetation could not be identified

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-106
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	1
		UP / WET	WET
Plant Community:	Meadow foxtail pasture	**Date**	4/5/2007
Plot or Pit Location:	east of plot 2	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Alopecurus pratensis		**FACW**	*	80%
Equisetum spp.		-		10%
Epiobium spp.		-		5%
Galium spp.		-		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: TR	50/20:	0%	/	0%
Alnus rubra		**FAC**		Trace

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 30C, Delena silt loam **Drainage Class:** D

Taxonomy: fine-silty, mixed Humic Fragiaquepts **Is the soil on the hydric soils list? Y/N:** Yes

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	7.5 YR 4/1	5 YR 4/6	many, large, distinct	silty clay	blocky	medium
		depleted w/ concentrations					

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	4"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	Y		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-106
Field Investigator(s):	Maureen Raad, Steve Roelof	**Plot No.**	2
		UP / WET	UP
Plant Community:	Pasture	**Date**	4/5/2007
Plot or Pit Location:	Near southern property line west of Rock Creek	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca spp.		**FAC** est.	*	95%
Taraxacum officinale		**FACU**		5%
Rumex crispus		**FAC+**		Trace
Dipsacus sylvestris [[fullosum ssp. sylves		**FAC**		Trace

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 30C, Delena silt loam **Drainage Class:** D

Taxonomy: fine-silty, mixed Humic Fragiaquepts **Is the soil on the hydric soils list? Y/N:** Yes

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-6"	A	10 YR 3/3			clay loam	crumbly	fine
6-16"	A	10 YR 5/4			clay loam	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>16"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments: Fescue is dominant grass but speices was not dertermined. Most are FACU except for red and tall. Both of these species are opportunistic and not reliable indicators of wetlands.

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-107
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Buttercup and red alder	**Date**	4/12/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Ranunculus repens		**FACW**	*	65%
Lawn grasses		**-**		20%
Carex deweyana		**FACU**		10%
Carex stipata		**OBL**		5%
Taraxacum officinale		**FACU**		TR
Geranium robertianum		**UPL**		TR

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 80%	50/20:	40%	/	16%
Alnus rubra		**FAC**	*	80%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 25%	50/20:	13%	/	5%
Rhododendron spp. (landscape)		**-**		20%
Oemleria cerasiformis		**FACU**	*	5%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **3** = **67%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-10"		10 YR 3/2			silty clay	crumbly	medium
10-17"		2.5 YR 3/1 with 5 Y 3/1 & 10YR 6/3	7.5 YR 3/3	concentrations, rusty root channels	silty clay	blocky	coarse

Hydric soil indicators:

Histosol	N	Reducing Conditions	Y	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	Y
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	10"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-107
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:	Douglas fir with blackberry, geranium and fringe cup	**Date**	4/12/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Geranium robertianum		**UPL**	*	35%
Tellima grandiflora		**UPL**	*	20%
Equisetum arvense		**FAC**		15%
Lamium purpureum		**UPL**		10%
Galium aparine		**FACU**		10%
Carex deweyana		**FACU**		10%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 75%	50/20:	38%	/	15%
Pseudotsuga menziesii		**FACU**	*	50%
Alnus rubra		**FAC**	*	15%
Acer macrophyllum		**FACU**		10%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 65%	50/20:	33%	/	13%
Rubus discolor		**FACU**	*	50%
Sambucus racemosa		**FACU**	*	15%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **6** = **17%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-8"		10 YR 3/3				crumbly	medium
8-14"		10 YR 4/4 with 7.5 YR 4/4				crumbly	medium

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>14"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>14"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-108
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Oregon ash and buttercup	**Date**	4/6/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Ranunculus sceleratus		**OBL**	*	65%
Glyceria spp.		**OBL** est.	*	30%
Veratrum californicum		**FACW+**		5%
Bare Ground		**-**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Fraxinus latifolia		**FACW**	*	100%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 0%	50/20:	0%	/	0%
Rubus discolor		**FACU**		TR

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **3** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-6"	A	10 YR 3/1	2.5 YR 2.5/4	root channels			
6-16"	A	10 YR 3/2	10 YR 3/6				

Hydric soil indicators:

Histosol	N	Reducing Conditions	Y	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	Y
Depth to saturation: 0"	**Saturated in upper 12"** Y	**Water-stained leaves**	N
Depth to free water: 8"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-108
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:		**Date**	4/4/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**	**% Cover**
Total cover: 100%	50/20:	50% /	20%
Pasture grass			85%
Lactuca spp.			10%
Trifolium spp.			5%

Tree Stratum		**Ind. status**	**% Cover**
Total cover:	50/20:	0% /	0%

Sapling/ Shrub Stratum		**Ind. status**	**% Cover**
Total cover:	50/20:	0% /	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **0** of **0** = **#DIV/0!**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-12"	A	7.5 YR 4/4			silty clay		
12-14"	A	10 YR 3/3					

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	6"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>14"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N**
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N NO**

Comments: Vegetation was not able to be identified

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-109
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Black cottonwood, red-osier dogwood, buttercup	**Date**	4/9/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca spp.		**FAC** est.	*	50%
Ranunculus repens		**FACW**	*	25%
Urtica dioica		**FAC+**		15%
Taraxacum officinale		**FACU**		5%
Poa spp.		**-**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 25%	50/20:	13%	/	5%
Populus trichocarpa [balsamifera]		**FAC**	*	15%
Alnus rubra		**FAC**	*	10%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 50%	50/20:	25%	/	10%
Cornus stolonifera [[sericea]]		**FACW**	*	35%
Rubus discolor		**FACU**	*	15%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **5** of **6** = **83%**

Other Notable Species :

Soils:

Map Unit Name: 13D, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-6"		10 YR 3/2			silty clay	blocky	medium
6-16"		10 YR 3/2	7.5 YR 2.5/3 10 YR 2/1	many	silt	crumbly	coarse
			7.5 YR 4/6				

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	10"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	Y		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-109
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:	Lawn grasses	**Date**	4/9/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca spp.		**FAC** est.	*	80%
Taraxacum officinale		**FACU**		15%
Phalaris arundinacea		**FACW**		5%
Ranunculus repens		**FACW**		TR

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 30%	50/20:	15%	/	6%
Fraxinus latifolia		**FACW**	*	15%
Thuja plicata		**FAC**	*	15%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 30%	50/20:	15%	/	6%
Rubus discolor		**FACU**	*	30%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** = **75%**

Other Notable Species :

Soils:

Map Unit Name: 13D, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-12"		10 YR 4/2			silty clay		

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	12"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>12"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments: Fescue is dominant grass but speices was not dertermined. Most are FACU except for red and tall. Both of these species are opportunistic and not reliable indicators of wetlands.

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-110
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Lawn grasses	**Date**	4/9/2007
Plot or Pit Location:	Top of bank, north side, middle drainage	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Lawn grasses		-		60%
Ranunculus repens		**FACW**	*	30%
Geum macrophyllum		**FACW+**		10%
Rumex obtusifolius		**FAC**		TR
Pteridium aquilinum		**FACU**		TR

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 80%	50/20:	40%	/	16%
Rubus discolor		**FACU**	*	35%
Cornus stolonifera [[sericea]]		**FACW**	*	30%
Salix sitchensis		**FACW**	*	15%
Corylus cornuta		**FACU**		TR

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** **75%**

Other Notable Species :

Soils:

Map Unit Name: 13D, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-14"		10 YR 3/2	10 YR 4/4	soft iron masses	silty clay loam	crumbly	coarse

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	10"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>14"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Only redoximorphic feature is soft iron masses

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-110
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	WET
Plant Community:	Pacific willow and reed canarygrass	**Date**	4/9/2007
Plot or Pit Location:	North of creek, west of hedge, east of Plot 1	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 65%	50/20:	33%	/	13%
Phalaris arundinacea		**FACW**	*	50%
Lotus corniculatus		**FAC**	*	15%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 30%	50/20:	15%	/	6%
Salix lasiandra [[lucida var. lasiandra]]		**FACW+**	*	20%
Rubus discolor		**FACU**	*	10%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** = **75%**

Other Notable Species :

Soils:

Map Unit Name: 70B, Powell silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiocherept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-8"		10 YR 3/2	5 YR 5/8	few	silty clay	crumbly	
8-16"		10 YR 4/1 & 10 YR 3/3	5 YR 5/8	soft iron masses	silty clay	blocky	
				many concentrations			

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	8"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Mixed brown and gray matrix in bottom

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-110
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	3
		UP / WET	UP
Plant Community:	Reed canarygrass, red fescue, orchard grass	**Date**	4/9/2007
Plot or Pit Location:	East of bridge in draw before creek forms	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Phalaris arundinacea		**FACW**	*	35%
Festuca arundinacea		**FAC-**	*	30%
Dactylis glomerata		**FACU**	*	25%
Taraxacum officinale		**FACU**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **3** = **33%**

Other Notable Species :

Soils:

Map Unit Name: 13D, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"		10 YR 3/3				crumbly	

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: 12"	**Saturated in upper 12"** at 12"	**Water-stained leaves**	N
Depth to free water: >16"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-111
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Tall fescue and reed canarygrass	**Date**	4/4/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **No** **Explain:** Ditches to drain

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca arundinacea		**FAC-**	*	50%
Phalaris arundinacea		**FACW**	*	25%
Juncus effusus		**FACW**		10%
Agrostis spp.		**-**		10%
Lotus corniculatus		**FAC**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-4"	A	10 YR 3/2	5 YR 4/6	few	silty clay		
4-16"	A	10 YR 4/2	7.5 YR 4/6	concentrations	silty clay	blocky	

Hydric soil indicators:

Histosol	N	Reducing Conditions	Y	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: 0"	**Saturated in upper 12"** Y	**Water-stained leaves**	N
Depth to free water: 3"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Pond with exiting drainage pipe appears connected to this wetland but homeowner disputes
Fescue is opportunistic and is therefore not a strong upland indicator

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-111
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:	Meadow foxtail and tall fescue	**Date**	4/4/2007
Plot or Pit Location:	SE of pond	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 70%	50/20:	35%	/	14%
Festuca arundinacea		**FAC-**	*	30%
Lotus corniculatus		**FAC**	*	15%
Rubus discolor		**FACU**		10%
Holcus lanatus		**FAC**		10%
Taraxacum officinale		**FACU**		5%
Bare Ground				30%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 50%	50/20:	25%	/	10%
Pseudotsuga menziesii		**FACU**	*	30%
Prunus avium		**UPL**	*	20%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 35%	50/20:	18%	/	7%
Corylus cornuta		**FACU**	*	35%
Rubus discolor		**FACU**		Trace

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **5** = **40%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-10"		10 YR 3/3				blocky	
10-16"		7.5 YR 4/4		few			

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	12"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-112
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Tall fescue and meadow foxtail	**Date**	4/9/2007
Plot or Pit Location:	North of creek, west of hedge	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca arundinacea		**FAC-**	*	80%
Alopecurus pratensis		**FACW**	*	20%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-3"		10 YR 4/2			silty clay	crumbly	medium
3-12"		2.5 YR 4/1 - 10 YR 4/3	7.5 YR 4/6	soft iron masses	silty clay	blocky	coarse
		50/50 mottles					

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>14"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Very tight silt at base; large chunky mottles; very squishy at surface. Fescue is opportunistic and is not a decisive indicator of upland conditions.

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-112
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:	Tall fescue and orchard grass	**Date**	4/9/2007
Plot or Pit Location:	Top of slope, south of barn	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Festuca arundinacea		**FAC-**	*	50%
Dactylis glomerata		**FACU**	*	20%
Agrostis spp.		**-**		15%
Dipsacus sylvestris [[fullosum ssp. sylvestris]]		**FAC**		10%
Vicia sativa		**UPL**		5%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **0** of **2** = **0%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-14"		10 YR 4/3	10 YR 4/2	few,faint	silty clay	crumbly	coarse

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	Y	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	10"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>14"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N**	NO
Is the hydric soil criterion met?	**Y/N**	NO
Is the specific hydrology criterion met?	**Y/N**	YES
Is this plant community a wetland?	**Y/N**	**NO**

Comments: Hydrology criterion met only because it was pouring rain at the time of the visit

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-113
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Cedar, vine maple. Lady fern, stinging nettle	**Date**	4/3/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 50%	50/20:	25%	/	10%
Urtica dioica		**FAC+**	*	30%
Athyrium filix-femina		**FAC**	*	15%
Dicentra formosa		**FACU**		5%
Leaf litter				50%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 50%	50/20:	25%	/	10%
Thuja plicata		**FAC**	*	50%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 30%	50/20:	15%	/	6%
Acer circinatum		**FAC-**	*	30%
Rubus discolor		**FACU**		Trace

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **3** of **4** = **75%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-4"	A	10 YR 3/2		some concentrations	silty clay	crumbly	
4-5"		7.5 YR 4/6 with 7.5 YR 4/3 (mixed matrix)		many	silty	crumbly	
5-8"		10 YR 3/1	cobble at 8"		silty	blocky	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	0"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	6"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	Y		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Very soft and squishy away from channel
Adjacent to creek and tributaries

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-113
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:		**Date**	4/3/2007
Plot or Pit Location:	West of creek and Plot 1	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 75%	50/20:	38%	/	15%
Dicentra formosa		**FACU**	*	35%
Galium aparine		**FACU**	*	15%
Urtica dioica		**FAC+**	*	15%
Tellima grandiflora		**UPL**		10%
Viola glabella		**FACW+**		Trace
Heuchera spp.		**-**		Trace
Leaf Litter				25%

Tree Stratum		**Ind. status**		**% Cover**
Total cover: 60%	50/20:	30%	/	12%
Thuja plicata		**FAC**	*	45%
Acer macrophyllum		**FACU**	*	15%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover: 40%	50/20:	20%	/	8%
Sambucus racemosa		**FACU**	*	30%
Corylus cornuta		**FACU**	*	10%
Rubus spp.		**-**		Trace

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **2** of **7** = **29%**

Other Notable Species :

Soils:

Map Unit Name: 13C, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-10"	A	10 YR 3/3			loam	crumbly	fine
>10" cobbles and rocks							

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	>10"	**Saturated in upper 12"**	N	**Water-stained leaves**	N
Depth to free water:	>10"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-114
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	WET
Plant Community:	Weeds	**Date**	4/3/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **No** **Explain:** Tilled field

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**	**% Cover**
Total cover: 35%	50/20:	18% /	7%
Unidentfied grass		**-**	20%
Lamium purpureum		**UPL**	5%
Matricaria matricarioides [[discoidea]]		**FACU**	5%
Capsella bursa-pastoris		**FACU**	Trace
Stellaria media		**FACU**	Trace
Bare Ground			65%

Tree Stratum		**Ind. status**	**% Cover**
Total cover:	50/20:	0% /	0%

Sapling/ Shrub Stratum		**Ind. status**	**% Cover**
Total cover:	50/20:	0% /	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **0** of **0** = **#DIV/0!**

Other Notable Species :

Soils:

Map Unit Name: 13B, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-12"	A	10 YR 3/2		large concentrations	silty clay	blocky	coarse
12-16"	A	10 YR 3/1	7.5 YR 4/6	many	silty clay	blocky	coarse
			& 7.5 YR 4/3				

Hydric soil indicators:

Histosol	N	Reducing Conditions	Y	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: 0"	**Saturated in upper 12"** Y	**Water-stained leaves**	N
Depth to free water: 8"	**Water marks** Y	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N**
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N YES**

Comments: Very stiff silt preventing drainage, almost like hardpan may be tiled field with some areas not working
Vegetation criterion not met because of recent tilling

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-114
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	UP
Plant Community:	Field weeds	**Date**	4/3/2007
Plot or Pit Location:		**County**	Clackamas

Do normal conditions exist? **No** **Explain:** Tilled field

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 75%	50/20:	38%	/	15%
Capsella bursa-pastoris		**FACU**	*	30%
Lamium purpureum		**UPL**	*	20%
Stellaria media		**FACU**	*	15%
Lamium amplexicaule		**UPL**		5%
Grass		**-**		5%
Bare Ground				25%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **0** of **3** = **0%**

Other Notable Species :

Soils:

Map Unit Name: 78B, Saum silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Xerumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	10 YR 3/3	7.5 YR 4/6	few	silty clay	blocky	

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: 0"	**Saturated in upper 12"** Y	**Water-stained leaves**	N
Depth to free water: >16"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-115
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	1
		UP / WET	UP
Plant Community:	Meadow foxtail and tall fescue	**Date**	4/6/2007
Plot or Pit Location:	SE of pond	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Alopecurus pratensis		**FACW**	*	50%
Festuca arundinacea		**FAC-**	*	50%

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **2** = **50%**

Other Notable Species :

Soils:

Map Unit Name: 13B, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-16"	A	7.5 YR 4/3			silty clay	crumbly	fine

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	N	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

		Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation:	0"	**Inundated**	N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation:	8"	**Saturated in upper 12"**	Y	**Water-stained leaves**	N
Depth to free water:	>16"	**Water marks**	N	**Local Soil Survey Data**	N
		Drift lines	N	**FAC-Neutral Test**	
		Sediment deposits	N	**Other:**	
		Drainage patterns	N		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** NO
Is the hydric soil criterion met?	**Y/N** NO
Is the specific hydrology criterion met?	**Y/N** NO
Is this plant community a wetland?	**Y/N** **NO**

Comments:

Wetland Plot Data Sheet

Watershed:	Rock Creek	**Wetland ID**	RC-115
Field Investigator(s):	Ryan Makie and Tracy Johnson	**Plot No.**	2
		UP / WET	WET
Plant Community:	Meadow foxtail and reed canarygrass	**Date**	4/6/2007
Plot or Pit Location:	SW of pond, closer to pond than Plot 1	**County**	Clackamas

Do normal conditions exist? **Explain:**

Is there noticable disturbance of this site's native vegetation, soils, and/or hydrology?

Vegetation: Dominant Plant Species

Herb Stratum		**Ind. status**		**% Cover**
Total cover: 100%	50/20:	50%	/	20%
Alopecurus pratensis		**FACW**	*	75%
Phalaris arundinacea		**FACW**		15%
Holcus lanatus		**FAC**		5%
Taraxacum officinale		**FACU**		TR

Tree Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

Sapling/ Shrub Stratum		**Ind. status**		**% Cover**
Total cover:	50/20:	0%	/	0%

*=dominant

Percent of dominant species that are OBL, FACW, and/or FAC : **1** of **1** = **100%**

Other Notable Species :

Soils:

Map Unit Name: 13B, Cascade silt loam **Drainage Class:** C

Taxonomy: fine-silty, mixed, mesic Typic Fragiumbrept **Is the soil on the hydric soils list? Y/N:** No

Depth	**Horizon**	**Matrix Hue Color Chroma**	**Redox Conc.**	**Redox Desc.**	**Texture**	**Structure**	**Struct-Size**
0-6"	A	10 YR 3/2					
6-16"	A	10 YR 3/1	7.5 YR 4/6 & 5 YR 3/4	redox. features	silty clay	blocky	coarse
			10 YR 5/1	concentrations			

Hydric soil indicators:

Histosol	N	Reducing Conditions	N	Organic streaking (in sandy soils)	NA
Hist. Epipedon	N	Redox. Features (w/in 10")	Y	Organic pan (in sandy soils)	NA
Sulfidic Odor	N	Concretions/Nodules (w/in 3"; >2mm)	N	On Hydric Soils List (and soil profile matches)	
Gleyed	N	High organic content in surface (in sandy soils)	NA	Other	

Hydrology:

Recorded Data Available? Y/N Aerial photos Strm. gauge Other:

Primary Hydrology Indicators		*Secondary Hydrology Indicators*	
Depth of inundation: 0"	**Inundated** N	**Oxidized Root Channels (upper 12")**	N
Depth to saturation: 6"	**Saturated in upper 12"** Y	**Water-stained leaves**	N
Depth to free water: >16"	**Water marks** N	**Local Soil Survey Data**	N
	Drift lines N	**FAC-Neutral Test**	
	Sediment deposits N	**Other:**	
	Drainage patterns Y		

Wetland Determination:

Is the hydrophytic vegetation criterion met?	**Y/N** YES
Is the hydric soil criterion met?	**Y/N** YES
Is the specific hydrology criterion met?	**Y/N** YES
Is this plant community a wetland?	**Y/N** **YES**

Comments: Pond with drainage pipe exiting
Appears connected to Potential wetland RC-111
Homeowner disputes

APPENDIX C

OFWAM
Characterizations and Functional Assessment

Watershed identification Happy Valley LWI

Wetland Characterization (Page 1 of 19)

Watershed setting

All questions pertaining to the watershed can be answered in the office from aerial photographs, U.S. Geological Service topographical maps, and other reference materials. (See Appendix A.)

Drainage basin

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

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

Watershed Notes

(1)

Clackamas River (CR)
Kelley Creek (KC)
Mitchell Creek (MC)
Mt. Scott Creek (MS)
Rock Creek (RC)

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

Topography

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

(2) (3)

CR: 1.2 mi² / 15%
KC: 0.5 mi² / 11%
MC: 0.7 mi² / 17%
MS: 1.4 mi² / 14%
RC: 4.0 mi² / 12%

Hydrologic profile

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

(4) (5)

CR: a / b
KC: a / b
MC: b / b
MS: a / b
RC: a / b

small ag. ponds are common on tribs and mainstems of smaller creeks.

Land uses within the watershed

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

(6)

CR: b.
KC: d
MC: b.
MS: a.
RC: b.

Watershed identification _____

Wetland Characterization (Page 2 of 19)

Watershed Notes

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

7. Consult the most recent State of Oregon Department of Environmental Quality 305(b) Report to determine whether any streams in the study area are listed as a *water quality limited.* (You may want to ask DEQ whether there are any proposed changes.) This information is included in Clean Water Act section 303(d) reporting.
   a. Streams or portions of streams within the study area are listed as *water quality limited.*
   b. No streams or portions of streams within the study area are listed as *water quality limited.*

(7) CR: b
KC: b
MC: b
MS: a e-coli
RC: a e-coli

8. Consult the most recent *Oregon Statewide Assessment of Nonpoint Sources of Water Pollution* to determine the water quality condition of stream reaches in the watershed upstream from the assessment area. (If both "b" and "c" apply, choose "c.")
   a. All upstream reaches are listed as *no problem* (or no data available).
   b. One or more upstream reaches are listed in *moderate* water quality condition.
   c. One or more upstream reaches are listed in *severe* water quality condition.

(8) CR: a
KC: a
MC: a
MS: a.
RC: a

Biological characteristics of the watershed

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

Type

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

(9) CR: a. c. d
KC: f.
MC: f.
MS: f.
RC: a. c. d.

Watershed identification _____

Wetland Characterization (Page 3 of 19)

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

	Species
a. Yes.	steelhead
b. No.	Sp. Chinook
c. Unknown.	coho

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

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

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

	Species
a. Yes.	Willamette valley Daisy, Howellia, Or sullivantia, WA rock larkspur, WT topped aster, Western Pond turtle, Yellow billed cuckoo
b. No.	
c. Unknown.	

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

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

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

Watershed Notes

(10) CR: a
KC: c
MC: c
MS: a
RC: a

(11) CR: b. d
KC: b. d
MC: b. d
MS: b. d
RC: b. d

(12) CR: a.
KC: a.
MC: a.
MS: a.
RC: a.

(13) CR: c.
KC: b.
MC: b.
MS: c.
RC: c.

Watershed identification _____

Wetland Characterization (Page 4 of 19)

Watershed Notes

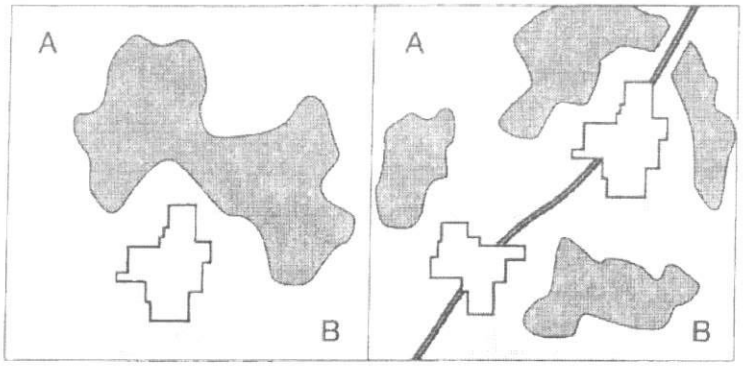

Figure 1. Watersheds as corridors for wildlife movement.
Areas A and B are the end points of a movement corridor through the watershed. Natural areas are shaded darkly, the irregular polygons represent highly developed areas, and the thick black line represents an impassable barrier such as an interstate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

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

(14)
CR: C.
KC: C.
MC: C.
MS: C.
RC: C.

"Urbanizing" agriculture predominates often transitioning to higher levels of development lower in the watersheds.

Watershed identification CLACKAMAS

Wetland Characterization (Page 5 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR101, 102 & 503	CR504	CR501

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

WH 8?

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

mostly OS

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

HC6

	Wetland 1	Wetland 2	Wetland 3
	2 & 4 more residential	2	4

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

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

	Wetland 1	Wetland 2	Wetland 3
	b combined	b	b

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

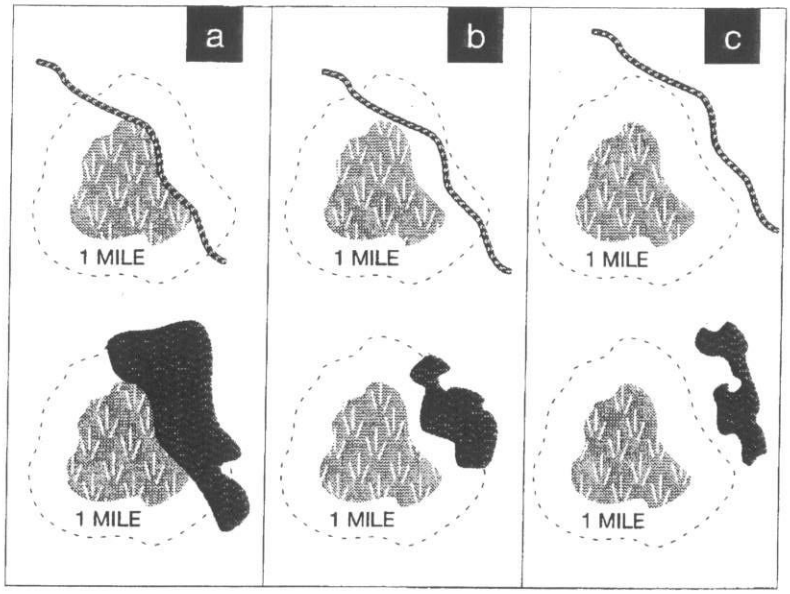

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

	Wetland 1	Wetland 2	Wetland 3
	CR101 102 503	CR504	CR501
18	a wetlands are connected by tile/ditch to Herbert Creek to DS Creek	a	b
19	b	a	b

Watershed identification _____

Wetland Characterization (Page 7 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR 101 102 503	CR 502	CR 501

20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?

    Use the following ranges for your answers:
    a. Less than 20%
    b. Between 20% and 50%
    c. Greater than 50%.

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

Wetland habitat

21. What percentage of the wetland's area is covered by the following Cowardin wetland classes? (Cowardin wetland classes refer to a classification of wetland type by vegetation cover. See Appendix D.) Only list those that compose 10% or more of the overall wetland.

    The percentages can be estimated in the field or from aerial photographs. Use the following categories for your answers:
    a. Between 70% and 100%.
    b. 50% or more, but less than 70%.
    c. 20% or more, but less than 50%.
    d. 10% or more, but less than 20%.

1. Open water (deep water habitat, greater than or equal to 6.6 feet or 2 meters).	None	d	ø
2. Emergent (includes floating aquatics—herbaceous plants that can tolerate flooding and living in wet soils).	b < 101 & 102	b	b
3. Scrub-shrub (woody vegetation under 20 feet tall).	d - 503	c	
4. Forested (woody vegetation 20 feet or taller).	d - 503	ø	c

22. For urban areas, how many wetland plant species are present? (You need not list the species name.)
    a. More than 5 plant species.
    b. Between 2 and 5 plant species.
    c. 1 plant species (monotypic).

mud a mostly weeds.	a	a

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
	CR 101 102 503	CR504	CR501

Wetland Characterization (Page 8 of 19)

✓23. What is the dominant wetland vegetation cover type?			
a. Woody vegetation (forested and scrub-shrub).			
b. Emergent vegetation and ponding, or open water only.	C	b	C
c. Emergent vegetation only or wet meadow.			
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.).			
Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland.			
a. High.			
b. Moderate.	C	C	b
c. Low.			

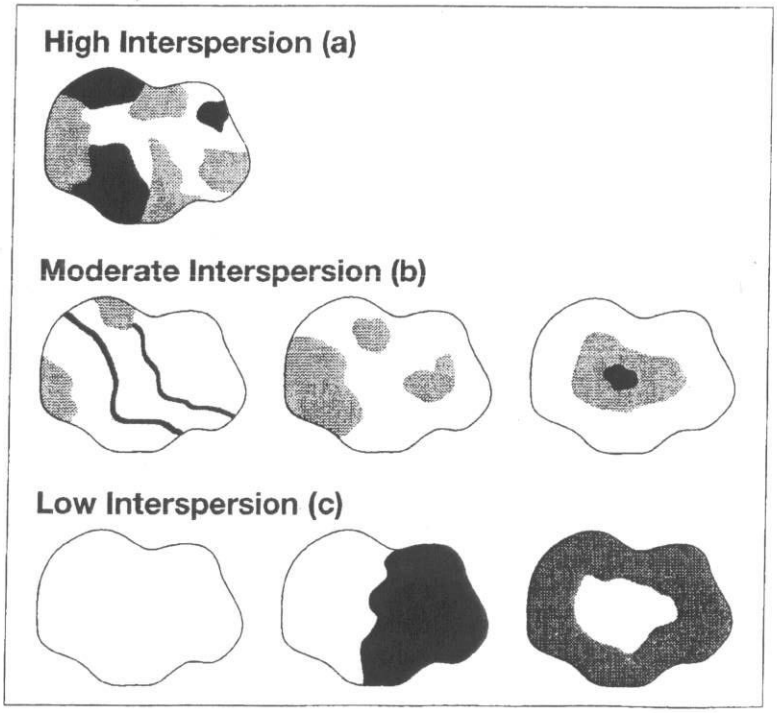

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3

Wetland Characterization (Page 9 of 19)

WH9

✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.)

a. Greater than 40%.
b. Between 10% and 40%.
c. Less than 10%.

C mostly ag — C

✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.)

a. Greater than 40%.
b. Between 10% and 40%.
c. Less than 10%.

D

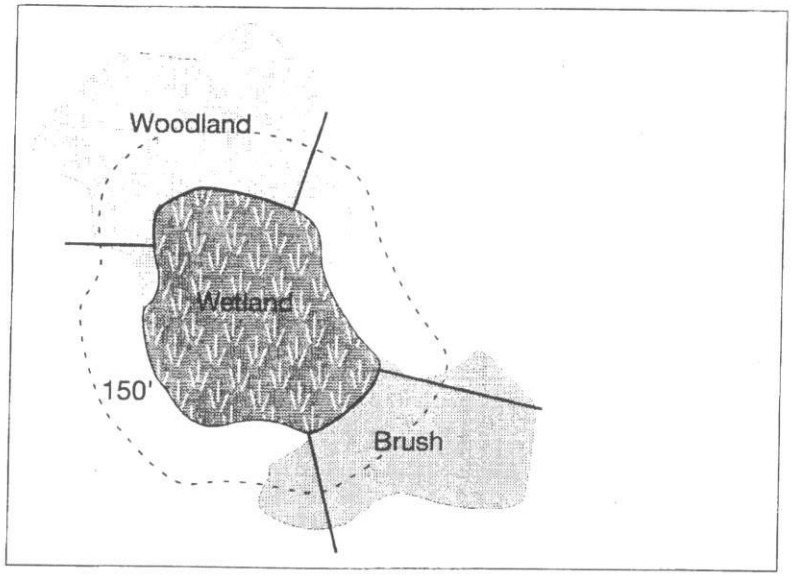

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR 101 102 503	CR504	
27.	a	a	b
28.	d	d	d
	∅		∅

27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)
    a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.
    b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.
    c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.

28. Estimate the area of unvegetated, open water within the wetland.
    a. More than 3 acres.
    b. Greater than 1 acre, up to 3 acres.
    c. Between 0.5 acre and 1 acre.
    d. Less than 0.5 acre.

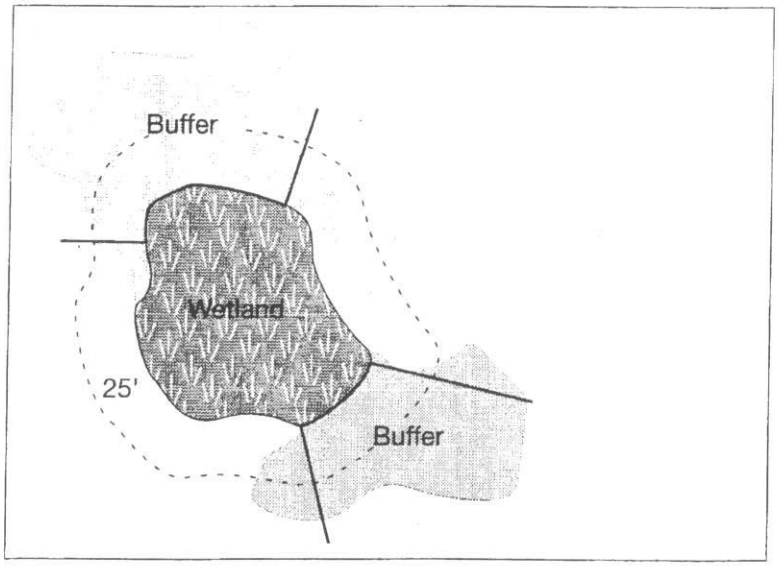

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR101 102 503	CR504	CR501

Fisheries habitat

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

FH6	a&b w Clack Mccarthy Init 9/15.	D	NA

Streams connected to the wetland

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

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

FH2	C	D	NA

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

FH1	d	C	NA

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

FH3	C	C	NA

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

	NA	NA	NA

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR101, 102 503	CR504	CR501
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	NA	NA	NA
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	NA	NA	NA

Wetland hydrology

WB1 36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	b w/some c	b	c
HC2 ✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	a culvert under Rd backs up.	a	c
HC4 ✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	b	b	c

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR-101, 102, 503	CR504	CR501

✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted?
   a. Flow is not restricted, or if blocked, the obstruction can be removed easily.
   b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution).
   c. Flow is restricted and cannot be restored.

	NA	NA	NA

40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe.
   a. Yes.
   b. No.

	a pipe	a	a dam/pond/pipe

Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*

41. Is the wetland site open to the public for direct access or observation?
   a. Yes, the wetland is open to the public.
   b. Yes, but wetland access is allowed only by permission of the landowner or managing entity.
   c. No, access is not allowed.

	c. active field	c	c

✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.)
   a. No.
   b. One or two visible safety hazards exist (describe).
   c. More than two visible safety hazards exist (describe).

	c beyond ag activity no buffer, no SW, a stream D/S	b	a

✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland?
   a. Yes. (List type and extent.)
   b. No.

	a stream D/S	a stream	a open water - forest/ag.

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR101 102 103	CR502	CR501
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	C	C	C
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b grade along no trail possible	b	a
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	C	C	C

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	C	C	C

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR101 102 503	CR504	CR501

✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland?
   a. Yes, developed or maintained trails or viewing areas exist.
   b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat.
   c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.

	C	C	C

49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water.
   a. Yes (either all or part of the year).
   b. No.
   c. Not applicable.

	on Clark DS?	b	NA

50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.)
   a. Yes (either all or part of the year).
   b. No.

	a?	?	b

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.)
   a. Significant contrast with surrounding landscape.
   b. Limited contrast with surrounding landscape.
   c. Little or no contrast with surrounding landscape.

	C	b	b

✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.)
   a. Open space or naturally landscaped areas.
   b. Areas landscaped or manipulated by people.
   c. Developed with no landscaping.

			b

✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland?
   a. Yes.
   b. No.

	a culverts/ tiles opened.	b	b

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR101 102 503	CR504	CR501

✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily?

a. Yes.

b. No.

	b	a	NA

Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).

✓55. What odors are present at the primary viewing location(s)?

a. Natural, pleasant odors only.

b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times.

c. Unpleasant odors are distinct and continuously present.

	a?	a b occasionally	a

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR101 102 S03	CR504	
✓56. What noises are audible at the primary viewing location(s)?	C	C	b
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.	b	mod a	c
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)	c	b	b

a. Bird and wildlife noises and other naturally occurring sounds.
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.

a. Greater than 50%.
b. Between 25% and 50%.
c. Less than 25%.

a. More than two.
b. Two
c. One

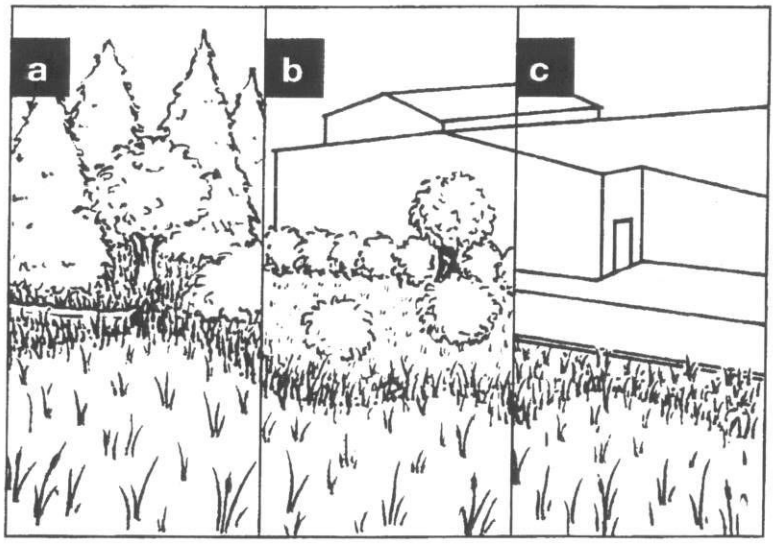

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

Watershed identification CLACKAMAS

Wetland Characterization (Page 5 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR 502		

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

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

✔16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15. 4

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

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

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR502		

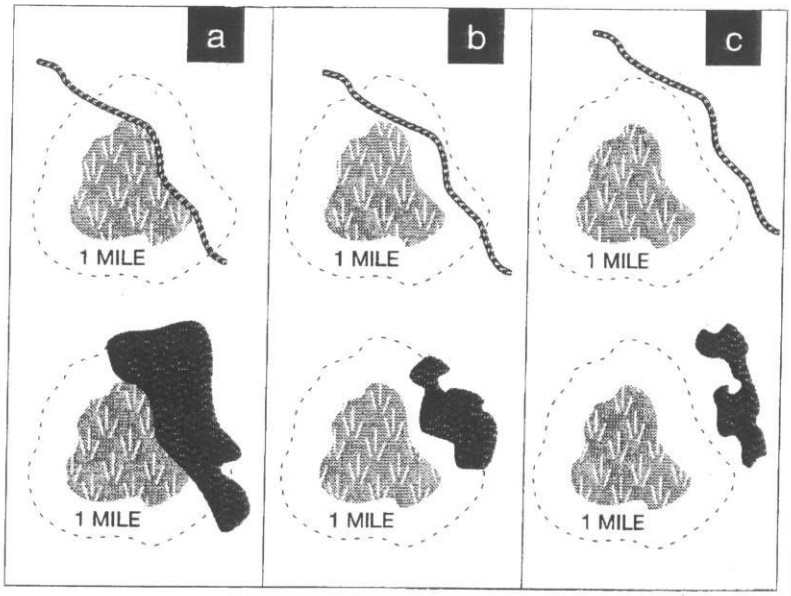

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

	b		

19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

	b		

Watershed identification _____

Wetland Characterization (Page 7 of 19)

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

Wetland habitat

✓21. What percentage of the wetland's area is covered by the following Cowardin wetland classes? (Cowardin wetland classes refer to a classification of wetland type by vegetation cover. See Appendix D.) Only list those that compose 10% or more of the overall wetland.			
The percentages can be estimated in the field or from aerial photographs. Use the following categories for your answers: a. Between 70% and 100%. b. 50% or more, but less than 70%. c. 20% or more, but less than 50%. d. 10% or more, but less than 20%.			
1. Open water (deep water habitat, greater than or equal to 6.6 feet or 2 meters).	∅		
2. Emergent (includes floating aquatics—herbaceous plants that can tolerate flooding and living in wet soils).	C		
3. Scrub-shrub (woody vegetation under 20 feet tall).	0–10		
4. Forested (woody vegetation 20 feet or taller).	b		
✓22. For urban areas, how many wetland plant species are present? (You need not list the species name.)			
a. More than 5 plant species. b. Between 2 and 5 plant species. c. 1 plant species (monotypic).	a		

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
	CR502		

Wetland Characterization (Page 8 of 19)

23. What is the dominant wetland vegetation cover type?
    a. Woody vegetation (forested and scrub-shrub).
    b. Emergent vegetation and ponding, or open water only.
    c. Emergent vegetation only or wet meadow.

	a		

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

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

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

	b		

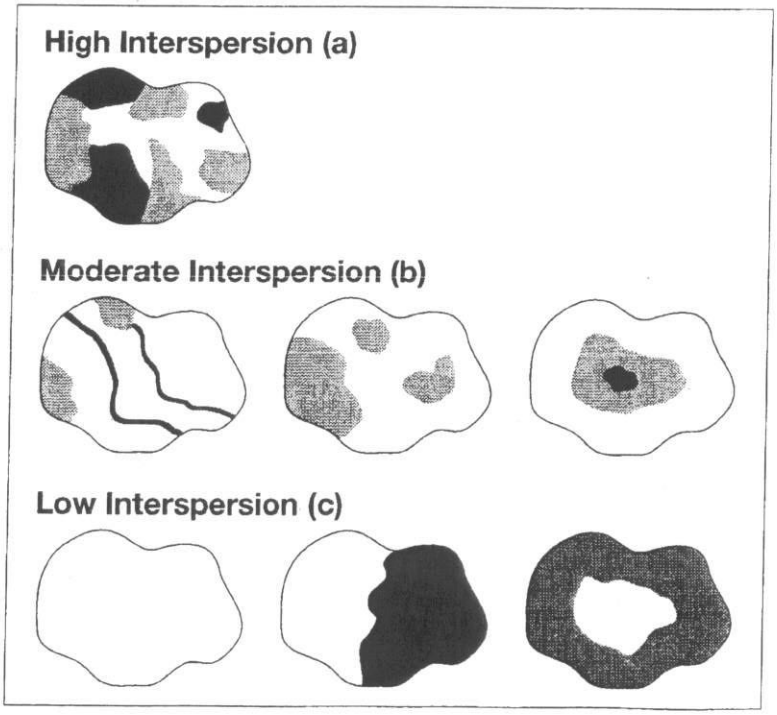

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	CR502		
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	b		

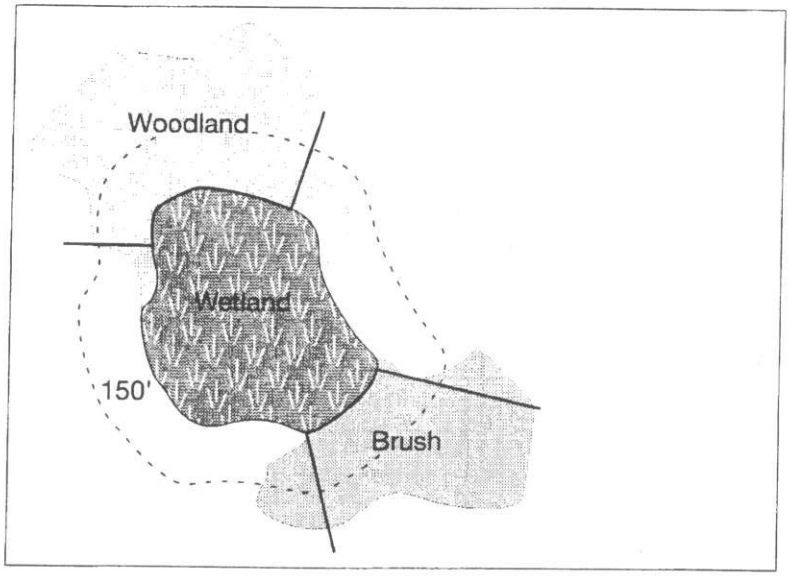

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR502		

27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)
    a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.
    b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.
    c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.

	b		

28. Estimate the area of unvegetated, open water within the wetland.
    a. More than 3 acres.
    b. Greater than 1 acre, up to 3 acres.
    c. Between 0.5 acre and 1 acre.
    d. Less than 0.5 acre.

	d		

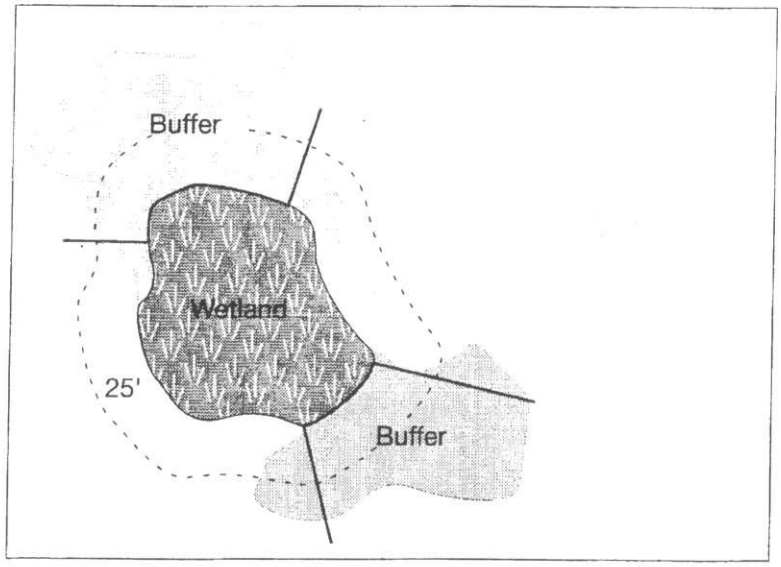

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
	CR502		

Wetland Characterization (Page 11 of 19)

Fisheries habitat

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

Streams connected to the wetland

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

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

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

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders? — NA
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.) — NA
    a. Yes.
    b. Cannot be determined.
    c. No.

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	CR502		
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	NA		
Wetland hydrology			
36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	NA		
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	b		
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	a shallow depression		
	a		

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR502		

39. If the primary source of water is surface flow, is the water flow into the wetland restricted?
    a. Flow is not restricted, or if blocked, the obstruction can be removed easily.
    b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution).
    c. Flow is restricted and cannot be restored.

	NA		

40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe.
    a. Yes.
    b. No.

	NA		

Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*

41. Is the wetland site open to the public for direct access or observation?
    a. Yes, the wetland is open to the public.
    b. Yes, but wetland access is allowed only by permission of the landowner or managing entity.
    c. No, access is not allowed.

	b view not access		

42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.)
    a. No.
    b. One or two visible safety hazards exist (describe).
    c. More than two visible safety hazards exist (describe).

	a		

43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland?
    a. Yes. (List type and extent.)
    b. No.

	a woods & OS beyond but may be under development		

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	C		
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b fences		
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	b road ROW dead ends into fence at edge of ROW		

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	NA C		

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland?			
a. Yes, developed or maintained trails or viewing areas exist.			
b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat.	C		
c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.			
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water.			
a. Yes (either all or part of the year).			
b. No.			
c. Not applicable.	C		
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.)			
a. Yes (either all or part of the year).			
b. No.	b		

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.)			
a. Significant contrast with surrounding landscape.			
b. Limited contrast with surrounding landscape.			
c. Little or no contrast with surrounding landscape.			
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.)			
a. Open space or naturally landscaped areas.			
b. Areas landscaped or manipulated by people.	b		
c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland?			
a. Yes.			
b. No.	b		

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR502		
54.	NA		
55.	N		

54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily?
    a. Yes.
    b. No.

Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).

55. What odors are present at the primary viewing location(s)?
    a. Natural, pleasant odors only.
    b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times.
    c. Unpleasant odors are distinct and continuously present.

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
	CR502		

✓56. What noises are audible at the primary viewing location(s)?

a. Bird and wildlife noises and other naturally occurring sounds.

b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.

c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.

d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.

	b		

✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.

a. Greater than 50%.

b. Between 25% and 50%.

c. Less than 25%.

	b		

✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)

a. More than two.

b. Two

c. One

	b		

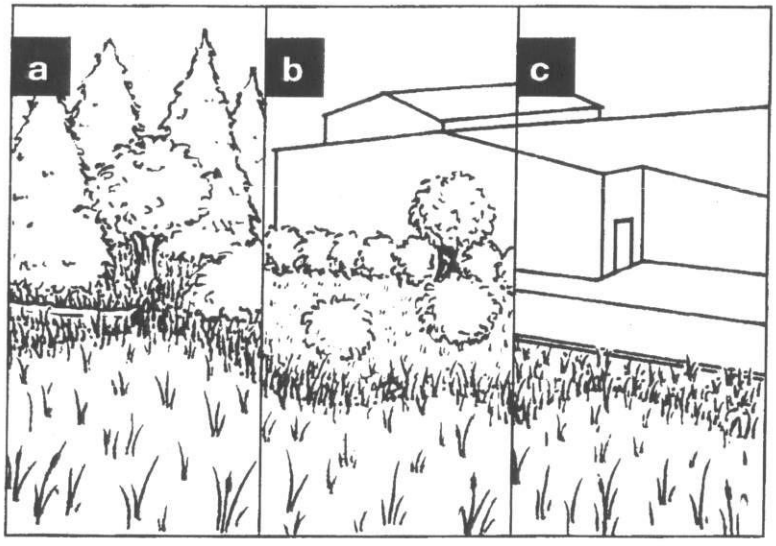

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MPR/SAR

Watershed identification Kelley Creek

KC-101 KC-102 KC-103 w/ RC-502-503

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

	~~Wetland 1~~	~~Wetland 2~~	Wetland 3
✓15. What percentage of the area within 500 feet of the wetland's edge is dedicated to the land uses listed below? (From overlay 2 or in the field.)			
It is best to determine the land uses from a recent aerial photo. If an aerial photo is not available, measure 500 feet in the field to get an idea of distance to evaluate. Use the following ranges for your answers for each land-use category:			
a. Less than 20%.			
b. Between 20% and 50%.			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).	a.	a	a
2. Agriculture (pasture, cropped lands, orchards, range land).	c.	b.	c.
3. Exclusive Forest Use lands.	a.	b	a
4. Developed uses (residential, commercial or industrial—rural and urban).	b.	a	a
5. Other (list).			
✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15.	rural (home + road)	rural (road)	rural (road)
17. What is the wetland's area in acres? (Measure the entire area of contiguous wetland, not just the portion within the assessment area. Use the dimensions of the wetland as outlined on the base map.)			
a. Greater than 5 acres.			
b. Between 0.5 acres and 5 acres.	c.	b.	a.
c. Less than 0.5 acres.			

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

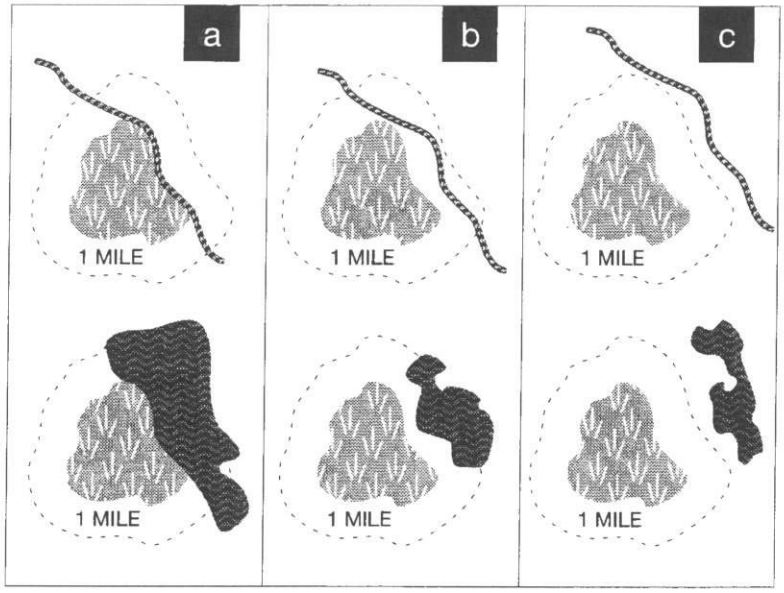

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

	Wetland 1	Wetland 2	Wetland 3
18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.) a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream. b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland. c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.	a	b. rock cr.	b. rock crk
19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet. a. Yes. b. No.	b.	b.	b.

Watershed identification _____

Wetland Characterization (Page 7 of 19)

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

Wetland habitat

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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
Wetland Characterization (Page 8 of 19)			
✓23. What is the dominant wetland vegetation cover type?			
a. Woody vegetation (forested and scrub-shrub).			
b. Emergent vegetation and ponding, or open water only.	c.	c.	c.
c. Emergent vegetation only or wet meadow.			
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.).			
Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland.			
a. High.			
b. Moderate.			
c. Low.	c.	c.	c.

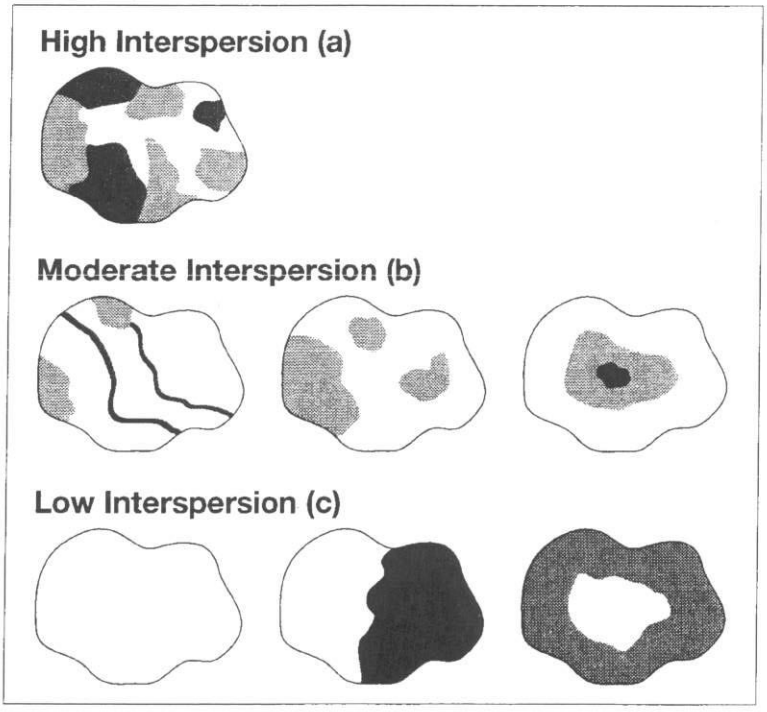

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	a	a.	a.
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			

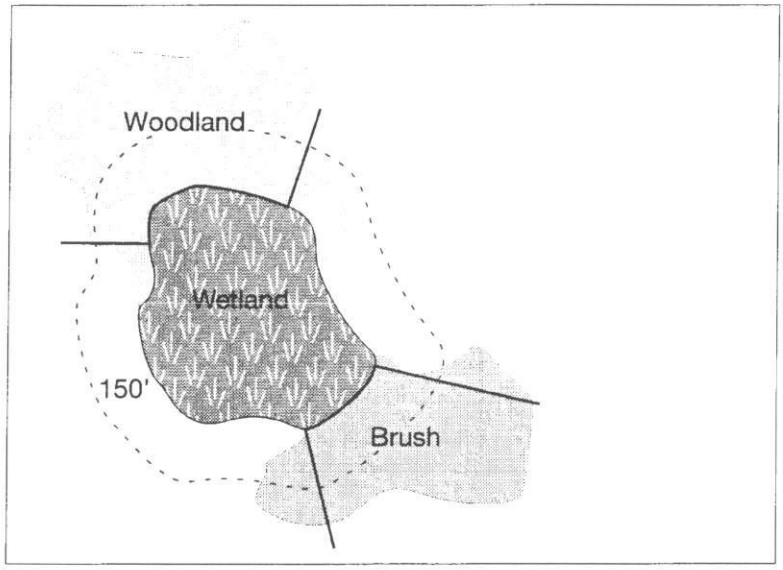

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.			
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.	b.	b.	b.
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.	d.	d.	d.

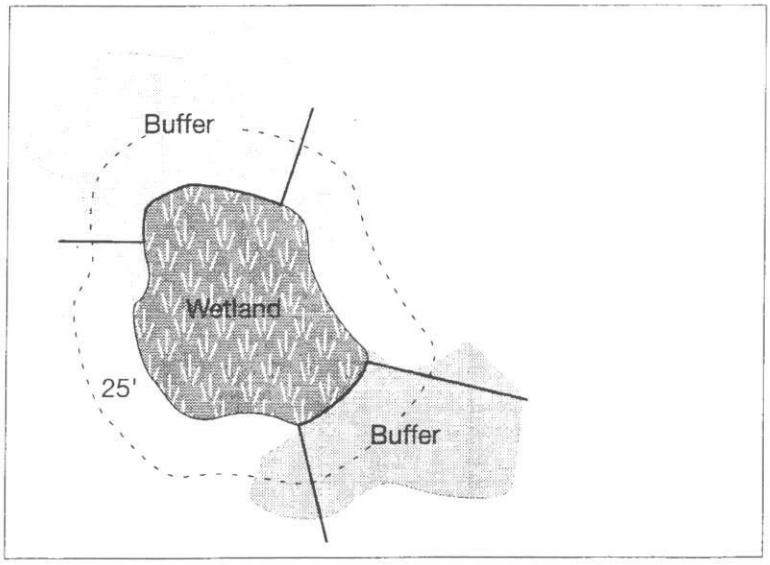

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
Wetland Characterization (Page 11 of 19)			
Fisheries habitat			
29. Are fish present in a stream, lake or pond connected to the wetland.			
a. Salmon, trout or sensitive species are present at some time during the year.			
b. Species not covered in "a" are present at some time during the year.	no connection		
c. No species are present at any time during the year.			
Streams connected to the wetland			
Complete this section only if the wetland being assessed has an unimpeded surface water connection to a stream.			
✓30. What is the physical character of the stream channel? To observe stream channel modifications, look for built rock banks, cement sides, straightened areas or other human-created features.			
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.	NA	NA	NA
b. Only portions of the stream are modified.			
c. The stream is extensively modified or confined in a non-vegetated channel or pipe.			
✓31. What percentage of the stream is shaded by streamside (riparian) vegetation?			
a. Greater than 75%.			
b. Between 50 and 75%.			
c. 25% or more, but less than 50%.			
d. Less than 25%.			
✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?			
a. Greater than 25%.			
b. Between 10% and 25%.			
c. Less than 10%.			
Lakes or ponds (entire lake or pond and wetland complex)			
Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.			
33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)			
a. Yes.			
b. Cannot be determined.	C.	NA	NA
c. No.			

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	c		
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	c.		

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	b.	b.	b.
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	b	a.	a.
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	c	c.	c.

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.	Na	Na	Na
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.	Na	Na	Na

Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*

41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.	c	c	c
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).	a	b (road w/ no sidewalks	b
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.	a. ag.	a. ag woods	a. ag.

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b.	b.	b.
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.) (no sidewalks)	b.	b.	b
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c.	c.	c.

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	Na	Na	Na

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c.	c.	c
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c.	c.	c.
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b.	b.	b.

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c.	c.	c
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.	b.	b.	a. overhead wires
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.			

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	Na	Na	b.
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	a

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?			
a. Bird and wildlife noises and other naturally occurring sounds.			
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.	b.	b.	b.
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.			
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.			
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.			
a. Greater than 50%.			
b. Between 25% and 50%.			
c. Less than 25%.	c.	c.	a.
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)			
a. More than two.			
b. Two			
c. One	c.	c.	c.

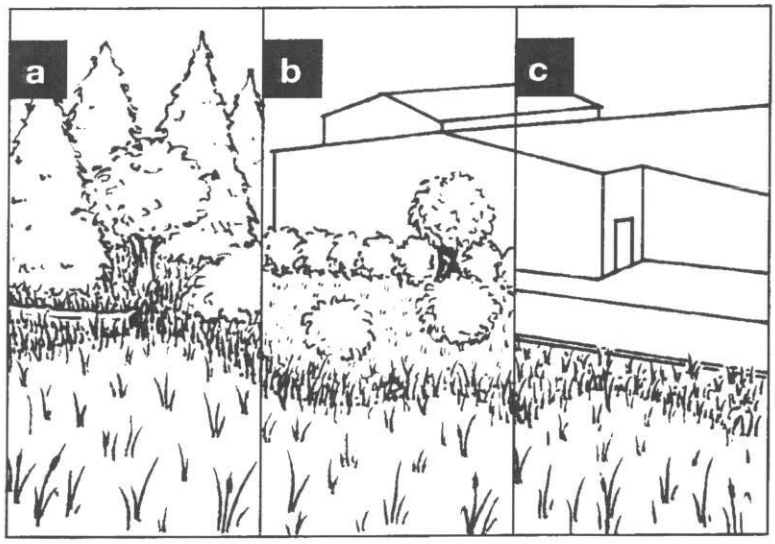

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MFR/SAR

Watershed identification Kelley Creek

	KC-507 Wetland 1	KC-510 Wetland 2	Wetland 3

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

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

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

	2. w/roads	2.	

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

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

	b.	b.	

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

	Wetland 1	Wetland 2	Wetland 3
18.	c.	b.	
19.	b.	b.	

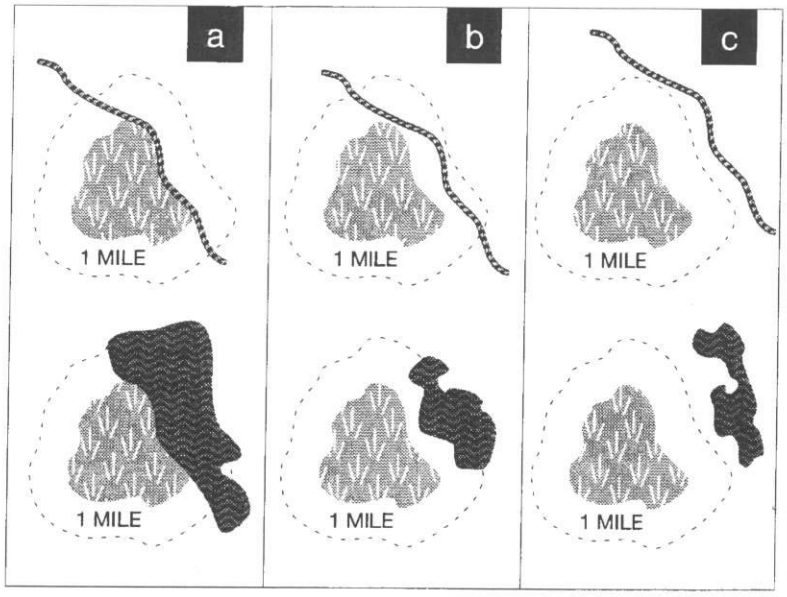

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

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

Watershed identification _____

Wetland Characterization (Page 7 of 19)

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

Wetland habitat

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

Watershed identification _____

Wetland Characterization (Page 8 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓23. What is the dominant wetland vegetation cover type?			
a. Woody vegetation (forested and scrub-shrub).			
b. Emergent vegetation and ponding, or open water only.			
c. Emergent vegetation only or wet meadow.	c.	c.	
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.). Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland.			
a. High.			
b. Moderate.	c.	c.	
c. Low.			

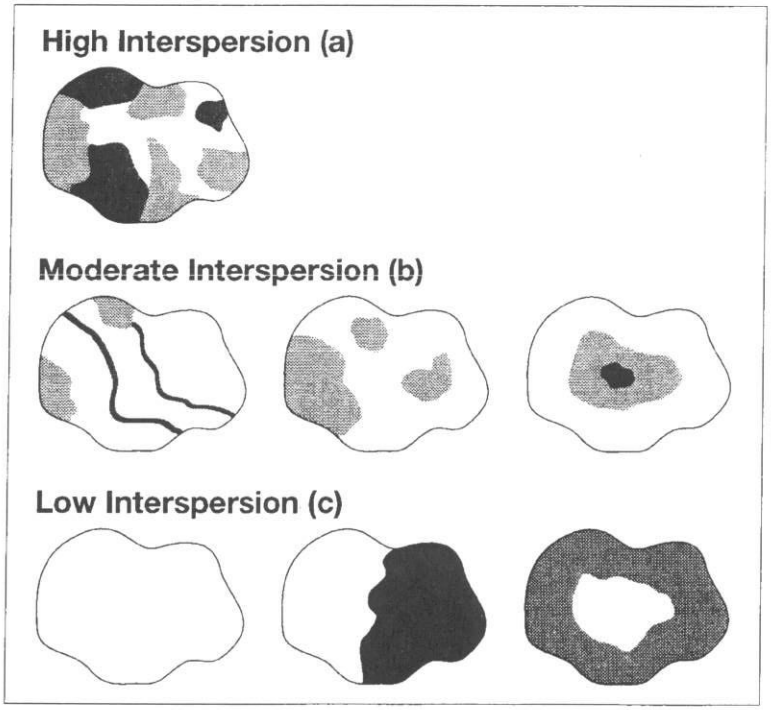

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	a	a	
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	na	na	

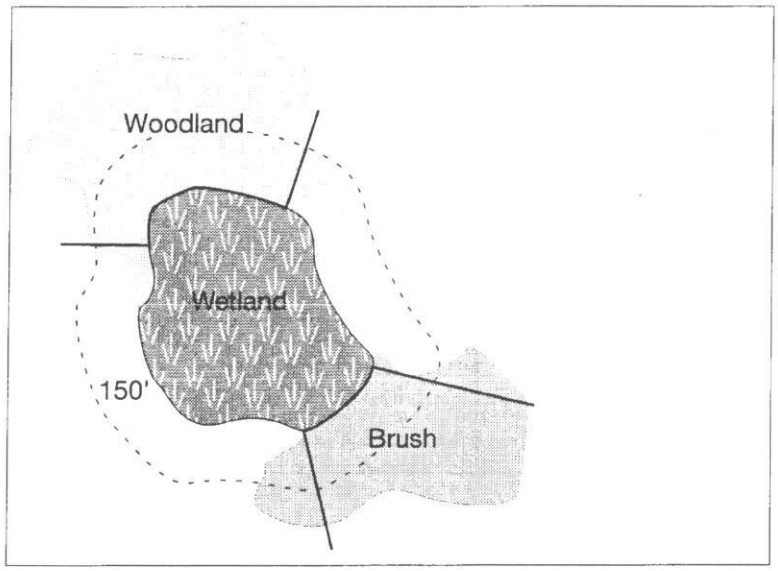

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.			
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.	b.	b.	
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.	d.	d.	
d. Less than 0.5 acre.			

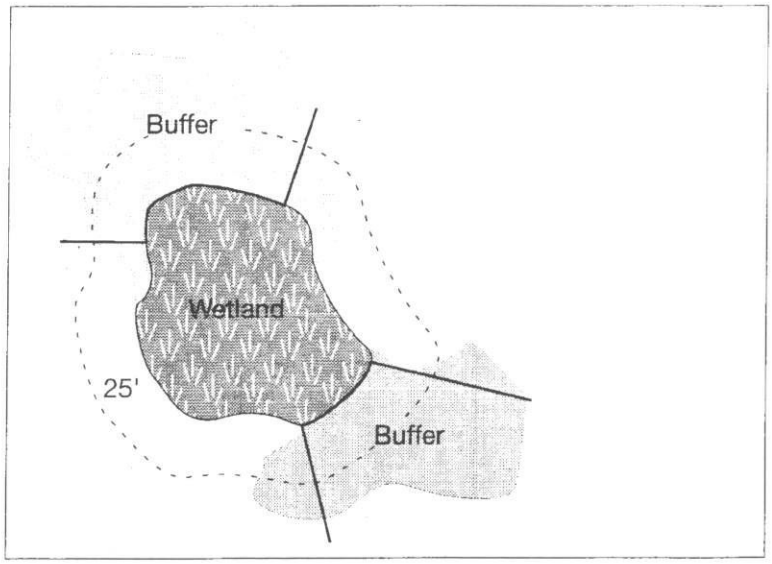

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

	Wetland 1	Wetland 2	Wetland 3
Fisheries habitat			
29. Are fish present in a stream, lake or pond connected to the wetland.			
a. Salmon, trout or sensitive species are present at some time during the year.	na	na	
b. Species not covered in "a" are present at some time during the year.			
c. No species are present at any time during the year.			
Streams connected to the wetland			
Complete this section only if the wetland being assessed has an unimpeded surface water connection to a stream.			
✓30. What is the physical character of the stream channel? To observe stream channel modifications, look for built rock banks, cement sides, straightened areas or other human-created features.	na	na	
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.			
b. Only portions of the stream are modified.			
c. The stream is extensively modified or confined in a non-vegetated channel or pipe.			
✓31. What percentage of the stream is shaded by streamside (riparian) vegetation?			
a. Greater than 75%.			
b. Between 50 and 75%.			
c. 25% or more, but less than 50%.			
d. Less than 25%.			
✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?			
a. Greater than 25%.			
b. Between 10% and 25%.			
c. Less than 10%.			
Lakes or ponds (entire lake or pond and wetland complex)			
Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.	na	na	
33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)			
a. Yes.			
b. Cannot be determined.			
c. No.			

2:30
2:45

Watershed identification _____

Wetland Characterization (Page 12 of 19)

✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
   a. 60% or more.
   b. 20% or more, but less than 60%.
   c. Less than 20%.

✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
   a. Greater than 25%
   b. Between 10 and 25%
   c. Less than 10%

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.)
   a. Surface flow, including streams and ditches.
   b. Precipitation or sheet flow.
   c. Groundwater, including springs or seeps.

✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses?
   a. Yes (describe).
   b. Unable to determine or not applicable.
   c. No.

✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)?
   a. Yes, the outlet is restricted or the wetland has no outlet.
   b. Minor restrictions slow down the water (e.g., undersized culvert).
   c. No, the outlet has unrestricted flow.

Wetland 1	Wetland 2	Wetland 3
b.	b.	
b	b.	
a.	a.	

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted?			
a. Flow is not restricted, or if blocked, the obstruction can be removed easily.	na	na	
b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution).			
c. Flow is restricted and cannot be restored.			
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe.			
a. Yes.			
b. No.			
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*			
41. Is the wetland site open to the public for direct access or observation?			
a. Yes, the wetland is open to the public.	c.	c.	
b. Yes, but wetland access is allowed only by permission of the landowner or managing entity.			
c. No, access is not allowed.			
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.)			
a. No.	b.	b.	
b. One or two visible safety hazards exist (describe).			
c. More than two visible safety hazards exist (describe).			
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland?			
a. Yes. (List type and extent.) ag land for both	a	a.	
b. No.			

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b.	b.	
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.) No sidewalks	b.	b	
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c.	c.	

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	na	na	

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c.	c.	
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c.	c.	
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b.	b.	

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c.	c.	
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	a. overhead lines	b.	

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	b	na	
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)? a. Bird and wildlife noises and other naturally occurring sounds. b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds. c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds. d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.	b.	b.	
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view. a. Greater than 50%. b. Between 25% and 50%. c. Less than 25%.	a.	b.	
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.) a. More than two. b. Two c. One	c.	c.	

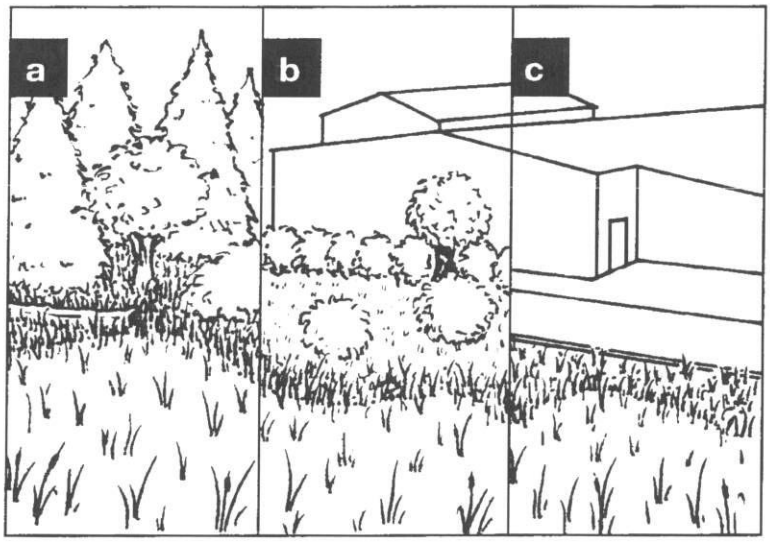

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MFR/SAR

Watershed identification Mitchell Creek

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

	Wetland 1 (MC-101 w/ Pond/Creek)	Wetland 2 (MC-501)	Wetland 3
1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).	a.	a.	
2. Agriculture (pasture, cropped lands, orchards, range land).	a.	c.	
3. Exclusive Forest Use lands.	a.	a.	
4. Developed uses (residential, commercial or industrial—rural and urban).	~~b~~ a.	a.	
5. Other (list). Rural residential	b.	b.	

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

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

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

	c.	b.	

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

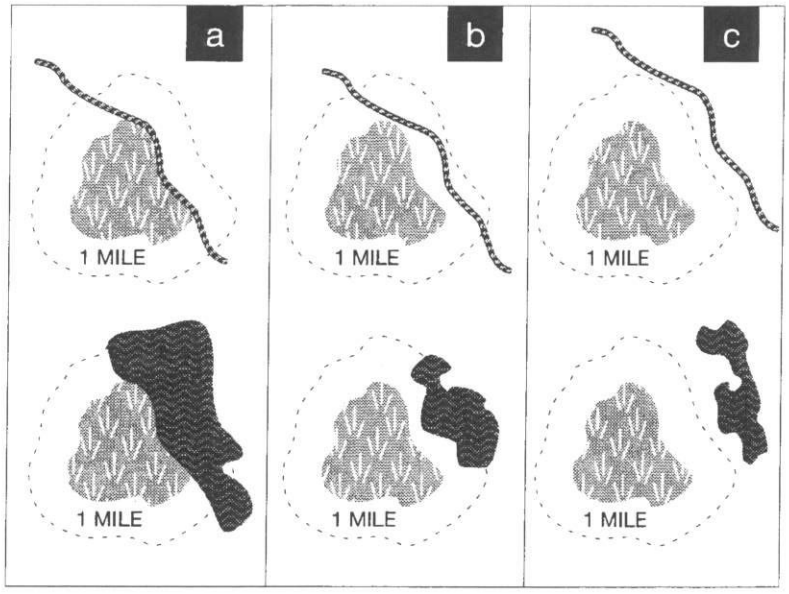

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

	Wetland 1	Wetland 2	Wetland 3
18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.) a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream. b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland. c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.	a	b.	
19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet. a. Yes. b. No.	FP not mapped but W is on creek.	b.	

Watershed identification _____

Wetland Characterization (Page 7 of 19)

20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?

    Use the following ranges for your answers:

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

	Wetland 1	Wetland 2	Wetland 3
1. Open Space (includes natural areas, parks and developed recreation areas, but not lands zoned for Exclusive Forest Use).	a	a	
2. Agriculture (pasture, cropped lands, orchards, range land).	a.	a.	
3. Exclusive Forest Use lands.	a.	a.	
4. Developed uses (residential, commercial, industrial).	a.	a.	
5. Other (list). Rural Residential	c.	c.	

Wetland habitat

✓21. What percentage of the wetland's area is covered by the following Cowardin wetland classes? (Cowardin wetland classes refer to a classification of wetland type by vegetation cover. See Appendix D.) Only list those that compose 10% or more of the overall wetland.

    The percentages can be estimated in the field or from aerial photographs. Use the following categories for your answers:

    a. Between 70% and 100%.
    b. 50% or more, but less than 70%.
    c. 20% or more, but less than 50%.
    d. 10% or more, but less than 20%.

1. Open water (deep water habitat, greater than or equal to 6.6 feet or 2 meters).	c.	∅	
2. Emergent (includes floating aquatics—herbaceous plants that can tolerate flooding and living in wet soils).	d.	b.	
3. Scrub-shrub (woody vegetation under 20 feet tall).	d.	c.	
4. Forested (woody vegetation 20 feet or taller).	∅	∅	

✓22. For urban areas, how many wetland plant species are present? (You need not list the species name.)

    a. More than 5 plant species.
    b. Between 2 and 5 plant species.
    c. 1 plant species (monotypic).

	na	na	

Watershed identification _____

Wetland Characterization (Page 8 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓23. What is the dominant wetland vegetation cover type? a. Woody vegetation (forested and scrub-shrub). b. Emergent vegetation and ponding, or open water only. c. Emergent vegetation only or wet meadow.	b.	c.	
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.). Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland. a. High. b. Moderate. c. Low.	b.	c.	

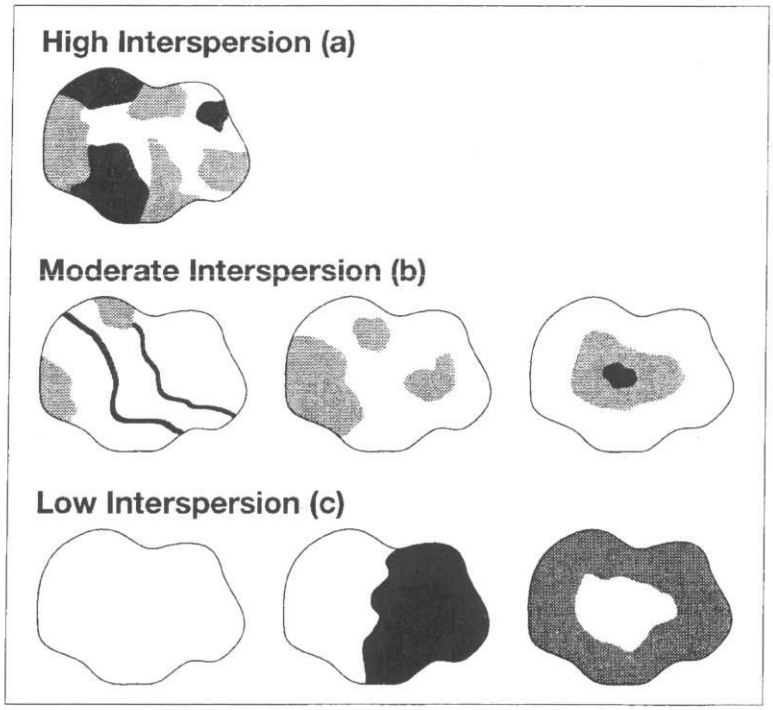

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.)			
a. Greater than 40%.	a.	a.	
b. Between 10% and 40%.			
c. Less than 10%.			
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.)			
a. Greater than 40%.	na	na	
b. Between 10% and 40%.			
c. Less than 10%.			

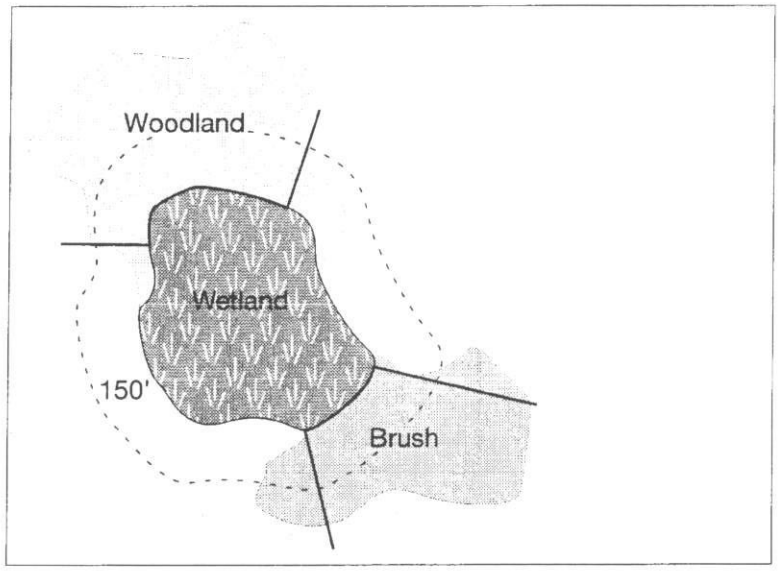

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.	a	b.	
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.			
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.	a	na	
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.			

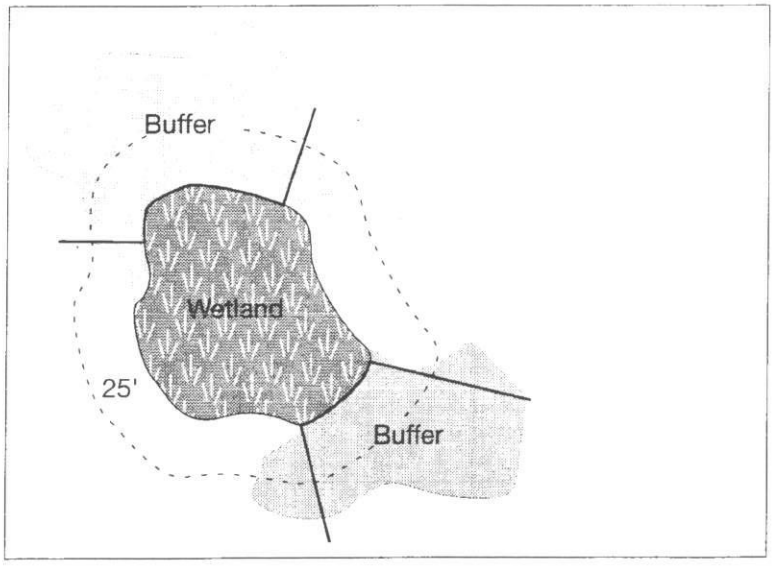

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

Fisheries habitat

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

Streams connected to the wetland

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

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

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

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

Wetland 1	Wetland 2	Wetland 3
	na	
b. fish are present per ODFW but no specific spp info available		
	na	
✓a. Some evidence of sedimentation perhaps due to upstream construction.		
a		
b.		
b.	na	

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?			
a. 60% or more.			
b. 20% or more, but less than 60%.	b		
c. Less than 20%.			
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?			
a. Greater than 25%			
b. Between 10 and 25%	c.		
c. Less than 10%			

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.)			
a. Surface flow, including streams and ditches.	a.	b.	
b. Precipitation or sheet flow.			
c. Groundwater, including springs or seeps.			
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses?			
a. Yes (describe).	a online pond	c.	
b. Unable to determine or not applicable.			
c. No.			
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)?			
a. Yes, the outlet is restricted or the wetland has no outlet.	a.	c.	
b. Minor restrictions slow down the water (e.g., undersized culvert).			
c. No, the outlet has unrestricted flow.			

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.	a.	na	
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.	b. near head of drainage		

Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*

41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.	c.	c.	
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).	a	a	
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.	a pond stream	b.	

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b.	b.	
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b.	b.	
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	no access to either wetland from road w/out trail blazing.		
	c.	c.	

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	Na	Na	

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c.	c.	
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c.	c.	
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	~~b~~ b.	b.	

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	a.	c.	
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	b.	b.	

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	NA	NA	
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a.	a.	

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?	a	b.	
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.	b.	c.	
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)	b.	c.	

a. Bird and wildlife noises and other naturally occurring sounds.
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.

a. Greater than 50%.
b. Between 25% and 50%.
c. Less than 25%.

a. More than two.
b. Two
c. One

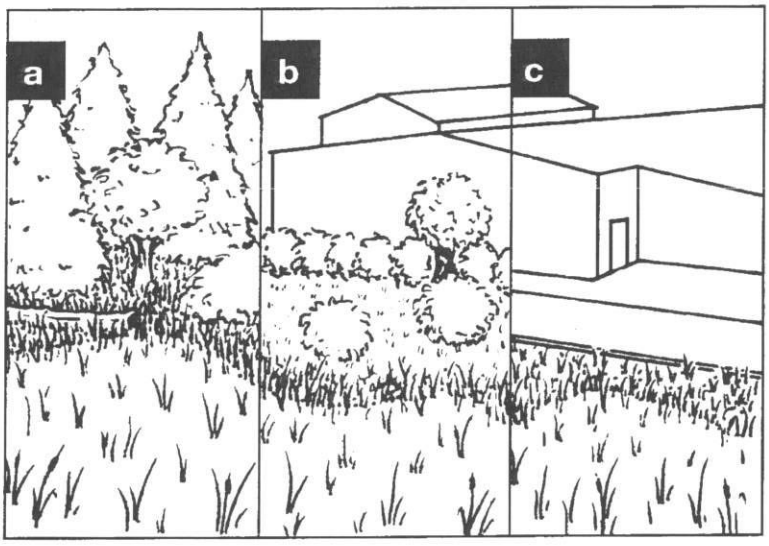

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

Watershed identification MT SCOTT

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

	Wetland 1	Wetland 2	Wetland 3
	MS101	MS504 SO5	MS507
✓15. What percentage of the area within 500 feet of the wetland's edge is dedicated to the land uses listed below? (From overlay 2 or in the field.)			
It is best to determine the land uses from a recent aerial photo. If an aerial photo is not available, measure 500 feet in the field to get an idea of distance to evaluate. Use the following ranges for your answers for each land-use category:			
a. Less than 20%.			
b. Between 20% and 50%.			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).	a	a	a
2. Agriculture (pasture, cropped lands, orchards, range land).	∅		
3. Exclusive Forest Use lands.	∅		
4. Developed uses (residential, commercial or industrial—rural and urban).	c	c	c
5. Other (list).	∅		
✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15.	4	1	4
17. What is the wetland's area in acres? (Measure the entire area of contiguous wetland, not just the portion within the assessment area. Use the dimensions of the wetland as outlined on the base map.)			
a. Greater than 5 acres.			
b. Between 0.5 acres and 5 acres.	b	a	a
c. Less than 0.5 acres.			

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS 101	MS 504 505	MS 507

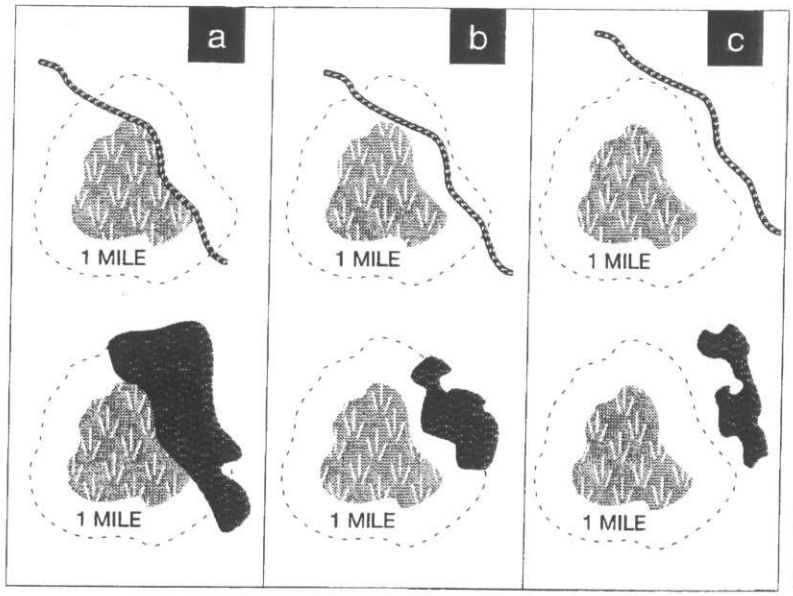

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

	a	a	a

19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

	a	a	a

Watershed identification _____

Wetland Characterization (Page 7 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS101	MS504 505	MS507
20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?			
Use the following ranges for your answers: a. Less than 20% b. Between 20% and 50% c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not lands zoned for Exclusive Forest Use).	b	b	b
2. Agriculture (pasture, cropped lands, orchards, range land).			
3. Exclusive Forest Use lands.			
4. Developed uses (residential, commercial, industrial).	c	c	c
5. Other (list).			

Wetland habitat

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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
	MS 101	MS 504 505	MS 507

Wetland Characterization (Page 8 of 19)

✓23. What is the dominant wetland vegetation cover type?

a. Woody vegetation (forested and scrub-shrub).
b. Emergent vegetation and ponding, or open water only.
c. Emergent vegetation only or wet meadow.

23	c	a	a

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

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

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

24	b	b	b

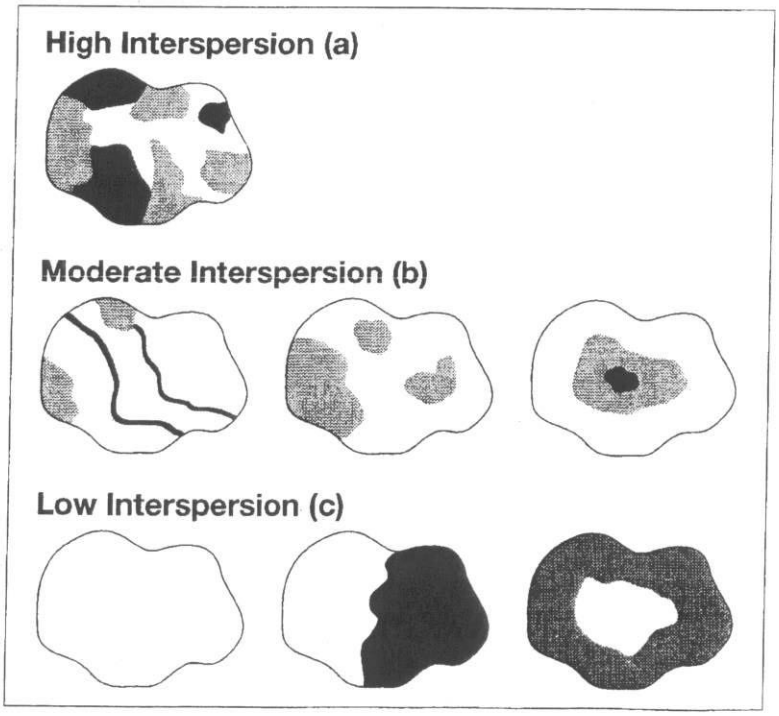

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS101	MS504 505	MS507
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.)			
a. Greater than 40%.			
b. Between 10% and 40%.			
c. Less than 10%.			
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.)			
a. Greater than 40%.			
b. Between 10% and 40%.	b	b	b
c. Less than 10%.			

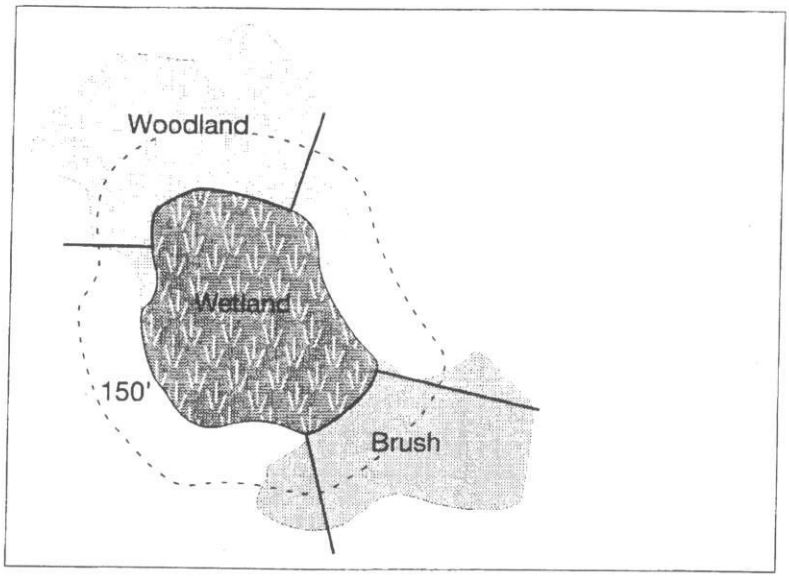

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS101	MS504 505	MS507
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.	a	a	a
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.			
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.	d	d	d

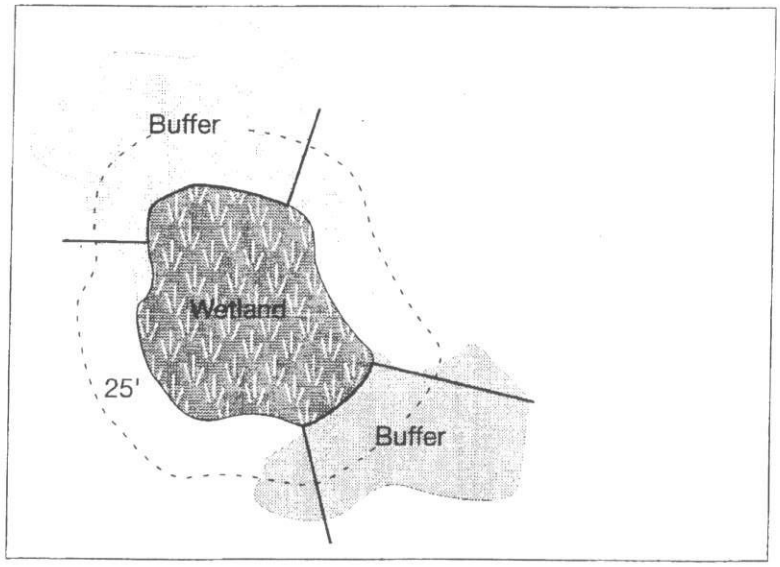

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS101	MS504 505	MS507
29. Are fish present in a stream, lake or pond connected to the wetland.			
a. Salmon, trout or sensitive species are present at some time during the year.			
b. Species not covered in "a" are present at some time during the year.	b visible	c unknown	c unknown
c. No species are present at any time during the year.			
Streams connected to the wetland Complete this section only if the wetland being assessed has an unimpeded surface water connection to a stream.			
✓30. What is the physical character of the stream channel? To observe stream channel modifications, look for built rock banks, cement sides, straightened areas or other human-created features.			
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.	a	a	a
b. Only portions of the stream are modified.			
c. The stream is extensively modified or confined in a non-vegetated channel or pipe.			
✓31. What percentage of the stream is shaded by streamside (riparian) vegetation?			
a. Greater than 75%.			
b. Between 50 and 75%.	b	b	b
c. 25% or more, but less than 50%.			
d. Less than 25%.			
✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?			
a. Greater than 25%.			
b. Between 10% and 25%.	c	b	b
c. Less than 10%.			
Lakes or ponds (entire lake or pond and wetland complex) Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.			
33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)			
a. Yes.			
b. Cannot be determined.	NA	NA	NA
c. No.			

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS 101	MS 504 505	MS 507
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	NA	NA	NA
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	NA	NA	NA

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	c	c	c
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	a flood plain drift lines	b	a
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	b	b	b

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS 101	MS 504 505	MS 501

✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted?

a. Flow is not restricted, or if blocked, the obstruction can be removed easily.

b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution).

c. Flow is restricted and cannot be restored.

	NA	NA	NA

40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe.

a. Yes.

b. No.

	b	b	b

Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*

41. Is the wetland site open to the public for direct access or observation?

a. Yes, the wetland is open to the public.

b. Yes, but wetland access is allowed only by permission of the landowner or managing entity.

c. No, access is not allowed.

	a public OS with development →	a	a

✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.)

a. No.

b. One or two visible safety hazards exist (describe).

c. More than two visible safety hazards exist (describe).

	a busy rd w/ SW	a	a

✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland?

a. Yes. (List type and extent.)

b. No.

	a stream	a stream	a stream

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS101	MS504 505	MS507
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b	a/b adjacent Park w/ trail	b
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	a	a	a
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	b preserved open space	a public park	b
Recreation			
✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	c	c	c

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS 101	MS 504 505	MS 507

✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland?

a. Yes, developed or maintained trails or viewing areas exist.
b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat.
c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.

48	b	a	b

49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water.

a. Yes (either all or part of the year).
b. No.
c. Not applicable.

49	a probably?	a	a

50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.)

a. Yes (either all or part of the year).
b. No.

50	b probably not!	b	b

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.)

a. Significant contrast with surrounding landscape.
b. Limited contrast with surrounding landscape.
c. Little or no contrast with surrounding landscape.

51	b	a & b	b

✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.)

a. Open space or naturally landscaped areas.
b. Areas landscaped or manipulated by people.
c. Developed with no landscaping.

52	b	b	b

✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland?

a. Yes.
b. No.

53	b	b	b

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS101	MS504 505	MS507
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	NA	NA	NA
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a traffic not exhaust not noted	a →	a

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
	MS 101	MS 504 505	MS 507
✓56. What noises are audible at the primary viewing location(s)?	b	b	b
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.	b	a	a
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)	b	a	b

a. Bird and wildlife noises and other naturally occurring sounds.

b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.

c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.

d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.

a. Greater than 50%.

b. Between 25% and 50%.

c. Less than 25%.

a. More than two.

b. Two

c. One

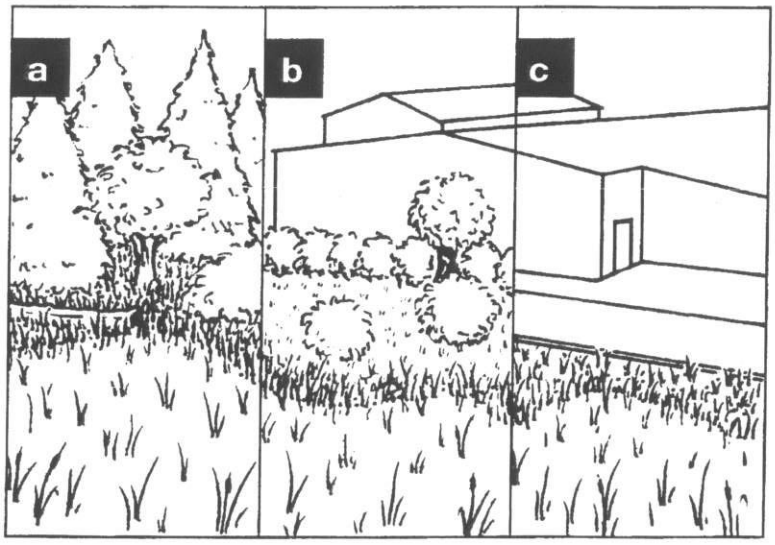

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MFR/SAR

Watershed identification Rock Creek

	RC-101-501 KC-501-506 Wetland 1	RC-102, 504, 505 POND Wetland 2	RC-103-104 POND STREAM Wetland 3
Wetland Characterization (Page 5 of 19)			
Individual wetland sites			
Fill out this part of the characterization for each wetland in the assessment area. Some of the information can be gathered in the office; some must be gathered at the site. You may want to do a rough sketch of the site (doesn't have to be to scale) to refer to back in the office.			
Wetland structure and relation to surrounding landscape			
✓15. What percentage of the area within 500 feet of the wetland's edge is dedicated to the land uses listed below? (From overlay 2 or in the field.)			
It is best to determine the land uses from a recent aerial photo. If an aerial photo is not available, measure 500 feet in the field to get an idea of distance to evaluate. Use the following ranges for your answers for each land-use category:			
a. Less than 20%.			
b. Between 20% and 50%.			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).	a.	a.	a
2. Agriculture (pasture, cropped lands, orchards, range land).	c.	c.	c.
3. Exclusive Forest Use lands.	a.	a.	a
4. Developed uses (residential, commercial or industrial—rural and urban).	a.	a.	a
5. Other (list). (Rural Residential)	a.	a	b.
✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15.	2.	2.	2.
17. What is the wetland's area in acres? (Measure the entire area of contiguous wetland, not just the portion within the assessment area. Use the dimensions of the wetland as outlined on the base map.)			
a. Greater than 5 acres.	a.	b.	c.
b. Between 0.5 acres and 5 acres.			
c. Less than 0.5 acres.			

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

	Wetland 1	Wetland 2	Wetland 3

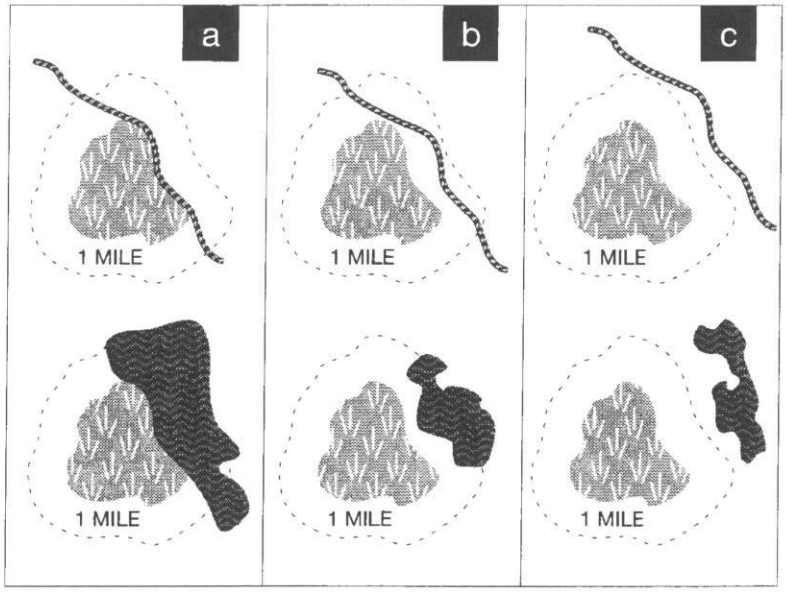

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

	b.	b.	b.

19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

	b.	b.	b.

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
Wetland Characterization (Page 7 of 19)			
20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?			
Use the following ranges for your answers:			
a. Less than 20%			
b. Between 20% and 50%			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not lands zoned for Exclusive Forest Use).	a	a	a
2. Agriculture (pasture, cropped lands, orchards, range land).	a	a	a
3. Exclusive Forest Use lands.	a	a	a
4. Developed uses (residential, commercial, industrial).	a	a	a
5. Other (list). (Rural Residential)	c.	c.	c.
Wetland habitat			
✓21. What percentage of the wetland's area is covered by the following Cowardin wetland classes? (Cowardin wetland classes refer to a classification of wetland type by vegetation cover. See Appendix D.) Only list those that compose 10% or more of the overall wetland.	Wetlands key characterized are a mosaic of pond/stream/wetland that are owner party hydrologically connected.		
The percentages can be estimated in the field or from aerial photographs. Use the following categories for your answers:			
a. Between 70% and 100%.			
b. 50% or more, but less than 70%.			
c. 20% or more, but less than 50%.			
d. 10% or more, but less than 20%.			
1. Open water (deep water habitat, greater than or equal to 6.6 feet or 2 meters).	Ø	d.	d
2. Emergent (includes floating aquatics—herbaceous plants that can tolerate flooding and living in wet soils).	a.	b.	b.
3. Scrub-shrub (woody vegetation under 20 feet tall).	Ø	Ø	Ø
4. Forested (woody vegetation 20 feet or taller).	Ø	Ø	Ø
✓22. For urban areas, how many wetland plant species are present? (You need not list the species name.)			
a. More than 5 plant species.			
b. Between 2 and 5 plant species.			
c. 1 plant species (monotypic).			

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3

Wetland Characterization (Page 8 of 19)

✓23. What is the dominant wetland vegetation cover type?

a. Woody vegetation (forested and scrub-shrub).
b. Emergent vegetation and ponding, or open water only.
c. Emergent vegetation only or wet meadow.

b	b	b

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

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

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

c.	b.	b.

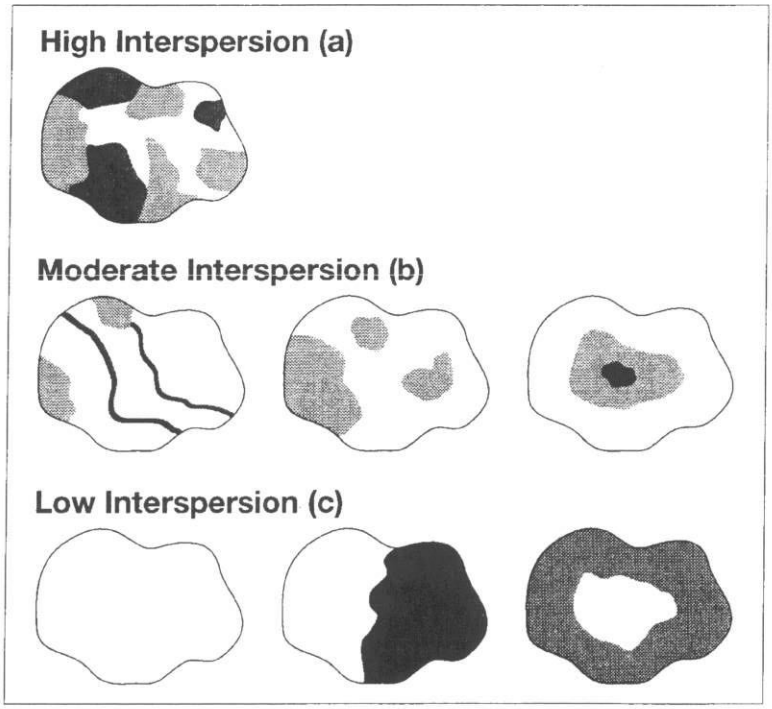

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	a.	a.	a
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			

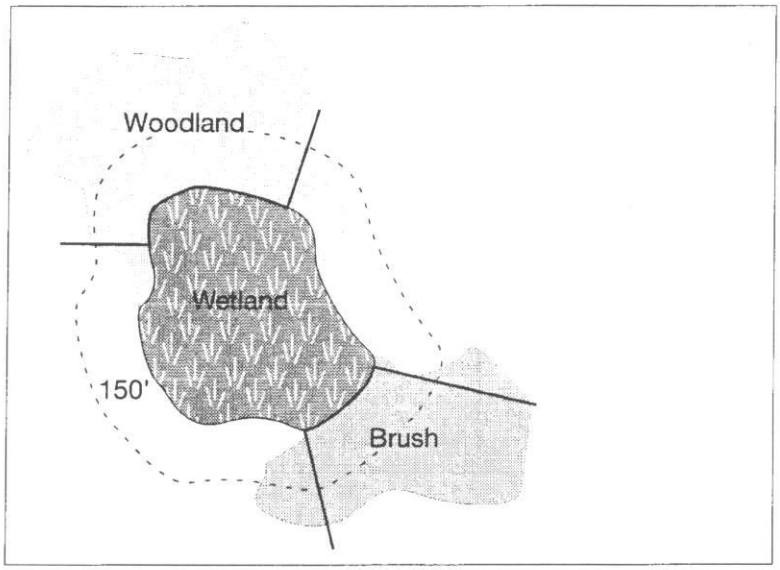

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.			
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.	b.	a.	a.
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.	ø	d.	d.
d. Less than 0.5 acre.			

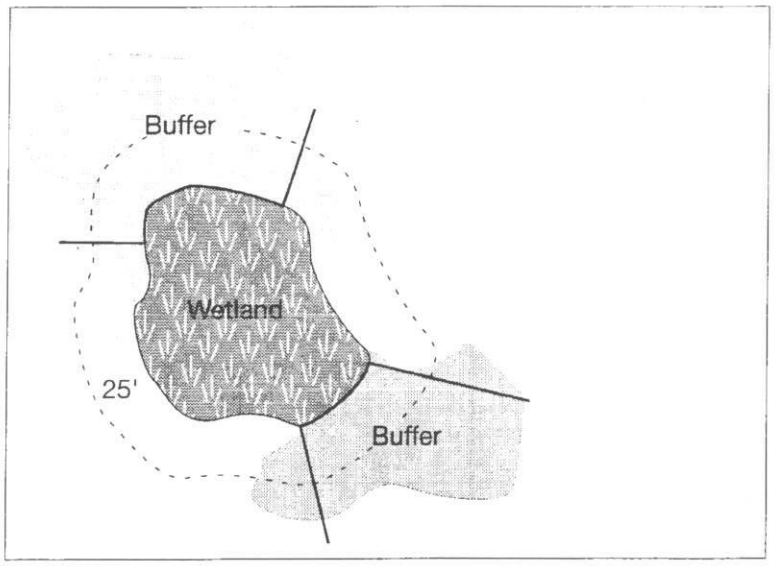

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

Fisheries habitat

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

Streams connected to the wetland

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

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

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

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

	Wetland 1	Wetland 2	Wetland 3
29	na	na	a.
30	na	na	c. incised
31			c.
32			c.
33			c.

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.			b.
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%			c.

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	b.	b.	b.
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	a. ponding at low points	c.	c.
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	c.	c.	c.

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.			not primary.
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.			
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*			
41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.	c	c	c
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).	b.	a	a
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.	a. HW ag/for	a ag	a. ag. riparian

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b.	b.	b.
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b.	b.	b (no road/path access)
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c.	c.	c.

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	na	na	na

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c.	c.	c.
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c.	c.	c.
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b	b

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c.	b.	b
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	a. recent earthwork	b	b

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	a. will be less evident w/ time.	na	na
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	a

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?			
a. Bird and wildlife noises and other naturally occurring sounds.			
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.	b	a	a
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.			
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.			
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.			
a. Greater than 50%.	a	a	b.
b. Between 25% and 50%.			
c. Less than 25%.			
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)			
a. More than two.			
b. Two	b.	b	b
c. One			

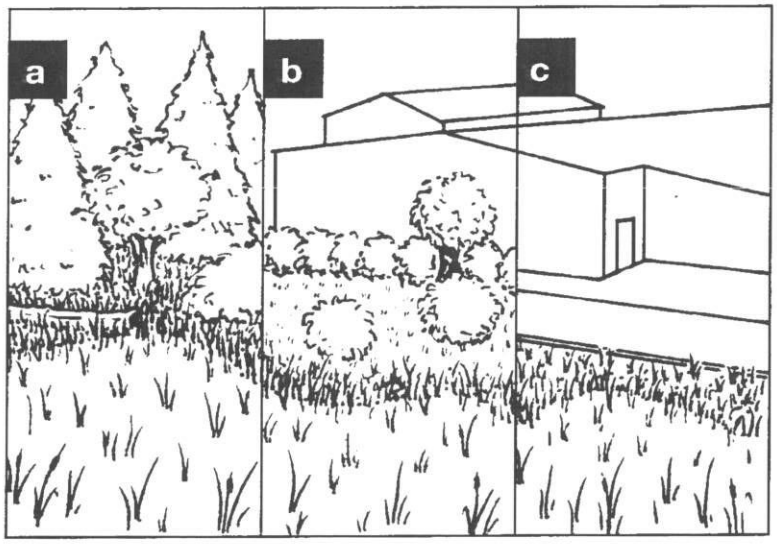

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MFR / SAR

Watershed identification Rock Creek

	RC-105 513 & Pond Wetland 1	RC-106 PW+Creek Wetland 2	RC-108 510 Wetland 3

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

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

✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15. — 5. | 2. | 2.

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

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

c. | c. | a.

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

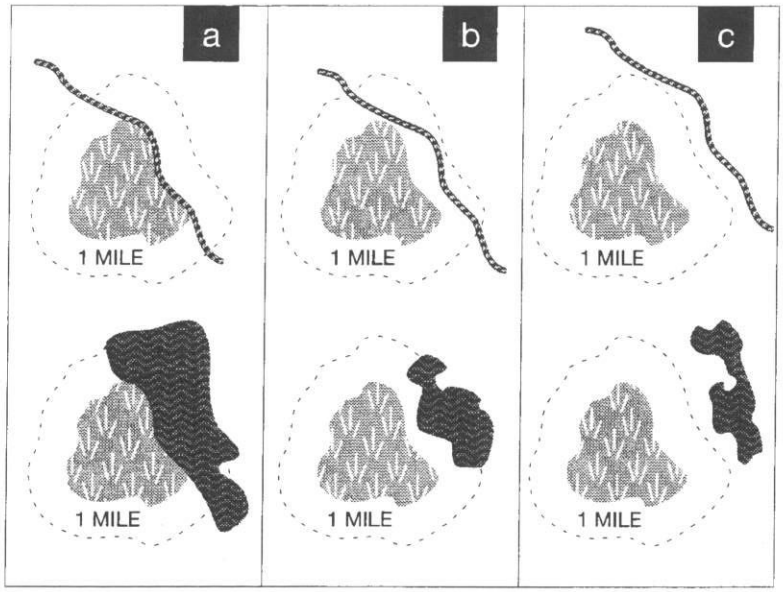

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

	Wetland 1	Wetland 2	Wetland 3
18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)			
a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.	a	b.	b. this group of connected wetlands is not connected to other wetlands.
b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.			
c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.			
19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.			
a. Yes.	b	b	b.
b. No.			

Watershed identification _____

Wetland Characterization (Page 7 of 19)

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

Wetland habitat

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

Watershed identification _____

Wetland Characterization (Page 8 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓23. What is the dominant wetland vegetation cover type?			
a. Woody vegetation (forested and scrub-shrub).			
b. Emergent vegetation and ponding, or open water only.	b.	b.	b.
c. Emergent vegetation only or wet meadow.			
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.). Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland.			
a. High.			
b. Moderate.			
c. Low.	c.	c.	c.

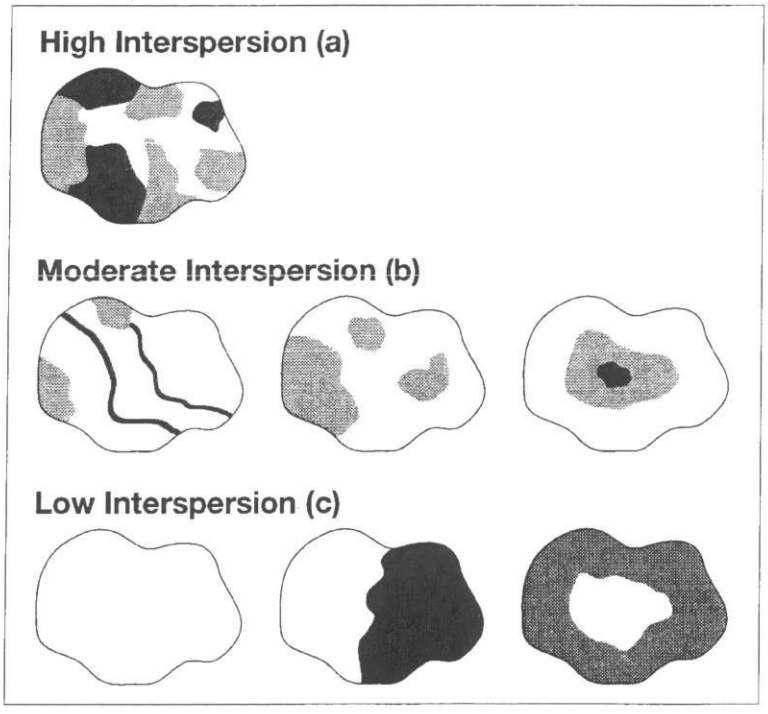

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	a.	a.	b.
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			

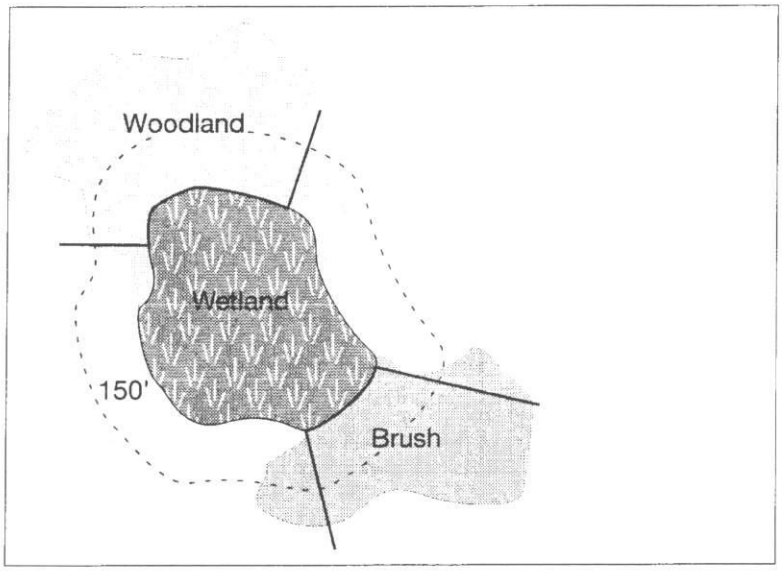

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.			
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.	b.	b. mosaic w/ Rock Creek.	a.
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.	d	d	d.

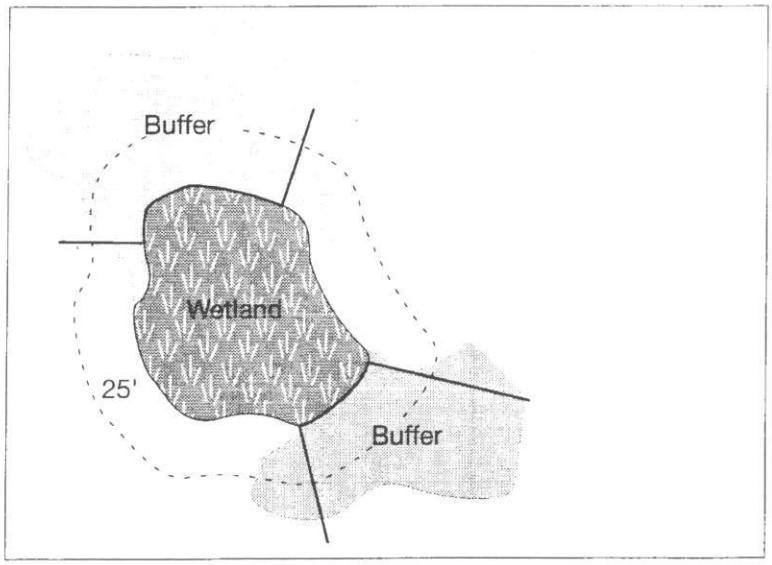

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

Fisheries habitat

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

Streams connected to the wetland

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

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

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

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

	Wetland 1	Wetland 2	Wetland 3
29	na	a. rock creek	na
30	na	c. incised. no veg.	na
31		d.	
32		d.	
33	man made pond. c.	na.	na

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	c.		
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	c.		

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	b	b. w/some c.	b.
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	c.	c.	b.
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	c.	c.	c.

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.	na	na.	na
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.			
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)* 41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.	c.	c.	c.
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).	a.	a.	a.
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.	a pond.	a ag.	a. ag.

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b	b.	b.
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b. steep site.	b. no trail	a.
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c	c.	c.

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	na	na	na

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c.	c.	c.
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c.	c.	c.
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b	b.

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c.	c.	b.
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	b.	b.	b.

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	na	na	na
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	a.

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?	a	b.	b.
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.	c.	c.	b.
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)	c.	c.	c.

a. Bird and wildlife noises and other naturally occurring sounds.
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.

a. Greater than 50%.
b. Between 25% and 50%.
c. Less than 25%.

a. More than two.
b. Two
c. One

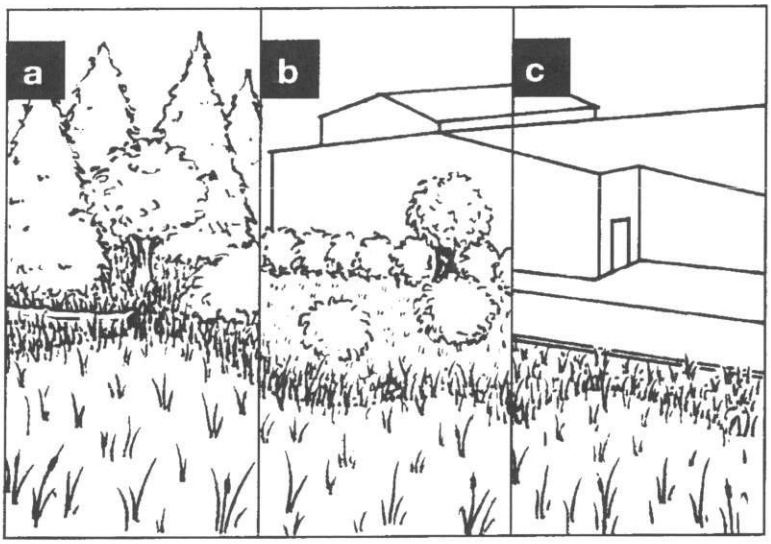

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MFR / SAR

Watershed identification Rock Creek

	RC-105 513 & Pond Wetland 1	RC-106 PW+Creek Wetland 2	RC-108 510 Wetland 3

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

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

✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15. — 5. | 2. | 2.

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

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

c. | c. | a.

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

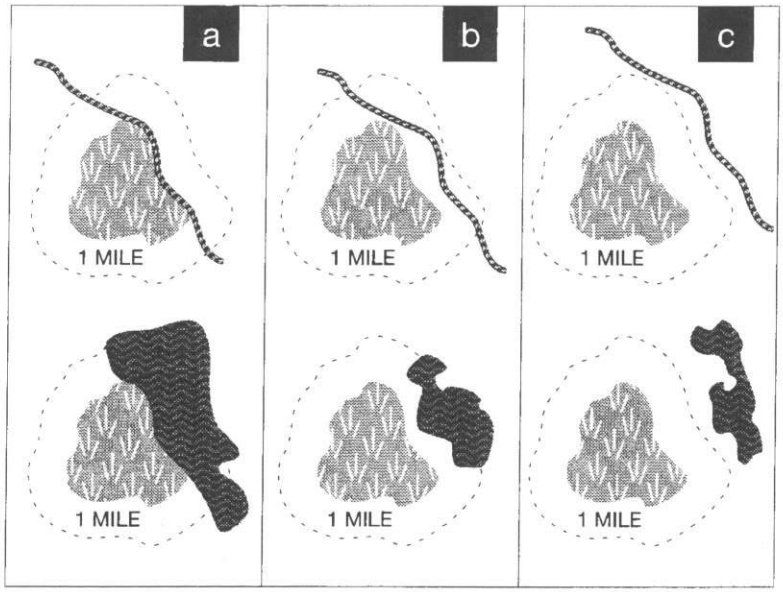

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

	Wetland 1	Wetland 2	Wetland 3
18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)			
a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.	a	b.	b. this group of connected wetlands is not connected to other wetlands.
b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.			
c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.			
19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.			
a. Yes.	b	b	b.
b. No.			

Watershed identification _____

Wetland Characterization (Page 7 of 19)

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

Wetland habitat

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

Watershed identification _____

Wetland Characterization (Page 8 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓23. What is the dominant wetland vegetation cover type?			
a. Woody vegetation (forested and scrub-shrub).			
b. Emergent vegetation and ponding, or open water only.	b.	b.	b.
c. Emergent vegetation only or wet meadow.			
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.). Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland.			
a. High.			
b. Moderate.			
c. Low.	c.	c.	c.

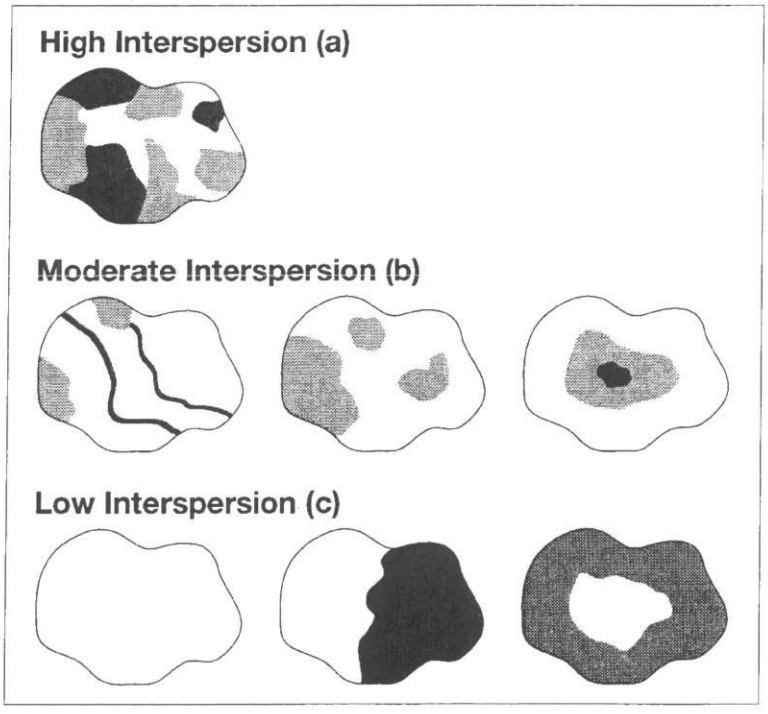

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	a.	a.	b.
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			

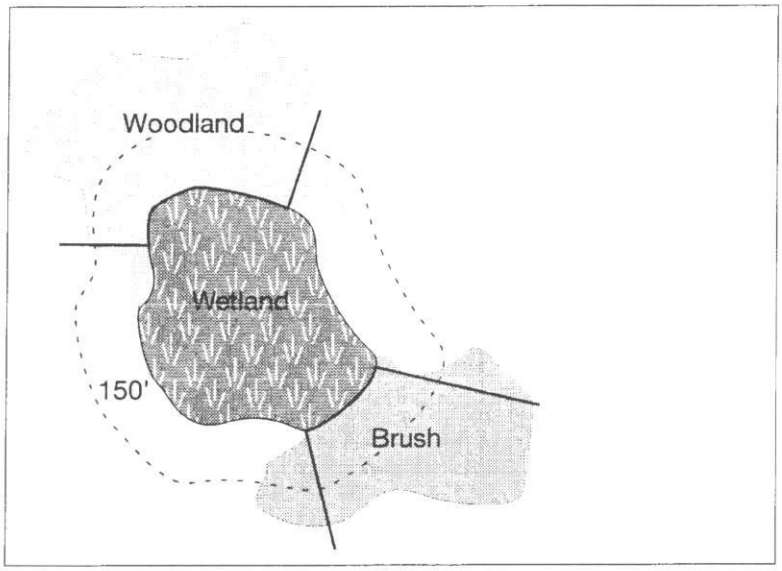

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.			
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.	b.	b. mosaic w/ Rock Creek.	a.
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.	d	d	d.

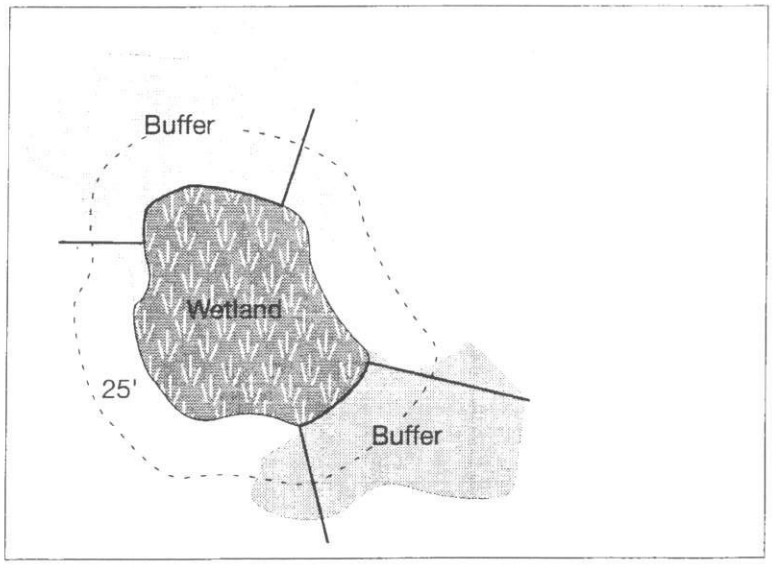

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

Fisheries habitat

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

Streams connected to the wetland

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

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

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

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

	Wetland 1	Wetland 2	Wetland 3
29	na	a. rock creek	na
30	na	c. incised. no veg.	na
31		d.	
32		d.	
33	man made pond. c.	na.	na

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	c.		
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	c.		

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	b	b. w/some c.	b.
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	c.	c.	b.
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	c.	c.	c.

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.	na	na.	na
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.			
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)* 41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.	c.	c.	c.
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).	a.	a.	a.
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.	a pond.	a ag.	a. ag.

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b	b.	b.
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b. steep site.	b. no trail	a.
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c	c.	c.

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	na	na	na

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c.	c.	c.
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c.	c.	c.
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b	b.

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c.	c.	b.
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	b.	b.	b.

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	na	na	na
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	a.

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?	a	b.	b.
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.	c.	c.	b.
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)	c.	c.	c.

a. Bird and wildlife noises and other naturally occurring sounds.
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.

a. Greater than 50%.
b. Between 25% and 50%.
c. Less than 25%.

a. More than two.
b. Two
c. One

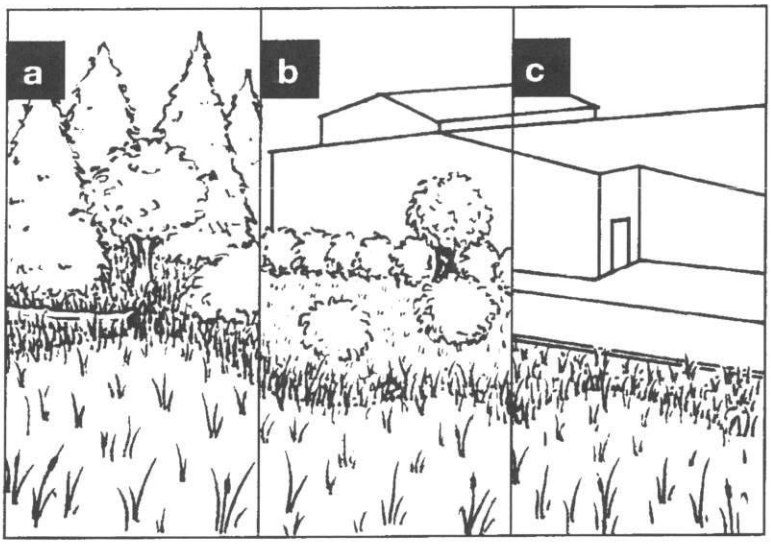

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

Watershed identification ROCK CREEK

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	
✔15. What percentage of the area within 500 feet of the wetland's edge is dedicated to the land uses listed below? (From overlay 2 or in the field.)			
It is best to determine the land uses from a recent aerial photo. If an aerial photo is not available, measure 500 feet in the field to get an idea of distance to evaluate. Use the following ranges for your answers for each land-use category:			
a. Less than 20%.			
b. Between 20% and 50%.			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).	a	a	
2. Agriculture (pasture, cropped lands, orchards, range land).	c	a	
3. Exclusive Forest Use lands.	a	a	
4. Developed uses (residential, commercial or industrial—rural and urban).	b	c	
5. Other (list).	a	a	
✔16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15.	2/4	4	
17. What is the wetland's area in acres? (Measure the entire area of contiguous wetland, not just the portion within the assessment area. Use the dimensions of the wetland as outlined on the base map.)			
a. Greater than 5 acres.			
b. Between 0.5 acres and 5 acres.	b	c	
c. Less than 0.5 acres.			

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	

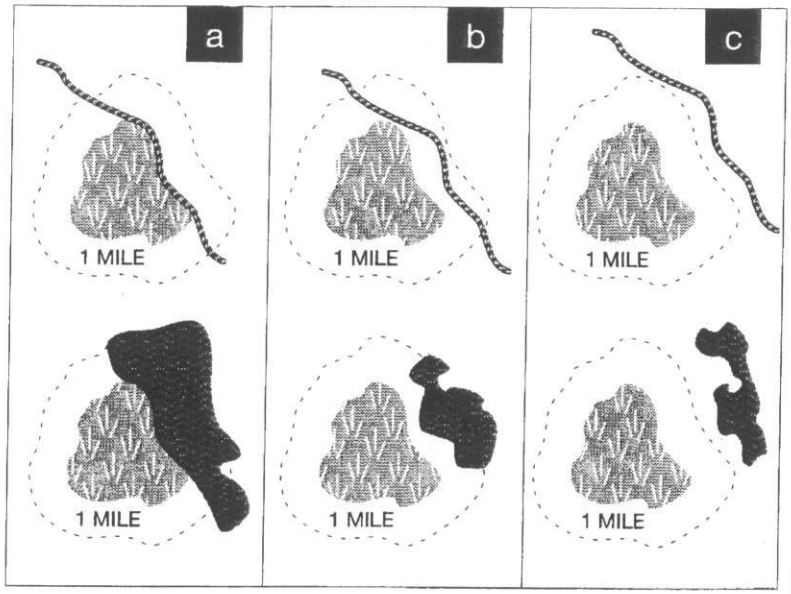

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

18	b	a	

19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

19	b	b	

Watershed identification _____

Wetland Characterization (Page 7 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	
20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?			
Use the following ranges for your answers:			
a. Less than 20%			
b. Between 20% and 50%			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not lands zoned for Exclusive Forest Use).	a	a	
2. Agriculture (pasture, cropped lands, orchards, range land).	b	a	
3. Exclusive Forest Use lands.	a	a	
4. Developed uses (residential, commercial, industrial).	b	c	
5. Other (list).	a	a	

Wetland habitat

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

Watershed identification _____

Wetland Characterization (Page 8 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC52	RC107	

✓23. What is the dominant wetland vegetation cover type?

a. Woody vegetation (forested and scrub-shrub).
b. Emergent vegetation and ponding, or open water only.
c. Emergent vegetation only or wet meadow.

23	C	C	

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

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

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

24	C	C	

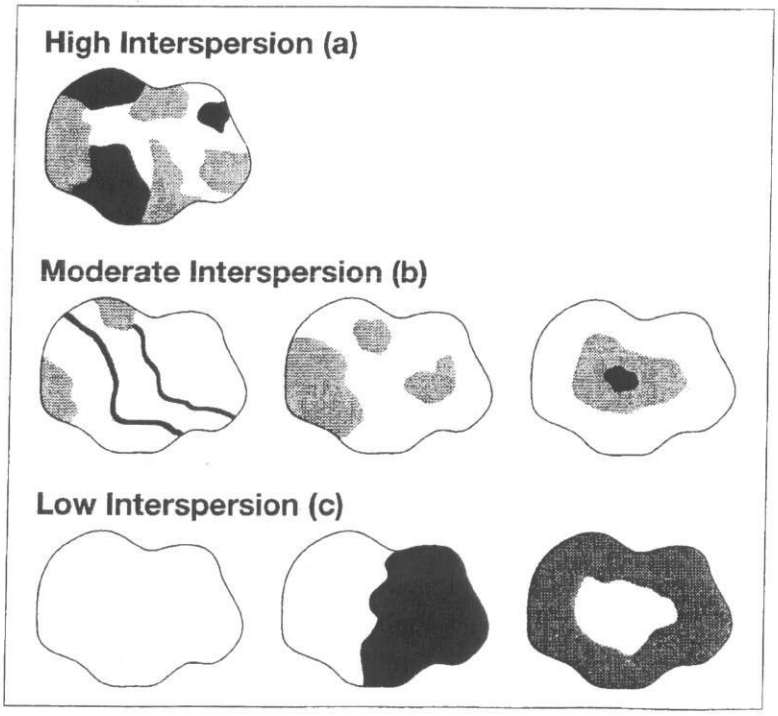

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC5R2	RC107	
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.)			
a. Greater than 40%.			
b. Between 10% and 40%.	c	b	
c. Less than 10%.			
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.)			
a. Greater than 40%.			
b. Between 10% and 40%.			
c. Less than 10%.			

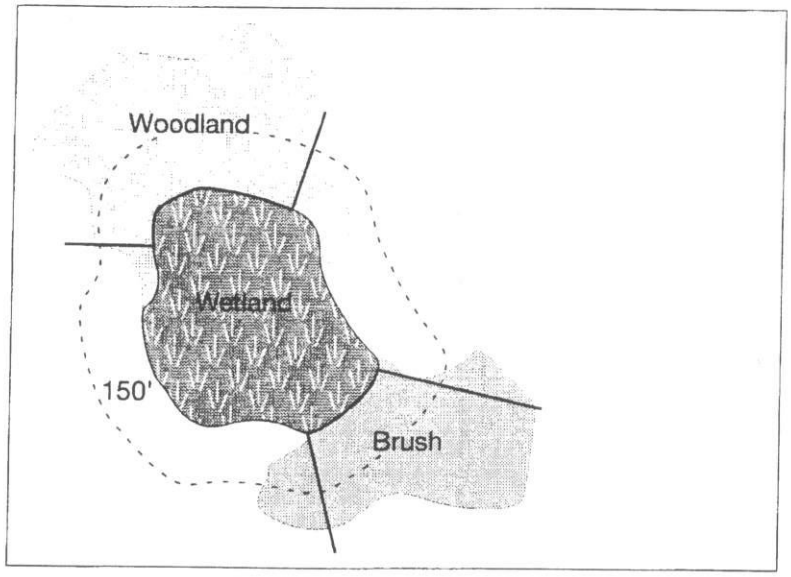

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.	b	a	
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.			
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.	d	d	
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.	Ø		

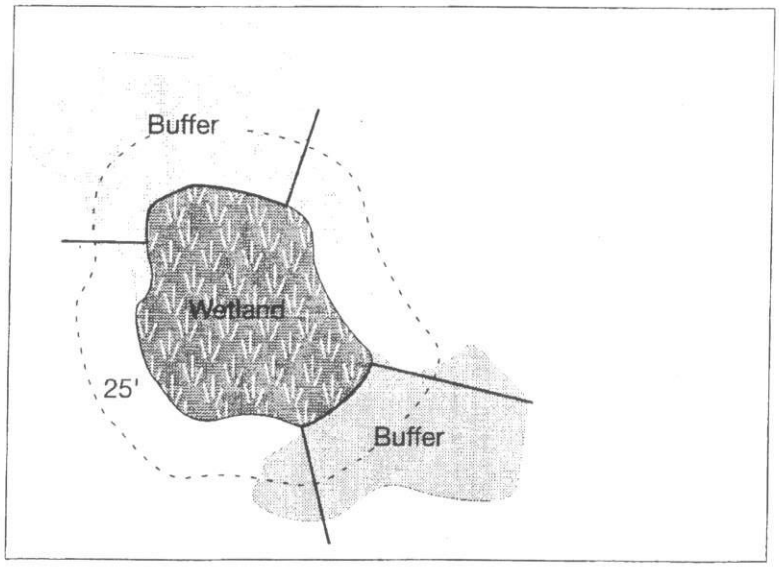

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	

Wetland Characterization (Page 11 of 19)

Fisheries habitat

29. Are fish present in a stream, lake or pond connected to the wetland.

a. Salmon, trout or sensitive species are present at some time during the year.	NA	NA	
b. Species not covered in "a" are present at some time during the year.			
c. No species are present at any time during the year.			

Streams connected to the wetland

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

✓30. What is the physical character of the stream channel? To observe stream channel modifications, look for built rock banks, cement sides, straightened areas or other human-created features.

a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.	NA	NA	
b. Only portions of the stream are modified.			
c. The stream is extensively modified or confined in a non-vegetated channel or pipe.			

✓31. What percentage of the stream is shaded by streamside (riparian) vegetation?

a. Greater than 75%.	NA	NA	
b. Between 50 and 75%.			
c. 25% or more, but less than 50%.			
d. Less than 25%.			

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?

a. Greater than 25%.	NA	NA	
b. Between 10% and 25%.			
c. Less than 10%.			

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)

a. Yes.	NA	NA	
b. Cannot be determined.			
c. No.			

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	

✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?

a. 60% or more.
b. 20% or more, but less than 60%.
c. Less than 20%.

34	NA	NA	

✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?

a. Greater than 25%
b. Between 10 and 25%
c. Less than 10%

35	NA	NA	

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.)

a. Surface flow, including streams and ditches.
b. Precipitation or sheet flow.
c. Groundwater, including springs or seeps.

36	b	C	

✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses?

a. Yes (describe).
b. Unable to determine or not applicable.
c. No.

37	C	C	

✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)?

a. Yes, the outlet is restricted or the wetland has no outlet.
b. Minor restrictions slow down the water (e.g., undersized culvert).
c. No, the outlet has unrestricted flow.

38	C	C	

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	

✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted?

a. Flow is not restricted, or if blocked, the obstruction can be removed easily.

b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution).

c. Flow is restricted and cannot be restored.

	—	—	

40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe.

a. Yes.

b. No.

	a	a	

Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*

41. Is the wetland site open to the public for direct access or observation?

a. Yes, the wetland is open to the public.

b. Yes, but wetland access is allowed only by permission of the landowner or managing entity.

c. No, access is not allowed.

	c	c	

✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.)

a. No.

b. One or two visible safety hazards exist (describe).

c. More than two visible safety hazards exist (describe).

	b road fence steep	b steep	

✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland?

a. Yes. (List type and extent.)

b. No.

	b	a stream	

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	

44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations

    a. Public access to other habitats exists or can be created easily.

    b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site.

    c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.

	C	C

45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.)

    a. Yes.

    b. No. (List physical barriers.)

	b steep	b steep

46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access.

    a. Yes, a maintained access point exists (describe).

    b. Yes, an unmaintained access point exists (describe).

    c. No access point exists, or the access point is hazardous.

	C	C

Recreation

47. Is the wetland accessible by boat?

    a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water.

    b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland.

    c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.

	C	C

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c	c	
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c NA	b	
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b	
Aesthetics			
✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	b	b	
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.	—	—	
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	b	b	

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC5R2	RC107	

✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily?

a. Yes.

b. No.

	—	—	

Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).

✓55. What odors are present at the primary viewing location(s)?

a. Natural, pleasant odors only.

b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times.

c. Unpleasant odors are distinct and continuously present.

	a	a	

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC512	RC107	
✓56. What noises are audible at the primary viewing location(s)?			
a. Bird and wildlife noises and other naturally occurring sounds.			
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.	C	b	
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.			
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.			
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.			
a. Greater than 50%.	a	c	
b. Between 25% and 50%.			
c. Less than 25%.			
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)			
a. More than two.			
b. Two	C	C	
c. One			

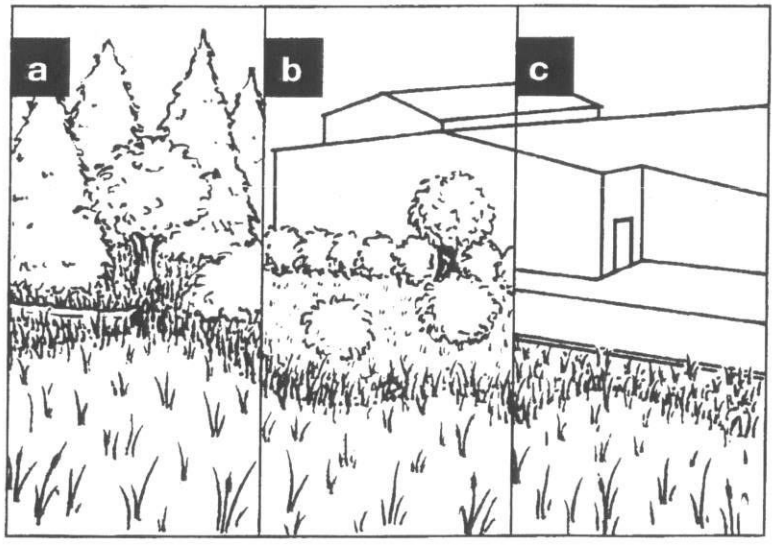

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MFR/SAR

Watershed identification ROCK CREEK

RC-109 RC:110111

	Wetland 1	Wetland 2	Wetland 3

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

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

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

	Wetland 1	Wetland 2	Wetland 3
	3.	4.	

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

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

	Wetland 1	Wetland 2	Wetland 3
	b.	b.	

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

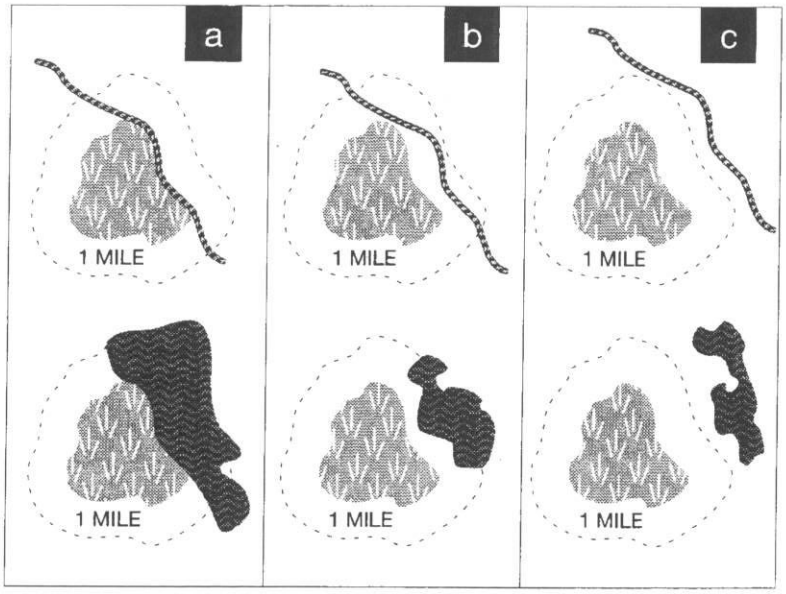

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

Wetland 1	Wetland 2	Wetland 3
b.	a.	
b	b.	

Watershed identification _____

Wetland Characterization (Page 7 of 19)

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

Wetland habitat

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

Watershed identification _____

Wetland Characterization (Page 8 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓23. What is the dominant wetland vegetation cover type?			
a. Woody vegetation (forested and scrub-shrub).	a	b	
b. Emergent vegetation and ponding, or open water only.			
c. Emergent vegetation only or wet meadow.			
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.). Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland.			
a. High.			
b. Moderate.			
c. Low.	c	c	

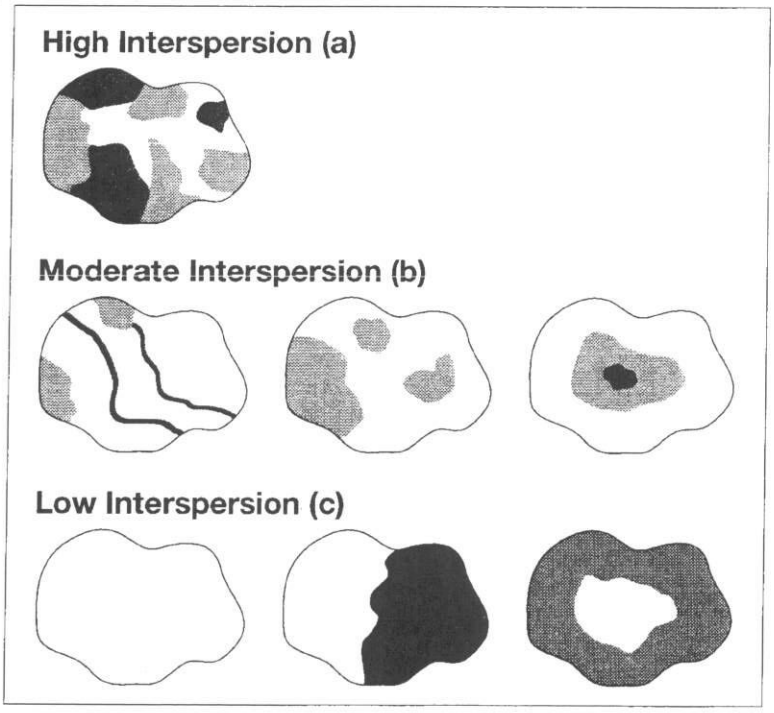

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	a.	c.	
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			

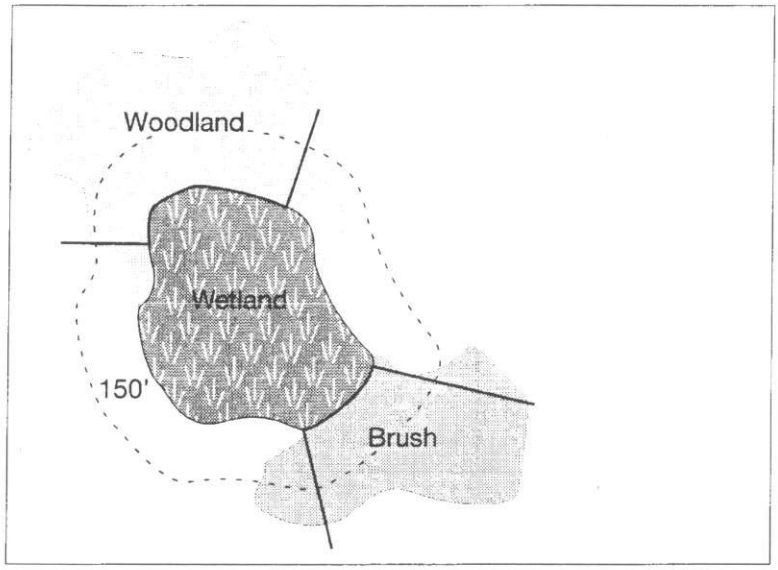

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.	b.	a.	
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.			
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.	d	d	

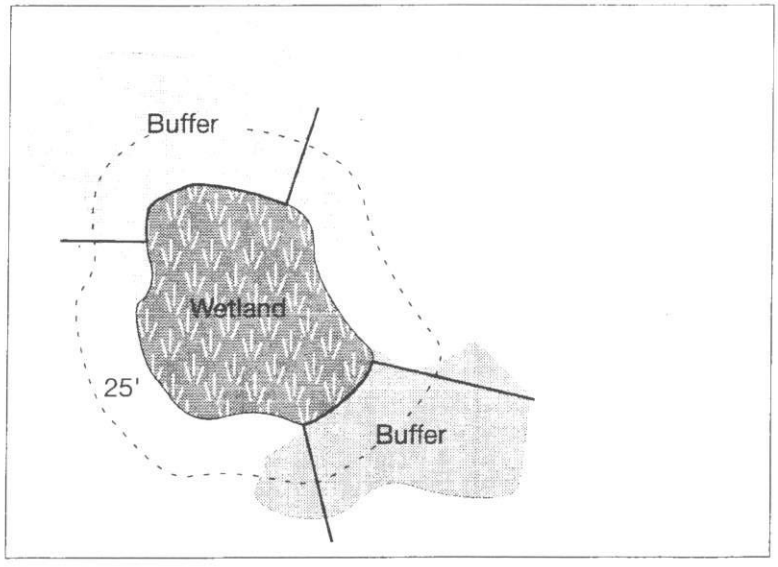

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3

Wetland Characterization (Page 11 of 19)

Fisheries habitat

29. Are fish present in a stream, lake or pond connected to the wetland. — Wetland 1: c. Wetland 2: c.
    a. Salmon, trout or sensitive species are present at some time during the year.
    b. Species not covered in "a" are present at some time during the year.
    c. No species are present at any time during the year.

Streams connected to the wetland

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

✓30. What is the physical character of the stream channel? To observe stream channel modifications, look for built rock banks, cement sides, straightened areas or other human-created features. — Wetland 1: na. Wetland 2: c
    a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.
    b. Only portions of the stream are modified.
    c. The stream is extensively modified or confined in a non-vegetated channel or pipe.

✓31. What percentage of the stream is shaded by streamside (riparian) vegetation? — Wetland 2: d
    a. Greater than 75%.
    b. Between 50 and 75%.
    c. 25% or more, but less than 50%.
    d. Less than 25%.

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders? — Wetland 2: c
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.) — Wetland 1: na. Wetland 2: c
    a. Yes.
    b. Cannot be determined.
    c. No.

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?			
a. 60% or more.		b	
b. 20% or more, but less than 60%.			
c. Less than 20%.			
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?			
a. Greater than 25%		c.	
b. Between 10 and 25%			
c. Less than 10%			

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.)			
a. Surface flow, including streams and ditches.	c.	a	
b. Precipitation or sheet flow.			
c. Groundwater, including springs or seeps.			
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses?			
a. Yes (describe).	b.	b.	
b. Unable to determine or not applicable.			
c. No.			
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)?			
a. Yes, the outlet is restricted or the wetland has no outlet.			
b. Minor restrictions slow down the water (e.g., undersized culvert).	c.	b.	
c. No, the outlet has unrestricted flow.			

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted?			
a. Flow is not restricted, or if blocked, the obstruction can be removed easily.	ha	a	
b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution).			
c. Flow is restricted and cannot be restored.			
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe.			
a. Yes.			
b. No.			
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*			
41. Is the wetland site open to the public for direct access or observation?			
a. Yes, the wetland is open to the public.	c.	c.	
b. Yes, but wetland access is allowed only by permission of the landowner or managing entity.			
c. No, access is not allowed.			
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.)			
a. No.	a	a	
b. One or two visible safety hazards exist (describe).			
c. More than two visible safety hazards exist (describe).			
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland?			
a. Yes. (List type and extent.)	a	a	
b. No.	stream	stream	

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b	b.	
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	a	a	
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c.	c.	

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	na	na	

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c.	c.	
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c.	c.	
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b.	

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c.	c.	
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	b.	b.	

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.			
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?			
a. Bird and wildlife noises and other naturally occurring sounds.			
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.	b	b	
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.			
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.			
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.			
a. Greater than 50%.	a	a	
b. Between 25% and 50%.			
c. Less than 25%.			
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)			
a. More than two.			
b. Two	c	c	
c. One			

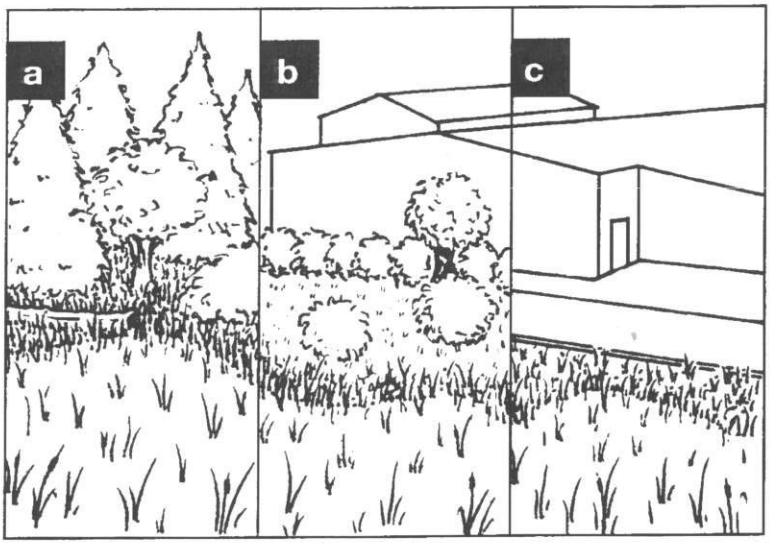

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

Watershed identification ROCK CREEK

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
✓15. What percentage of the area within 500 feet of the wetland's edge is dedicated to the land uses listed below? (From overlay 2 or in the field.)			
It is best to determine the land uses from a recent aerial photo. If an aerial photo is not available, measure 500 feet in the field to get an idea of distance to evaluate. Use the following ranges for your answers for each land-use category:			
a. Less than 20%.			
b. Between 20% and 50%.			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).	Ø	Ø	Ø
2. Agriculture (pasture, cropped lands, orchards, range land).	b	Ø	C
3. Exclusive Forest Use lands.	Ø	Ø	Ø
4. Developed uses (residential, commercial or industrial—rural and urban).	C	C	Ø
5. Other (list).	Ø	Ø	Ø
✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15.	4	4	2
17. What is the wetland's area in acres? (Measure the entire area of contiguous wetland, not just the portion within the assessment area. Use the dimensions of the wetland as outlined on the base map.)			
a. Greater than 5 acres.	b	C	b
b. Between 0.5 acres and 5 acres.			
c. Less than 0.5 acres.			

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

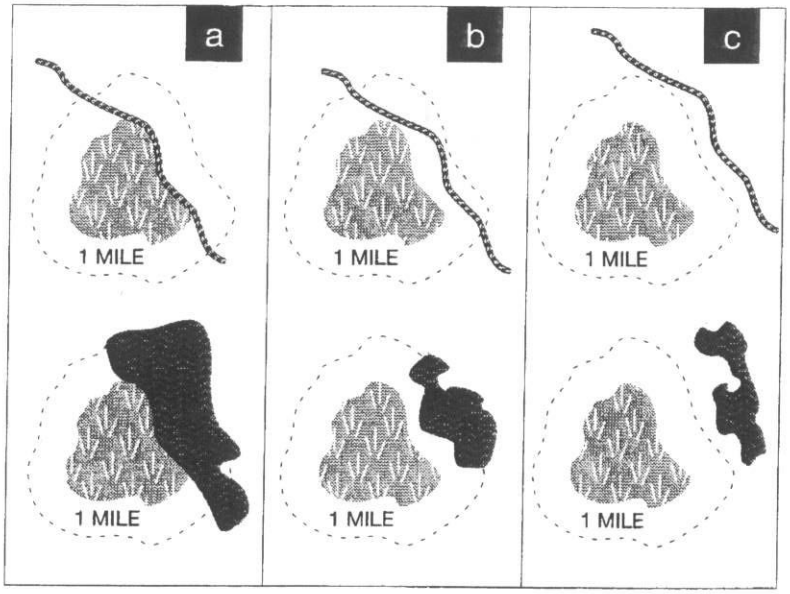

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)	a	a	b
19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.	b	a	b

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

Watershed identification _____

Wetland Characterization (Page 7 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?			
Use the following ranges for your answers: a. Less than 20% b. Between 20% and 50% c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not lands zoned for Exclusive Forest Use).			
2. Agriculture (pasture, cropped lands, orchards, range land).			c
3. Exclusive Forest Use lands.			
4. Developed uses (residential, commercial, industrial).	c	c	b
5. Other (list).			

Wetland habitat

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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
	RC1 #2	RC1 #3	RC1 #4
23	C	A	C
24	C	B	C

Wetland Characterization (Page 8 of 19)

23. What is the dominant wetland vegetation cover type?
    a. Woody vegetation (forested and scrub-shrub).
    b. Emergent vegetation and ponding, or open water only.
    c. Emergent vegetation only or wet meadow.

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

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

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

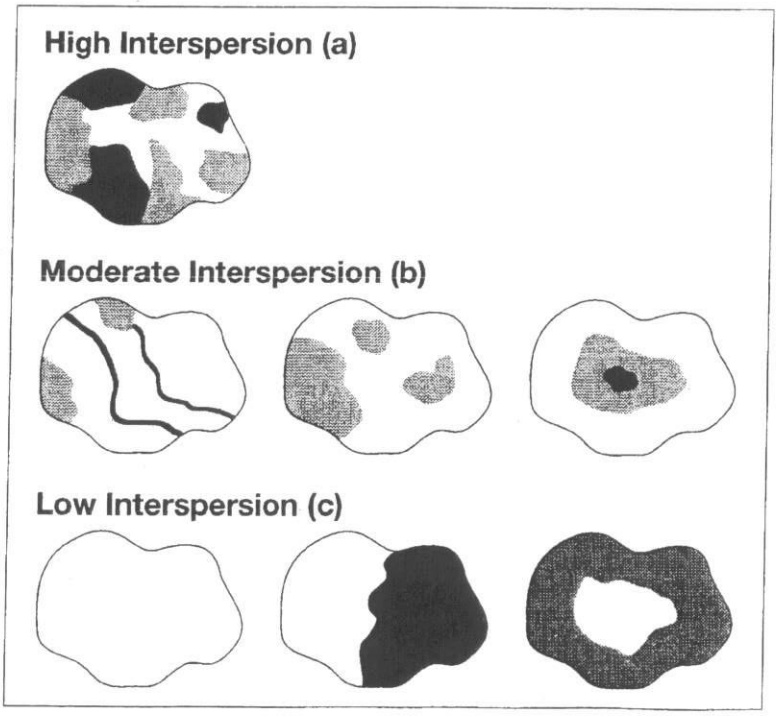

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.)			
a. Greater than 40%.	c	a	c
b. Between 10% and 40%.			
c. Less than 10%.			
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.)			
a. Greater than 40%.			
b. Between 10% and 40%.			
c. Less than 10%.			

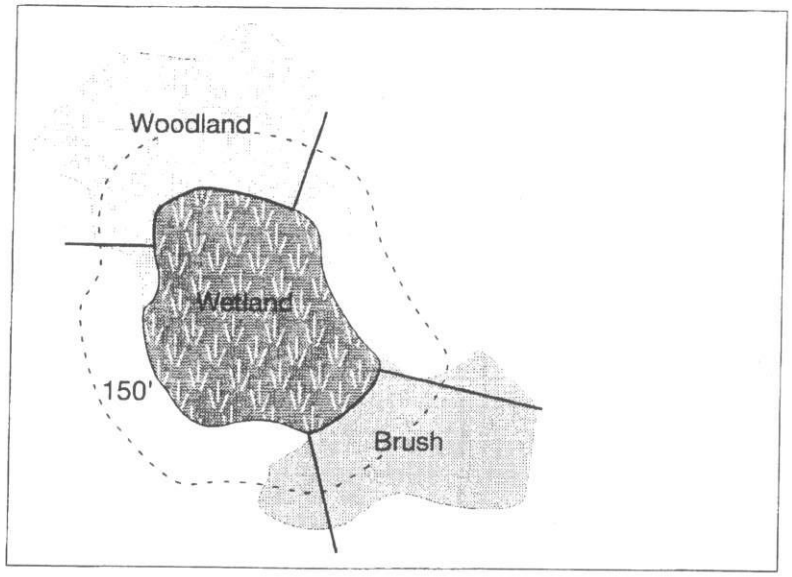

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
27.	a intermittent drainage & potential pond dug at del.	a	b
28.	d	d	d

27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)
    a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.
    b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.
    c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.

28. Estimate the area of unvegetated, open water within the wetland.
    a. More than 3 acres.
    b. Greater than 1 acre, up to 3 acres.
    c. Between 0.5 acre and 1 acre.
    d. Less than 0.5 acre.

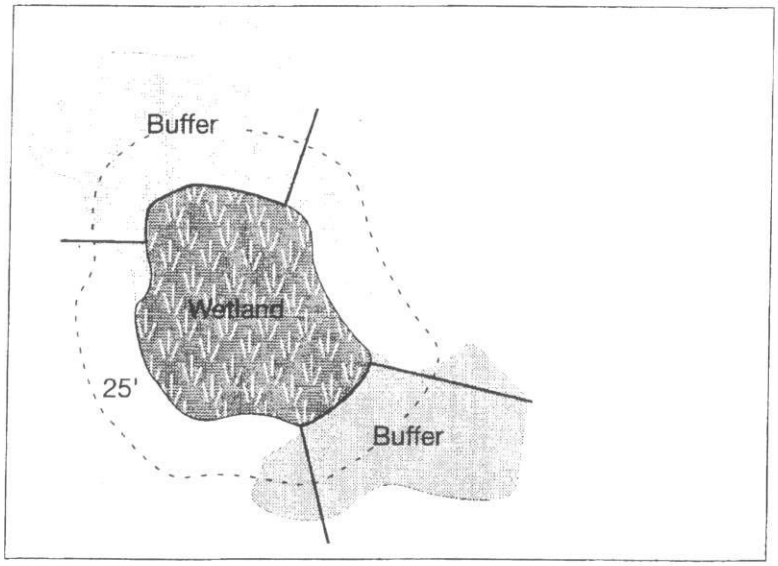

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

Wetland Characterization (Page 11 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
29.	NA Rock Crk Dis. Listrems	b	NA
30.	NA	a	NA
31.	NA	a	NA
32.	NA	a	NA
33.	NA	NA	NA

Fisheries habitat

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

Streams connected to the wetland

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

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

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

32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC12	RC13	RC14
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	NA	NA	NA
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	NA	NA	NA

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	C	C	b
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	a seasonal pond w/ restricted outlet dry.	b	c
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	b	c	c

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.	NA	NA	NA
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.	a	a channelized	b
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*			
41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.	C	C	C
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).	b steep remote	b steep	a
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.	a creek	a creek	a ag.

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	C	C	C
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b	b	b
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	C	C	C
Recreation			
✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	C	C	C

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c	c	c
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	b	b	c NA
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b	b
Aesthetics			
✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c	b	c
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	a	b	a

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	a	NA	a
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	a

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC112	RC113	RC114
✓56. What noises are audible at the primary viewing location(s)?	a	a	b/c
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.	c	c	c
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)	c	c	c

a. Bird and wildlife noises and other naturally occurring sounds.
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.

a. Greater than 50%.
b. Between 25% and 50%.
c. Less than 25%.

a. More than two.
b. Two
c. One

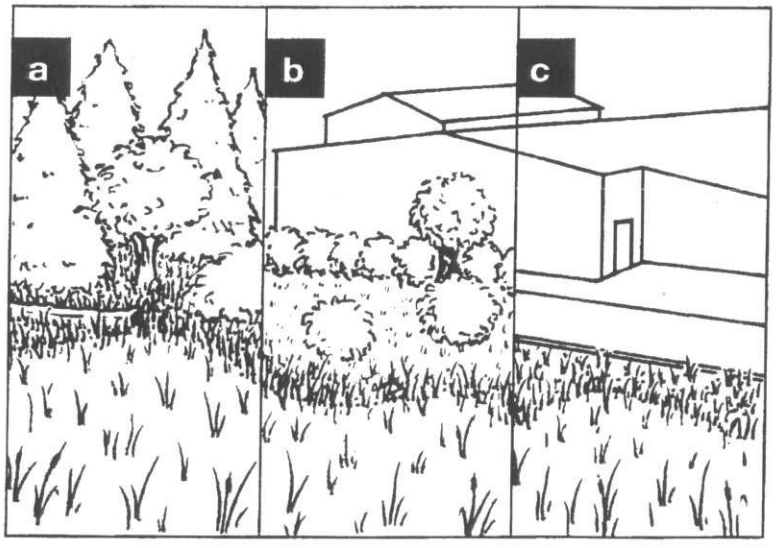

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

Watershed identification ROCK CREEK

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

	Wetland 1	Wetland 2	Wetland 3
	RC115	RC509	RC510
✓15. What percentage of the area within 500 feet of the wetland's edge is dedicated to the land uses listed below? (From overlay 2 or in the field.)			
It is best to determine the land uses from a recent aerial photo. If an aerial photo is not available, measure 500 feet in the field to get an idea of distance to evaluate. Use the following ranges for your answers for each land-use category:			
a. Less than 20%.			
b. Between 20% and 50%.			
c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not land designated for Exclusive Forest Use).	a	b	a
2. Agriculture (pasture, cropped lands, orchards, range land).	b	a	c
3. Exclusive Forest Use lands.	a	a	a
4. Developed uses (residential, commercial or industrial—rural and urban).	b	b	b
5. Other (list).	a	a	a
✓16. What is the dominant existing land use within 500 feet of the wetland on the **downstream or down-slope edge** of the wetland? Use the same land-use categories as question 15.	4	4	4
17. What is the wetland's area in acres? (Measure the entire area of contiguous wetland, not just the portion within the assessment area. Use the dimensions of the wetland as outlined on the base map.)			
a. Greater than 5 acres.			
b. Between 0.5 acres and 5 acres.	b	b	a
c. Less than 0.5 acres.			

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC115	RC509	RC516

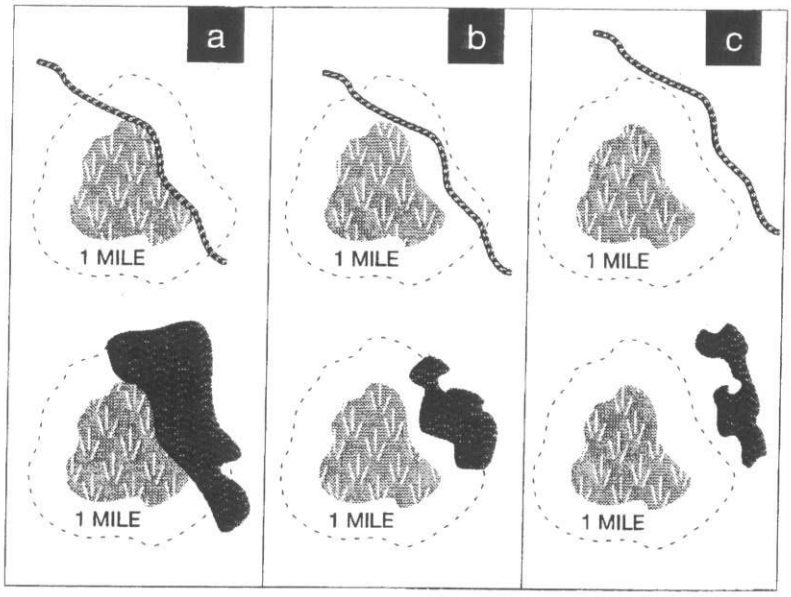

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

18. How is the wetland connected to another body of water, such as a stream, lake or pond? (See Figure 2.)
    a. The wetland is connected by surface water to another body of water. This may be by a culvert, irrigation ditch, intermittent stream or perennial stream.
    b. No surface-water connection exists to another body of water, but other bodies of water lie within 1 mile of the wetland.
    c. No surface-water connection exists to another body of water, and no other bodies of water lie within 1 mile of the wetland.

18	a	b	b

19. Is all or part of the wetland located within the 100-year floodplain (use floodplain maps to determine) or within an enclosed basin? An enclosed basin has no inlet or outlet.
    a. Yes.
    b. No.

19	b	a	b

Watershed identification _____

Wetland Characterization (Page 7 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC115	RC509	RC510
20. What percentage of the area within 500 feet of the wetland's edge is **zoned** for each of the land uses listed below?			
Use the following ranges for your answers: a. Less than 20% b. Between 20% and 50% c. Greater than 50%.			
1. Open Space (includes natural areas, parks and developed recreation areas, but not lands zoned for Exclusive Forest Use).	a	a	a
2. Agriculture (pasture, cropped lands, orchards, range land).	b	a	b
3. Exclusive Forest Use lands.	a	a	a
4. Developed uses (residential, commercial, industrial).	b	c	b
5. Other (list).	a	a	a

Wetland habitat

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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
	b	a	c
	b	b	b

Wetland Characterization (Page 8 of 19)

✓23. What is the dominant wetland vegetation cover type?

a. Woody vegetation (forested and scrub-shrub).
b. Emergent vegetation and ponding, or open water only.
c. Emergent vegetation only or wet meadow.

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

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

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

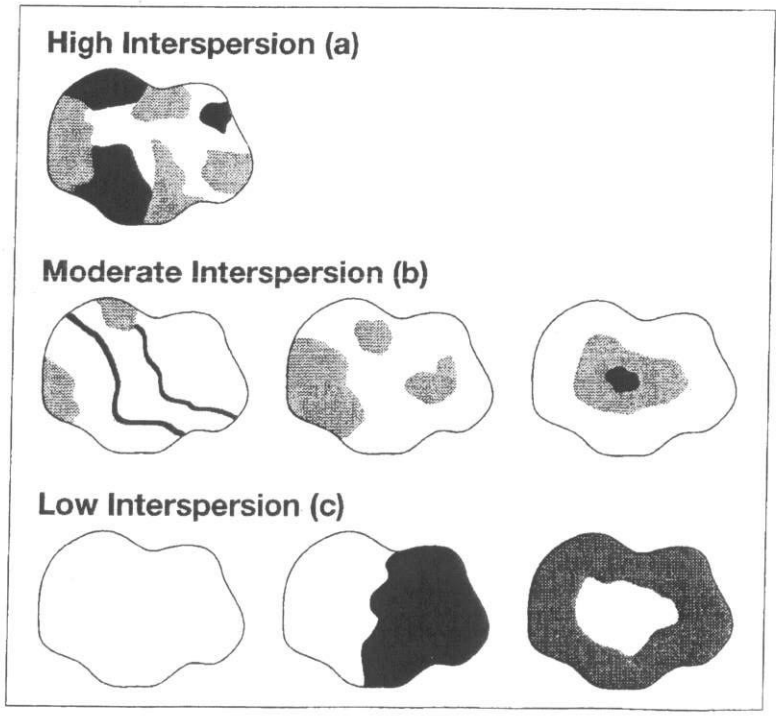

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.	c	a	c
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.) a. Greater than 40%. b. Between 10% and 40%. c. Less than 10%.			

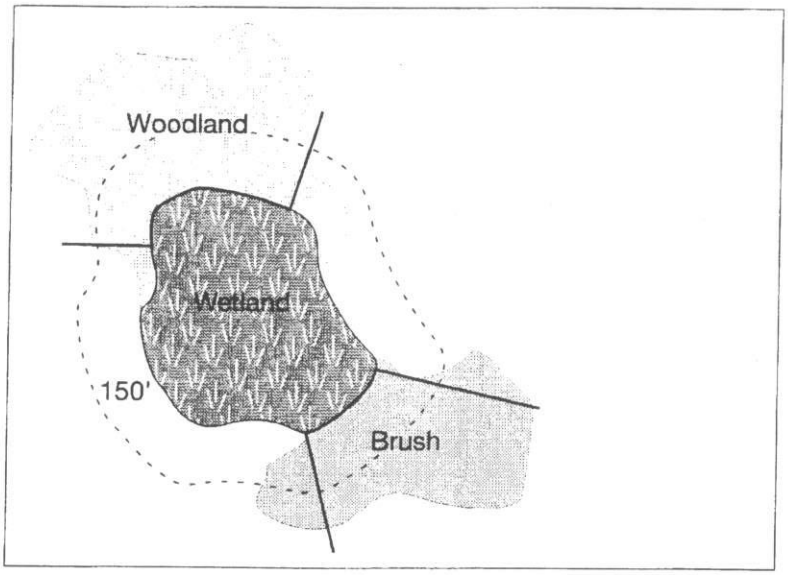

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.	a	b	a
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.			
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.		d	d
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.			
d. Less than 0.5 acre.	d	∅	∅

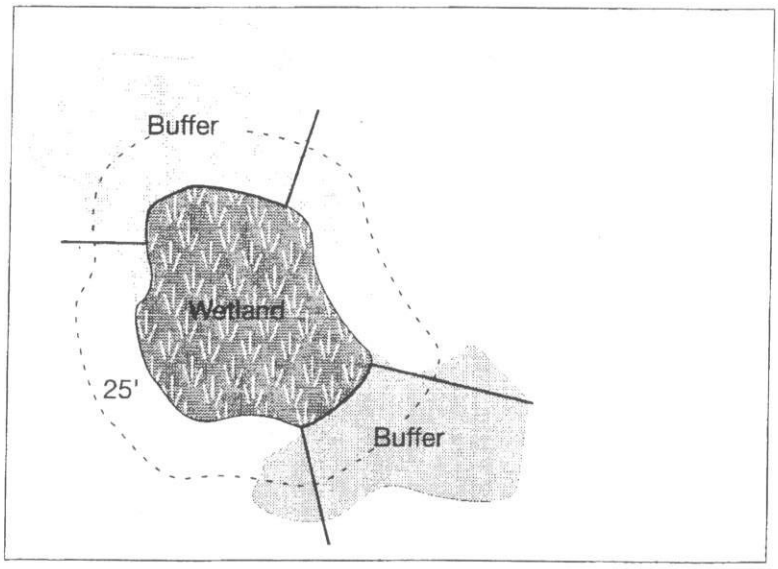

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3
Wetland Characterization (Page 11 of 19)			
Fisheries habitat			
29. Are fish present in a stream, lake or pond connected to the wetland.			
a. Salmon, trout or sensitive species are present at some time during the year.	NA	NA	NA
b. Species not covered in "a" are present at some time during the year.			
c. No species are present at any time during the year.			
Streams connected to the wetland			
Complete this section only if the wetland being assessed has an unimpeded surface water connection to a stream.			
✓30. What is the physical character of the stream channel? To observe stream channel modifications, look for built rock banks, cement sides, straightened areas or other human-created features.			
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel.	NA	NA	NA
b. Only portions of the stream are modified.			
c. The stream is extensively modified or confined in a non-vegetated channel or pipe.			
✓31. What percentage of the stream is shaded by streamside (riparian) vegetation?			
a. Greater than 75%.	NA	NA	NA
b. Between 50 and 75%.			
c. 25% or more, but less than 50%.			
d. Less than 25%.			
✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?			
a. Greater than 25%.	NA	NA	NA
b. Between 10% and 25%.			
c. Less than 10%.			
Lakes or ponds (entire lake or pond and wetland complex)			
Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.			
33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)			
a. Yes.	NA	NA	NA
b. Cannot be determined.			
c. No.			

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation? a. 60% or more. b. 20% or more, but less than 60%. c. Less than 20%.	NA	NA	NA
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders? a. Greater than 25% b. Between 10 and 25% c. Less than 10%	NA	NA	NA

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.) a. Surface flow, including streams and ditches. b. Precipitation or sheet flow. c. Groundwater, including springs or seeps.	b	b	b
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses? a. Yes (describe). b. Unable to determine or not applicable. c. No.	b	b	b
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)? a. Yes, the outlet is restricted or the wetland has no outlet. b. Minor restrictions slow down the water (e.g., undersized culvert). c. No, the outlet has unrestricted flow.	b	a	c

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC115	RC509	RC510
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted?	NA	NA	NA
a. Flow is not restricted, or if blocked, the obstruction can be removed easily.			
b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution).			
c. Flow is restricted and cannot be restored.			
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe.	b	a	a
a. Yes.			
b. No.			
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*			
41. Is the wetland site open to the public for direct access or observation?	C	C	C
a. Yes, the wetland is open to the public.			
b. Yes, but wetland access is allowed only by permission of the landowner or managing entity.			
c. No, access is not allowed.			
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.)	a	b remote	b unsigned.
a. No.			
b. One or two visible safety hazards exist (describe).			
c. More than two visible safety hazards exist (describe).			
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland?	a pond	a creek	b
a. Yes. (List type and extent.)			
b. No.			

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC115	RC509	RC510
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b	c	b
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.)	b	b	a
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c	c	c

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	c	c	c

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC115	RC509	RC510
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	C	C	C
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	b	c NA	C NA
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b	b
Aesthetics			
✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	b	a	c
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	b	b	b

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
	RC115	RC509	RC510
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily?			
a. Yes.	—	—	—
b. No.			
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)?			
a. Natural, pleasant odors only.	a	a	a
b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times.			
c. Unpleasant odors are distinct and continuously present.			

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?			
a. Bird and wildlife noises and other naturally occurring sounds.	b	a	b
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.			
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.			
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.			
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.			
a. Greater than 50%.	c	c	a
b. Between 25% and 50%.			
c. Less than 25%.			
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)			
a. More than two.	b	c	c
b. Two			
c. One			

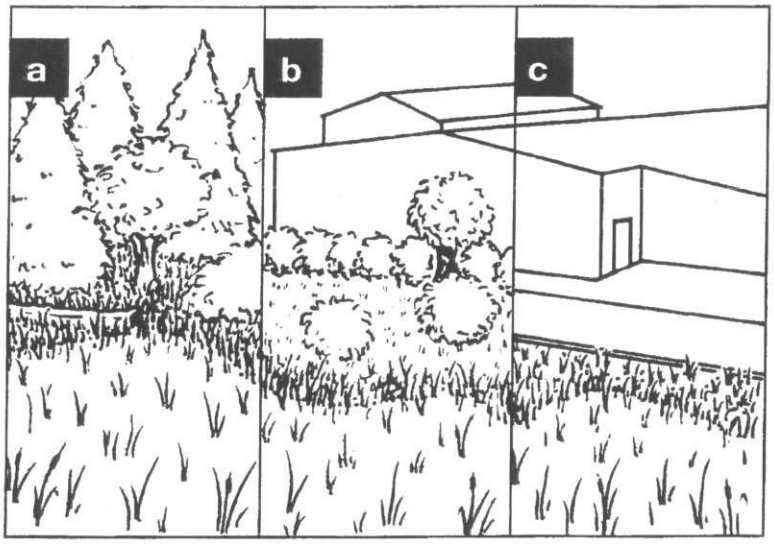

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

MFR/SAR

Watershed identification Rock Creek

	RC-506 Wetland 1	RC-507 Wetland 2	RC-508 Wetland 3

Wetland Characterization (Page 5 of 19)

Individual wetland sites

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

Wetland structure and relation to surrounding landscape

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

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

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

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

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

	2. w/roads	2.	2.

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

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

	b.	b.	b

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

Watershed identification _____

Wetland Characterization (Page 6 of 19)

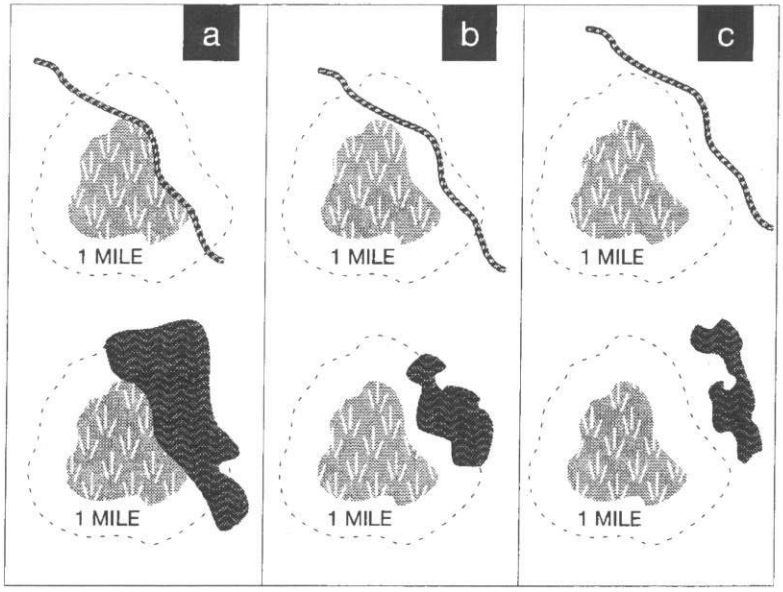

Figure 2. Connectivity to streams, lakes and ponds.
The lightly shaded area represents a wetland, the darkly shaded area represents a lake or pond and the dark line represents a stream. Part "a" shows the wetland connected to a stream, lake or pond, part "b" shows a stream, lake or pond within 1 mile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

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

Wetland 1	*Wetland 2*	*Wetland 3*
b.	b	b
b.	b.	b.

Watershed identification _____

Wetland Characterization (Page 7 of 19)

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

Wetland habitat

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

Watershed identification _____

Wetland Characterization (Page 8 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓23. What is the dominant wetland vegetation cover type? a. Woody vegetation (forested and scrub-shrub). b. Emergent vegetation and ponding, or open water only. c. Emergent vegetation only or wet meadow.	a	c.	c.
✓24. Refer to the diagrams in Figure 3 and select the one that most closely resembles the interspersion of Cowardin wetland classes and, if present, upland inclusions. (An upland inclusion is an island or an upland area surrounded on three sides by wetland.). Wetlands composed of only one wetland class or with two wetland classes and a simple pattern have low interspersion. Wetland and upland complexes that have at least two wetland classes and a complex pattern have a moderate interspersion pattern. Wetlands with two or more wetland classes or upland inclusions with a complex pattern and lots of edge have a high interspersion pattern. If the wetland you are observing does not reflect any of the diagrams, use the above guidance to determine the complexity of the interspersion pattern and draw a sketch of the wetland. a. High. b. Moderate. c. Low.	c	c	c

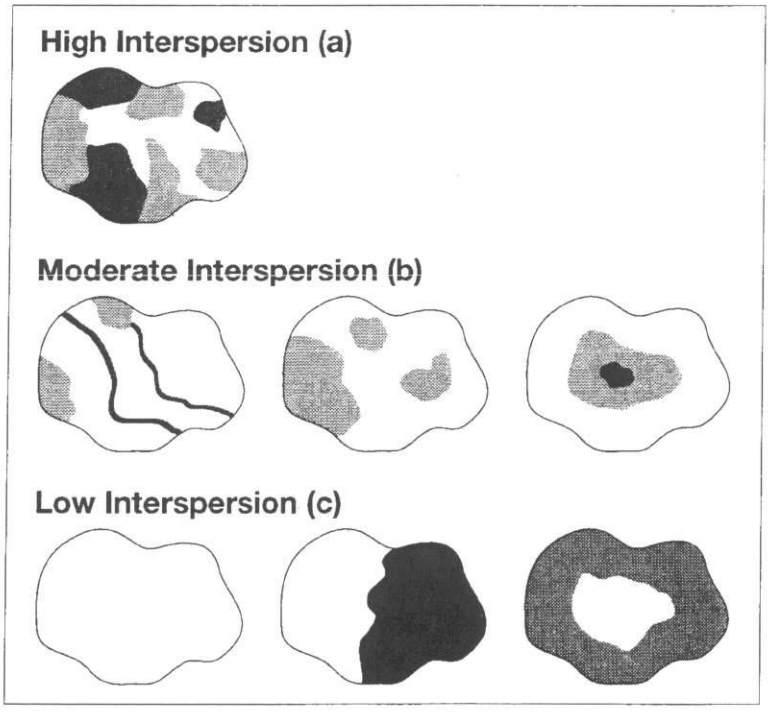

Figure 3. Interspersion of Cowardin classes and upland inclusions.

Watershed identification _____

Wetland Characterization (Page 9 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓25. For **rural areas:** What percentage of the wetland's edge is bordered by upland wildlife habitat that is at least 150 feet wide? Brush, woodland, non-farmed agricultural land and range land are considered upland habitat for this question. Actively farmed lands are not considered wildlife habitat. (See Figure 4.)			
a. Greater than 40%.	a	a	b.
b. Between 10% and 40%.			
c. Less than 10%.			
✓26. For **urban areas:** What percentage of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? A vegetative buffer consists of trees, bushes or vegetation that is not regularly mowed or farmed. (See Figure 5.)			
a. Greater than 40%.			
b. Between 10% and 40%.			
c. Less than 10%.			

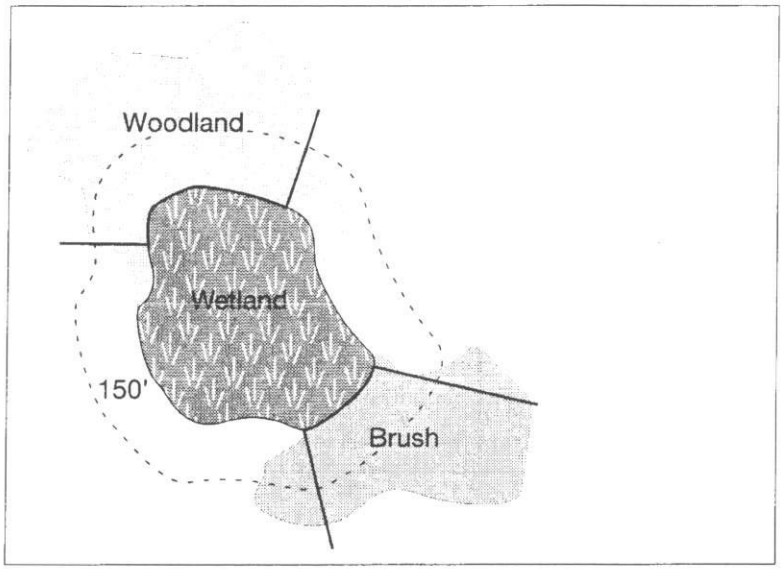

Figure 4. Percent of wetland edge bordered by upland habitat (for Question 25).
The dashed line delineates the area within 150 feet of the wetland; the "woodland" and "brush" areas are upland habitat; and the lines perpendicular to the wetland edge indicate where the upland habitat adjacent to the wetland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

Watershed identification _____

Wetland Characterization (Page 10 of 19)

	Wetland 1	Wetland 2	Wetland 3
27. How is the wetland connected to other wetlands? (Look at an aerial photo or map to determine this.)			
a. Connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, culvert, canal or lake.			
b. Not connected by surface waters, but other unconnected wetlands lie within a 3-mile radius.	b	b	b
c. Not connected to other wetlands by surface waters, and no other unconnected wetlands lie within a 3-mile radius.			
28. Estimate the area of unvegetated, open water within the wetland.			
a. More than 3 acres.			
b. Greater than 1 acre, up to 3 acres.			
c. Between 0.5 acre and 1 acre.	d	d	d
d. Less than 0.5 acre.			

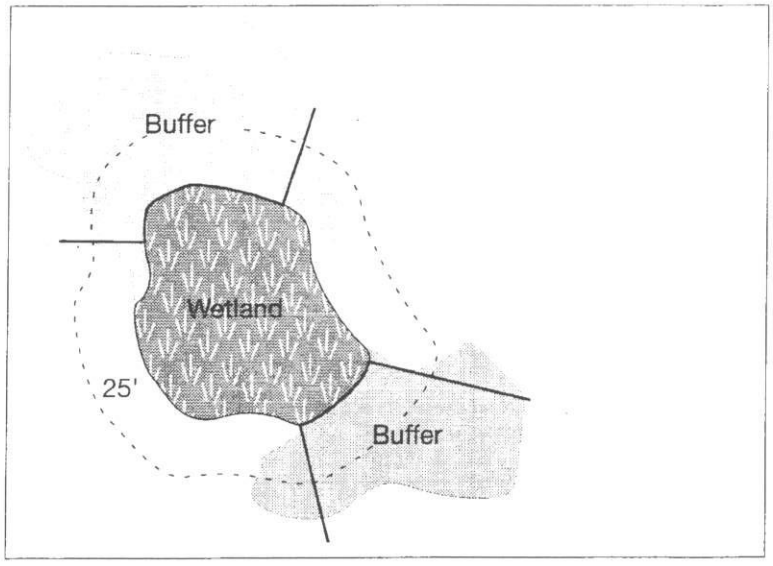

Figure 5. Percent of wetland edge bordered by vegetative buffer (for Question 26).
The dashed line delineates the area within 25 feet of the wetland; the vegetative buffer areas are labeled "buffer"; and the lines perpendicular to the wetland edge indicate where the vegetative buffer adjacent to the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

Watershed identification _____

	Wetland 1	Wetland 2	Wetland 3

Wetland Characterization (Page 11 of 19)

Fisheries habitat

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

Streams connected to the wetland

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

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

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

✓32. What percentage of the stream contains instream structures such as large woody debris, floating or submerged vegetation, large rocks or boulders?
    a. Greater than 25%.
    b. Between 10% and 25%.
    c. Less than 10%.

Lakes or ponds (entire lake or pond and wetland complex)

Complete this section only if the wetland being assessed has a surface water connection to a lake or pond.

33. Does the lake or pond contain areas of deep and shallow water? ("Deep" is defined as more than 6.5 feet deep.)
    a. Yes.
    b. Cannot be determined.
    c. No.

Watershed identification _____

Wetland Characterization (Page 12 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓34. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?			
a. 60% or more.			
b. 20% or more, but less than 60%.			
c. Less than 20%.			
✓35. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?			
a. Greater than 25%			
b. Between 10 and 25%			
c. Less than 10%			

Wetland hydrology

36. What is the wetland's **primary** source of water? (Determine in the field or in the office. This may be difficult to determine. If a surface water connection exists—stream, lake, ditch—use it as the primary source. If no surface water connection is present, talk to local natural resource people for hints.)			
a. Surface flow, including streams and ditches.			
b. Precipitation or sheet flow.	b	b.	b
c. Groundwater, including springs or seeps.			
✓37. Is there evidence of flooding or ponding during a portion of the growing season? Look for evidence of water fluctuation such as sediment stains on trees, drift lines, surface scour or sediment deposits. Also look at the location of the wetland. Is it in a distinct topographic depression or adjacent to a stream that is known to flood or fluctuate because of storm pulses?			
a. Yes (describe).			
b. Unable to determine or not applicable.	c	c	c
c. No.			
✓38. Is water flow out of the wetland restricted (e.g., beaver dam, concrete structure, undersized culvert)?			
a. Yes, the outlet is restricted or the wetland has no outlet.			
b. Minor restrictions slow down the water (e.g., undersized culvert).	c	c	c
c. No, the outlet has unrestricted flow.			

Watershed identification _____

Wetland Characterization (Page 13 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓39. If the primary source of water is surface flow, is the water flow into the wetland restricted? a. Flow is not restricted, or if blocked, the obstruction can be removed easily. b. Permanent blockage to the flow exists but may be breached or a new flow channel created (engineering or earth moving solution). c. Flow is restricted and cannot be restored.	na	na	na
40. Has the stream flow or stream bank been modified by human activities less than 1 mile above the wetland? Modifications include dams, channelizations and levees, and confinement of the stream in a pipe. a. Yes. b. No.			
Public access to wetland site *(select an appropriate area to observe the wetland to answer these questions.)*			
41. Is the wetland site open to the public for direct access or observation? a. Yes, the wetland is open to the public. b. Yes, but wetland access is allowed only by permission of the landowner or managing entity. c. No, access is not allowed.	c.	c.	c.
✓42. Are there visible hazards to the public at the wetland site? (Examples: busy road adjacent to the site, and no buffer or sidewalk exists; steep embankment; and contaminated water.) a. No. b. One or two visible safety hazards exist (describe). c. More than two visible safety hazards exist (describe).	b. busy road- no sidewalks	b no side walk	b. busy road no sidewalk
✓43. Are there other natural landscape features, such as a stream, lake, pond, forest or agricultural land contiguous or adjacent to the wetland? a. Yes. (List type and extent.) b. No.	b	b	b

Watershed identification _____

Wetland Characterization (Page 14 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓44. Is there existing physical public access to features listed in Question 43? If not, can such access be created easily, or can other habitats be observed from the site? For a stream, pond or lake, access may require dry ground to the water's edge. Stream access could also be at a road crossing, but consider the safety at such locations a. Public access to other habitats exists or can be created easily. b. Public access doesn't exist and can't be created easily, but observation of other features can be made from the site. c. Public access doesn't exist and can't be created easily. In addition, observation of other features can't be made from the site.	b	b	c.
✓45. Does it appear that access to a viewing spot or wetland edge is available for individuals with limited mobility? (To see whether the site meets ADA requirements, a more thorough examination should be done.) a. Yes. b. No. (List physical barriers.) no sidewalks	b	b	b
✓46. Is there a public access point within 250 feet of the wetland's edge? Access points include parking lots, transit stops, bike lanes, trails and water courses. Maintained means that the area is designated as a car or transit area by the managing entity. Unmaintained would be a road pull-off or other area that people use but is not designated for such use. Describe the type of access. a. Yes, a maintained access point exists (describe). b. Yes, an unmaintained access point exists (describe). c. No access point exists, or the access point is hazardous.	c.	c.	c

Recreation

✓47. Is the wetland accessible by boat? a. Boat launching areas or access points exist on site or within 1/2 mile on a connected lake, river, bay or other body of water. b. Potential to develop boat launching areas or access points exists, or such features are more than 1/2 mile but less than 1 mile from the wetland. c. No boat launching areas or access points exist within 1 mile of the wetland, and potential to develop launching areas or access points is limited.	Na	Na	Na

Watershed identification _____

Wetland Characterization (Page 17 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓48. Are there trails, viewing areas or other structures that guide user movement to a particular area or areas in or around the wetland? a. Yes, developed or maintained trails or viewing areas exist. b. Yes, undeveloped trails or viewing areas exist that do not disrupt wildlife or plant habitat. c. No trails or viewing areas exist, or those that do disrupt wildlife or plant habitat.	c	c	c
49. Is fishing allowed at the wetland or connected water body? (Contact local Oregon Department of Fish and Wildlife office.) Answer "not applicable" if question 18 was answered "b" or "c," unless question 21 indicates that 10% or more of the wetland's area is covered by open water. a. Yes (either all or part of the year). b. No. c. Not applicable.	c	c	c
50. Is hunting allowed at the wetland? (If the wetland is within the city limits, hunting is not allowed. Otherwise, contact the local Oregon Department of Fish and Wildlife office for this information.) a. Yes (either all or part of the year). b. No.	b	b	b

Aesthetics

✓51. For **rural areas**, what is the extent of visual contrast with the surrounding landscape? (See Figure 6.) a. Significant contrast with surrounding landscape. b. Limited contrast with surrounding landscape. c. Little or no contrast with surrounding landscape.	c	c	c
✓52. For **urban areas,** what is the visual character of the surrounding area? (See Figure 7.) a. Open space or naturally landscaped areas. b. Areas landscaped or manipulated by people. c. Developed with no landscaping.			
✓53. Are there visual detractors at the wetland site such as abandoned cars, litter, shopping carts or other objects that distract the viewer from the wetland? a. Yes. b. No.	b	b	b

Watershed identification _____

Wetland Characterization (Page 18 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓54. If the wetland contains visual detractors, as indicated in question 53, can they be removed easily? a. Yes. b. No.	NA	NA	NA
Locate the primary viewing area(s) for the following four questions (be sure to indicate the location on the overlay).			
✓55. What odors are present at the primary viewing location(s)? a. Natural, pleasant odors only. b. Unpleasant odors such as automobile exhaust or stench from a sewage treatment plant are present at certain times. c. Unpleasant odors are distinct and continuously present.	a	a	a

Figure 6. Visual contrast.
The top part of the figure shows a wetland with significant visual contrast with the surrounding landscape. The bottom part shows a wetland with little or no visual contrast with the surrounding landscape.

Watershed identification _____

Wetland Characterization (Page 19 of 19)

	Wetland 1	Wetland 2	Wetland 3
✓56. What noises are audible at the primary viewing location(s)?			
a. Bird and wildlife noises and other naturally occurring sounds.			
b. Some traffic and other similar background sounds are audible in addition to naturally occurring sounds.	b	b	b
c. Continuous traffic or other intrusive noise is audible in addition to naturally occurring sounds.			
d. Continuous traffic or other intrusive noise is audible, but no naturally occurring sounds are.			
✓57. How much of the wetland is visible from the viewing area(s)? Describe the view.			
a. Greater than 50%.			
b. Between 25% and 50%.	b	a	c.
c. Less than 25%.			
✓58. How many Cowardin classes are visible from the primary viewing area(s)? (See question 21 for list of Cowardin classes to use.)			
a. More than two.			
b. Two	c	c	c
c. One			

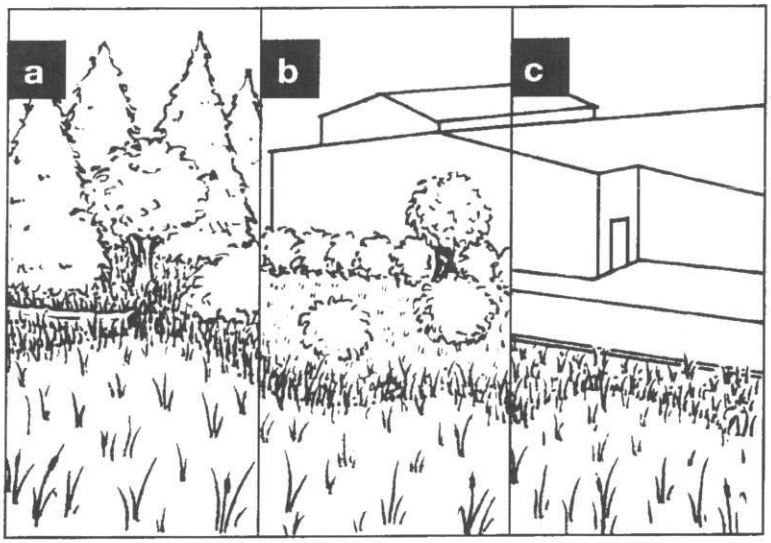

Figure 7. Visual character of urban wetlands.
Beginning with the left part, this figure shows an urban wetland with naturally landscaped areas, areas landscaped by people and with unlandscaped developed areas.

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID:	**CR-101**	**CR-501**	**CR-502**	**CR-504**
Wildlife Habitat:				
Question 1	c	b	b	b
Question 2	c	c	a	b
Question 3	c	b	b	c
Question 4	c	c	c	c
Question 5	b	b	b	a
Question 6	a	b	b	a
Question 7	a	a	a	a
Question 8	b	c	c	b
Question 9	c	b	b	c
Descriptor	some spp	some spp	some spp	some spp
Fish Habitat:				
Streams & Rivers				
Question 1	c	na	na	c
Question 2	c	na	na	b
Question 3	c	na	na	c
Question 4	a	na	na	a
Question 5	b	na	na	b
Question 6	c	na	na	b
Lakes & Ponds				
Question 1	na	na	na	na
Question 2	na	na	na	na
Question 3	na	na	na	na
Question 4	na	na	na	na
Question 5	na	na	na	na
Question 6	na	na	na	na
Descriptor	impacted			impacted
Water Quality:				
Question 1	b	c	b	b
Question 2	a	c	a	a
Question 3	b	a	a	b
Question 4	b	b	b	b
Question 5	b	a	a	b
Question 6	c	c	c	c
Descriptor	impacted	impacted	impacted	impacted
Hydrologic:				
Question 1	b	b	b	a
Question 2	a	c	a	a
Question 3	c	b	b	b
Question 4	b	c	a	b
Question 5	c	c	a	b
Question 6	b	a	a	b
Question 7	b	a	a	b
Descriptor	impacted	impacted	intact	impacted

	CR-101	**CR-501**	**CR-502**	**CR-504**
Sensitivity:				
Question 1	a	a	a	a
Question 2	a	a	a	a
Question 3	c	c	c	c
Question 4	b	a	a	b
Question 5	a	a	a	a
Question 6	b	b	a	c
Descriptor	potentiallly	potentiallly	potentiallly	potentiallly
Enhancement:				
Question 1	a	a	b	a
Question 2	c	b	c	c
Question 3	a	a	a	a
Question 4	c	b	b	b
Question 5	c	b	b	c
Question 6	b	b	b	b
Descriptor	moderate	high	moderate	moderate

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID: KC-101 KC-102 KC-103

Wildlife Habitat:

	KC-101	KC-102	KC-103	
Question 1	c	c	b	
Question 2	c	a	c	
Question 3	c	c	c	
Question 4	na	na	na	
Question 5	b	b	b	
Question 6	a	a	a	
Question 7	a	a	a	
Question 8	b	b	b	
Question 9	a	a	a	
Descriptor	some spp	diverse	some spp	

Fish Habitat:

Streams & Rivers

	KC-101	KC-102	KC-103	
Question 1	na	na	na	
Question 2	na	na	na	
Question 3	na	na	na	
Question 4	na	na	na	
Question 5	na	na	na	
Question 6	na	na	na	

Lakes & Ponds

	KC-101	KC-102	KC-103	
Question 1	na	na	na	
Question 2	na	na	na	
Question 3	na	na	na	
Question 4	na	na	na	
Question 5	na	na	na	
Question 6	na	na	na	
Descriptor				

Water Quality:

	KC-101	KC-102	KC-103	
Question 1	b	a	b	
Question 2	b	c	c	
Question 3	a	b	a	
Question 4	b	b	a	
Question 5	b	b	b	
Question 6	c	c	c	
Descriptor	impacted	impacted	impacted	

Hydrologic:

	KC-101	KC-102	KC-103	
Question 1	b	b	b	
Question 2	b	b	b	
Question 3	c	b	a	
Question 4	c	c	b	
Question 5	c	a	c	
Question 6	b	b	b	
Question 7	b	c	c	
Descriptor	impacted	impacted	impacted	

Sensitivity:

	KC-101	KC-102	KC-103	
Question 1	b	b	b	
Question 2	b	b	b	
Question 3	c	c	c	
Question 4	b	b	b	
Question 5	a	a	a	
Question 6	b	a	b	
Descriptor	potentially	potentially	potentially	

Enhancement:

	KC-101	KC-102	KC-103	
Question 1	a	a	a	
Question 2	c	a	c	
Question 3	b	a	a	
Question 4	c	b	a	
Question 5	a	a	a	
Question 6	b	b	b	
Descriptor	moderate	high	high	

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID: KC-507 KC-510

Wildlife Habitat:

	KC-507	KC-510		
Question 1	c	b		
Question 2	c	c		
Question 3	c	b		
Question 4	na	na		
Question 5	b	b		
Question 6	b	b		
Question 7	a	a		
Question 8	b	b		
Question 9	b	b		
Descriptor	some spp	some spp		

Fish Habitat:

Streams & Rivers

	KC-507	KC-510		
Question 1	na	na		
Question 2	na	na		
Question 3	na	na		
Question 4	na	na		
Question 5	na	na		
Question 6	na	na		

Lakes & Ponds

	KC-507	KC-510		
Question 1	na	na		
Question 2	na	na		
Question 3	na	na		
Question 4	na	na		
Question 5	na	na		
Question 6	na	na		
Descriptor				

Water Quality:

	KC-507	KC-510		
Question 1	b	b		
Question 2	c	c		
Question 3	a	a		
Question 4	b	b		
Question 5	b	b		
Question 6	c	c		
Descriptor	impacted	impacted		

Hydrologic:

	KC-507	KC-510		
Question 1	b	b		
Question 2	c	c		
Question 3	b	b		
Question 4	c	c		
Question 5	c	c		
Question 6	b	b		
Question 7	b	b		
Descriptor	impacted	impacted		

Sensitivity:

	KC-507	KC-510		
Question 1	a	a		
Question 2	a	a		
Question 3	c	c		
Question 4	b	b		
Question 5	a	a		
Question 6	b	b		
Descriptor	sensitive	sensitive		

Enhancement:

	KC-507	KC-510		
Question 1	a	a		
Question 2	c	c		
Question 3	a	a		
Question 4	b	b		
Question 5	b	b		
Question 6	c	c		
Descriptor	moderate	moderate		

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID: MC-101 MC-501

Wildlife Habitat:

Question 1	a	b		
Question 2	b	c		
Question 3	b	c		
Question 4	c	na		
Question 5	a	b		
Question 6	a	b		
Question 7	a	a		
Question 8	a	b		
Question 9	a	a		
Descriptor	diverse	some spp		

Fish Habitat:

Streams & Rivers

Question 1	a	na		
Question 2	b	na		
Question 3	c	na		
Question 4	a	na		
Question 5	a	na		
Question 6	c	na		

Lakes & Ponds

Question 1	c	na		
Question 2	c	na		
Question 3	c	na		
Question 4	a	na		
Question 5	a	na		
Question 6	c	na		
Descriptor	impacted			

Water Quality:

Question 1	a	b		
Question 2	a	c		
Question 3	c	a		
Question 4	c	b		
Question 5	c	b		
Question 6	c	c		
Descriptor	lost	impacted		

Hydrologic:

Question 1	a	b		
Question 2	a	b		
Question 3	c	b		
Question 4	a	c		
Question 5	b	c		
Question 6	c	b		
Question 7	c	b		
Descriptor	impacted	impacted		

Sensitivity:

	MC-101	MC-501		
Question 1	b	a		
Question 2	b	a		
Question 3	c	c		
Question 4	c	b		
Question 5	a	a		
Question 6	c	b		
Descriptor	potentially	potentially		

Enhancement:

	MC-101	MC-501		
Question 1	b	a		
Question 2	a	c		
Question 3	a	a		
Question 4	c	b		
Question 5	a	a		
Question 6	b	b		
Descriptor	moderate	high		

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID:

Wildlife Habitat:

	MS-101	MS-504	MS-507	
Question 1	a	a	a	
Question 2	c	a	a	
Question 3	b	b	b	
Question 4	na	na	na	
Question 5	a	a	a	
Question 6	a	a	a	
Question 7	a	a	a	
Question 8	c	c	c	
Question 9	b	b	b	
Descriptor	some spp	diverse	diverse	

Fish Habitat:

Streams & Rivers

	MS-101	MS-504	MS-507	
Question 1	b	b	b	
Question 2	a	a	a	
Question 3	c	b	b	
Question 4	a	a	a	
Question 5	c	c	c	
Question 6	b	c	c	

Lakes & Ponds

	MS-101	MS-504	MS-507	
Question 1	na	na	na	
Question 2	na	na	na	
Question 3	na	na	na	
Question 4	na	na	na	
Question 5	na	na	na	
Question 6	na	na	na	
Descriptor	impacted	impacted	impacted	

Water Quality:

	MS-101	MS-504	MS-507	
Question 1	c	c	c	
Question 2	a	b	a	
Question 3	a	a	a	
Question 4	b	b	a	
Question 5	a	a	a	
Question 6	c	c	c	
Descriptor	impacted	impacted	impacted	

Hydrologic:

	MS-101	MS-504	MS-507	
Question 1	a	a	a	
Question 2	a	b	a	
Question 3	b	b	a	
Question 4	b	b	b	
Question 5	c	a	a	
Question 6	a	a	a	
Question 7	a	a	a	
Descriptor	intact	intact	intact	

Sensitivity:

	MS-101	MS-504	MS-507	
Question 1	b	b	b	
Question 2	b	b	b	
Question 3	c	c	c	
Question 4	a	a	a	
Question 5	a	a	a	
Question 6	b	a	b	
Descriptor	potentially	potentially	potentially	

Enhancement:

	MS-101	MS-504	MS-507	
Question 1	a	a	a	
Question 2	b	b	b	
Question 3	na	na	na	
Question 4	b	b	a	
Question 5	b	b	b	
Question 6	b	b	b	
Descriptor	high	high	high	

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID:	**RC-105**	**RC-106**	**RC-107**	**RC-108**

Wildlife Habitat:

Question 1	a	a	b	b
Question 2	b	c	c	a
Question 3	c	c	c	c
Question 4	c	na	na	b
Question 5	b	b	a	b
Question 6	c	a	a	b
Question 7	a	a	b	b
Question 8	a	b	c	b
Question 9	a	b	b	b
Descriptor	diverse	some spp	some spp	some spp

Fish Habitat:

Streams & Rivers

Question 1	na	na	na	na
Question 2	na	na	na	na
Question 3	na	na	na	na
Question 4	na	na	na	na
Question 5	na	na	na	na
Question 6	na	na	na	na

Lakes & Ponds

Question 1	na	na	c	na
Question 2	na	na	c	na
Question 3	na	na	c	na
Question 4	na	na	b	na
Question 5	na	na	c	na
Question 6	na	na	a	na
Descriptor		impacted	impacted	

Water Quality:

Question 1	b	b	c	b
Question 2	c	a	c	a
Question 3	a	a	a	a
Question 4	c	c	c	b
Question 5	c	b	a	b
Question 6	c	c	b	b
Descriptor	lost	impacted	impacted	intact

Hydrologic:

Question 1	b	b	b	b
Question 2	c	a	c	a
Question 3	c	c	c	b
Question 4	a	c	c	c
Question 5	c	c	c	a
Question 6	c	b	a	b
Question 7	a	b	a	a
Descriptor	lost	impacted	lost	impacted

	RC-105	**RC-106**	**RC-107**	**RC-108**

Sensitivity:

Question 1	na	a	a	a
Question 2	b	b	b	a
Question 3	c	c	b	b
Question 4	c	b	a	b
Question 5	a	a	a	a
Question 6	b	b	b	a
Descriptor	potential	potential	potential	potential

Enhancement:

Question 1	b	a	b	a
Question 2	c	c	b	c
Question 3	na	na	na	na
Question 4	c	c	c	b
Question 5	a	a	b	c
Question 6	b	b	b	b
Descriptor	little	moderate	moderate	moderate

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID:	**RC-109**	**RC-110**	**RC-111**	**RC-112**
Wildlife Habitat:				
Question 1	b	b	a	a
Question 2	a	c	c	c
Question 3	b	c	c	c
Question 4	na	na	na	na
Question 5	b	a	a	a
Question 6	b	a	a	a
Question 7	b	a	a	a
Question 8	c	c	c	c
Question 9	a	c	c	c
Descriptor	some spp	some spp	some spp	some spp
Fish Habitat:				
Streams & Rivers				
Question 1	na	c	c	na
Question 2	na	a	b	na
Question 3	na	c	c	na
Question 4	na	a	a	na
Question 5	na	c	c	na
Question 6	na	c	c	na
Lakes & Ponds				
Question 1	na	na	na	na
Question 2	na	na	na	na
Question 3	na	na	na	na
Question 4	na	na	na	na
Question 5	na	na	na	na
Question 6	na	na	na	na
Descriptor		impacted	impacted	
Water Quality:				
Question 1	b	b	c	c
Question 2	a	c	b	a
Question 3	a	a	a	a
Question 4	b	b	b	b
Question 5	a	a	a	a
Question 6	b	c	c	c
Descriptor	intact	impacted	impacted	impacted
Hydrologic:				
Question 1	a	b	b	b
Question 2	a	c	b	a
Question 3	b	b	b	b
Question 4	a	c	c	b
Question 5	a	c	c	c
Question 6	a	a	a	a
Question 7	a	a	a	a
Descriptor	intact	impacted	impacted	impacted

	RC-109	**RC-110**	**RC-111**	**RC-112**
Sensitivity:				
Question 1	a	a	a	a
Question 2	a	b	b	b
Question 3	b	c	c	c
Question 4	a	a	a	a
Question 5	a	a	a	a
Question 6	a	b	b	b
Descriptor	potential	potential	potential	potential
Enhancement:				
Question 1	a	a	a	a
Question 2	c	c	b	b
Question 3	na	na	na	na
Question 4	b	b	b	b
Question 5	a	c	c	c
Question 6	b	b	b	b
Descriptor	high	moderate	high	high

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID: RC-113 RC-114 RC-115

Wildlife Habitat:

Question 1	b	c	b	
Question 2	a	c	b	
Question 3	b	c	b	
Question 4	na	na	c	
Question 5	a	b	a	
Question 6	a	b	a	
Question 7	b	na	a	
Question 8	c	b	b	
Question 9	a	c	c	
Descriptor	diverse	some spp	some spp	

Fish Habitat:

Streams & Rivers

Question 1	a	na	na	
Question 2	a	na	na	
Question 3	a	na	na	
Question 4	b	na	na	
Question 5	c	na	na	
Question 6	b	na	na	

Lakes & Ponds

Question 1	na	na	c	
Question 2	na	na	c	
Question 3	na	na	c	
Question 4	na	na	a	
Question 5	na	na	b	
Question 6	na	na	c	
Descriptor	intact		impacted	

Water Quality:

Question 1	c	b	b	
Question 2	b	c	b	
Question 3	a	c	a	
Question 4	b	b	b	
Question 5	a	b	b	
Question 6	b	na	c	
Descriptor	impacted	impacted	impacted	

Hydrologic:

Question 1	a	b	b	
Question 2	b	c	b	
Question 3	c	b	b	
Question 4	c	c	b	
Question 5	a	c	b	
Question 6	a	b	a	
Question 7	a	b	b	
Descriptor	intact	impacted	impacted	

Wetland ID: RC-113 RC-114 RC-115

Sensitivity:

Question 1	a	a	b	
Question 2	b	a	b	
Question 3	b	na	c	
Question 4	c	b	b	
Question 5	a	b	a	
Question 6	a	b	c	
Descriptor	potentially	potentially	potentially	

Enhancement:

Question 1	a	b	a	
Question 2	b	c	c	
Question 3	na	na	na	
Question 4	c	b	b	
Question 5	a	c	c	
Question 6	b	b	b	
Descriptor	high	little	moderate	

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID:	**RC-506**	**RC-507**	**RC-508**	**RC-509**
Wildlife Habitat:				
Question 1	c	c	c	b
Question 2	a	c	c	a
Question 3	c	c	c	b
Question 4	na	na	na	na
Question 5	b	b	c	b
Question 6	b	b	b	b
Question 7	a	a	b	b
Question 8	b	b	b	c
Question 9	b	b	c	a
Descriptor	some spp	some spp	some spp	some spp
Fish Habitat:				
Streams & Rivers				
Question 1	na	na	na	na
Question 2	na	na	na	na
Question 3	na	na	na	na
Question 4	na	na	na	na
Question 5	na	na	na	na
Question 6	na	na	na	na
Lakes & Ponds				
Question 1	na	na	na	na
Question 2	na	na	na	na
Question 3	na	na	na	na
Question 4	na	na	na	na
Question 5	na	na	na	na
Question 6	na	na	na	na
Descriptor				
Water Quality:				
Question 1	b	b	b	b
Question 2	c	b	c	b
Question 3	a	a	a	b
Question 4	b	b	b	b
Question 5	b	b	b	a
Question 6	c	c	b	b
Descriptor	impacted	impacted	impacted	impacted
Hydrologic:				
Question 1	b	b	b	a
Question 2	c	b	c	b
Question 3	b	b	b	b
Question 4	c	c	c	a
Question 5	a	c	c	a
Question 6	b	b	b	a
Question 7	b	b	b	a
Descriptor	impacted	impacted	impacted	intact

	RC-506	**RC-507**	**RC-508**	**RC-509**
Sensitivity:				
Question 1	a	a	a	a
Question 2	a	a	a	a
Question 3	c	c	b	b
Question 4	b	b	b	a
Question 5	a	a	a	a
Question 6	a	c	b	a
Descriptor	potentially	potentially	potentially	potentially
Enhancement:				
Question 1	a	a	a	a
Question 2	c	c	c	c
Question 3	a	a	na	na
Question 4	b	b	b	b
Question 5	b	b	c	b
Question 6	b	b	b	b
Descriptor	high	high	moderate	high

Summary:

HAPPY VALLEY LOCAL WETLANDS INVENTORY

OFWAM Answer Sheet and Function and Condition Summary

VIGIL AGRIMIS design professionals

Wetland ID: RC-510 RC-512

Wildlife Habitat:

Question 1	b	b		
Question 2	c	c		
Question 3	b	c		
Question 4	na	na		
Question 5	b	b		
Question 6	a	b		
Question 7	a	a		
Question 8	b	b		
Question 9	c	c		
Descriptor	some spp	some spp		

Fish Habitat:

Streams & Rivers

Question 1	na	na		
Question 2	na	na		
Question 3	na	na		
Question 4	na	na		
Question 5	na	na		
Question 6	na	na		

Lakes & Ponds

Question 1	na	na		
Question 2	na	na		
Question 3	na	na		
Question 4	na	na		
Question 5	na	na		
Question 6	na	na		
Descriptor				

Water Quality:

Question 1	b	b		
Question 2	b	c		
Question 3	a	c		
Question 4	a	c		
Question 5	b	b		
Question 6	c	c		
Descriptor	impacted	lost		

Hydrologic:

Question 1	b	b		
Question 2	b	c		
Question 3	a	b		
Question 4	c	c		
Question 5	c	c		
Question 6	b	b		
Question 7	a	a		
Descriptor	impacted	impacted		

Sensitivity:

	RC-510	RC-512		
Question 1	a	a		
Question 2	a	a		
Question 3	c	c		
Question 4	b	b		
Question 5	a	b		
Question 6	b	b		
Descriptor	potentially	potentially		

Enhancement:

	RC-510	RC-512		
Question 1	a	a		
Question 2	c	c		
Question 3	na	na		
Question 4	a	b		
Question 5	c	c		
Question 6	a	b		
Descriptor	moderate	moderate		

Summary:

APPENDIX D

WETS Tables

WETS Station : PORTLAND WB CITY, OR6749 Creation Date: 09/09/2002
Latitude: 4531 Longitude: 12241 Elevation: 00160
State FIPS/County(FIPS): 41051 County Name: Multnomah
Start yr. - 1973 End yr. - 2000

Month	Temperature (Degrees F.) avg daily max	avg daily min	avg	Precipitation (Inches) avg	30% chance will have less than	30% chance will have more than	avg # of days w/.1 or more	avg total snow fall
January	46.2	36.4	41.3	6.05	3.77	7.31	12	1.2
February	50.6	38.5	44.5	5.29	3.57	6.32	11	0.9
March	56.2	40.8	48.5	4.44	3.39	5.17	11	0.1
April	61.4	43.9	52.7	3.13	2.18	3.71	9	0.0
May	67.3	48.6	57.9	2.58	1.59	3.12	7	0.0
June	73.2	53.2	63.2	1.59	0.85	1.94	4	0.0
July	79.0	57.0	68.0	0.81	0.36	1.00	2	0.0
August	79.4	57.4	68.4	1.02	0.30	1.23	2	0.0
September	74.9	54.1	64.5	1.75	0.74	2.20	4	0.0
October	63.4	47.5	55.5	3.39	1.85	4.14	7	0.0
November	52.2	41.4	46.8	6.59	4.40	7.90	13	0.4
December	46.0	36.8	41.4	6.46	4.43	7.71	12	0.9
Annual	-----	-----	-----	------	35.06	46.11	--	----
Average	62.5	46.3	54.4	------	------	------	--	----
Total	-----	-----	-----	43.10	------	------	94	3.5

GROWING SEASON DATES

Probability	Temperature 24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	> 365 days	1/26 to 12/27	2/22 to 11/30
	> 365 days	335 days	282 days
70 percent *	> 365 days	> 365 days	2/13 to 12/ 9
	> 365 days	> 365 days	300 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1973-2002 prcp

Station : OR6749, PORTLAND WB CITY
------- Unit = inches

yr	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	annl
73								1.66	3.76	3.81	13.46	9.88	32.57
74	9.07	4.85	6.43	2.64	2.17	0.86	2.27	0.14	0.15	2.22	7.13	6.93	44.86
75	8.83	6.03	5.02	2.48	1.97	1.22	0.41	2.84	0.00	5.67	4.71	6.74	45.92
76	6.07	5.41	3.41	2.63	1.74	0.92	0.75	2.50	0.93	1.73	1.13	1.36	28.58
77	1.26	2.71	4.10	0.63	4.39	0.99	1.05	3.57	4.69	3.51	5.87		32.77
78	5.93	3.81	1.73	3.53	3.70	1.41	1.17	2.36	M3.58	0.48	4.08	2.85	34.63
79	M3.04	7.00	2.58	2.83	2.18	0.39	0.25				M4.58	M7.35	30.20
80	8.88	4.51	4.45	3.11	2.16	2.77	0.18	0.21	2.06	1.25	7.09	10.27	46.94
81	1.67	3.84	2.74	3.11	1.81	4.03	0.21	0.04	2.76	4.57	5.99	10.34	41.11
82	8.76	7.10	3.61	4.89	0.59	0.99	0.83	1.92	3.33	4.96	3.84	9.40	50.22
83	7.71	9.05	7.31	2.44	2.38	2.04	2.94	2.01	0.47	1.92	10.73	5.79	54.79
84	2.38	4.05	4.32	4.38	4.09	4.48	0.00	0.08	1.99	4.60	10.69	3.38	44.44
85	0.27		4.06	1.14	0.88	2.28	0.12	0.99	2.71	3.05		2.20	17.70
86	5.87	7.15	2.78	1.32	2.33	0.32	1.86	0.04	2.96	2.09	6.36	4.23	37.31
87	7.33	2.99	6.50	2.45	1.88	0.20	1.56	0.46	0.36	0.28	1.97	9.19	35.17
88	6.31	1.38	4.08	5.08	2.97	2.20	0.26	0.11	1.66	0.33	8.34	3.04	35.76
89	4.43	2.64	8.74	1.63	3.57	0.97	1.01	1.11	1.13	1.68	4.46	3.82	35.19
90	8.51	5.44	2.68	3.01		1.89	1.10	1.04	0.52	5.87	4.88	3.74	38.68
91	3.66	4.92	4.52	4.02	4.13	2.43		0.93	0.10	2.17	7.44	4.88	39.20
92	5.04	4.58	1.78	5.06	0.13	0.56	0.45	0.25	1.33	3.17	5.45	6.84	34.64
93	3.60	0.96	5.20	6.31	4.02	1.94	1.42	0.18	0.00	1.44	1.79	6.86	33.72
94	4.95	6.11	2.72	2.31	1.23	1.10	0.07	0.14	1.63	9.02	7.49	6.53	43.30
95	7.44	M5.22	5.02	M4.19	1.13	2.29	0.98	1.69	2.14	M4.35	11.71	7.84	54.00
96	8.56	12.43	4.46	5.95	4.84	0.09	M0.49	0.50	3.22	M6.17	9.72	16.28	72.71
97	8.86	2.14	8.24	3.78	2.46	1.62	0.64	1.55	2.84	7.58	5.19	M4.01	48.91
98	M7.76	6.80	M4.21	1.49	5.18	1.61	0.34	0.00	1.02	3.57	13.36	M9.21	54.55
99	8.97	11.39	5.67	M1.61	M2.59	M2.45	0.38	M1.12	0.19	2.89	7.67	7.67	52.60
0	8.08	4.96	3.62	2.39	2.51	M0.90	M0.25	0.15	1.76	3.19	M2.91	M3.85	34.57
1	M1.99	1.79	3.73	3.09	1.12	1.40	0.46	0.87	0.66	4.37	M7.44	M7.83	34.75
2													

WETS Station : PORTLAND WSFO, OR6751 Creation Date: 09/09/2002
Latitude: 4536 Longitude: 12236 Elevation: 00020
State FIPS/County(FIPS): 41051 County Name: Multnomah
Start yr. - 1971 End yr. - 2000

Month	Temperature (Degrees F.)			Precipitation (Inches)				
					30% chance will have		avg # of days w/.1 or more	avg total snow fall
	avg daily max	avg daily min	avg	avg	less than	more than		
January	46.0	34.6	40.3	5.07	2.98	6.16	11	1.1
February	50.8	36.4	43.6	4.18	2.84	4.98	10	1.4
March	56.4	39.3	47.8	3.71	2.85	4.31	10	0.1
April	61.4	42.6	52.0	2.64	1.93	3.10	7	0.0
May	67.7	48.1	57.9	2.38	1.44	2.88	6	0.0
June	73.6	53.2	63.4	1.59	0.94	1.93	4	0.0
July	80.1	57.4	68.7	0.72	0.31	0.89	1	0.0
August	80.6	57.7	69.1	0.93	0.33	1.13	2	0.0
September	75.6	52.8	64.2	1.65	0.65	2.06	3	0.0
October	64.3	45.4	54.8	2.88	1.57	3.52	7	0.0
November	52.5	40.0	46.3	5.61	3.72	6.73	12	0.6
December	46.0	35.3	40.6	5.71	3.89	6.82	11	1.3
Annual	-----	-----	-----	------	32.85	40.58	--	----
Average	62.9	45.2	54.1	------	------	------	--	----
Total	-----	-----	-----	37.07	------	------	84	4.4

GROWING SEASON DATES

Probability	Temperature		
	24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	1/22 to 12/27 340 days	2/15 to 11/29 288 days	3/22 to 11/13 236 days
70 percent *	> 365 days > 365 days	2/ 6 to 12/ 8 306 days	3/15 to 11/19 249 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1942-2002 prcp

Station : OR6751, PORTLAND WSFO
------- Unit = inches

yr	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	annl
42	3.63	M3.53	1.63								11.57	9.37	29.73
43	M5.50	3.27	5.54								M2.20	2.70	19.21
44	2.81	3.11	1.93								5.00	1.90	14.75
45	4.10	4.36	5.30								8.58	5.61	27.95
46	5.12	4.99	4.23								7.57	5.47	27.38
47	3.72	2.77	4.11								4.08	4.64	19.32
48	5.87	5.02	4.24						3.28	2.39	M6.64	M7.84	35.28
49	1.02	9.46	2.78	0.72	M2.12	0.68	0.91	0.24	1.66	2.35	5.56	4.86	32.36
50	10.10	5.77	4.76	2.74	0.57	M2.31	0.50	0.72	M1.45	M6.29	M8.55	6.31	50.07
51	7.71	M4.29	3.86	1.14	1.75	0.03	0.28	0.02	2.55	6.81	5.31	5.06	38.81
52	4.40	3.59	3.82	M2.55	0.78	2.23	M0.00	0.18	0.33	0.72	M1.25	6.76	26.61
53	12.78	3.71	M3.81	1.89	M3.41	2.04	0.03	1.79	1.16	3.56	6.46	M7.84	48.48
54	M8.85	4.57	2.55	2.54	1.83	3.58	M1.23	1.92	0.85	3.40	5.09	5.01	41.42
55	M2.03	M3.26	3.06	4.72	1.24	M1.78	0.89	0.00	2.86	M6.53	7.34	10.14	43.85
56	11.66	2.04	M3.93	0.53	M2.22	2.03	0.01	2.56	M0.73	5.10	1.47	3.64	35.92
57	M2.14	4.14	7.52	1.84	1.97	0.73	0.19	0.69	0.49	3.53	M2.79	6.15	32.18
58	6.56	5.13	2.20	3.33	1.35	3.04	0.00	0.02	1.05	1.49	6.39	5.06	35.62
59	7.57	4.18	3.22	0.92	2.89	2.38	0.56	M0.09	2.81	3.51	3.30	3.08	34.51
60	3.93	4.00	4.77	3.33	3.37	0.52	0.00	1.00	1.37	2.39	8.63	2.61	35.92
61	4.50	M6.86	M5.32	3.59	2.80	0.47	0.42	1.07	0.64	2.89	4.67	5.94	39.17
62	1.58	3.43	4.25	3.15	2.56	0.78	0.06	1.49	1.66	M3.03	9.32	2.59	33.90
63	2.27	3.48	4.69	3.78	2.74	1.71	1.17	0.87	0.75	3.04	5.64	3.60	33.74
64	9.51	0.78	2.28	1.56	1.04	1.96	0.68	0.90	1.61	0.84	6.78	9.92	37.86
65	7.44	2.22	1.10	2.20	1.31	0.83	0.44	0.73	0.01	2.03	5.64	7.34	31.29
66	5.74	1.70	4.71	0.85	0.91	1.02	1.19	0.59	1.70	3.06	5.50	6.89	33.86
67	6.21	2.02	4.31	2.17	1.02	1.01	0.00	0.00	0.76	4.72	2.27	4.75	29.24
68	4.58	6.64	2.68	1.91	3.63	2.20	0.14	4.53	2.20	5.03	6.23	11.12	50.89
69	7.61	3.14	1.13	2.28	1.61	2.99	0.14	0.04	3.86	3.02	3.18	8.12	37.12
70	11.81	4.77	2.58	2.94	1.55	0.49	0.05	0.00	1.10	2.85	5.72	7.49	41.35
71	7.09	3.36	4.87	2.72	1.00	1.76	0.26	0.95	3.53	2.37	5.76	8.05	41.72
72	5.71	4.08	5.41	2.98	2.23	0.68	0.56	0.67	3.06	0.87	3.78	8.79	38.82
73	3.69	1.94	2.45	1.33	1.43	1.45	0.06	1.41	3.29	3.14	11.55	9.93	41.67
74	8.51	4.61	5.65	1.76	1.74	0.80	2.01	0.07	0.21	2.14	6.73	6.05	40.28
75	8.43	4.75	3.45	1.88	1.35	1.13	0.43	2.10	0.00	4.76	4.10	6.68	39.06
76	5.14	4.92	2.93	2.34	2.29	0.78	0.66	3.29	0.73	1.48	0.77	1.38	26.71
77	1.07	2.49	3.50	1.04	4.30	0.83	0.39	3.26	3.33	2.28	5.56	8.98	37.03
78	4.85	3.28	1.49	3.96	3.17	1.69	1.36	2.05	2.07	0.36	3.83	2.51	30.62
79	2.59	6.53	2.51	2.47	2.41	0.64	0.25	1.18	1.75	4.85	3.38	7.23	35.79
80	8.51	4.01	3.11	2.58	2.19	2.50	0.19	0.39	1.56	1.18	6.47	9.72	42.41
81	1.47	3.86	2.33	1.79	2.25	3.23	0.24	0.15	1.86	4.12	4.62	8.37	34.29
82	6.31	5.98	2.38	3.56	0.46	1.66	0.94	1.66	3.98	4.44	3.51	8.16	43.04
83	6.23	7.78	6.80	1.87	1.30	1.95	2.68	2.29	0.39	1.95	8.65	5.30	47.19
84	2.01	3.93	3.19	3.20	3.41	4.06	0.00	0.09	1.46	3.85	9.74	2.56	37.50
85	0.06	1.79	3.08	1.07	1.52	2.34	0.55	0.48	2.76	2.75	3.89	2.19	22.48
86	4.65	5.31	2.60	1.91	2.19	0.23	1.20	0.10	4.30	1.99	6.26	4.30	35.04
87	6.93	2.45	4.91	1.94	1.63	0.14	1.03	0.35	0.30	0.27	1.96	8.00	29.91
88	4.95	1.17	3.13	4.57	2.53	2.34	0.69	0.10	1.76	0.19	7.92	2.37	31.72
89	3.30	2.84	6.73	2.08	2.87	0.78	0.91	1.07	1.48	1.73	3.18	3.08	30.05
90	7.95	3.43	2.52	2.31	2.37	1.94	0.32	0.95	0.34	4.65	3.68	2.40	32.86
91	2.56	3.65	4.64	4.05	3.34	2.31	0.07	0.70	0.02	1.51	6.36	4.34	33.55
92	4.31	4.12	1.87	3.82	0.10	0.60	0.67	0.49	1.12	2.87	4.55	4.98	29.50
93	3.06	0.72	4.39	5.26	4.36	1.69	2.41	0.37	0.00	1.59	1.50	5.01	30.36
94	3.56	4.92	1.84	1.91	0.56	1.67	0.07	0.13	1.13	8.41	5.91	4.85	34.96
95	5.56	3.19	3.82	3.49	1.65	2.62	1.23	0.81	1.31	3.15	10.74	5.91	43.48
96	7.15	10.03	3.24	5.12	4.88	0.44	0.73	0.25	3.05	5.38	9.58	13.35	63.20
97	7.32	1.63	7.14	3.73	3.63	2.83	0.52	1.58	1.98	6.40	4.02	3.03	43.81
98	6.77	5.27	4.06	1.04	5.55	1.73	0.59	0.00	1.09	2.16	11.02	6.74	46.02
99	6.63	8.73	4.03	1.56	1.97	1.73	0.51	0.75	0.10	2.44	6.81	3.62	38.88
0	5.66	4.50	3.21	1.82	2.70	1.19	0.15	0.12	1.67	3.25	2.46	3.47	30.20
1	1.47	1.29	3.11	2.85	0.91	1.79	0.95	0.74	0.70	3.12	6.89	6.62	30.44
2													