

CITY OF HILLSBORO

GOAL 5 NATURAL RESOURCE

INVENTORY AND ASSESSMENT

Prepared for:

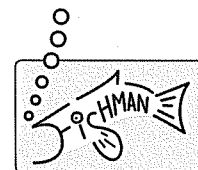
City of Hillsboro
Jennifer Wells, Senior Planner
Patrick Ribellia, AICP, Esq., Planning Supervisor
Winslow Brooks, Planning Director
123 W Main Street
Hillsboro, Oregon 97213

Prepared by:

Fishman Environmental Services, LLC
Consultants in Ecology and Natural Resource Assessment
Project Manager: Daniel Stark
434 NW 6th Avenue, Suite 304
Portland, Oregon 97209-3600
(503) 224-0333
www.fishenserv.com

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CITY OF HILLSBORO GOAL 5 NATURAL RESOURCE INVENTORY AND ASSESSMENT

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CITY OF HILLSBORO

GOAL 5 NATURAL RESOURCE INVENTORY AND ASSESSMENT REPORT

Summary

Fishman Environmental Services, LLC conducted a Local Wetlands Inventory and Assessment, Riparian Corridor Inventory and Assessment, and a Wildlife Habitat Inventory and Assessment for the City of Hillsboro. The study area included the Hillsboro urban growth boundary, unincorporated Washington County islands within the city limits, and the former urban reserve areas 52-55. Total study area boundary acreage is 16,251 acres or 25.4 square miles. This study built upon the 1990-1991 inventory conducted by Lev and Sharp.

Thirty seven stream or Tualatin River-associated wetland units and 5 isolated wetlands were inventoried and assessed. The majority of stream/wetland reaches within the City of Hillsboro study area were determined to be significant under the Oregon Freshwater Wetland Assessment Method (OFWAM), based on their ability to provide high function in one or more of the following categories: wildlife habitat, fish habitat, water quality or hydrologic control, or their ability to provide medium water quality function if located within 0.25 mile of a DEQ water quality listed stream. Five upper reach/headwater areas along Dawson Creek (DwC1), Glencoe Swale (GS1) and Waible Creek tributary (WbCTrib1N, WbCTrib1S, WbCTrib1) were determined to be non-significant.

Three of the five isolated wetlands (W1, W4, W7) in the study area were determined to be significant. Wetlands W5 and W6 were determined to be non-significant.

All riparian corridors were determined to be significant based upon their rating high in one or more of the following five categories: wildlife habitat, water quality protection, ecological integrity, connectivity, and uniqueness. Although many of the historic riparian corridors in the study area have been lost due to residential and industrial development, several streams are bordered by large intact riparian/upland forests with low levels of human disturbance, including Bronson Creek, Glencoe Swale tributary, Gordon Creek, Orenco Creek, and Witch Hazel Creek.

Three isolated upland wildlife habitat units (U1, U8 and U16) were determined to be significant based upon having an uncommon plant community and/or low level of human disturbance and low occurrence of non-native species, such as Himalayan blackberry.

Further information is included in the accompanying report, and the reader is referred to the appendices for summary tables, resource summary sheets, and other information.

Project Description

Project Purpose

The City of Hillsboro is currently (Spring 2000) under Goal 5 periodic review for wetlands (and other Goal 5 resources) and has been granted a 6-month periodic review extension from the Department of Land Conservation and Development (DLCD) for wetlands. The City is required to update its existing natural resource inventory to Local Wetlands Inventory (LWI) standards (OAR 141-86-180 through 141-86-240), Offsite Option.

Background Information

Lev and Sharp conducted the City of Hillsboro's *Inventory of Wetlands, Riparian and Upland Wildlife Habitat Areas in Hillsboro, Oregon* in 1990-1991. The 1991 study area included the Hillsboro City Limits and active planning area excluding Jackson Bottom, totaling approximately 20 square miles in the Tualatin River basin. The inventory focused on the 11 stream corridors present in the study area. The inventory identified streams, wetlands, and forested upland wildlife habitat areas. Distinct boundaries of each resource category were usually not mapped in the 1991 inventory, with the exception of two isolated wetlands and 19 isolated upland wildlife habitat units.

An ESEE (Environmental, Social, Economic and Energy) consequences analysis was prepared for the City's Goal 5 Natural Resource sites by Winterowd Planning Services with Shapiro and Associates in 1993. This document references a Natural Resource Survey map, separate from the inventory map (ASCG & WPS. No date.), that Shapiro used to calculate resource site acreage. The survey map was not located prior to the completion of the 2000 inventory.

Study Area Boundary

The study area boundary for the 2000 inventory includes the Hillsboro urban growth boundary, unincorporated Washington County islands within the city limits, and the area directly abutting the south city limits known as the former urban reserve areas 52-55. Total study area boundary acreage is 16,251 acres or 25.4 square miles. A map of the study area is included in Appendix 1.

Section Data

The study area extends into 41 sections on the Hillsboro, Forest Grove, Scholls, and Linnton, Oregon quadrangles, as follows:

1N, 1W Section 30

1N, 2W Sections 14, 15, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

1N, 3W Sections 24, 25, 36
1S, 2W Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 23
1S, 3W Section 1

Drainage Basins

Two major drainage systems are found in the study area: Dairy Creek - McKay Creek in the west and Rock Creek in the east. Both of these systems drain into the Tualatin River, which is located along portions of the south boundary of the study area. Named and unnamed streams within these systems identified in the 1991 inventory include: Bronson Creek, Rock Creek, Beaverton Creek, Orenco Creek, Dawson Creek, Reedville Creek, Turner Creek, Tributary "D", McKay Creek, Glencoe Swale, Tributary "E", Tributary "F", Dairy Creek, and Tributary "G".

The 1991 Inventory defined the stream reaches as follows (stream unit abbreviations were reassigned in the 2000 inventory for greater clarity; see page 11):

Beaverton Creek

BC 216th to Rock Creek

Bronson Creek

B-1 185th to Walker Road
B-2 Walker Road to Oregon Graduate Center [OGI]
B-3 OGC to RR Tracks

Dairy Creek

DC Mouth of McKay to Urban Growth Boundary

Dawson Creek

CP1 North of Highway 26 to Evergreen Road
CP2 NEC Plant, Evergreen Road to Shute Road
CP3 Shute Road to Airport Road
CP4 Airport Road to Rock Creek

Glencoe Swale

GS1 25th Avenue to Glencoe Road
GS2 Glencoe Road to McKay Creek

McKay Creek

MC1 Evergreen Road to Hornecker Road
MC2 Hornecker Road to Dairy Creek

Orenco Creek

- C1 231st to Moore Court
- C2 Moore Court to Baseline Road
- C3 Baseline Road to Rock Creek

Reedville Creek

- R1 219th to 239th
- R2 239th to Rock Creek

Rock Creek

- RC1 Highway 26 to Evergreen Parkway
- RC2 Evergreen Parkway to Cornell Road
- RC3 Cornell Road to 216th
- RC4 216th to Baseline Road
- RC5 Baseline to Brookwood
- RC6 Brookwood to Tualatin River

Tributary D

- D1 Cypress to Target
- D2 Target to 2643 TV Highway
- D3 2643 TV Highway

Tributary E

- E Jackson School road to Glencoe Swale

Tributary F

- F Jacobson Road to Shute Road

Tributary G

- TG Witch Hazel Road to Urban Growth Boundary

Turner Creek

- TC1 Cornell to Turner Creek Park
- TC2 Turner Creek Park to Rock Creek

Scope of Work

Local Wetlands Inventory

A Local Wetlands Inventory has been prepared in accordance with the Division of State Lands (DSL; OAR 141-86-180 through 141-86-240), Offsite Option. The following Onsite Option items were included in the Offsite Option protocol: wetland description, plant community description, and wetland-upland boundary characteristics description on the wetland summary sheets (see Appendix 2). Mapping protocol follows the DSL LWI rules and wetland boundaries have been digitized in an ESRI-compatible format for use by the City and DSL.

Wetland Assessment and Determination of Locally Significant Wetlands

Wetlands mapped according to LWI standards within the study area have been assessed using a modified Oregon Freshwater Wetland Assessment Method (OFWAM). The evaluation consisted of two levels of assessment: Level 1 assessment included evaluating Wildlife Habitat, Fish Habitat, Water Quality, and Hydrologic Control functions. Per the Division of State Lands Administrative Rules for Identifying Significant Wetlands (OAR 141-86-300 through 141-86-350), if the assessed wetland unit provided *diverse* wildlife habitat, *intact* fish habitat, *intact* water quality function, or *intact* hydrologic control function, then the wetland was determined to be significant. If the wetland unit did not meet the first tier of significance criteria, then the unit underwent Level 2 assessment. Level 2 assessment included all the other parameters of the mandatory Locally Significant Wetland criteria, such as (but not limited to) the wetland is within 1/4 mile of a water quality limited water body (DEQ's 303(d) list), and its water quality function is *intact* or *impacted or degraded*; or the wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and the wetland is determined to have *intact or impacted or degraded* fish habitat function; or the wetland is publicly owned and determined to *have educational uses* using OFWAM, and such use by a school or organization is documented for the site.

Riparian Corridor Inventory and Upland Wildlife Habitat Inventory and Assessment

Riparian corridor and wildlife habitat inventory methods are not precisely defined in the Goal 5 OAR. In the Hillsboro inventory, the FES method for offsite inventory preparation includes identification of wetlands, riparian corridors, and wildlife habitat. While preparing an offsite inventory it is not possible to identify the exact boundary of the riparian area. While not precisely defined, the riparian corridor resource is captured as part of the stream, wetland, and wildlife habitat areas mapped on the inventory.

The process of determining an exact location of a riparian corridor requires an onsite resource delineation. Even among the experts, the definition of "riparian" and the position of the boundary is often debated. For the purposes of Goal 5 the definition reads:

(b) "Riparian area" is the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.

(c) "Riparian corridor" is a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.

(d) "Riparian corridor boundary" is an imaginary line that is a certain distance upland from the top of bank, for example, as specified in section (5) of this rule.

(5) As a safe harbor in order to address the requirements under OAR 660-023-0030, a local government may determine the boundaries of significant riparian corridors within its jurisdiction using a standard setback distance from all fish-bearing lakes and streams shown on the documents listed in subsections (a) through (f) of section (4) of this rule, as follows:

(a) Along all streams with average annual stream flow greater than 1,000 cubic feet per second (cfs) the riparian corridor boundary shall be 75 feet upland from the top of each bank.

(b) Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank.

(c) Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.

(d) In areas where the top of each bank is not clearly defined, or where the predominant terrain consists of steep cliffs, local governments shall apply OAR 660-023-0030 rather than apply the safe harbor provisions of this section.

Goal 5 provides a Safe Harbor optional course of action (which applies the minimum distances above) rather than following the standard Goal 5 process, including the ESEE decision process.

When choosing the standard inventory method [OAR 660-023-0030] Goal 5 requires [660-023-0110] that the wildlife habitat inventory, at a minimum, include:

(a) Threatened, endangered, and sensitive wildlife species habitat information;

(b) Sensitive bird site inventories; and

(c) Wildlife species of concern and/or habitats of concern identified and mapped by ODFW (e.g., big game winter range and migration corridors, golden eagle and prairie falcon nest sites, and pigeon springs).

The wildlife habitat inventory also includes sites meeting the Goal 5 definition of wildlife habitat including those "areas upon which wildlife depend in order to meet their requirements for food, water, shelter, and reproduction".

The intent of the inventory is to identify the wetlands, riparian corridors, and wildlife habitat natural resources that require consideration for protection under Goal 5. Using the standard inventory method each of these resources is captured in the Hillsboro Natural Resource Inventory.

Public Involvement Process

Fishman Environmental Services, LLC has presented the inventory information at two public meetings; the first introduced the project to the planning commission (November 8, 2000) and the second presented the project to the public in an open house format (November 15, 2000). More than 50 citizens attended the November 15th meeting. Citizens provided information on wildlife use and made several refinements to the wetland boundaries. A third public meeting may occur to present final data and discuss the ESEE Goal 5 process and preparation of protective ordinances.

Local Wetlands Inventory and Assessment (OAR 660-023-0090)

Wetland Definition

Wetlands are federally defined as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory, 1987). In other words, wetlands typically display three wetland criteria: a predominance of hydrophytic (wetland) vegetation, the presence of hydric (wet) soils, and wetland hydrology (ponding or near-surface saturated soils for at least 5 percent of the growing season; typically 12 days or so during the growing season, generally March 1 through October 31. The growing season may vary annually.).

Wetland Methodology

Wetlands were identified based on the methodology contained in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), used by the Division of State Lands. Wetlands generally include swamps, marshes, bogs, and similar areas, but also include seasonally wet meadows, farmed wetlands and other areas that may not appear "wet" at all times throughout the year.

The offsite LWI methodology was appropriate for the City of Hillsboro inventory since the majority of wetlands within the study area boundary are associated with stream corridors and are easily identified on aerial photos, and very few isolated wetlands are present in the study area. Additionally, the study area has many road crossings of streams that enable easy visual access to wetland areas associated with stream corridors. We used a large pickup truck for field work that allowed good visual reconnaissance of areas to be made from the road due to the truck's height.

We requested permission to access 21 parcels (11 property owners). The City sent out letters to the property owners requesting written permission to access these parcels, several of which were subsequently walked after the City had received permission from the property owners.

Field work was conducted on June 19 & 21, August 3, September 12, 15 & 21, October 4, 10 & 11, and November 1, 2000. Limited field work was conducted in the former urban reserve areas due to the difficulty viewing most of these streams from off-site. Inventory data for Witch Hazel Creek, Gordon Creek, Butternut Creek and Butternut Creek tributary was supplemented with data from Hillsboro South Urban Reserve Concept Plan (W&H Pacific 1998 in McKeever/Morris, Inc. 1998) and the associated wetland mapping and field notes (Phil Quarterman & Anita Cate Smith June, 1998).

Aerial signatures of wetland and upland habitat types were groundtruthed and are documented in Appendix 3. A sample plot was documented and a wetland determination data sheet was prepared for palustrine forested (PFO), palustrine scrub-shrub (PSS), palustrine emergent (PEM) and upland forest (U) aerial photograph signatures. No data sheet was prepared for palustrine open water (POW) but this signature was visually verified in the field.

Wetland boundaries, habitat type, field observation points, and the 4 aerial photo verification plots were mapped by hand on digital color aerial photographic base maps (July 1998, 1 inch = 400 feet). The study area was contained on seven base maps. Wetland boundaries and other data were then digitized onto July 1999 digital color aerial photographic maps by Dan Stark and Stacy Benjamin.

Other maps reviewed prior to digitizing wetland boundaries included the March 19, 1999 black and white aerial photographs that showed spring hydrology (1 inch = 500 feet), and an overlay map of the National Wetlands Inventory mapping and the hydric soils mapping. Available flood photographs from the February 1996 flood were also reviewed at the Corps of Engineers Portland District to assist in assessing potential wetland areas in agricultural fields that have mapped hydric soils. The central portion of Hillsboro and the southeast portion of the study area boundary along the Tualatin River was covered (the flood coverage does not include the north, west and east portions of the study area).

Three potential agricultural wetlands were mapped in this study. Two potential wetlands (PW) were mapped where hydric soils are mapped on two large agricultural properties located in the former urban reserve areas. These properties were not visible from adjacent roads and therefore are not described on wetland summary sheets. A third potential wetland, unit W6, was viewed from an adjacent road to assess topography and was mapped where a strong aerial photograph signature for soil saturation is present on the 1998 color aerial photo. Potential wetland restoration sites were not mapped in this study but include agricultural fields with mapped hydric soils shown on the aerial photo of the study area with the hydric soils and NWI mapping overlay plotted by FES.

We reviewed all wetland determinations / delineations and wetland removal / fill permits on file at the DSL (see Appendix 4 for list of determinations and permits). Wetland delineation boundaries from maps included in DSL files were hand mapped on the aerial photographs and then digitized.

Wetland habitat types were labeled according to Cowardin class: palustrine forested (PFO), palustrine scrub-shrub (PSS), palustrine emergent (PEM), and palustrine open water (POW). Isolated wetlands that were too small to be inventoried according to DSL rules (<0.5 acre) were labeled TSW (for too small wetland). Several types of man-made ponds were identified in the study area and labeled according to purpose: stormwater pond (SWP), sewage treatment pond (STP), man-made/amenity pond (MMP).

Wetland summary sheets have been prepared for each wetland unit using existing information along with limited ground-truthing and the inclusion of new information. Wetland summary sheets include the site name, site code, drainage basin, acreage (within the study area only), map sheet # (detail map sheets), location, dates of field work, adjacent land use, zoning, Township, Range, and Section location, general description, National Wetland Inventory Classification (percent by type), mapped soils, hydrologic source and description, dominant vegetation, boundary information, wetland functions, significance determination, and recommendations for enhancement.

Wetland Assessment Criteria

Wetlands were assessed using the *Oregon Freshwater Wetland Assessment Methodology* (OFWAM; Roth et al. 1996), which evaluates wetland functions and values relative to other wetlands within the study area. The four functions listed below were assessed for each OFWAM unit, and OFWAM units were rated high, medium or low based on how many of the following criteria were met.

Wildlife Habitat - The following criteria contribute to wetlands having high wildlife habitat function: two or more Cowardin wetland classes (i.e. forested, scrub-shrub, emergent) are present; woody vegetation is the dominant wetland vegetation cover type; there is high interspersed among Cowardin classes; more than one acre of open water is present; the wetland is connected to other wetlands or bodies of water by surface water (stream, lake, pond, ditch, or culvert); no upstream or adjacent stream reaches are listed as water quality limited; the dominant existing land use within 500 feet of the wetland's edge is exclusive forest use or open space; and greater than 40 percent of the wetland's edge is bordered by a vegetated buffer at least 25 feet wide.

Fish Habitat - The following criteria contribute to wetlands having high fish habitat function: more than 75 percent of the stream is shaded by stream-side (riparian) vegetation; the stream is in a natural channel, or modified portions of the stream are returning to a natural channel; more than 25 percent of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks, or boulders; no upstream or adjacent stream reaches are listed as water quality limited; the dominant existing land use within 500 feet of the wetland's edge is exclusive forest use or open space; and salmon, trout or sensitive species are present in a stream, lake or pond associated with the wetland at some time during the year.

Water Quality - The following criteria contribute to wetlands having high water quality function: the wetland's primary source of water is surface flow, including streams and ditches; there is evidence of flooding or ponding during a portion of the growing season; greater than 60 percent of the wetland is covered by vegetation; the wetland is greater than 5 acres; the dominant existing land use within 500 feet of the wetland's edge is

developed uses; and one or more upstream or adjacent stream reaches are listed as water quality limited.

Hydrologic Control - The following criteria contribute to wetlands having high hydrologic control function: the wetland is located within the 100-year floodplain or within an enclosed basin; there is evidence of flooding or ponding during a portion of the growing season; the wetland is greater than 5 acres; waterflow out of the wetland is restricted (beaver dam, concrete structure, undersized culvert) or the wetland has no outlet; woody vegetation is the dominant wetland vegetation cover type; the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland is developed uses; and the dominant land use in the watershed upstream from the assessment area is urban or urbanizing.

Most wetlands in Hillsboro are located along riparian corridors. Stream/wetland corridors were split into separate OFWAM units based on locations where the stream/wetland was bisected by a four lane highway or greater and/or where adjacent land use changed from agricultural to developed. Stream/wetland corridors were not split into separate OFWAM units where the stream/wetland was culverted under a two lane road or the railroad track or lightrail overpass. The limits of the UGB generally coincide with four lane highways, resulting in several OFWAM units ending at the UGB. The OFWAM unit boundaries for the three streams within the former urban reserve areas (Butternut Creek, Butternut Creek tributary, and Gordon Creek) is the former urban reserve areas boundary.

All streams evaluated in the 2000 inventory are listed below. We evaluated all streams mapped in the 1991 inventory and several new tributaries including Butternut Creek, Butternut Creek tributary, Dawson Creek tributary, Gordon Creek, McKay Creek tributary, and small sections of the Tualatin River and Willow Creek. In addition, three small streams that were mapped in the 1991 inventory but were not described are described in this inventory and include Beaverton Creek tributary and Rock Creek tributaries 1 and 4. Stream corridors were divided into one or more reaches according to DSL criteria for conducting OFWAM. It was necessary to revise stream reaches from the 1991 inventory to meet DSL Local Wetlands Inventory Standards and Guidelines established December 15, 1994. Stream corridors were divided into separate reaches where streams were bisected by a major road crossing (4-lanes or greater) and according to changes in adjacent land use. Several stream corridors (Bronson, McKay, Orenco, Reedville, Rock, and Turner Creeks) were divided into fewer, longer reaches in the 2000 inventory based upon these DSL criteria.

Five isolated wetlands were identified within the study area: W1 - Wishing Well wetland, not connected to Rock Creek, not culverted under Aloclek Drive; W4 - Valley Memorial Cemetary wetland, a man-made pond; W5 - Quatama/Lightrail wetland, not connected to Rock Creek, not culverted under the lightrail tracks; W6, a potential agricultural wetland located east of Cornelius Pass Road and north of Cornell Road, not connected to W1 to

the east; and W7, a series of man-made ponds in the Dawson Creek Business Park, not connected to Dawson Creek. The Brookwood School wetland (W2) identified in the 1991 inventory is associated with Rock Creek Tributary 3 and has been incorporated into this OFWAM unit. The location of the Lexington Meadows wetland (W3) identified in the 1991 inventory is unknown (not mapped on the ASCG & WPS Proposed Hillsboro Natural Resource Inventory Map).

The Jackson Bottom Wetlands Preserve and the Hillsboro Landfill Mitigation Wetlands (JB/HL) were also mapped and evaluated in this study.

OFWAM Units

- W1 Wishing Well (Aloclek Road, north of Cornell Road)
- W4 Valley Memorial Cemetery (north of TV Highway)
- W5 Quatama/Lightrail
- W6 Cornelius Pass/Cornell Road
- W7 Dawson Creek Business Park

JB/HL Jackson Bottom/Hillsboro Landfill Wetlands

Beaverton Creek

BeC Cornelius Pass Road (UGB) to Rock Creek

Beaverton Creek Tributary

BeCTrib1 185th (UGB) to Railroad (UGB)

Bronson Creek

BrC 185th (UGB) to Railroad (UGB)

Butternut Creek

BuC 209th to East of 229th (within former URA boundary)

Butternut Creek Tributary

BuCTrib1 West of Vermont Street to East of 229th (within former URA boundary)

Dairy Creek

DrC Mouth of McKay Creek to Railroad (UGB)

Dawson Creek

- DwC1 Jacobson Road to Highway 26
- DwC2 Highway 26 to Evergreen Road
- DwC3 Evergreen Road to Shute Road
- DwC4 Shute Road to Cornell Road
- DwC5 Cornell Road to Rock Creek

Dawson Creek Tributary

DwCTrib1 East of 229th to Dawson Creek

Glencoe Swale

GS1 East of 264th to 25th Avenue

GS2 25th Avenue to Glencoe Road

GS3 Glencoe Road to McKay Creek

Glencoe Swale Tributary

GSTrib1 Jackson School Road to Glencoe Swale

Gordon Creek

GC1 East of 229th; forked

GC1 West of 229th to the Reserve Golf Club (former URA boundary)

McKay Creek

MC East of UGB and north of confluence with Dairy Creek

McKay Creek Tributary

MCTrib1 Jackson Street to McKay Creek

Orenco Creek

OC Campus Court to Rock Creek

Reedville Creek

ReC Cornelius Pass (UGB) to Rock Creek

Rock Creek (includes a few small tribs to Rock Creek)

RoC1 Highway 26 (UGB) to Cornell Road

RoC2 Cornell Road to TV Highway

RoC3 TV Highway to Tualatin River

Rock Creek Tributaries

RoCTrib1 - Rood Bridge Drive to Rock Creek

RoCTrib2 - Cypress Street to Rock Creek

RoCTrib3 - Brookwood School to Rock Creek

RoCTrib4 - Cornell Road to Rock Creek

Tualatin River

TR Vicinity of confluence with Rock Creek

Turner Creek

TC Cornell Road to Rock Creek; forked

Waible Creek Tributary

- WbCTrib1N Jacobson Road to Highway 26
- WbCTrib1S Five Oaks Industrial Park to Highway 26
- WbCTrib1 Highway 26 to Shute Road (UGB)

Willow Creek

- WiC 185th to Beaverton Creek

Witch Hazel Creek

- WHC Witch Hazel Road to Rock Creek

Determination of Significance for Wetland Areas

The 42 wetland units listed above were evaluated using the Oregon Freshwater Wetland Assessment Methodology to determine significance of each wetland unit based on the ability of each unit to provide one or more of the following four wetland functions: wildlife habitat, fish habitat, water quality, and hydrologic control, or their ability to provide medium water quality function if located within 0.25 mile of a DEQ water quality listed stream. The majority of stream/wetland reaches within the study area were determined to be significant, with the exception of a few upper reach/headwater areas along Dawson Creek (DwC1), Glencoe Swale (GS1) and Waible Creek tributary (WbCTrib1N, WbCTrib1S, WbCTrib1). Three of the five isolated wetlands (W1, W4, W7) in the study area were determined to be significant. Wetlands W5 and W6 were determined to be non-significant.

See Appendices 5 and 6 for summary tables of wetland significance and wetland functions. OFWAM evaluation sheets are included in Appendix 7, and OFWAM wetlands of special interest for protection and wetland characterization evaluation sheets are included in Appendix 8.

Wetland acreage within the study area was calculated to be approximately 1,470 acres. Tables showing wetland acreage by habitat type and percent wetland acreage by habitat type for each wetland unit are included in Appendix 9. Overall wetland acreage within the study area is summarized in the following table.

CITY OF HILLSBORO OVERALL WETLAND ACREAGE BY HABITAT TYPE						
	PFO	PFO/PSS	PSS	PSS/PEM	PEM	POW
Acres	560.87	6.75	116.23	144.63	559.57	79.90
Percent	38.2	0.5	7.9	9.9	38.1	5.4

Riparian Corridors (OAR 660-023-0090)

Riparian Corridor Definition

Goal 5 definitions:

"Riparian area" is the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.

"Riparian corridor" is a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.

"Riparian corridor boundary" is an imaginary line that is a certain distance upland from the top of bank...

Mapping

Riparian corridors have been mapped (and digitized) as combinations of stream channels, associated wetlands and wildlife habitat adjacent to streams. Since it is impossible to determine the outer boundaries of riparian areas using the offsite method, the boundary between the riparian corridor resource and the adjacent wildlife habitat resource is not mapped. As a result, some map units are a combination of riparian corridor and wildlife habitat, while others are just the stream channel and adjacent wetlands, where no adjacent wildlife habitat exists.

Riparian corridor summary sheets have been prepared using existing information along with limited ground-truthing and the inclusion of additional new information. Riparian summary sheets include the site name, site code, location, acreage (within the study area only), map sheet # (detail map sheets), dates of field work, adjacent land use, zoning, Township, Range, and Section location, general description, adjacent stream information, mapped soils, dominant vegetation, riparian functions, significance determination, and recommendations for enhancement.

Riparian Corridor Assessment Criteria

The following assessment criteria developed by Fishman Environmental Services, LLC, have been used to assess riparian corridors, as defined for this project. These assessment criteria were also used for wildlife habitat areas (isolated upland forested areas). Wetland areas also provide wildlife habitat but are assessed separately.

Wildlife Habitat - evaluates habitat diversity. Areas with permanent or seasonal water, diverse vegetation and structure (canopy, understory, groundcover), and interspersed plant communities rate high compared to areas without water, low

structural diversity, and/or single type plant communities. Wildlife habitat value also increases with the size of the site and linkage to other habitat areas. Snags and large woody debris increase the value of the habitat.

Water Quality Protection - evaluates the potential of the resource to protect contiguous streams and wetlands. Riparian corridors adjacent to streams maximize water quality protection from surface water runoff if the riparian zone is greater than 50 feet wide, well vegetated, and has a well-established duff layer. Well-vegetated slopes also minimize erosion. Water quality protection rates high on moderate and steep slopes adjacent to a stream if well vegetated; medium if vegetation or duff is patchy; low if hillslopes are eroding or not well-vegetated.

Ecological Integrity - evaluates the condition of native site vegetation. If vegetation is dominated by a mixture of native species with limited invasive species influence, it rates high. Sites with mostly native species and with invasive species that could be removed rate medium. Sites strongly impacted by invasive species (Himalayan blackberry, English ivy, bittersweet nightshade) rate low.

Connectivity - evaluates the importance of linkage or continuity of a resource site to allow wildlife passage between larger habitat units or genetic flow between plant populations. Connectivity rates high if sites are large and connected to Goal 5 resource corridors and low if isolated.

Uniqueness - evaluates the uniqueness of the resource. Uniqueness rates high if the site contains a federal or state categorized species or critical habitat, unique plant community (age, species composition, etc.), or geologic feature; medium for high quality common habitat; low for none of the above.

Other Upland Resource Values (not rated, just comment on summary sheet if appropriate):

Educational Potential - evaluates the suitability of the resource area for educational opportunities for schools, Parks and Recreation Programs, or research opportunities for the scientific community. This value is dependent on safe public access, habitat condition, proximity to schools, and type of resource (uniqueness of habitat for special studies).

Recreation - evaluates the suitability of the resource area for passive recreational activities. This value relies on safe public access, trails, boat launch, aesthetic and scenic values and low probability that recreational use will adversely affect environmental values.

Aesthetic Quality - evaluates the visual and aesthetic quality of the resource area. Natural settings with diverse vegetation and tranquility rate high compared to areas with low

vegetation diversity, constant traffic noise, and unnatural smells. View sheds observed from main roads and noise buffers separating land uses also contribute to aesthetic quality.

All riparian corridors evaluated in the 2000 inventory are listed below. Riparian corridor wildlife habitat summary sheets are included in Appendix 10. Several streams did not have any adjacent riparian / upland forest present in the study area; therefore, there are no riparian corridor data summary sheets included in the inventory for Dairy Creek, Dawson Creek tributary, Waible Creek tributary, Willow Creek and the Tualatin River. These streams and their adjacent wetlands are described on the wetland summary sheets in Appendix 2.

Riparian Corridor Units

BeC-R/U (Beaverton Creek)
BeCTrib1-R/U (Beaverton Creek tributary)
BrC-R/U (Bronson Creek [includes former U17])
BuC-R/U (Butternut Creek)
BuCTrib1-R/U (Butternut Creek tributary)
DwC-R/U (Dawson Creek)
GS-R/U (Glencoe Swale [includes former U5])
GSTrib1-R/U (Glencoe Swale tributary [formerly Tributary E])
GC-R/U (Gordon Creek)
MC-R/U (McKay Creek)
MC Trib1-R/U (McKay Creek tributary)
OC-R/U (Orenco Creek)
ReC-R/U (Reedville Creek [includes former U6 & partial U8])
RoC-R/U (Rock Creek)
RoCTrib1-R/U (Rock Creek tributary 1)
RoCTrib2-R/U (Rock Creek tributary 2 [formerly Tributary D])
RoCTrib3-R/U (Rock Creek tributary 3)
RoCTrib4-R/U (Rock Creek tributary 4)
TC-R/U (Turner Creek)
WHC-R/U (Witch Hazel Creek [formerly Tributary G])

Determination of Significance for Riparian Corridor Areas

Riparian Corridor resource areas were determined to be significant if they rated high in one of the following five categories: wildlife habitat, water quality protection, ecological integrity, connectivity, and uniqueness (this threshold of significance can be modified with input from the City or its citizens, if desired, since Goal 5 does not define how to determine significance for Riparian Corridor resource sites). It should be noted that "significant" means that the resource site is then carried through the Goal 5 process of either applying

Safe Harbors or undergoing further analysis through the ESEE process. The ESEE process determines whether the resource is protected, or whether the conflicting use (residential or industrial development, for example) is allowed or limited. Reference to and inclusion of the existing 1993 ESEE document, where applicable, will be acceptable in the updated ESEE analysis.

All riparian corridors in the study area were determined to be significant due to the importance of riparian areas for water quality protection and as wildlife travel corridors. Although many of the historic riparian corridors in the study area have been lost due to residential and industrial development, several streams are bordered by large intact riparian/upland forests with low levels of human disturbance, including Bronson Creek, Glencoe Swale tributary, Gordon Creek, Orenco Creek, and Witch Hazel Creek.

Riparian corridors also provide habitat that may be used by species listed as threatened or endangered by the Endangered Species Act. Riparian corridors can protect water quality parameters such as temperature, suspended sediment and contaminants of downstream waters that are ESA-listed species habitat. Riparian corridor resources also provide a link or continuity for wildlife movement between significant wildlife habitat. Headwater areas, including intermittent streams, can be important for fish and wildlife resources. These areas can provide good quality water, protection of water quality, insect and organic materials, and other factors for habitat areas downstream.

Riparian areas are important for water quality, flood management, and fish and wildlife resources. Human activities can adversely impact riparian functions. Examples of these activities and their impacts include: vegetation clearing that results in increased erosion or landslides, which impacts the ability of riparian vegetation to provide stream shade or to remove potential contaminants from stormwater; increased impervious surface that raises the quantity of runoff beyond the capacity of the riparian area to control it; removal of mature trees that results in increased wind-throw of riparian trees; and others.

Wildlife Habitat (OAR 660-023-0110)

Wildlife Habitat Definition

Wildlife Habitat resource areas, as defined in this study for the purpose of meeting Goal 5, include isolated upland forested areas. Commercial orchards are excluded, and small clumps of trees and areas with only a few scattered trees were not included as upland forested areas. Also excluded are forested areas with a mowed grass understory (parks) and residential areas with an open forest canopy above and an understory consisting of mostly landscaped areas or yards. Minimum forest size mapped was at least one acre. Meadows were not included in the original 1991 inventory as wildlife habitat areas; this is the proper approach since no native prairie meadows are present within the study area (upland meadows and fields have been modified in some way by plowing, planting, mowing, etc.).

Mapping

Wildlife habitat areas have been mapped (and digitized) as upland forested areas greater than 1 acre in size that are isolated from stream corridors.

Wildlife habitat summary sheets have been prepared using existing information along with limited ground-truthing and the inclusion of additional new information. Wildlife habitat summary sheets include the site name, site code, location, acreage (within the study area only), map sheet # (detail map sheets), dates of field work, adjacent land use, zoning, Township, Range, and Section location, general description, adjacent stream information, mapped soils, dominant vegetation, wildlife habitat functions, significance determination, and recommendations for enhancement.

Wildlife Habitat Assessment Criteria

The following assessment criteria developed by Fishman Environmental Services, LLC, were used to assess wildlife habitat areas, as defined for this project. These assessment criteria were also used for riparian corridors. Wetland areas also provide wildlife habitat but were assessed separately.

Wildlife Habitat - evaluates habitat diversity. Areas with permanent or seasonal water, diverse vegetation and structure (canopy, understory, groundcover), and interspersed plant communities rate high compared to areas without water, low structural diversity, and/or single type plant communities. Wildlife habitat value also increases with the size of the site and linkage to other open space habitat. Snags and large woody debris increase the value of the habitat.

Water Quality Protection - evaluates the potential of the resource to protect contiguous streams and wetlands. Uplands adjacent to streams maximize water quality protection from surface water runoff if the upland area is greater than 50 feet wide, well vegetated, and has a well-established duff layer. Well-vegetated slopes also minimize erosion. Water quality protection rates high on moderate and steep slopes adjacent to a stream if well vegetated; medium if duff is patchy; low if hillslopes are eroding or not well-vegetated.

Ecological Integrity - evaluates the conditions of native site vegetation. If vegetation is dominated by a mixture of native species with limited invasive species influence, it rates high. Sites with mostly native species and with invasive species that could be removed rate medium. Sites strongly impacted by invasive species (Himalayan blackberry, English ivy, bittersweet nightshade) rate low.

Connectivity - evaluates the importance of linkage or continuity of a resource site to allow wildlife passage between larger habitat units or genetic flow between plant populations. Connectivity rates high if sites are large and connected to Goal 5 resource corridors and low if isolated.

Uniqueness - evaluates the uniqueness of the resource. Uniqueness rates high if the site contains a federal or state categorized species or critical habitat, unique plant community (age, species composition, etc.), or geologic feature; medium for high quality common habitat; low for none of the above.

Other Upland Resource Values (not rated, just comment on summary sheet if appropriate):

Educational Potential - evaluates the suitability of the resource area for educational opportunities for schools, Parks and Recreation Programs, or research opportunities for the scientific community. This value is dependent on safe public access, habitat condition, proximity to schools, and type of resource (uniqueness of habitat for special studies).

Recreation - evaluates the suitability of the resource area for passive recreational activities. This value relies on safe public access, trails, boat launch, aesthetic and scenic values and low probability that recreational use will adversely affect environmental values.

Aesthetic Quality - evaluates the visual and aesthetic quality of the resource area. Natural settings with diverse vegetation and tranquility rate high compared to areas with low vegetation diversity, constant traffic noise, and unnatural smells. View sheds observed from main roads and noise buffers separating land uses also contribute to aesthetic quality.

Fourteen upland sites were evaluated in the 1991 inventory (U1 - U14). Five additional upland sites were evaluated by Martin Schott in 1992 (U15 - U19). Several upland units have been either partially or entirely developed since 1991 - 1992 (shown in the list below as strikeout characters). A few of the previously identified upland units were adjacent to streams (U2, U3, U5, U6, U7, U17) and have been incorporated into the riparian corridor resource units. Two new isolated upland wildlife habitat units (U20 & U21) were identified in this study. Isolated wildlife habitat summary sheets are included in Appendix 10.

Wildlife Habitat Units

- U1 Tanasbourne Woods
- U4 Orenco Woods
- U8 Glendale Woods
- ~~U9~~ Frances Street (entire unit has been developed since 1991 inventory)
- ~~U10~~ Lois West (entire unit has been developed since 1991 inventory)
- ~~U11~~ Lois East (entire unit has been developed since 1991 inventory)
- ~~U12~~ NW 268th/Airport (forest cleared due to wildlife hazard at airport)
- U13 Evergreen Road south
- U14 Tanasbourne Woods south
- U15 53rd Avenue
- U16 west side of Primate Center
- ~~U18~~ Reedville Creek (entire unit has been developed since 1991 inventory)
- U19 Stucki Avenue
- U20 Intel-Ronler Acres
- U21 Hillsboro Airport, south of Cornell Road

Determination of Significance for Wildlife Habitat Areas

Wildlife Habitat resource areas were determined to be significant if they rated high in one of the following five categories: wildlife habitat, water quality protection, ecological integrity, connectivity, and uniqueness (this threshold of significance can be modified with input from the City or its citizens, if desired, since Goal 5 does not define how to determine significance for wildlife habitat resource sites). It should be noted that "significant" means that the resource is identified as a Goal 5 resource. Further analysis through the ESEE process is then required to determine whether the resource is protected, or whether the conflicting use (residential or industrial development, for example) is allowed or limited. Reference to and inclusion of the existing 1993 ESEE document, where applicable, will be acceptable in the updated ESEE analysis.

Three isolated upland wildlife habitat units were determined to be significant. Unit U1 was determined to be significant based upon its uncommon plant community containing western flowering dogwood and stands of Pacific yew, its low level of human disturbance, and low occurrence of non-native species. Units U8 and U16 were determined to be

significant based upon their low level of human disturbance and low occurrence of non-native species. These three units provide good small bird and mammal habitat; however, these isolated upland forests are not as valuable as riparian corridor forests due to their isolation from other wildlife habitat areas such as streams and wetlands. The remaining isolated upland wildlife habitat units were determined to be non-significant. Factors resulting in a determination of non-significance include poor vegetation structure and diversity, no adjacent permanent or seasonal water, small size of unit, and high occurrence of non-native species such as Himalayan blackberry and English ivy. The determination of significance/non-significance for isolated upland wildlife habitat areas is summarized in the following table.

CITY OF HILLSBORO UPLAND WILDLIFE HABITAT INVENTORY AND ASSESSMENT DETERMINATION OF SIGNIFICANCE OF ISOLATED WILDLIFE HABITATS						
UNIT	Wildlife Habitat	Water Quality Protection	Ecological Integrity	Connectivity	Uniqueness	Significant
U1	Medium	Low	High	Low	High	Y
U4	Medium	Low	Low	Low	Low	N
U8	Medium	Low	High	Low	Low	Y
U13	Low	Low	Low	Low	Low	N
U14	Medium	Low	Medium	Low	Medium	N
U15	Low	Low	Medium	Low	Low	N
U16	Medium	Low	High	Medium	Low	Y
U19	Low	Low	Medium	Low	Low	N
U20	Low	Medium	Medium	Medium	Low	N
U21	Medium	Low	Low	Low	Low	N

Anecdotal reports of wildlife from the public hearing on November 15, 2000 and incidental sightings of wildlife during the field inventory include the following:

Amphibians and Reptiles: Pacific chorus (tree) frog, bullfrog, snakes

Birds: numerous birds of prey, song birds, migratory birds, game birds, etc., including great blue heron, nesting green-backed heron, nesting egret, nesting Canada geese, nesting wood ducks, nesting mallards, other ducks, bald eagle, redtail hawk, rough-legged hawk, American kestrel, ringneck pheasant, gulls, mourning dove, owls (barn owl and others, probably great horned and western screech), belted kingfisher, woodpeckers (downy, northern flicker, others), violet green swallow, Stellar's jay, scrub jay, American crow, blackcap chickadee, marsh wren, American robin, cedar waxwing, European starling, song sparrow, golden-crowned sparrow, redwing blackbird, American goldfinch, and nesting peacock.

Fish: rainbow trout, largemouth bass, sunfish, Gambusia (mosquitofish). In addition, ODFW has identified the following fish species in the Tualatin River basin: steelhead and chinook salmon (Upper Willamette River ESU), coho salmon, cutthroat trout, Pacific lamprey, and western brook lamprey.

Insects: dragonflies and damselflies

Mammals: beaver, coyote, fox, deer, nutria, raccoon, skunk

Molluscs: freshwater snail

It should be noted that this is a very incomplete list and further information is available from Jackson Bottom Wetlands Preserve and from the 1990-1991 inventory.

A complete list of all vegetation observed in wetlands and uplands in the study area is included in Appendix 11.

Agency correspondence regarding this project is included in Appendix 12 and Appendix 13.

Staff Qualifications

As required by current LWI rules, technical staff qualifications are described below.

Project Manager: Daniel Stark, AICP, Natural Resource Planner / GIS Program Manager

Responsibilities: Dan provided project management and coordination with the City of Hillsboro Project Managers, provided digitizing and coordination of the GIS database development, and assisted in preparing the Goal 5 report.

Dan Stark is certified by the American Institute of Certified Planners and provides land use expertise and public service sector personal experience. Dan's specialties include natural resource planning, GIS, and land use planning. Dan had more than five years experience as a Planner and GIS Analyst for Marion County, Oregon where he developed and maintained the County Planning Division GIS using ArcInfo, ArcView and Map Objects. Dan has developed tools using AML (Arc Macro Language) to analyze the county groundwater consumption rates and determine compliance with the county groundwater ordinance. His GIS database included tax lot-level analyses of soils, wetlands, floodplains, other natural resource features and urban infrastructure. Dan also participated in the long-range planning program at Marion County by providing support to the periodic review tasks including Goals 3, 4, 5, 7, 14 and others. Since joining FES in November of 1999, Dan has managed several large inventory and assessment projects including the City of Hillsboro Local Wetlands, Riparian Corridor, and Wildlife Habitat Inventory and Assessment (Goal 5 project), Watersheds 2000 stream assessment for USA, and has also assisted with the City of Wilsonville's Goal 5 Inventory, Title 3 Compliance, and ESA Compliance project.

Field Inventory Staff: Stacy N. Benjamin, Wetland Ecologist

Responsibilities: Stacy managed the field inventory and prepared the LWI, RCI, and Wildlife Habitat maps, conducted OFWAM and the wildlife habitat assessment, prepared the resource site summary sheets and summary tables, and prepared the Goal 5 report. Stacy also assisted with digitizing and provided quality control of map products. She coordinated with the DSL to retrieve permit files.

Stacy Benjamin is experienced in wetland determination and delineation, wetland permitting, mitigation design, wetland monitoring, and natural resource assessment. Stacy has worked on several Goal 5 projects during her four years at Fishman Environmental Services. Stacy's Goal 5 experience includes conducting local wetlands inventories for the Cities of Hillsboro and Lakeside; wetland and upland habitat function and value assessments; and updating the natural resource inventory (riparian and upland resources) for the Lane Council of Governments. Stacy is experienced in both on-site and off-site wetland inventory methodology, aerial photograph interpretation and mapping, and

digitizing natural resource boundaries into ArcView for incorporation into GIS layers. She has completed training in the 1987 Wetlands Delineation Manual and has been conducting wetland determinations and delineations for the past four years. Stacy has also completed a course on wetland plants of the Pacific Northwest and a workshop on writing plant specifications for restoration and mitigation projects. Stacy has assisted with wildlife habitat assessment and biological assessment and provides graphics support as needed.

Field Inventory Staff: C. Mirth Walker, PWS, Wetlands Program Manager

Responsibilities: Mirth assisted with the field inventory and report preparation and provided review and quality assurance for all inventory and assessment products.

Mirth Walker is responsible for coordination of wetland work orders and provides wetland delineation QA/QC and project management. She is certified as a Professional Wetland Scientist (PWS) by the Society of Wetland Scientists and is a provisionally certified Wetland Delineator by the Seattle District U.S. Army Corps of Engineers. Mirth's specialties include wetland determinations and delineations, wetland mitigation and monitoring, permit coordination, aerial photograph interpretation, wetland training, and natural resource inventories. Mirth managed and conducted the City of Wilsonville LWI / RCI / Upland Wildlife Habitat Inventory and Assessment, the Lakeside LWI, the La Grande LWI, and she assisted with the Cities of Tualatin, Tigard, and Stayton wetland inventories and assessments.

Project / Contract Oversight: Paul A. Fishman, CEP, Principal Ecologist

Responsibilities: Paul provided contract management oversight and assistance as necessary in this project, as well as guidance on the current state of affairs for riparian corridor analysis, Metro Title 3 issues, and the Endangered Species Act as it relates to fish.

Paul is a Certified Environmental Professional by the Academy of Board Certified Environmental Professionals. Paul has over 34 years management experience in natural resource assessment and planning. He has managed small and large, individual consultant and multi-discipline team efforts for dozens of clients in the western U.S. Paul has organized and/or participated in community-based processes to guide and implement these efforts. He has developed an extensive network in the environmental community, including resource and regulatory agencies, local jurisdictions, consultants, and public groups. He has developed his company as a key consultant to local jurisdictions for natural resource inventory and planning projects. Paul has a history of providing training and educational seminars to a variety of audiences: in 1996, he conducted a half-day wetland training to help attendees understand the basic requirements for wetland issues; in 1999, Paul provided an educational program for recognizing wetlands, Goal 5 criteria and conducting assessments for the Endangered Species Act.

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List of Appendices:

1. **Map of Study Area**
2. **Wetland Summary Sheets**
3. **Field Verification of Aerial Photographic Signatures (Wetland Determination Data Sheets for Cowardin Type)**
4. **DSL Determination Files and Permit List**
5. **Determination of Locally Significant Wetlands**
6. **OFWAM Wetland Functions Summary Table**
7. **OFWAM Evaluation Sheets**
8. **OFWAM Wetlands of Special Interest for Protection & Wetland Characterization Sheets**
9. **Wetland Acreage by Habitat Type & Percent Wetland Acreage by Habitat Type**
10. **Riparian Corridor Wildlife Habitat & Isolated Wildlife Habitat Summary Sheets**
11. **Hillsboro Study Area Vegetation Lists (Wetlands and Uplands)**
12. **Watersheds 2000 Memo**
13. **DSL Correspondence**

Enclosures:

Hillsboro Natural Resource Inventory Maps


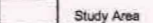

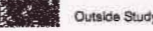

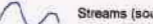

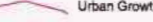

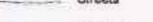


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Appendix 1:
Map of Study Area

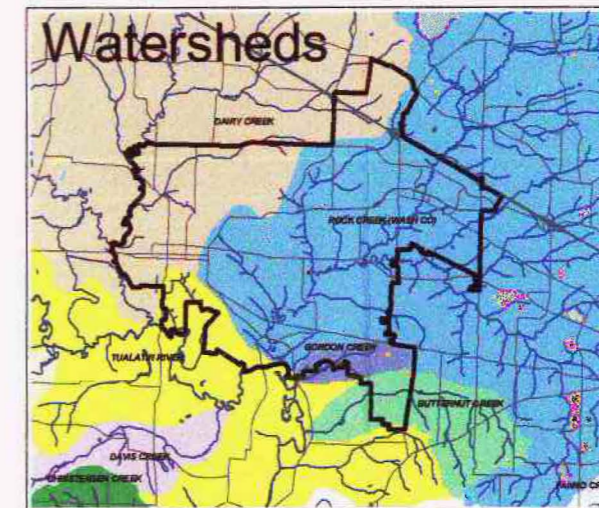
City of Hillsboro Natural Resource Inventory Index

	Significant Wetlands		Study Area
	Potential Wetlands		Outside Study Area
	Significant Riparian Corridors and Adjacent Upland Wildlife Habitat		Streams (source: METRO RLIS)
	Significant Upland Wildlife Habitat		Urban Growth Boundary
	Non-Significant Isolated Upland Wildlife Habitat		Streets
	Non-Significant Wetlands		Rail Line

TSW = Too Small Wetland (wetlands less than 0.5 acres were not evaluated under OFWAM)
SWP = Stormwater Pond (man-made)
STP = Sewage Treatment Pond (man-made)
AMP = Stormwater Pond (not stormwater ponds or sewage treatment ponds)

Note: The stream channel is part of the local 5 "riparian corridor" resource. The other component of the riparian corridor is the "riparian area". The boundaries of riparian areas were not identified in this study.

Please refer to data'l maps (1 through 7) for more detailed information



The boundaries of the natural resources on this map have been interpreted using off-site methods including the use of aerial photographs. The boundaries of these resources are not accurate relative to lot lines and other features. Information shown on this map is for planning purposes and all wetland boundaries are approximate. In all cases, actual field conditions determine wetland boundaries. There may be unmapped wetlands subject to regulation.

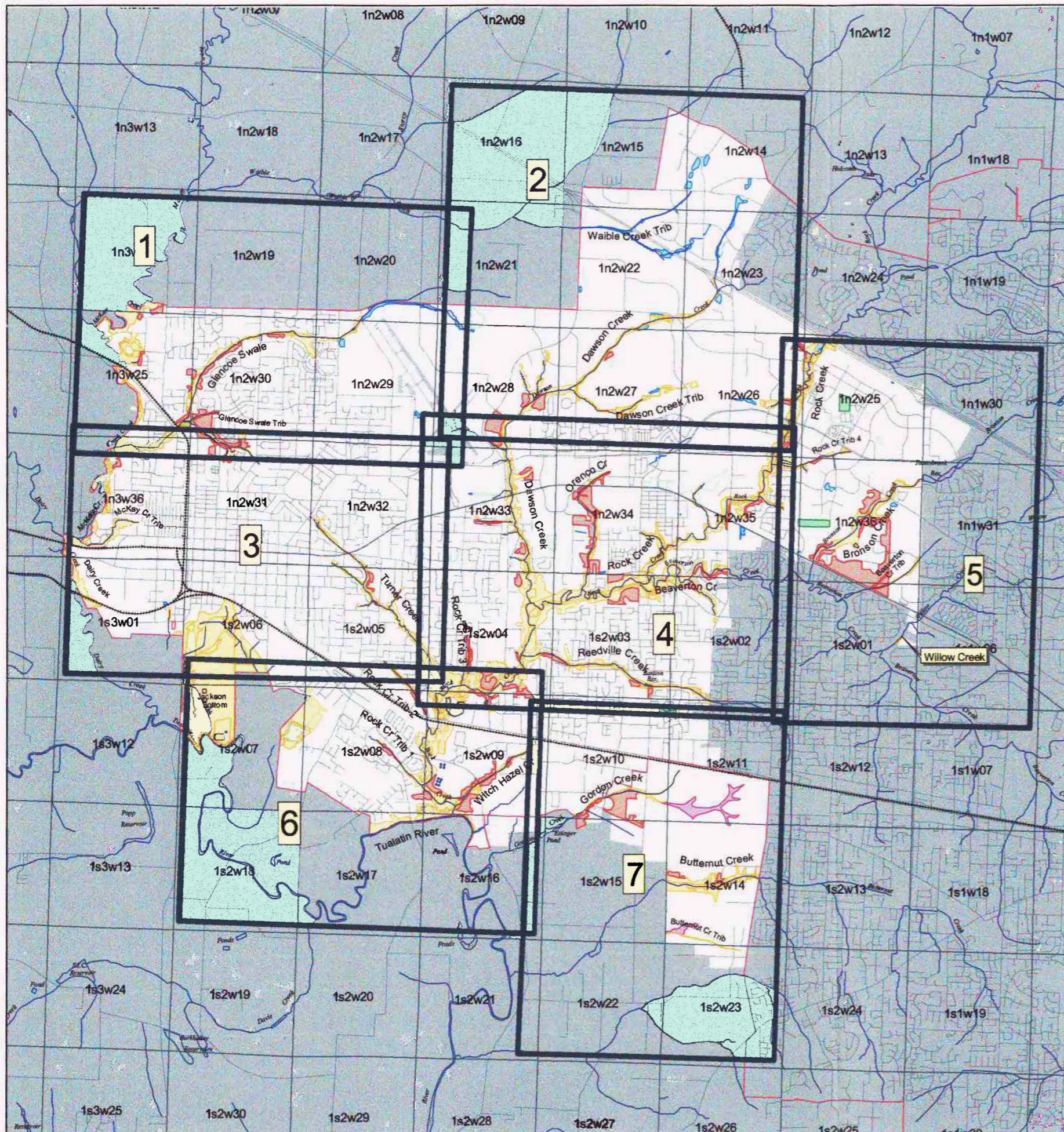
The data displayed on this map have been supplied by the City of Hillsboro, Metro, and Fishman Environmental Services LLC. All reasonable care has been taken to ensure the accuracy of this map. No warranty is expressed or implied regarding this accuracy and all information should be confirmed with the local jurisdiction before taking any action.

The following projection information applies to this map:
Lambert Conformal Conic Projection
State Plane Coordinate System (Oregon North), NAD 83
Units: Feet (.3048 meters)



Professional Consulting Services Provided by:
Fishman Environmental Services LLC
1331 NW 8th Ave, Suite 304
Portland, OR 97209
503-224-0333
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GIS: rg
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Appendix 2:
Wetland Summary Sheets

**WETLAND SUMMARY SHEETS
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Site Code

Isolated Wetlands

- W1 Wishing Well (Aloclek Road, north of Cornell Road)
W2 This was considered isolated in the 1990 inventory; it is part of RoCTrib3
W3 Lexington Meadows (unable to locate - no location information in 1990 inventory; all wetlands near the Lexington Meadows residential development NW of Golden and 239th are associated with Reedville Creek)
W4 Valley Memorial Cemetery (north of TV Highway)
W5 Quatama/Lightrail
W6 Cornelius Pass/Cornell Road
W7 Dawson Creek Business Park

Jackson Bottom/Hillsboro Landfill Wetlands

- JB/HL Associated with the Tualatin River
JB/HLTrib1 Englewood Street to Jackson Bottom

Stream-Associated Wetland Units (Alphabetical)

Beaverton Creek

- BeC Cornelius Pass Road (UGB) to Rock Creek

Beaverton Creek Tributary

- BeCTrib1 185th (UGB) to Railroad (UGB)

Bronson Creek

- BrC 185th (UGB) to Railroad (UGB)

Butternut Creek

- BuC 209th to East of 229th (within former URA boundary)

Butternut Creek Tributary

- BuCTrib1 West of Vermont Street to East of 229th (within former URA boundary)

Dairy Creek

- DrC Mouth of McKay Creek to Railroad (UGB)

Dawson Creek

- DwC1 Jacobson Road to Highway 26
DwC2 Highway 26 to Evergreen Road
DwC3 Evergreen Road to Shute Road
DwC4 Shute Road to Cornell Road
DwC5 Cornell Road to Rock Creek

Dawson Creek Tributary

- DwCTrib1 East of 229th to Dawson Creek
DwCTrib2 West of Brookwood Parkway to Dawson Creek
DwCTrib3 West of Brookwood Parkway to Dawson Creek

Glencoe Swale

GS1 East of 264th to 25th Avenue
 GS2 25th Avenue to Glencoe Road
 GS3 Glencoe Road to McKay Creek
Glencoe Swale Tributary
 GSTrib1 Jackson School Road to Glencoe Swale (formerly Tributary E)
Gordon Creek
 GC1 East of 229th; forked
 GC2 West of 229th to the Reserve Golf Club (former URA boundary)
McKay Creek
 MC East of UGB and north of confluence with Dairy Creek
McKay Creek Tributary
 MCTrib1 Jackson Street to McKay Creek
Orenco Creek
 OC Campus Court to Rock Creek
Reedville Creek
 ReC Cornelius Pass (UGB) to Rock Creek
Rock Creek (includes a few small tributaries to Rock Creek)
 RoC1 Highway 26 (UGB) to Cornell Road
 RoC2 Cornell Road to TV Highway
 RoC3 TV Highway to Tualatin River
Rock Creek Tributaries
 RoCTrib1 - Rood Bridge Drive to Rock Creek
 RoCTrib2 - Cypress Street to Rock Creek (formerly Tributary D)
 RoCTrib3 - Brookwood School to Rock Creek (formerly W2)
 RoCTrib4 - Cornell Road to Rock Creek
Tualatin River
 TR Vicinity of confluence with Rock Creek
Turner Creek
 TC Cornell Road to Rock Creek; forked
Waible Creek Tributary (formerly Tributary F)
 WbCTrib1N Jacobson Road to Highway 26
 WbCTrib1S Five Oaks Industrial Park to Highway 26
 WbCTrib1 Highway 26 to Shute Road (UGB)
Willow Creek
 WiC 185th to Beaverton Creek
Witch Hazel Creek (formerly Tributary G)
 WHC Witch Hazel Road to Rock Creek

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BeCTrib1	2
BrC	3
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DwC1	7
DwC2	8
DwC3	9
DwC4 & DwC5	10
DwCTrib1	11
DwCTrib2	12
DwCTrib3	13
GS1	14
GS2	15
GS3	16
GSTrib1	17
GC1	18
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MC	20
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CITY OF HILLSBORO LOCAL WETLANDS INVENTORY

Introduction to the Wetland Summary Sheets:

The Wetland Summary Sheets summarize the previous inventory data and any new data gathered or analyzed for wetland sites within the City of Hillsboro's study area (city limits and former urban reserve areas 52-55). Included is a box of site information with the site name, site code, drainage basin, acreage (within the study area only), map sheet # (aerial detail map sheets), location, dates of field work, adjacent land use, zoning, and Township, Range, and Section location. Other items on the summary sheet include a general description, on-site National Wetland Inventory Classification (percent by type) and special modifier if applicable, mapped soils, hydrologic source and description, dominant vegetation, boundary information, wetland functions (as defined by the Oregon Freshwater Wetland Assessment Method, or OFWAM), significance determination (as defined by DSL rules), and recommendations for enhancement. Some of the more abstract items are explained below.

National Wetlands Inventory (NWI) Classification with water regime modifier and special modifier (after Cowardin, et al., 1979 and Roth, et al., 1996): 100%PEMCx, for example.

NWI Classification: P stands for palustrine. The palustrine system includes all nontidal wetlands dominated by trees, shrubs, and persistent emergent vegetation. Palustrine wetlands may be either stream-associated or isolated (i.e. no surface water connection to a stream) and do not include wetlands associated with lakes. Other systems include riverine (like the Tualatin River), lacustrine, estuarine, and marine.

POW = Open Water: Areas of open water where there are no emergent, submergent, or floating vegetation (OFWAM Appendix D); or areas of water less than 6.6 feet deep, where submerged or floating-leaved plants often inhabit the shallower portions along the edges of the body of water (OFWAM Glossary). Open Water is not a Cowardin classification but is used on National Wetland Inventory maps and in OFWAM. For inventory purposes, POW may include the PAB (Aquatic Bed) definition as well: Dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years. Plants are either attached to the substrate or float freely in the water above the bottom or on the surface.

PEM=Emergent: Erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years, and usually dominated by perennial plants.

PSS=Scrub-Shrub: Woody vegetation less than 6 meters (20 feet) tall

PFO=Forested: Woody vegetation 6 meters (20 feet) tall or taller

Water Regime Modifier:

A Temporarily Flooded: Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the season. Plants that grow both in uplands and wetland are characteristic of the temporarily flooded regime.

B Saturated: The substrate is saturated to the surface for extended periods during the growing season, but surface water is seldom present.

C Seasonally Flooded: Surface water is present for extended periods especially early in the growing season, but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface.

F Semipermanently Flooded: Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.

H Permanently Flooded: Water covers the land surface throughout the year in all years. Vegetation is composed of obligate hydrophytes.

K Artificially Flooded: The amount and duration of flooding is controlled by means of pumps or siphons in combination with dikes or dams. The vegetation growing on these areas cannot be considered a reliable indicator of water regime. Examples of artificially flooded wetlands are some agricultural lands managed under a rice-soybean rotation, and wildlife management areas where forest, crops, or pioneer plants may be flooded or dewatered to attract wetland wildlife. Neither wetlands within or resulting from leakage from man-made impoundments, nor irrigated pasture lands supplied by diversion ditches or artesian well, are included under this modifier.

Special Modifier:

b beaver: Beaver dam present in wetland or stream area.

d partly drained: The water level has been artificially lowered, but the area is still classified as wetland because soil moisture is sufficient to support hydrophytes. Drained areas are not considered wetland if they can no longer support hydrophytes.

h diked/impounded: Diked: Created or modified by a man-made barrier or dike designed to obstruct the inflow of water.
Impounded: Created or modified by a barrier or dam which purposefully or unintentionally obstructs the outflow of water.

Both man-made dams and beaver dams are included (this has been modified: "b" signifies beaver dam).

x excavated: Lies within a basin or channel excavated by man. (This includes a linear channelization of a natural stream channel.)

f farmed: The soil surface has been mechanically or physically altered for production of crops, but hydrophytes will become reestablished if farming is discontinued.

Dominant Vegetation: Documented at numerous observation points from public road crossings of wetlands and supplemented with data from the 1991 *Inventory of Wetlands, Riparian and Upland Wildlife Habitat Areas in Hillsboro, Oregon* (Lev and Sharp). Refer to the vegetation table in the report appendices for scientific plant names and wetland indicator status.

Wetland Functions: As determined by the Oregon Freshwater Wetland Assessment Method (OFWAM). Additional comments are added where appropriate. See summary table in appendices.

Significance: Refers to the Locally Significant Wetland criteria developed by the Division of State Lands. See summary table in appendices.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Beaverton Creek	Site Code: BeC
Drainage Basin: Rock Creek	Map Sheet(s) #: 4
Acreage: 39.36	Field Date(s): 11/1/00, 7/20/01
Location: Cornelius Pass Road to Rock Creek	Zoning: A-1, R-6, R-7
Adjacent Land Use: residential	
T 1N/S, R 2W Section: 34 SE, 35 SW; 2 NW, 3 NE	

General Description: This reach consists mostly of Oregon ash forested wetland, with some emergent and scrub-shrub wetlands also present. A duck-shaped man-made pond is present near the confluence of Beaverton Creek with Rock Creek. This reach includes a short unnamed tributary which originates south of Beaverton Creek and southwest of the intersection of Baseline Road and Cornelius Pass Road. Beaverton Creek and its associated wetlands continue upstream of the UGB, where Bronson Creek and a second unnamed tributary to Beaverton Creek flow into Beaverton Creek from the north.

NWI Classification: 16% PEM, 7% PSS/PEM, 1% PFO/PSS, 76% PFO

Mapped Soils: Aloha, Dayton, McBee, Quatama, Wapato

Hydrologic Source and Description: Perennial stream with average width of 10 feet.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*Himalayan blackberry	*reed canarygrass
willow	*willow	*meadow foxtail
western red cedar	black hawthorn	soft rush
big-leaf maple		slough sedge
		toad rush
		skunk cabbage

Boundary Information: Steep side slopes and a small amount riparian/upland forest dominated by Douglas fir.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	water quality limited stream, adj land use=developed
Fish Habitat	Medium	water quality limited stream, adj land use=developed
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Beaverton Creek tributary	Site Code: BeCTrib1
Drainage Basin: Rock Creek	Map Sheet(s) #: 5
Acreage: 5.71	Field Date(s): 11/1/00
Location: 185 th Avenue to railroad	Zoning: SCC-SC, SCRP
Adjacent Land Use: undeveloped, agricultural	
T 1N/S, R 2W Section: 36 SE; 1 NE	

General Description: This short tributary was mapped but not described in the 1990 inventory. The upper portion of this unit consists of a narrow emergent wetland dominated by facultative grasses with some soft rush present along the stream channel. The tributary is forked in the lower portion and consists of narrow Oregon ash and red alder forested wetlands with slough sedge in the understory.

NWI Classification: 58% PEM, 42% PFO

Mapped Soils: Aloha, Verboort

Hydrologic Source and Description: Intermittent stream, upper portion has been channelized through an agricultural field and stream widens in the forest to the south.

Dominant Vegetation: (* = major dominant)

Trees

*Oregon ash
red alder

Shrubs

*red-osier dogwood
*Douglas spirea
*willow
*western wahoo
*Pacific ninebark

Herbs/Emergents

*common velvetgrass
*colonial bentgrass
*reed canarygrass
*slough sedge
soft rush
water parsley
common horsetail
lady fern

Boundary Information: Agricultural field adjacent to north portion, and steeply sloped riparian/upland forest dominated by Douglas fir adjacent to south portion.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low interspersion, <0.5 acre open water
Fish Habitat	Medium	low streamside shading, stream ditched in field
Water Quality	Medium	< 5 acres, not water quality limited
Hydrologic Control	Medium	outside floodplain, < 5 acres, dom. veg. is emergent

Significant? Yes, based on level 2 OFWAM evaluation

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Bronson Creek	Site Code: BrC
Drainage Basin: Rock Creek	Map Sheet(s) #: 5
Acreage: 39.55	Field Date(s): none
Location: 185 th Avenue to railroad	Zoning: A-4, C-1, SCBP, SCRP
Adjacent Land Use: Oregon Graduate Institute, agricultural, industrial	
T 1N, R 2W Section: 36	

General Description: Wetlands along Bronson Creek are predominantly emergent and scrub-shrub, although a forested wetland component is present on the Oregon Graduate Institute property, in the vicinity of a short tributary to Bronson Creek. The upper portion of this reach consists of emergent wetland dominated by reed canarygrass and bentgrass with soft rush and sedge present along the stream channel. A man-made pond is present in this area. Forested and scrub-shrub wetlands are present below Walker Road, where the dominant species are Oregon ash, willow, red-osier dogwood, wild clustered rose, reed canarygrass and slough sedge. A beaver pond complex is present in the lower portion of this reach.

NWI Classification: 4% POW, 15% PEM, 58% PSS/PEM, 6% PSS, 17% PFO

Mapped Soils: Aloha, Cove, Woodburn

Hydrologic Source and Description: Perennial stream varies from 3 feet in the upper portion to 20 feet in the lower portion.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*Himalayan blackberry	*reed canarygrass
*Pacific willow	*red-osier dogwood	*bentgrass
red alder	*wild clustered rose	*slough sedge
black cottonwood	willow	soft rush
	Douglas spirea	sedge
	black hawthorn	small-fruited bulrush
		broad-leaf cattail

Boundary Information: This unit is predominantly bordered by a steeply sloped riparian/upland forest dominated by Douglas fir and an agricultural field.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	water quality limited, adj. land use is developed
Fish Habitat	Medium	water quality limited, adj. land use is developed
Water Quality	High	
Hydrologic Control	High	

Significant? Yes
Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Butternut Creek	Site Code: BuC
Drainage Basin: Tualatin River	Map Sheet(s) #: 7
Acreage: 44.62	Field Date(s): none
Location: 209 th Avenue to east of 229 th Avenue	Zoning: FF, RRFU
Adjacent Land Use: tree farm, agricultural, rural residential	
T 1S, R 2W Section: 14	

General Description: Large areas along Butternut Creek which were likely cleared in the past for grazing have been colonized by dense stands of reed canarygrass; however, portions of the stream corridor are still shaded by forested and shrub-scrub wetlands. There are numerous beaver dams along Butternut Creek which have created deep backwater areas that slow the stream flow. Aside from at the beaver dams, woody debris is uncommon in the stream channel. A heron rookery was observed in 1998 in the riparian forest along Butternut Creek (P. Quarterman).

NWI Classification: 1% POW, 63% PSS/PEM, 2% PSS, 34% PFO

Mapped Soils: Huberly, Quatama, Wapato, Woodburn

Hydrologic Source and Description: Butternut Creek is a perennial stream with steep banks and seeps emanating from the side slopes along the stream corridor.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	willow	*reed canarygrass
western red cedar	red-osier dogwood	*bentgrass
red alder	Douglas spirea	soft rush
	Pacific ninebark	pointed rush
	rose	tapered rush
	Himalayan blackberry	sawbeak sedge
		slough sedge
		water parsley

Boundary Information: The stream meanders through a broad flat floodplain and a small amount of riparian/upland forest dominated by Douglas fir, grand fir, and western red cedar is present adjacent to the floodplain.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Butternut Creek tributary	Site Code: BuCTrib1
Drainage Basin: Tualatin River	Map Sheet(s) #: 7
Acreage: 1.59	Field Date(s): none
Location: West of Vermont Street to east of 229 th Avenue	Zoning: FF
Adjacent Land Use: tree farm, agricultural	
T 1S, R 2W Section: 14 SW	

General Description: The portion of this intermittent tributary located within the study area was tiled in the past and the tile is currently failing in many areas, creating seeps and wet depression areas. The majority of this unit has been severely degraded due to a large tree farm/plantation located both north and south of the stream channel. The easternmost portion of this unit consists of emergent wetland planted in pasture grasses. A potential wetland (5.53 acres) is present north of the emergent wetland, where hydric soils are mapped in the agricultural field. West of the study area the stream channel is intact and is bordered by forested wetland.

NWI Classification: 100% PEM

Mapped Soils: Huberly

Hydrologic Source and Description: Small intermittent drainage seeping out from historically tiled tributary.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
Oregon ash	Himalayan blackberry	common velvetgrass meadow foxtail tall fescue soft rush

Boundary Information: Bordered entirely by tree farm.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low interspersion, <0.5 acre open water
Fish Habitat	Medium	low streamside shading & instream structure
Water Quality	Medium	< 5 acres, not water quality limited
Hydrologic Control	Medium	< 5 acres, outside floodplain, dom. veg. is emergent

Significant? Yes, based on level 2 OFWAM evaluation

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Dairy Creek	Site Code: DrC
Drainage Basin: Dairy Creek	Map Sheet(s) #: 3
Acreage: 17.18	Field Date(s): 6/21/00
Location: Mouth of McKay Creek to railroad	Zoning: M-2
Adjacent Land Use: Agricultural, industrial	
T 1N/S, R 3W Section: 36 SW; 1 NW	

General Description: This small reach of Dairy Creek, south of its confluence with McKay Creek, consists of an Oregon ash forested wetland with a diverse scrub-shrub wetland layer. Herbaceous vegetation is limited due to the dense shrub cover.

NWI Classification: 100% PFO

Mapped Soils: Chehalis, Hillsboro, McBee, Wapato

Hydrologic Source and Description: Perennial stream

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*red-osier dogwood	reed canarygrass
willow	*willow	
black cottonwood	Douglas spirea	
	rose	
	casara	
	Indian plum	
	red elderberry	
	serviceberry	
	vine maple	
	Himalayan blackberry	

Boundary Information: Steeply sloped stream corridor bordered by a few small pockets of riparian/upland forest dominated by Douglas fir.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	<0.5 acre open water, water quality limited stream
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Dawson Creek, Reach 1	Site Code: DwC1
Drainage Basin: Rock Creek	Map Sheet(s) #: 2
Acreage: 7.56	Field Date(s): 10/10/00
Location: Jacobson Road to Highway 26	Zoning: M-P
Adjacent Land Use: agricultural	
T 1N, R 2W Section: 14, 23	

General Description: The headwaters of Dawson Creek originate in agricultural fields where the stream was channelized in the past. The majority of this reach contains a narrow band of emergent wetland along the stream channel; however, one portion of the stream channel contains forested wetland.

NWI Classification: 83% PEM, 17% PFO

Mapped Soils: Verboort, Woodburn

Hydrologic Source and Description: Narrow, intermittent drainage.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	Himalayan blackberry bittersweet nightshade willow	*reed canarygrass broad-leaf cattail

Boundary Information: No topographic break. This reach is bordered entirely by agricultural fields; however, some development is currently underway.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersions, <0.5 acre open water
Fish Habitat	Medium	low riparian shading, low instream structure
Water Quality	Medium	adj land use not developed, not WQ limited stream
Hydrologic Control	Medium	outside floodplain, dominant veg is emergent

Significant? No

Recommendations: Enhance stream channel by regrading slopes and planting native trees and shrubs along stream to improve wildlife and fish habitat and water quality.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Dawson Creek, Reach 2	Site Code: DwC2
Drainage Basin: Rock Creek	Map Sheet(s) #: 2
Acreage: 5.70	Field Date(s): 10/10/00
Location: Highway 26 to Evergreen Road	Zoning: C-1, M-P
Adjacent Land Use: Hillsboro stadium, undeveloped	
T 1N, R 2W Section: 22 SE, 23 SW	

General Description: This reach of Dawson Creek is bordered by the Hillsboro stadium to the north and undeveloped land to the south. A large stormwater pond is present adjacent to this reach. Wetlands along this reach consist of several open water ponds and scrub-shrub and forested wetlands. Wetland mitigation plantings are present along this reach.

NWI Classification: 33% POW, 9% PEM, 58% PFO

Mapped Soils: Verboort, Woodburn

Hydrologic Source and Description: Narrow, perennial drainage widens south of Highway 26 as it flows through forested wetland and several ponds.

Dominant Vegetation: (* = major dominant)

Trees

*Oregon ash

Shrubs

*willow
red-osier dogwood
red alder

Herbs/Emergents

*reed canarygrass
*broad-leaf cattail
small-fruited bulrush

Boundary Information: Gradual slope up to undeveloped land/Hillsboro Stadium

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersions, <0.5 acre open water
Fish Habitat	Medium	low riparian shading, low instream structure
Water Quality	High	
Hydrologic Control	Medium	outside floodplain, dominant veg is emergent

Significant? Yes

Recommendations: Enhance stream channel by regrading slopes and planting native trees and shrubs along stream to improve wildlife and fish habitat and water quality.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Dawson Creek, Reach 3	Site Code: DwC3
Drainage Basin: Rock Creek	Map Sheet(s) #: 2
Acreage: 12.89	Field Date(s): 10/11/00
Location: Evergreen Road to Shute Road	Zoning: M-P
Adjacent Land Use: industrial, undeveloped	
T 1N, R 2W Section: 22 SE, 27 NW	

General Description: This reach of Dawson Creek is located on Intel property. Wetlands consist of both emergent and forested. Beaver are active along this reach. A large Intel mitigation site is present south of Evergreen parkway, as well as several stormwater ponds.

NWI Classification: 6% POW, 45% PEM, 17% PSS, 32% PFO

Mapped Soils: Verboort, Woodburn

Hydrologic Source and Description: Perennial stream

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*willow	*reed canarygrass
Pacific willow	*rose	*broadleaf cattail
	*Himalayan blackberry	soft rush
		American water plantain
		knotweed

Boundary Information: Gradual slope up to undeveloped land. A small Oregon white oak forest is present south of Dawson Creek.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersions, <0.5 acre open water
Fish Habitat	Medium	low riparian shading, low instream structure
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations: Enhance stream channel by regrading slopes and planting native trees and shrubs along stream to improve wildlife and fish habitat and water quality.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Dawson Creek, Reaches 4 & 5	Site Code: DwC4 & DwC5
Drainage Basin: Rock Creek	Map Sheet(s) #: 2, 4
Acreage: 27.85 + 58.75 = 86.60	Field Date(s): 10/10/00, 10/11/00
Location: Shute Road to Rock Creek	Zoning: A-1, C-1, M-P, R-7, R-10, SCBP, SCFI
Adjacent Land Use: agricultural, industrial	
T 1 N/S, R 2W Section: 27, 28, 33; 4	

General Description: Wetlands along the lower reaches of Dawson Creek (below Shute Road) consist of emergent, scrub-shrub, and forested. Forested and shrub-scrub wetlands are generally dominated by Oregon ash and willow, and emergent wetlands are dominated by reed canarygrass. Several beaver dams are present in the lower reach, which have resulted in areas of open water areas surrounded by snags. Western pond turtle and western painted turtle were observed in the lower reach during the 1991 inventory. Several man-made water features with fountains are present along Dawson Creek Drive and south of Brookwood Parkway.

NWI Classification: 13% PEM, 38% PSS/PEM, 15% PSS, 33% PFO

Mapped Soils: Cove, Quatama, Verboort, Woodburn, Xerochrepts and Haploxerolls

Hydrologic Source and Description: Perennial stream varying from 3 to 8 feet wide.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	Douglas spirea	bittersweet nightshade
*Oregon ash	Pacific ninebark	common horsetail
*Pacific willow	Pacific blackberry	broad-leaf cattail
		soft rush
<u>Shrubs</u>	<u>Herbs/Emergents</u>	slender rush
*willow	*reed canarygrass	water parsley
*rose	*common velvetgrass	
*Himalayan blackberry	*bentgrass	

Boundary Information: Steeply sloped riparian/upland forests dominated by Douglas fir.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	<0.5 acre open water, adj. land use is developed
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Dawson Creek tributary 1	Site Code: DwCTrib1
Drainage Basin: Rock Creek	Map Sheet(s) #: 2
Acreage: 9.02	Field Date(s): 10/11/00
Location: East of 229 th Avenue to Dawson Creek	Zoning: M-P
Adjacent Land Use: industrial	
T 1N, R 2W Section: 26 & 27	

General Description: This tributary to Dawson Creek was not mapped in the 1990 inventory. The headwaters of this unit originate in a landscaped wetland pond in a parking lot east of 229th Avenue. A narrow band of emergent wetland is associated with the upper portion of this tributary which was channelized in the past. An emergent/scrub-shrub wetland complex is present above Shute Road. A wetland mitigation site for Intel-Ronler Acres is included in this unit. The majority of this site is surrounded by current industrial development activities (Intel).

NWI Classification: 18% POW, 47% PEM, 35% PSS/PEM

Mapped Soils: Amity, Quatama, Verboort, Woodburn

Hydrologic Source and Description: Narrow, intermittent drainage

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
	willow	*reed canarygrass
		*broad-leaf cattail
		water plantain
		knotweed
		bur-reed
		soft rush

Boundary Information: Gradual slope up to adjacent undeveloped land.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low interspersation, adjacent land use is developed
Fish Habitat	Medium	low riparian shading, low instream structure
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations: Plant native trees and shrubs along stream to improve wildlife and fish habitat.

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT
WETLAND SUMMARY SHEET**

WETLAND: Glencoe Swale, Reach 1	Site Code: GS1
Drainage Basin: McKay Creek	Map Sheet(s) #: 1, 2
Acreage: 9.55	Field Date(s): 6/21/00
Location: East of 264 th Avenue to 25 th Avenue	Zoning: IH, MP, M-2
Adjacent Land Use: airport, agricultural, rural residential	
T 1N, R 2W Section: 20, 21 SW, 28 NW	

General Description: The headwaters of this intermittent tributary originate as an agricultural (farmed) wetland in a slight swale in an agricultural field east of 264th Avenue. The stream channel in the upper reach of Glencoe Swale has been channelized, and wetlands along this reach are predominantly emergent. A small amount of forested wetland is present east of 268th Avenue. Purple loosestrife has been noted on the Hillsboro Airport property south of Evergreen Parkway.

NWI Classification: 73% PEM, 8% PEMf, 19% PFO

Mapped Soils: Amity, Cove, Dayton

Hydrologic Source and Description: Intermittent, channelized drainage.

Dominant Vegetation: (* = major dominant)

Trees

Oregon ash

Shrubs

Herbs/Emergents

*reed canarygrass
*bluegrass
*common velvetgrass
*redtop
tall fescue
purslane speedwell
cutleaf plantain
cudweed

Boundary Information: Gradual slope up to adjacent agricultural fields in the east, distinct topography in the west.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	PEM dominant habitat, adj land use = developed
Fish Habitat	Medium	low instream structure, shading, adjacent land use
Water Quality	Medium	adj land use not developed, not WQ limited stream
Hydrologic Control	Medium	outside floodplain, dominant veg is emergent

Significant? No

Recommendations: Weed control is needed to prevent further spread of purple loosestrife to downstream portions of Glencoe Swale. Plant native trees and shrubs along stream to improve wildlife and fish habitat and water quality.

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT
WETLAND SUMMARY SHEET**

WETLAND: Glencoe Swale, Reach 2	Site Code: GS2
Drainage Basin: McKay Creek	Map Sheet(s) #: 1
Acreage: 45.03	Field Date(s): 6/21/00
Location: 25 th Avenue to Glencoe Road	Zoning: M-2, R-7, R-10
Adjacent Land Use: Residential	
T 1 N, R 2W Section: 29 NW, 30	

General Description: The lower portion of this reach contains emergent, scrub-shrub, and forested wetlands and several open water ponds. The upper portion of this reach contains predominantly emergent wetlands with a minor scrub-shrub component. The Emma Jones Nature Preserve, located immediately west of NE 15th Avenue, is a mitigation site for the Intel Jones Farm Campus. A large stormwater pond is present east of 15th Avenue on the Intel property.

NWI Classification: 3% POW, 63% PEM, 21% PSS/PEM, 4% PSS, 9% PFO

Mapped Soils: Amity, Cove, Huberly, Wapato, Woodburn

Hydrologic Source and Description: Perennial stream averaging 6 feet wide. The stream channel was indistinguishable in the broad floodplain north of Glencoe Road.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*red-osier dogwood	*reed canarygrass
*red alder	*Himalayan blackberry	*meadow foxtail
Pacific willow	Nootka rose	soft rush
Scouler willow	bittersweet nightshade	small-fruited bulrush
	Pacific ninebark	softstem bulrush
	snowberry	broad-leaf cattail
	Pacific blackberry	morning glory

Boundary Information: Steeply sloped Douglas fir, western red cedar riparian/upland forest in some areas. Other areas are bordered by gradual slopes up to residential development.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	PEM dominant habitat, adj land use = developed
Fish Habitat	Medium	low instream structure, adj land use = developed
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations: Enhance small ponds along this reach by planting native trees and shrubs, such as Oregon ash, willow, red-osier dogwood, and Pacific ninebark along the pond edge. Weed control is needed to prevent the spread of the small population of purple loosestrife located at the culvert under NE 15th Avenue in the Emma Jones Nature Preserve.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Glencoe Swale, Reach 3	Site Code: GS3
Drainage Basin: McKay Creek	Map Sheet(s) #: 1, 3
Acreage: 19.78	Field Date(s): 6/21/00
Location: Glencoe Road to McKay Creek	Zoning: R-7
Adjacent Land Use: Rural residential, agricultural	
T 1N, R 2W Section: 25 SE, 36 NE	

General Description: The lower reach of Glencoe Swale consists of and Oregon ash and red alder forested wetland in the east and emergent wetland dominated by reed canarygrass and meadow foxtail in the west. Down logs were present in the forested portion of the stream.

NWI Classification: 53% PEM, 4% PSS, 43% PFO

Mapped Soils: Cove, McBee, Quatama, Willamette

Hydrologic Source and Description: Perennial stream 8 to 10 feet wide at Hornecker Road.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	red-osier dogwood	*reed canarygrass
*red alder	Pacific ninebark	*meadow foxtail
Pacific willow	rose	skunk cabbage
cherry	Himalayan blackberry	slough sedge
		small-fruited bulrush
		enchanter's nightshade
		Pacific blackberry
		morning glory

Boundary Information: The forested wetland boundary is defined by steep slopes covered with Himalayan blackberry. The emergent wetland in the west slopes gradually upward to meadow foxtail with scattered Oregon white oak and big-leaf maple.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersions, <0.5 acre open water
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations: Plant native trees and shrubs along stream to improve wildlife and fish habitat.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Glencoe Swale tributary	Site Code: GSTrib1
Drainage Basin: McKay Creek	Map Sheet(s) #: 1, 3
Acreage: 12.81	Field Date(s): 6/19/00, 6/21/00
Location: Jackson School Road to Glencoe Swale	Zoning: R-7, R-10
Adjacent Land Use: residential	
T 1 N, R 2W Section: 30 SW, 31 NW	

General Description: The lower portion of this tributary consists of a broad, flat reed canarygrass emergent wetland with a narrow forested wetland fringe consisting of red alder and western red cedar. Himalayan blackberry is present in some areas along the edge of wetland. Cedar snags are present in the emergent wetland and in the forested fringe. Scattered Douglas spirea, willow, and rose shrubs on north side of road. The upper portion of this tributary consists of shrub-scrub and forested wetland. A Jackson School Neighborhood Association Nature Preserve sign was observed along this reach.

NWI Classification: 25% PEM, 27% PSS/PEM, 48% PFO

Mapped Soils: Amity, Cove, Quatama, Verboort, Woodburn

Hydrologic Source and Description: Perennial stream is an indistinguishable channel in the broad floodplain south of Glencoe Road and is 5 feet wide in the forested wetland.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	Douglas spirea	*reed canarygrass
*red alder	Nootka rose	common horsetail
*western red cedar	willow	
Pacific willow	red-osier dogwood	
	Himalayan blackberry	

Boundary Information: Steeply sloped diverse riparian/upland forest.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	<0.5 acre open water, adjacent land use=developed
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Gordon Creek, Reach 1	Site Code: GC1
Drainage Basin: Tualatin River	Map Sheet(s) #: 7
Acreage: 2.29	Field Date(s): 11/1/00
Location: East of 229 th Avenue	Zoning: FF, RRFU
Adjacent Land Use: agricultural	
T 1S, R 2W Section: 11 SW	

General Description: The historic headwaters of this intermittent tributary have been tiled. The stream corridor originates in an agricultural field owned by the Sisters of St. Mary. The upper reach of Gordon Creek is forked and contains both emergent and shrub-scrub wetlands. A large potential wetland (23.44 acres) is present east of the southern fork, where hydric soils are mapped in the agricultural field.

NWI Classification: 33% PEM, 67% PSS

Mapped Soils: Verboort

Hydrologic Source and Description: Narrow intermittent drainage

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
	Douglas spirea	reed canarygrass
	Himalayan blackberry	
	willow	

Boundary Information: Bordered by agricultural field

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	high wildlife habitat value in the lower reach
Fish Habitat	Medium	low instream structure and shading
Water Quality	Medium	adj land use not developed, not WQ limited stream
Hydrologic Control	Medium	outside floodplain, downstream land use not devel.

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Gordon Creek, Reach 2	Site Code: GC2
Drainage Basin: Tualatin River	Map Sheet(s) #: 7
Acreage: 7.69	Field Date(s): 11/1/00
Location: West of 229 th Avenue to the Reserve Golf Club	Zoning: FF
Adjacent Land Use: agricultural, rural residential, golf course	
T 1S, R 2W Section: 10	

General Description: Wetlands along the lower reach of Gordon Creek are primarily shrub-scrub and forested, with a minor emergent wetland component. Forested wetlands are dominated by Oregon ash, red alder, western red cedar and willow. The stream channel contains a fair amount of woody debris (P. Quarterman). Ettinger Pond is located downstream from this unit, outside the study area.

NWI Classification: 3% POW, 45% PSS/PEM, 52% PFO

Mapped Soils: Aloha, Huberly, Verboort, Wapato

Hydrologic Source and Description: Perennial stream occupying a narrow floodplain.

Dominant Vegetation: (* = major dominant)

Trees

*Oregon ash
red alder
western red cedar
Pacific willow

Shrubs

Douglas spirea
red-osier dogwood
rose
ornamental hawthorn
serviceberry
Himalayan blackberry
bittersweet nightshade

Herbs/Emergents

reed canarygrass
broad-leaf cattail
western buttercup
slough sedge
small-fruited bulrush
mannagrass

Boundary Information: Sloping riparian/upland forest dominated by Douglas fir and Oregon white oak is present south of Gordon Creek.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: McKay Creek	Site Code: MC
Drainage Basin: McKay Creek	Map Sheet(s) #: 1, 3
Acreage: 82.32	Field Date(s): 6/21/00
Location: East of UGB and north of confluence with Dairy Creek	Zoning: C-1, M-2, R-7
Adjacent Land Use: Golf course, agricultural, cemetery, rural residential	
T 1N, R 3W Section: 25, 36	

General Description: McKay Creek supports predominantly Oregon ash forested wetlands. Several large Oregon ash trees are present, along with wildlife snags which provide good cavity-nesting bird habitat. This reach is bordered by the McKay Creek Golf Course and agricultural fields on the west and by the Fir Lawn Cemetery and a few remaining rural residential homesites on the east.

NWI Classification: 1% POW, 20% PEM, 3% PSS, 5% PFO/PSS, 71% PFO

Mapped Soils: Chehalis, McBee, Quatama, Xerochrepts and Haploxerolls

Hydrologic Source and Description: Perennial stream with average width of 15 feet.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*red-osier dogwood	reed canarygrass
black cottonwood	*Pacific ninebark	
	willow	
	rose	
	red elderberry	
	Indian plum	
	vine maple	
	serviceberry	

Boundary Information: Steeply sloped riparian/upland forest dominated by Douglas fir, with some western red cedar, grand fir and western hemlock also present.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	<0.5 acre open water, water quality limited stream
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: McKay Creek tributary 1	Site Code: MCTrib1
Drainage Basin: McKay Creek	Map Sheet(s) #: 3
Acreage: 15.09	Field Date(s): 6/21/00
Location: North of railroad, south of Fir Lawn Cemetery	Zoning: A-2, C-1, M-2, R-7
Adjacent Land Use: cemetery, railroad, residential	
T 1N, R 3W Section: 36	

General Description: This small unnamed tributary, which was not mapped in the 1990 inventory, supports forested and scrub-shrub wetlands. This lower portion of this tributary consists of an Oregon ash dominated forested wetland. A few snags were present. The emergent headwaters of this tributary originate in a residential area, after which this tributary flows through the Fred Meyer wetland mitigation site. This tributary is bordered by the Fir Lawn Cemetery and the railroad tracks in the west and by residential development in the east.

NWI Classification: 58% PEM, 42% PFO

Mapped Soils: Chehalis, Cove, Quatama, Verboort

Hydrologic Source and Description: Intermittent stream widens south of the Fred Meyer mitigation site.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	red-osier dogwood	reed canarygrass
Pacific willow	rose	lady fern
	bittersweet nightshade	

Boundary Information: A narrow band of steeply sloped riparian/upland is present along the south side of this unit, consisting of red elderberry, beaked hazelnut, Himalayan blackberry, and poison hemlock.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersation, <0.5 acre open water
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Orenco Creek	Site Code: OC
Drainage Basin: Rock Creek	Map Sheet(s) #: 4
Acreage: 12.51	Field Date(s): 10/11/00
Location: Campus Court to Rock Creek	Zoning: R-7, SCBP, SCR-V
Adjacent Land Use: residential, agricultural, industrial	
T 1N/S, R 2W Section: 34; 3NW	

General Description: Most wetlands along the Orenco Creek corridor are emergent with a minor scrub-shrub component. A fringe of forested wetland is also present along the stream. Beaver are very active in the upper portion of Orenco Creek, resulting in an expansion of the wetland upslope over the last several years. The headwaters of Orenco Creek daylight east of the upstream edge of this unit, in the parking lot of the Club 1201 Condominiums after being culverted for 1400 feet.

NWI Classification: 4% POW, 74% PEM, 19% PSS, 3% PFO

Mapped Soils: Aloha, Huberly, Quatama, Wapato

Hydrologic Source and Description: Perennial stream varies from 2 feet wide in the upper portion to 25 feet in the lower portion.

Dominant Vegetation: (* = major dominant)

Trees

Oregon ash
western red cedar
red alder
willow

Shrubs

*willow
*Himalayan blackberry
*bittersweet nightshade

Herbs/Emergents

*reed canarygrass
*tall mannagrass
*small-fruited bulrush
meadow foxtail
daggerleaf rush
marsh hedgenettle
sawbeak sedge
common velvetgrass
skunk cabbage

Boundary Information: Steeply sloped riparian/upland forest dominated by bigleaf maple, Douglas fir, western red cedar, and red alder.

Wetland Function

Wildlife Habitat
Fish Habitat
Water Quality
Hydrologic Control

Rating

Medium
High
High
High

Comments

low habitat interspersion, <0.5 acre open water

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Reedville Creek	Site Code: ReC
Drainage Basin: Rock Creek	Map Sheet(s) #: 4, 7
Acreage: 36.29	Field Date(s): 10/4/00
Location: Cornelius Pass to Rock Creek	Zoning: A-1, R-6, R-7
Adjacent Land Use: residential	
T 1S, R 2W Section: 2, 3, 4	

General Description: Wetlands along the Reedville Creek corridor consist primarily of forested and scrub-shrub wetlands. Beaver dams have resulted in open water areas along the stream. Snags are common throughout the stream corridor. The wetlands are bordered closely throughout most of the reach by residential development. The headwaters of Reedville Creek are located east of the UGB and appear to have been channelized and are bordered even more closely by residential development.

NWI Classification: 3% POW, 13% PEM, 32% PSS, 6% PFO/PSS, 46% PFO

Mapped Soils: Quatama, Verboort, Wapato, Woodburn

Hydrologic Source and Description: Perennial stream varies from 2 feet wide in the upper portion to 10 feet in the lower portion

Dominant Vegetation: (* = major dominant)

Trees

- *Oregon ash
- *willow

Shrubs

- willow
- Pacific ninebark
- Douglas spirea
- rose
- Himalayan blackberry
- bittersweet nightshade

Herbs/Emergents

- *reed canarygrass
- soft rush
- small-fruited bulrush
- common horsetail
- mannagrass
- touch-me-not
- skunk cabbage

Boundary Information: The stream channel and its floodplain are bordered by fill slopes up to residential development.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Rock Creek, Reaches 1-3	Site Code: RoC1, RoC2 & RoC3
Drainage Basin: Rock Creek	Map Sheet(s) #: 2, 4, 5, 6
Acreage: 40.80 + 292.77 + 71.25 = 404.82	Field Date(s): 8/3, 10/4, 10/10/00, 7/20/01
Location: Highway 26 to Tualatin River	Zoning: A-1, A-2, A-3, A-4, C-1, M-P, R-7
Adjacent Land Use: residential, industrial, rural residential	R-10, SCBP, SCR-LD, SCR-V
T 1 N/S, R 2W Section: 25, 26, 34, 35; 3, 4, 8, 9	

General Description: This is by far the largest stream in the study area and includes a few short unnamed tributaries. Rock Creek meanders widely, passing through alternating areas of forested, scrub-shrub, and emergent wetlands. Many large wetland complexes are associated with Rock Creek and habitat interspersions are high. Adjacent land use is mainly residential, but industrial land use is present in the upper portion. A USA treatment plant is located adjacent to the south portion of Rock Creek near its confluence with the Tualatin River. Recreation uses include a Parks and Recreation Trail underneath the Highway 26 corridor and a trail through Noble Woods Park. Beaver dams and wildlife snags are found throughout this system. Rock Creek continues north of the UGB where it is bordered by dense residential development.

NWI Classification: 1% POW, 26% PEM, 3% PSS/PEM, 4% PSS, 66% PFO

Mapped Soils: Aloha, Cove, McBee, Quatama, Verboort, Wapato, Xerochrepts and Haploxerolls

Hydrologic Source and Description: Perennial stream varies in width from 8 to 30 feet.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	willow	reed canarygrass
red alder	Douglas spirea	bentgrass
Pacific yew	Pacific ninebark	willow-weed
grand fir	wild clustered rose	waterweed (<i>Elodea</i>)
Oregon white oak	vine maple	bittersweet nightshade
	thimbleberry	touch-me-not
	casara	small-fruited bulrush
	Oregon grape	common velvetgrass

Boundary Information: Mostly bordered by steep slopes up to residential or industrial development, portions bordered by steeply sloped riparian/upland forests dominated by Douglas fir.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	water quality limited, adj. land use is developed
Fish Habitat	Medium	water quality limited, adj. land use is developed
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Rock Creek tributary 1	Site Code: RoCTrib1
Drainage Basin: Rock Creek	Map Sheet(s) #: 6
Acreage: 1.62	Field Date(s): 10/4/00, 7/20/01
Location: Rood Bridge Drive to Rock Creek	Zoning: R-7
Adjacent Land Use: Residential, park	
T 1S, R 2W Section: 8	

General Description: The headwaters of this short tributary to Rock Creek originate in a private park owned by the Edwards Meadows Homeowners Association. This reach consists of a small Oregon ash forest at the headwaters and a narrow forested wetland along the stream channel. The forested wetland widens as the tributary nears Rock Creek.

NWI Classification: 100% PFO

Mapped Soils: Quatama

Hydrologic Source and Description: Narrow, intermittent stream.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	Himalayan blackberry	reed canarygrass
red alder	bittersweet nightshade	
Pacific willow	red-osier dogwood	

Boundary Information: Sloped riparian/upland forests dominated by Douglas fir and cherry along upper portion of tributary.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low interspersions & open water, adj. development
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Rock Creek tributary 2	Site Code: RoCTrib2
Drainage Basin: Rock Creek	Map Sheet(s) #: 3, 6
Acreage: 7.50	Field Date(s): 10/4/00, 7/20/01
Location: Cypress Street to Rock Creek	Zoning: C-1, R-7
Adjacent Land Use: commercial, residential	
T 1S, R 2W Section: 5 SE & 8 NE	

General Description: The upper portion of this tributary consists of a series of elongated man-made ponds with a fringe of emergent and shrub-scrub wetland. The lower portion of this tributary consists of Oregon ash forested wetland. The tributary is bordered on the south by a tall, steep Himalayan blackberry-covered fill slope along the edge of the Sunset Esplanade shopping center parking lot.

NWI Classification: 23% POW, 44% PSS/PEM, 33% PFO

Mapped Soils: Quatama, Verboort, Xerochrepts and Haploxerolls

Hydrologic Source and Description: This intermittent tributary has been channelized and averages 1 foot wide, with the exception of the man-made ponded area.

Dominant Vegetation: (* = major dominant)

Trees

*red alder
western red cedar

Shrubs

*bittersweet nightshade
*Himalayan blackberry
*red-osier dogwood
willow
red elderberry

Herbs/Emergents

*reed canarygrass
*broad-leaf cattail
small-fruited bulrush
soft rush
skunk cabbage

Boundary Information: The upper portion of the wetland is bordered by steep Himalayan blackberry covered slopes. A sloped riparian/upland forest dominated by red alder and big-leaf maple borders the lower portion.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	Medium	low stream shading, adj. land use = developed
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations: Plant native trees and shrubs along upper portion of stream to improve wildlife and fish habitat.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Rock Creek tributary 3	Site Code: RoCTrib3
Drainage Basin: Rock Creek	Map Sheet(s) #: 4
Acreage: 3.60	Field Date(s): 10/4/00
Location: Brookwood School to Rock Creek	Zoning: R-7, R-10
Adjacent Land Use: residential	
T 1S, R 2W Section: 4	

General Description: This short tributary to Rock Creek originates in a forest to the south of Brookwood School. A narrow forested wetland is present along the stream.

NWI Classification: 11% PEM, 89% PFO

Mapped Soils: Cove, Quatama

Hydrologic Source and Description: Intermittent stream is 5 feet wide

Dominant Vegetation: (* = major dominant)

Trees

*western red cedar
red alder
Oregon ash

Shrubs

*bittersweet nightshade
*Himalayan blackberry
willow
vine maple

Herbs/Emergents

mannagrass
small-fruited bulrush
orange balsam
water parsley
creeping buttercup
soft rush
lady fern
skunk cabbage

Boundary Information: Narrow band of sloped riparian/upland forest dominated by Douglas fir and big-leaf maple borders the forested wetland on the east and west.

Wetland Function

Wildlife Habitat
Fish Habitat
Water Quality
Hydrologic Control

Rating

Medium
High
High
High

Comments

low interspersion & open water, adj. development

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Rock Creek tributary 4	Site Code: RoCTrib4
Drainage Basin: Rock Creek	Map Sheet(s) #: 4, 5
Acreage: 7.26	Field Date(s): 8/3/00 & 9/12/00
Location: Cornell Road to Rock Creek	Zoning: SCBP, SCR-LD
Adjacent Land Use: industrial, residential	
T 1N, R 2W Section: 25 SW, 35 NE, 36 NW	

General Description: The headwaters of this small tributary to Rock Creek originate in the Amber Glen Business Center Phase IV development. Scrub-shrub and emergent wetlands are present to the east of 206th Avenue and are dominated by Pacific willow, reed canarygrass, giant horsetail, creeping buttercup, rough-stem bluegrass, and small-fruited bulrush. An Oregon ash and red alder forested and scrub-shrub wetland is present west of 206th Avenue.

NWI Classification: 38% PSS/PEM, 22% PSS, 40% PFO

Mapped Soils: Dayton, Quatama, Wapato, Woodburn

Hydrologic Source and Description: Narrow, intermittent stream.

Dominant Vegetation: (* = major dominant)

Trees

- *Oregon ash
- *Pacific willow
- *red alder

Shrubs

- *willow
- *Pacific ninebark
- *currant
- red-osier dogwood
- bittersweet nightshade
- sumac

Herbs/Emergents

- *reed canarygrass
- *giant horsetail
- *creeping buttercup
- *rough-stem bluegrass
- *small-fruited bulrush
- common velvetgrass
- soft rush
- broad-leaf cattail

Boundary Information: A sloped Douglas fir and big-leaf maple dominated riparian/upland forest borders the north side of the wetland west of 206th Avenue. The remainder of the wetland is bordered by gradual slopes up to industrial or residential development.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low interspersion & open water, adj. development
Fish Habitat	Medium	low instream structure, adj. land use = developed
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations: Plant native trees and shrubs along upper portion of stream to improve wildlife and fish habitat.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Turner Creek	Site Code: TC
Drainage Basin: Rock Creek	Map Sheet(s) #: 3, 4
Acreage: 44.65	Field Date(s): 9/15/00, 7/20/01
Location: Cornell Road to Rock Creek	Zoning: A-1, R-7, R-10
Adjacent Land Use: residential	
T 1N/S, R 2W Section: 32 SW; 4 SE, 5	

General Description: This stream passes through the heart of residential Hillsboro and is bordered closely by residential development. Wetlands along Turner Creek are predominantly forested and scrub-shrub, and several open water ponds are also present. Turner Creek Park contains a very nice mixed emergent/scrub-shrub wetland community with diverse vegetation and provides educational opportunities. Snags are common throughout the stream corridor. The Hillwood Mitigation site is present in the uppermost portion of this reach. A large man-made concrete sided pond is present on a small tributary to Turner Creek located west of SE 28th Place.

NWI Classification: 2% POW, 10% PEM, 35% PSS/PEM, 6% PSS, 47% PFO

Mapped Soils: Aloha, Cove, Quatama, Verboort, Xerochrepts and Haploxerolls

Hydrologic Source and Description: Perennial stream varies from 2 feet wide in the upper portion to 20 feet in the lower portion

Dominant Vegetation: (* = major dominant)

Trees

*Oregon ash
red alder

Shrubs

*willow
*Himalayan blackberry
red-osier dogwood
willow

Herbs/Emergents

*reed canarygrass
*touch-me-not
*nodding beggars-tick
mannagrass
bur-reed
broad-leaf cattail
skunk cabbage

Boundary Information: The stream channel and its floodplain are bordered by fill slopes up to residential development.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	adj. land use is developed, small wetland buffers
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations: Plant native trees and shrubs adjacent to concrete sided pond to stabilize slopes, shade pond and improve water quality.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Tualatin River	Site Code: TR
Drainage Basin:	Map Sheet(s) #: 6
Acreage: 27.02	Field Date(s): 11/1/00
Location: Near confluence with Rock Creek	Zoning: R-7
Adjacent Land Use: residential, rural residential, agricultural	
T 1S, R 2W Section: 8 SE, 9 SW, 16 NW, 17 NE	

General Description: The study area contains a few Oregon ash forested wetlands along the north side of the Tualatin River in the vicinity of the confluence with Rock Creek. This unit also includes a large pond in the new park on Rood Bridge Road.

NWI Classification: 91% PFO, 9% POW

Mapped Soils: Chehalis, Quatama, Xerochrepts and Haploxerolls

Hydrologic Source and Description:

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	willow	
Pacific willow	red-osier dogwood	
	Pacific ninebark	
	rose	

Boundary Information: Slope up to adjacent residential development.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Waible Creek Tributary, Reach 1N	Site Code: WbCTrib1N
Drainage Basin: McKay Creek	Map Sheet(s) #: 2
Acreage: 1.33	Field Date(s): 9/21/00
Location: Highway 26 to Shute Road	Zoning: M-P
Adjacent Land Use: agricultural	
T 1N, R 2W Section: 14 SW, 15 SE, 22 NE	

General Description: This tributary has been channelized and is bordered by agricultural land use. A small amount of emergent wetland is present along the stream channel. Several large stormwater ponds have been created in the headwaters of this drainage, north of Jacobsen Road and the north end of Croeni Road. Development is currently underway adjacent to this reach. A portion of the stream channel is being restored and at the time of our site visit it had been regraded to a flatter slope, large woody debris and root wads had been added adjacent to the stream, and the side slopes had been recently hydroseeded.

NWI Classification: 100% PEM

Mapped Soils: Verboort

Hydrologic Source and Description: Intermittent drainage has been channelized to a width of 2 feet.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
		*reed canarygrass

Boundary Information: Gradual slope up to agricultural field.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersions, <0.5 acre open water
Fish Habitat	Medium	low streamside shading, low instream structure
Water Quality	Medium	< 5 acres, adjacent land use not developed
Hydrologic Control	Medium	< 5 acres, dominant vegetation is emergent

Significant? No

Recommendations: Restore additional portions of the stream channel as new development occurs.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Waible Creek Tributary, Reach 1S	Site Code: WbCTrib1S
Drainage Basin: McKay Creek	Map Sheet(s) #: 2
Acreage: 2.83	Field Date(s): 6/19/00
Location: Five Oaks Industrial Park to Highway 26	Zoning: M-P
Adjacent Land Use: agricultural	
T 1N, R 2W Section: 22 NE & 23 NW	

General Description: The south fork of the headwaters of this tributary is a diverse emergent wetland with several species of sedges and rushes. A row of sycamore is planted along both sides of Five Oaks Drive. Two peacocks reside in this area and a peacock nest (4 eggs) was observed just north of the road.

NWI Classification: 100% PEM

Mapped Soils: Verboort, Woodburn

Hydrologic Source and Description: Narrow, intermittent drainage culverted under NW Five Oaks Drive. Small ponded area south of road at culvert outfall.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Herbs/Emergents</u>	
	*common velvetgrass	spikerush
	*mannagrass	greensheathed sedge?
	*sawbeak sedge	thick-headed sedge?
<u>Shrubs</u>	broad-leaf cattail	creeping buttercup
	meadow foxtail	softstem bulrush
	slender rush	American speedwell
	spreading rush	bentgrass
		reed canarygrass

Boundary Information: Gradual slope up to agricultural field.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersation, <0.5 acre open water
Fish Habitat	Medium	low streamside shading, low instream structure
Water Quality	Medium	< 5 acres, adjacent land use not developed
Hydrologic Control	Medium	< 5 acres, dominant vegetation is emergent

Significant? No

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Waible Creek Tributary, Reach 1	Site Code: WbCTrib1
Drainage Basin: McKay Creek	Map Sheet(s) #: 2
Acreage: 5.95	Field Date(s): 9/21/00
Location: Highway 26 to Shute Road	Zoning: M-P
Adjacent Land Use: agricultural	
T 1N, R 2W Section: 22	

General Description: This tributary has been channelized and is bordered by agricultural land use. An Oregon ash forested wetland is present south of Highway 26, and a narrow emergent wetland is present along the stream channel in the west portion of the site.

NWI Classification: 56% PEM, 44% PFO

Mapped Soils: Verboort, Woodburn

Hydrologic Source and Description: Intermittent drainage has been channelized to 2 feet wide.

Dominant Vegetation: (* = major dominant)

Trees

*Oregon ash

Shrubs

*Himalayan blackberry
*snowberry

Herbs/Emergents

*reed canarygrass
forget-me-not
tall fescue

Boundary Information: Gradual slope up to agricultural field.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	low habitat interspersation, <0.5 acre open water
Fish Habitat	Medium	low streamside shading, low instream structure
Water Quality	Medium	adjacent land use not developed, not WQ limited
Hydrologic Control	Medium	dom. veg. emergent, downstream land use not devel.

Significant? No

Recommendations: Enhance west portion of reach by regrading stream channel and planting native trees and shrubs along stream to improve wildlife and fish habitat and water quality.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Willow Creek	Site Code: WiC
Drainage Basin: Rock Creek	Map Sheet(s) #: 5
Acreage: 0.77	Field Date(s): 11/1/00
Location: 185 th Avenue to Beaverton Creek	Zoning: SCR-MD
Adjacent Land Use: residential	
T 1N, R 2W Section: 1 NE	

General Description: A small forested wetland on the south side of Willow Creek is present in the study area.

NWI Classification: 100% PFO

Mapped Soils: Verboort

Hydrologic Source and Description: Perennial stream

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
Oregon ash	red-osier dogwood	
Pacific willow	rose	
cherry	Himalayan blackberry	
	black hawthorn	

Boundary Information: Slope up to adjacent residential development.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	water quality limited stream, adj land use=developed
Fish Habitat	Medium	water quality limited stream, adj land use=developed
Water Quality	High	
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Witch Hazel Creek	Site Code: WHC
Drainage Basin: Rock Creek	Map Sheet(s) #: 6
Acreage: 12.02	Field Date(s): 10/4/00
Location: Witch Hazel Road to Rock Creek	Zoning: A-1, M-P, R-7, RR-FU
Adjacent Land Use: residential, rural residential	
T 1N, R 2W Section: 9	

General Description: This tributary originates in a residential neighborhood near the Witch Hazel School. The stream corridor contains mostly shrub-scrub and forested wetland, with a minor emergent wetland component.

NWI Classification: 13% PEM, 11% PSS/PEM, 19% PSS, 57% PFO

Mapped Soils: McBee, Quatama, Wapato

Hydrologic Source and Description: Perennial stream is 2 feet wide near the headwaters and widens considerably to the south.

Dominant Vegetation: (* = major dominant)

Trees

*Oregon ash
*red alder
Pacific willow

Shrubs

*willow
*red-osier dogwood
Himalayan blackberry
Pacific ninebark
Douglas spirea
bittersweet nightshade

Herbs/Emergents

*reed canarygrass
common horsetail
small-fruited bulrush
water parsley

Boundary Information: Steeply sloped riparian/upland forests dominated by Douglas fir, western red cedar.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	High	
Water Quality	High	
Hydrologic Control	High	
Other		

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Wishing Well	Site Code: W1
Drainage Basin: Rock Creek	Map Sheet(s) #: 2
Acreage: 2.14	Field Date(s): 10/10/00
Location: north of Cornell Road, west of Aloclek	Zoning: M-P
Adjacent Land Use: agricultural	
T 1N, R 2W Section: 26 SE	

General Description: This mixed emergent/forested wetland consists of an Oregon ash overstory with a fairly open shrub layer and diverse herbaceous layer.

NWI Classification: 52% PEM, 48% PFO

Mapped Soils: Aloha, Huberly, Quatama

Hydrologic Source and Description: Isolated wetland, no culvert under Aloclek Road. Staff gage in wetland indicates wetland is ponded earlier in growing season.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*black hawthorn	*bentgrass
	*rose	*spreading rush
	Douglas spirea	*water foxtail
	Himalayan blackberry	soft rush
	bittersweet nightshade	slough sedge
		reed canarygrass

Boundary Information: Gradual slope up to adjacent agricultural fields

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	Low	not connected to stream, lake or pond
Water Quality	Medium	< 5 acres, adjacent land use not developed
Hydrologic Control	High	

Significant? Yes

Recommendations: Control small populations of Himalayan blackberry and bittersweet nightshade to prevent further spread.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Valley Memorial	Site Code: W4
Drainage Basin: Rock Creek	Map Sheet(s) #: 6
Acreage: 7.41	Field Date(s): 10/4/00
Location: north of TV Highway, east of Rock Creek	Zoning: C-1, R-7
Adjacent Land Use: cemetery, undeveloped	
T 1S, R 2W Section: 9 NW	

General Description: This large man-made U-shaped pond is located within the 100-year floodplain of Rock Creek. According to the cemetery superintendent, the pond is regularly maintained to control noxious fish (carp) populations, and the pond was drained at the time of our site visit. The pond was excavated to an equal depth, and no vegetation was observed growing in the pond bottom. A great blue heron was observed perched on a snag near the pond. Adjacent wetlands associated with Rock Creek reach 2 are described in unit RoC2.

NWI Classification: 100% POWh

Mapped Soils: mapped mostly as water and some Quatama

Hydrologic Source and Description: Isolated wetland. Water is pumped into the pond from cemetery's irrigation pipe. There is an outflow gate to Rock Creek.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
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Boundary Information: Slope up to adjacent undeveloped land.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	open water only habitat type
Fish Habitat	Medium	pond with no cover objects or shading
Water Quality	Medium	low vegetation cover, adj land use not developed
Hydrologic Control	High	

Significant? Yes

Recommendations: Allow fringe of wetland scrub-shrub vegetation to establish around pond and plant emergent wetland plants in pond to improve wildlife habitat.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Quatama/Lightrail	Site Code: W5
Drainage Basin: Rock Creek	Map Sheet(s) #: 4
Acreage: 1.60	Field Date(s): 11/1/00
Location: south of lightrail, east of Cornelius Pass	Zoning: SCI
Adjacent Land Use: agricultural	
T 1N, R 2W Section: 35 SE	

General Description: The emergent portion of this isolated wetland is dominated by common velvetgrass, bentgrass and quackgrass with patches of soft rush and spreading rush and scattered Douglas spirea, rose and willow shrubs. An Oregon ash, Oregon white oak, snowberry, and slough sedge forested wetland is present along the west edge.

NWI Classification: 70% PEM, 30% PFO

Mapped Soils: Aloha, Huberly

Hydrologic Source and Description: Isolated wetland, no culvert under lightrail tracks.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
*Oregon ash	*snowberry	*common velvetgrass
*Oregon white oak	willow	*bentgrass
*quaking aspen	Douglas spirea	*quack grass
	rose	*slough sedge
	Oregon ash	soft rush
	Himalayan blackberry	spreading rush
		Pacific blackberry

Boundary Information: Gradual slope up to agricultural field to east.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	PEM=dom veg, low interspersion, <0.5 acre POW
Fish Habitat	Low	not connected to stream, lake or pond
Water Quality	Medium	< 5 acres, adjacent land use not developed
Hydrologic Control	Medium	outside floodplain, dominant veg is emergent

Significant? No. No surface water connection to Rock Creek except possibly during high intensity storm events, therefore not significant based on level 2 OFWAM evaluation.

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Cornelius Pass/Cornell Road potential agricultural wetland	Site Code: W6
Drainage Basin: Rock Creek	Map Sheet(s) #: 2
Acreage: 1.84	Field Date(s): 11/1/00
Location: east of Cornelius Pass Road, north of Cornell Road	Zoning: M-P
Adjacent Land Use: agricultural	
T 1N, R 2W Section: 26 SE	

General Description: This potential agricultural wetland consists of a slight swale/linear depression area located in an agricultural field with mapped hydric soils. Vegetation is dominated by grasses, which were mowed during our inventory. The signature on the 1999 aerial photo indicates soil surface saturation or shallow ponding is present during a portion of the growing season. Two to three great blue herons were observed foraging in this field on multiple occasions.

NWI Classification: 100% PEMf

Mapped Soils: Aloha, Huberly, Woodburn

Hydrologic Source and Description: Isolated wetland, not connected to wetland W1 to east.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
		grasses

Boundary Information: Slope gradually increases to the north and south of the wetland.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	emergent is only habitat type
Fish Habitat	Low	not connected to stream, lake or pond
Water Quality	Medium	< 5 acres, adjacent land use not developed
Hydrologic Control	Medium	outside floodplain, dominant veg is emergent

Significant? No

Recommendations: Conduct an on-site verification of wetland status in the early spring.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Dawson Creek Business Park	Site Code: W7
Drainage Basin: Rock Creek	Map Sheet(s) #: 2
Acreage: 5.94	Field Date(s): 9/21/00
Location: southeast of Brookwood Parkway, north of Airport Road	Zoning: M-P
Adjacent Land Use: industrial	
T 1N, R 2W Section: 28	

General Description: This unit consists of a series of several man-made ponds that were excavated in two hydric soil swales in the Dawson Creek Business Park. The ponds are considered to be jurisdictional wetlands by the Division of State Lands. Hydrology appears to be artificial due to the presence of fountains in some of the ponds. Rocked outfall structures are present in some of the ponds which enhance their hydrologic control function. The ponds have a scattered narrow fringe of emergent vegetation and patches of willow and red-osier dogwood and are surrounded by mowed lawn. Ducks, widgeon and great blue heron were observed using the ponds.

NWI Classification: 100% POW_x

Mapped Soils: Cove, Verboort, Woodburn

Hydrologic Source and Description: Isolated wetland, not connected to Dawson Creek to south.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
	willow (trace)	broad-leaf cattail (trace)
	red-osier dogwood (trace)	yellow iris (trace)

Boundary Information: Mowed lawn

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	open water is only habitat type
Fish Habitat	Medium	no fish present, not connected to Dawson Creek
Water Quality	Medium	low veg. cover, not adjacent to WQ limited stream
Hydrologic Control	High	

Significant? Yes

Recommendations:

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Jackson Bottom/Hillsboro Landfill	Site Code: JB/HL
Drainage Basin: Tualatin River	Map Sheet(s) #: 3, 6
Acreage: 361.23	Field Date(s): none
Location: north of Tualatin River	Zoning: A-1, M-2
Adjacent Land Use: agricultural, landfill	
T 1S R 2W Section: 6, 7	

General Description: This large wetland complex consists predominantly of emergent wetlands and contains several large open water areas. Small patches of scrub-shrub and forested wetland are present throughout the wetland, and a fringe of forested wetland is present along the Tualatin River. More information about the Jackson Bottom Wetlands Preserve is available from the City of Hillsboro or at www.corners.pdx.edu/jackson.

NWI Classification: 13% POW, 69% PEM, 15% PSS, 3% PFO

Mapped Soils: Chehalis, Cove, McBee, Wapato, Woodburn

Hydrologic Source and Description: Jackson Slough is a tributary to the Tualatin River.

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs/Emergents</u>
Oregon ash	Sitka willow	*reed canarygrass
Pacific willow	Scoulers willow	timothy
Oregon white oak	Pacific willow	
	Oregon ash	
	red alder	
	black cottonwood	
	Pacific ninebark	
	rose	
	red-osier dogwood	

Boundary Information: Gradual slope up to adjacent agricultural fields.

<u>Wetland Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Fish Habitat	Medium	low instream structure and shading
Water Quality	High	
Hydrologic Control	High	

Significant? Yes, this is a unique site within the City of Hillsboro and provides many educational opportunities. It provides wildlife habitat for many species of waterbirds and songbirds as well as for bald eagle, deer, otter, beaver, and other small mammals. A heron rookery is also present.

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY AND ASSESSMENT

WETLAND SUMMARY SHEET

WETLAND: Jackson Bottom Tributary 1	Site Code: JB/HLTrib-1
Drainage Basin: Tualatin River	Map Sheet(s) #: 3
Acreage: 0.24	Field Date(s): 5/8/02
Location: east of Jackson Bottom, north and south of Hollow St.	Zoning:
Adjacent Land Use: residential	
T 1S, R 2W, Section: 6	

General Description: This unit consists primarily of an intermittent tributary to Jackson Bottom and associated emergent wetlands. A narrow scrub-shrub and forested wetland fringe is also present. An on-line pond is present south of Hollow Street, in the downstream portion. The stream becomes an undefined channel as it enters the reed canarygrass-dominated Jackson Bottom. The headwaters of this tributary originate as a reed canarygrass drainage located just south of Englewood.

NWI Classification: 8% POW, 57% PEM, 35% PFO/PEM

Mapped Soils: Woodburn

Hydrologic Source and Description: Intermittent tributary to Jackson Bottom ranging from 1 to 2 feet wide.

Dominant Vegetation: (* = major dominant)

Trees

western red cedar
Oregon ash
Pacific willow

Shrubs

Himalayan blackberry
Douglas spirea
Pacific willow
red-osier dogwood

Herbs/Emergents

water parsley
skunk cabbage
lady fern
creeping buttercup
small-fruited bulrush
reed canarygrass
broad-leaf cattail

Boundary Information: Gradual to moderately steep slope up to adjacent residential development.

Wetland Function

Wildlife Habitat
Fish Habitat
Water Quality
Hydrologic Control

Rating

High
Medium
High
Medium

Comments

open water pond
undefined stream channel at downstream end
downstream portion intact
outside floodplain, downstream land use not dev.

Significant? Yes

Recommendations:

Recommendations:

Appendix 3:

**Field Verification of Aerial Photographic Signatures
(Wetland Determination Data Sheets for Cowardin Type)**

WETLAND DETERMINATION DATA SHEET - 1987 MANUAL

Project #: 00055 Site: Noble Woods Park County: Washington State: OR Date: 10/10/00 Plot: 1
 Applicant/Owner: City of Hillsboro LWI Sect. (1/4) 3 NW Township 1S Range 2W (Wet) Up
 Plot Location: Western portion of Noble Woods Park in large forested wetland
 Topographic Location: 20 ft south of trail in floodplain
 Do normal environmental conditions exist? Y N Explain: rained past 24 hrs.
 Are soils vegetation hydrology significantly disturbed? N Explain:

PFO Aerial Signature Verification

VEGETATION

*Dominant Plant Species	% Cover	Ind.	*Dominant Plant Species	% Cover	Ind.
Herb Stratum (% total cover: <u>75</u>) (5 ft. radius)			Shrub/Sapling Stratum (% total cover: <u>15</u>) (10' rad.)		
① <u>Carex obnupta</u>	<u>65</u>	<u>OBL</u>	1. <u>Crataegus douglasii</u>	<u>5</u>	<u>FAC</u>
2. <u>Impatiens capensis</u>	<u>10</u>	<u>FACW</u>	2. <u>Rosa nutkana</u>	<u>5</u>	<u>FAC</u>
3. <u>Ranunculus repens</u>	<u>tr</u>	<u>FACW</u>	3. <u>Solanum dulcamara</u>	<u>5</u>	<u>FAC</u>
4. <u>Rumex occidentalis</u>	<u>tr</u>	<u>FACW+</u>	4. <u>Fraxinus latifolia</u>	<u>tr</u>	<u>FACW</u>
5. <u>Carex deweyana</u>	<u>tr</u>	<u>FACU</u>	5. <u>Physocarpus capitatus</u>	<u>tr</u>	<u>FACW-</u>
6. <u> </u>	<u> </u>	<u> </u>	Tree Stratum (% total cover: <u>75</u>) (30 ft. radius)		
7. <u> </u>	<u> </u>	<u> </u>	① <u>Fraxinus latifolia</u>	<u>75</u>	<u>FACW</u>
8. <u> </u>	<u> </u>	<u> </u>	2. <u> </u>	<u> </u>	<u> </u>
9. <u> </u>	<u> </u>	<u> </u>	3. <u> </u>	<u> </u>	<u> </u>

Remarks: 25% bare ground w/leaves; also trace Symphoricarpos alba + Acer
 Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): $\frac{2}{2} = 100\%$ Circinatum
 Hydrophytic Vegetation Criterion Met? YES NO NWI Class PFO

SOILS

Mapped unit name: Wapato Silty Clay loam Matches Profile? Y N
 Taxonomy: Fluvaquentic Uaplaquolls Drainage Class: Poorly drained

Depth	Horizon	Matrix Color	Mottle Abund., Size, Color, on Pores/Peds?	Texture, Struct., Other
<u>0-7</u>	<u> </u>	<u>10YR 3/2</u>	<u>com fine 10YR 4/4</u>	<u>Sil</u>
<u>7-12</u>	<u> </u>	<u>10YR 3/1</u>	<u>com fine 7.5YR 3/4</u>	<u>SiCL</u>

- | | | |
|--|---|--|
| <input type="checkbox"/> Histosol | <input type="checkbox"/> Reducing Conditions (test) | <input type="checkbox"/> Hi. Organic Cont. Surf. Layer |
| <input type="checkbox"/> Histic Epipedon | <input type="checkbox"/> Gleyed | <input type="checkbox"/> Organic Streaking |
| <input type="checkbox"/> Sulfidic Odor | <input type="checkbox"/> Mottled (w/i 10") | <input type="checkbox"/> Organic Pan |
| <input type="checkbox"/> Prob. Aquic Moisture Regime | <input type="checkbox"/> Concretions (w/i 3", >2mm) | <input type="checkbox"/> On Hydric Soils List |

Remarks: 2" duff
 Hydric Soil Criterion / Indicators Met? YES NO

HYDROLOGY

Depth of inundation: Depth to free water: Depth to saturation: seeps:

1° Indicators	2° Indicators	2° Indicators
<input type="checkbox"/> Inundated	<input type="checkbox"/> Oxidized Root Channels in upper 12"	<input checked="" type="checkbox"/> Local Soil Survey Data
<input type="checkbox"/> Saturated in upper 12"	<input type="checkbox"/> Water-stained leaves	<input checked="" type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Water Marks	Recorded Data Available (aerials, gauge)? Explain: <u> </u>	
<input type="checkbox"/> Drift Lines	Other: <u>hydrology has not recharged yet</u>	
<input type="checkbox"/> Sediment Deposits	Remarks: <u>very moist below 7"</u>	
<input type="checkbox"/> Drainage Patterns	Wetland Hydrology Criterion / Indicators Met? <input checked="" type="radio"/> <u>YES</u> <u>NO</u>	

landscape position indicates wetland - Near Rock Ck.

DETERMINATION: Is this plot a Wetland? YES NO Vegetation, soils and late-summer soil moisture
 Comments: hydrology likely present earlier in growing season based on strong
 Determined by: C. Mirth Walker + Stacy Benjamin Fishman Environmental Services rev. 4/00

WETLAND DETERMINATION DATA SHEET - 1987 MANUAL

Project #: 0055 Site: Noble Woods Park County: Washington State: OR Date: 10/10/00 Plot: 2
 Applicant/Owner: City of Hillsboro Sect. (1/4) 3 NW Township 1S Range 2W Wet 1 (Up)
 Plot Location: northwest portion of Noble Woods Park

Topographic Location: _____

Do normal environmental conditions exist? (Y) N Explain: rained past 24 hrs.

Are soils ___ vegetation ___ hydrology ___ significantly disturbed? (N) Explain: _____

Upland plot

VEGETATION

*Dominant Plant Species	% Cover	Ind.	*Dominant Plant Species	% Cover	Ind.
Herb Stratum (% total cover: <u>100</u>) (5 ft. radius)			Shrub/Sapling Stratum (% total cover: <u>30</u>) (10' rad.)		
① <u>Berberis nervosa</u>	<u>60</u>	<u>UPL</u>	① <u>Corylus cornuta</u>	<u>10</u>	<u>FACU</u>
② <u>Polystichum munitum</u>	<u>40</u>	<u>FACU</u>	2. <u>Holodiscus discolor</u>	<u>5</u>	<u>UPL</u>
3. <u>Hedera helix</u>	<u>tr</u>	<u>UPL</u>	3. <u>Acer circinatum</u>	<u>5</u>	<u>FAC-</u>
4. <u>Gymnocarpium dryopteris</u>	<u>tr</u>	<u>FAC</u>	4. <u>Rubus parviflora</u>	<u>5</u>	<u>FAC-</u>
5. _____			5. <u>Rhamnus purshiana</u>	<u>5</u>	<u>FAC-</u>
6. _____			Tree Stratum (% total cover: <u>95</u>) (30 ft. radius)		
7. _____			① <u>Pseudotsuga menziesii</u>	<u>70</u>	<u>FACU</u>
8. _____			② <u>Taxus brevifolia</u>	<u>25</u>	<u>NI</u>
9. _____			3. <u>Acer macrophyllum</u>	<u>tr</u>	<u>FACU</u>

Remarks: _____

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0/4 = 0

Hydrophytic Vegetation Criterion Met? YES (NO)

NWI Class _____

SOILS

Mapped unit name: Quatama loam

Matches Profile? Y N Similar

Taxonomy: Aquatic haploxeralfs

Drainage Class: moderately well

Depth	Horizon	Matrix Color	Mottle Abund., Size, Color, on Pores/Peds?	Texture, Struct., Other
<u>0-5</u>		<u>10YR 3/2</u>	<u>no redox</u>	<u>loamy silt, v. rooty</u>
<u>5-10</u>		<u>10YR 4/3</u>	<u>no redox</u>	<u>loamy silt</u>

<input type="checkbox"/> Histosol	<input type="checkbox"/> Reducing Conditions (test)	<input type="checkbox"/> Hi. Organic Cont. Surf. Layer
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> Gleyed	<input type="checkbox"/> Organic Streaking
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Mottled (w/i 10")	<input type="checkbox"/> Organic Pan
<input type="checkbox"/> Prob. Aquic Moisture Regime	<input type="checkbox"/> Concretions (w/i 3", >2mm)	<input type="checkbox"/> On Hydric Soils List

Remarks: 2" duff

Hydric Soil Criterion / Indicators Met? YES (NO)

HYDROLOGY

Depth of inundation: _____ Depth to free water: _____ Depth to saturation: _____ seeps: _____

1° Indicators	2° Indicators	2° Indicators
<input type="checkbox"/> Inundated	<input type="checkbox"/> Oxidized Root Channels in upper 12"	<input type="checkbox"/> Local Soil Survey Data
<input type="checkbox"/> Saturated in upper 12"	<input type="checkbox"/> Water-stained leaves	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Water Marks	Recorded Data Available (aerials, gauge)? Explain: _____	
<input type="checkbox"/> Drift Lines	Other: _____	
<input type="checkbox"/> Sediment Deposits	Remarks: <u>dry throughout</u>	
<input type="checkbox"/> Drainage Patterns	Wetland Hydrology Criterion / Indicators Met? YES <u>(NO)</u>	

DETERMINATION: Is this plot a Wetland? YES (NO)

Comments: _____

Determined by: Chris Walk + Stacy Benjamin Fishman Environmental Services rev. 4/00

WETLAND DETERMINATION DATA SHEET - 1987 MANUAL

Project # 00055 Site: D.G. Industrial Park County: Washington State: OR Date: 10/10/00 Plot: 3
 Applicant/Owner: City of Hillsboro LWI Sect. (1/4) 9 NW Township 1S Range 2W (Wet) / Up
 Plot Location: northeast portion of large rectangular scrub-shrub wetland
 Topographic Location: Slopes downslope to east
 Do normal environmental conditions exist? N Explain: rained past 24 hrs.
 Are soils vegetation hydrology significantly disturbed? N Explain:

PSS Aerial Signature Verification

VEGETATION

*Dominant Plant Species	% Cover	Ind.	*Dominant Plant Species	% Cover	Ind.
Herb Stratum (% total cover: <u>100</u>) (5 ft. radius)			Shrub/Sapling Stratum (% total cover: <u>60</u>) (10' rad.)		
1. <u>Abopcurus pratensis</u>	<u>100</u>	<u>FACW</u>	1. <u>Crataegus douglasii</u>	<u>50</u>	<u>FAC</u>
2. <u>Phalaris arundinacea</u>	<u>tr</u>	<u>FACW</u>	2. <u>Spiraea douglasii</u>	<u>10</u>	<u>FACW</u>
3. <u>Tanacetum vulgare</u>	<u>tr</u>	<u>NI</u>	3. <u> </u>	<u> </u>	<u> </u>
4. <u> </u>	<u> </u>	<u> </u>	4. <u> </u>	<u> </u>	<u> </u>
5. <u> </u>	<u> </u>	<u> </u>	5. <u> </u>	<u> </u>	<u> </u>
6. <u> </u>	<u> </u>	<u> </u>	Tree Stratum (% total cover: <u> </u>) (30 ft. radius)		
7. <u> </u>	<u> </u>	<u> </u>	1. <u> </u>	<u> </u>	<u> </u>
8. <u> </u>	<u> </u>	<u> </u>	2. <u> </u>	<u> </u>	<u> </u>
9. <u> </u>	<u> </u>	<u> </u>	3. <u> </u>	<u> </u>	<u> </u>

Remarks: Denser spirea + hawthorn to east + west, some ash to east, dense tansy to west
 Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): $\frac{2}{2} = 100\%$
 Hydrophytic Vegetation Criterion Met? YES NO NWI Class PSS

SOILS

Mapped unit name: McBee Silty clay loam Matches Profile? Y N
 Taxonomy: Ultic Haploxerolls Drainage Class: Moderately Well

Depth	Horizon	Matrix Color	Mottle Abund., Size, Color, on Pores/Peds?	Texture, Struct., Other
<u>0-8</u>	<u> </u>	<u>10YR³/2</u>	<u>com fine 10YR⁵/6 + 7.5YR⁴/4, few ORC</u>	<u>Sil, v. rooty</u>
<u>8-13</u>	<u> </u>	<u>10YR³/2</u>	<u>same mottles + occasional 2.5Y⁷/2</u>	<u>heavy sil</u>

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Prob. Aquic Moisture Regime
- Reducing Conditions (test)
- Gleyed
- Mottled (w/i 10")
- Concretions (w/i 3", >2mm)
- Hi. Organic Cont. Surf. Layer
- Organic Streaking
- Organic Pan
- On Hydric Soils List

Remarks: probe 30 ft east (downslope) @ edge of dense spirea -> @ 8" 10YR³/1 Sil
 Hydric Soil Criterion / Indicators Met? YES NO w/com fine-med 10YR⁴/4 + ORC

HYDROLOGY

Depth of inundation: Depth to free water: Depth to saturation: seeps:

- | | | |
|---|---|--|
| <input type="checkbox"/> 1° Indicators | <input checked="" type="checkbox"/> 2° Indicators | <input type="checkbox"/> 2° Indicators |
| <input type="checkbox"/> Inundated | <input checked="" type="checkbox"/> Oxidized Root Channels in upper 12" | <input type="checkbox"/> Local Soil Survey Data |
| <input type="checkbox"/> Saturated in upper 12" | <input type="checkbox"/> Water-stained leaves | <input checked="" type="checkbox"/> FAC-Neutral Test |
| <input type="checkbox"/> Water Marks | Recorded Data Available (aerials, gauge)? Explain: <u> </u> | |
| <input type="checkbox"/> Drift Lines | Other: <u>hydrology has not recharged yet</u> | |
| <input type="checkbox"/> Sediment Deposits | Remarks: <u>moist below 8"</u> | |
| <input type="checkbox"/> Drainage Patterns | Wetland Hydrology Criterion / Indicators Met? <input checked="" type="radio"/> <u>YES</u> <input type="radio"/> <u>NO</u> | |

Landscape Position - Rock Creek floodplain.

DETERMINATION: Is this plot a Wetland? YES NO Vegetation + soils
 Comments: Hydrology likely present earlier in growing season based on existing
 Determined by: Christy Wally + Stacy Benjamin Fishman Environmental Services rev. 4/00

WETLAND DETERMINATION DATA SHEET - 1987 MANUAL

Project #: 00055 Site: D.G. Industrial Park County: Washington State: OR Date: 10/10/00 Plot: 4
 Applicant/Owner: City of Hillsboro LWI Sect. (1/4) 9 NW Township 1S Range 2W (Wet) / Up
 Plot Location: north of Plot 3

Topographic Location: gently undulating microtopography
 Do normal environmental conditions exist? (Y) N Explain: rained past 24 hrs.
 Are soils ___ vegetation ___ hydrology ___ significantly disturbed? (N) Explain:

PEM Aerial Signature Verification

VEGETATION

*Dominant Plant Species	% Cover	Ind.	*Dominant Plant Species	% Cover	Ind.
Herb Stratum (% total cover: <u>100</u>) (5 ft. radius)			Shrub/Sapling Stratum (% total cover: <u>tr</u>) (10' rad.)		
① <u>Alopecurus pratensis</u>	<u>60</u>	<u>FACW</u>	1. <u>Spiraea douglasii</u>	<u>tr</u>	<u>FACW</u>
② <u>Phalaris arundinacea</u>	<u>20</u>	<u>FACW</u>	2. <u>Fraxinus latifolia</u>	<u>tr</u>	<u>FACW</u>
3. <u>Juncus tenuis</u>	<u>10</u>	<u>FACW-</u>	3. _____		
4. <u>Carex stipata</u>	<u>5</u>	<u>OBL</u>	4. _____		
5. <u>Typha latifolia</u>	<u>5</u>	<u>OBL</u>	5. _____		
6. <u>Equisetum arvense</u>	<u>tr</u>	<u>FAC</u>	Tree Stratum (% total cover: _____) (30 ft. radius)		
7. <u>Centaureum umbellatum</u>	<u>tr</u>	<u>FAC</u>	1. _____		
8. <u>Juncus effusus</u>	<u>tr</u>	<u>FACW</u>	2. _____		
9. <u>Epilobium watsonii</u>	<u>tr</u>	<u>FACW-</u>	3. _____		

Remarks: also trace other Carex species; old flowerheads on Carex stipata +
 Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 2/2 = 100% Centaureum
 Hydrophytic Vegetation Criterion Met? (YES) NO NWI Class PEM
100% Phalaris arundinacea to east + west

SOILS

Mapped unit name: McBee Silty Clay loam Matches Profile? (Y) N
 Taxonomy: Ultic Haploxerolls Drainage Class: Moderately well

Depth	Horizon	Matrix Color	Mottle Abund., Size, Color, on Pores/Peds?	Texture, Struct., Other
<u>0-4</u>		<u>10YR 4/2</u>	<u>com. fine 10YR 4/4</u>	<u>SicL, v. rooty</u>
<u>4-10</u>		<u>10YR 4/1</u>	<u>com. med 10YR 6/6 + fine-med 10YR 4/4</u>	<u>SicL</u>
<u>10-12+</u>		<u>2.5Y 5/2</u>	<u>com. coarse 10YR 4/4 + N5/10 clay</u>	<u>Sic</u>

- Histosol
- Histic Epipedon
- Sulfidic Odor
- Prob. Aquic Moisture Regime
- Reducing Conditions (test)
- Gleyed
- Mottled (w/i 10")
- Concretions (w/i 3", >2mm)
- Hi. Organic Cont. Surf. Layer
- Organic Streaking
- Organic Pan
- On Hydric Soils List

Remarks: _____
 Hydric Soil Criterion / Indicators Met? (YES) NO

HYDROLOGY

Depth of inundation: _____ Depth to free water: 12" Depth to saturation: Surface seeps: _____

1° Indicators	2° Indicators	2° Indicators
<input type="checkbox"/> Inundated	<input type="checkbox"/> Oxidized Root Channels in upper 12"	<input type="checkbox"/> Local Soil Survey Data
<input checked="" type="checkbox"/> Saturated in upper 12"	<input type="checkbox"/> Water-stained leaves	<input type="checkbox"/> FAC-Neutral Test
<input type="checkbox"/> Water Marks	Recorded Data Available (aerials, gauge)? Explain: _____	
<input type="checkbox"/> Drift Lines	Other: <u>Rock Creek flood plain</u>	
<input type="checkbox"/> Sediment Deposits	Remarks: <u>Water table in bottom of hole</u>	
<input type="checkbox"/> Drainage Patterns	Wetland Hydrology Criterion / Indicators Met? <u>(YES)</u> NO	

DETERMINATION: Is this plot a Wetland? (YES) NO

Comments: _____
 Determined by: Cheryl Walker + Stacy Benjamin Fishman Environmental Services rev. 4/00

Appendix 4:

DSL Determination Files and Permit List

Wetland Determinations/Delineations within City of Hillsboro LWI Study Area

Det. No.	Permit No.	TRS	Tax Lot(s)/Owner	Comments
97-0012		1N/S 2W 1, 36		sewer
97-0175	RF-13946	1N/S 2W 27,28 33, 4, 5, 8, 9	USA	USA - Dawson Creek sewer
98-0284	FP-15429	1N 2W 14, 15	101, 102, 103, 104, 500, 1900	Westmark Industrial Center
98-0118	FP-15251 FP-15471	1N 2W 14, 15, 22, 23		Five Oaks East Ind. Park
00-0386		1N 2W 14, 23	Hillsboro School Dist.	
98-0384		1N 2W 15	1602	Five Oaks West
95-0315	FP-9455	1N 2W 20, 21, 22, 26, 27	City of Hillsboro	Evergreen Road/229th Ave extension
98-0094	RF-14954	1N 2W 20, 21, 29		Evergreen Road widening/sewer
99-0294	FP-17871	1N 2W 20, 29	100, 300, 400, 401, 404	
96-0491		1N 2W 22	2001/Randall	
	RF-11168	1N 2W 22, 23		Parr Lumber
99-0480		1N 2W 22, 23, 26, 27	700/Fujitsu	Fujitsu /Oregonian site - no wetlands
92-0227	FP-13923	1N 2W 22, 26, 27		Intel-Ronler Acres
00-0349		1N 2W 22, 27		NEC America, Inc.
00-0432		1N 2W 23		
96-0586		1N 2W 23	907	DEQ facility
	RF-13547	1N 2W 23	1106	Dawson Creek realignment
	RF-16305	1N 2W 23, 24, 25, 30, 31, 32		Tualatin Valley Water District
96-0317		1N 2W 24, 25	400	Rock Creek bikeway
97-0025 97-0079 96-0511		1N 2W 25		
96-0063		1N 2W 25		AT&T Wireless facility

Wetland Determinations/Delineations within City of Hillsboro LWI Study Area

Det. No.	Permit No.	TRS	Tax Lot(s)/Owner	Comments
97-0217	FP-14011	1N 2W 25		Amberglen Phase V
	FP-9643	1N 2W 25		residential subdivision
95-0012	FP-9425	1N 2W 25, 26	300	Tanasbourne Commons
97-0107	FP-14973	1N 2W 26	ETEC	
96-0562		1N 2W 26		
94-0380		1N 2W 26		
	GA-14922	1N 2W 26	City of Hillsboro	Amberwood Drive bridge replacement
	RF-9977	1N 2W 26	400	waterline/utility construction
	RF-8669	1N 2W 28		Tandem Development
00-0526		1N 2W 28	500, 600, 1902, 1903	proposed Costco site
00-0317		1N 2W 28	600, 700	Highlands #2
91-0034		1N 2W 28	900	no wetlands
99-0042	RF-18682	1N 2W 28, 33	900, 1000	Brookwood extension
92-0266	FP-7408	1N 2W 29	700, 802	Jones Farm Campus, Intel
99-0045		1N 2W 29		Portland Hillsboro Airport
	RF-9975	1N 2W 29		Edgefield
97-0220	FP-14090	1N 2W 29, 30		15th Ave widening
94-0132		1N 2W 30	2400/City of Hillsboro	City sewer/stormwater ponds
91-0038		1N 2W 30		Jackson School PUD
94-0233	RF-8803	1N 2W 30	City of Hillsboro	City sewer
	7632	1N 2W 30		Sunburst Meadows
94-0279		1N 2W 31	2301	No wetlands
	RF-5697	1N 2W 31		U.J. Hamby Park
92-0124		1N 2W 31	100	
	FP-6133	1N 2W 32		Hillwood III
00-0169	22250	1N 2W 33	4200, 4202	Legacy Knoll
98-0147		1N 2W 33	D.W. Sivers Co.	Hawthorn Farm
91-0167		1N 2W 34		Hawthorn Farms

Wetland Determinations/Delineations within City of Hillsboro LWI Study Area

Det. No.	Permit No.	TRS	Tax Lot(s)/Owner	Comments
00-0287		1N 2W 34	Toshiba	
97-0185	FP-13932	1N 2W 34		Wingate Inn
97-0391 97-0378	FP-14683	1N 2W 34	Simpson Housing LP	Villages at Orenco Station
99-0148	RF-17062	1N 2W 34, 35	3400, 3401, 3800	Orenco Woods Golf Course
	RF-14592	1N 2W 35		Villages at Quatama Station
99-0057	RF-17083	1N 2W 35	100, 101, 400, 500	Quatama Park subdivision
	21995	1N 2W 35	102, 200	Notting Hill mitigation
99-0542		1N 2W 35	200	Notting Hill
97-0369	RF-14617	1N 2W 35	300	
93-0234		1N 2W 35	300, 400	Riverside Homes
98-0130		1N 2W 35	2600	
98-0166	R-10107	1N 2W 35		Aloha Land & Cattle (98023)
96-0329	FP-11475	1N 2W 35, 36		206 th Ave road widening
91-0114		1N 2W 36		Summerwood Place Apts
90-0139	RP-5794	1N 2W 36	1910	
99-0411		1N 3W 24, 25	City of Hillsboro	City sewer - Lenox trunkline
91-0076		1N 3W 25		Sun Down Creek subdiv
99-0138	RF-16859	1N 3W 25	2700	Alderbrook PUD
92-0030		1N 3W 36	2300	No wetlands
95-0180		1N 3W 36		McKay Creek Golf Course
91-0191		1N 3W 36		
93-0246		1S 1W 36		Amber Glen Business Center
99-0014		1S 2W 1	1800, 1900	
95-0013		1S 2W 2	700/Zimmerman	
99-0566		1S 2W 2	1200/Nicklaus	Hacienda Circle subdivision
98-0026		1S 2W 2	2500, 15100/Smith	DSL onsite determination
94-0360		1S 2W 2, 11		Frances Park

Wetland Determinations/Delineations within City of Hillsboro LWI Study Area

Det. No.	Permit No.	TRS	Tax Lot(s)/Owner	Comments
93-0178		1S 2W 3		
93-0208		1S 2W 3		Preston Meadows-no wetlands
98-0535		1S 2W 3	600	Incomplete delineation
00-0133		1S 2W 3	Karpstein	
98-0034	RF-16877	1S 2W 3	1000	Lamont Meadows
98-0209	NSP-16046	1S 2W 3	2500	Golden Meadows subdivision
94-0304		1S 2W 3	Noblecraft Industries	
96-0267		1S 2W 3		Mandy Park
97-0367		1S 2W 3		Sunny Pond
92-0212		1S 2W 4	13	
00-0272	22540	1S 2W 4	100	
97-0457		1S 2W 4	900	Brookwood subdivision
98-0471		1S 2W 4	2200, 2300	Shawn Woods subdivision
98-0371		1S 2W 4	4100	Baudette Green #2
95-0141	FP-14948	1S 2W 5	Beglinger	
94-0195		1S 2W 5	5200, 5202	
93-0155		1S 2W 5		
95-0104		1S 2W 5	Malloy	
00-0293		1S 2W 5	701, 702, 801	
94-0202		1S 2W 6	Oregon Roses Nursery	
93-0048		1S 2W 9		
99-0210		1S 2W 10	701/Westscott	DSL offsite determination
00-0054	FP-21866	1S 2W 10	15600, 15900	
91-0003		1S 2W 14		
93-0079		1S 2W 16		Meriwether Golf Course-no wetlands
00-0171		1S 2W 30	100/Fishback	Fishback Creek subdivision
99-0205		1S 2W 35	1000, 1100	Beaver Creek Manor

Wetland Determinations/Delineations within City of Hillsboro LWI Study Area				
Det. No.	Permit No.	TRS	Tax Lot(s)/Owner	Comments
98-0042		1S 3W 1	300, 400, 500, 900	No wetlands
94-0133		1S 3W 1	901/City of Hillsboro	City stormwater ponds
98-0394	NSP-15975	1S 3W 1	1112, 3000	Wash. Co. WQ facility
94-0200			Metro	Hillsboro corridor light rail

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City of Hillsboro Goal 5 Natural Resource Inventory and Assessment
Fishman Environmental Services, LLC
April 4, 2001

Appendix 5:
Determination of Locally Significant Wetlands

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY
LOCALLY SIGNIFICANT WETLANDS**

WETLAND UNIT	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Significant (level 1)*	Significant (level 2)**
DAIRY CREEK						
DrC	M	H	H	H	Y	
MCKAY CREEK TRIBUTARIES						
GS1	M	M	M	M	N	N
GS2	M	M	H	H	Y	
GS3	M	H	H	H	Y	
GSTrib1	M	H	H	H	Y	
MC	M	H	H	H	Y	
MCTrib1	M	H	H	H	Y	
WbCTrib1N	M	M	M	M	N	N
WbCTrib1S	M	M	M	M	N	N
WbCTrib1	M	M	M	M	N	N
ROCK CREEK TRIBUTARIES						
BeC	M	M	H	H	Y	
BeCTrib1	M	M	M	M	N	Y
BrC	M	M	H	H	Y	
DwC1	M	M	M	M	N	N
DwC2	M	M	H	M	Y	
DwC3	M	M	H	H	Y	
DwC4	M	H	H	H	Y	
DwC5	M	H	H	H	Y	
DwCTrib1	M	M	H	H	Y	
OC	M	H	H	H	Y	
ReC	H	H	H	H	Y	
RoC1	M	M	H	H	Y	
RoC2	M	M	H	H	Y	
RoC3	M	M	H	H	Y	
RoCTrib1	M	H	H	H	Y	
RoCTrib2	H	M	H	H	Y	
RoCTrib3	M	H	H	H	Y	
RoCTrib4	M	M	H	H	Y	
TC	M	H	H	H	Y	
WHC	H	H	H	H	Y	
WiC	M	M	H	H	Y	

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY LOCALLY SIGNIFICANT WETLANDS						
WETLAND UNIT	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control	Significant (level 1)	Significant (level 2)
TUALATIN RIVER AND TRIBUTARIES						
BuC	H	H	H	H	Y	
BuC Trib1	M	M	M	M	N	Y
GC-1	H	M	M	M	Y	
GC-2	H	H	H	H	Y	
TR	H	H	H	H	Y	
ISOLATED WETLANDS						
W1	H	L	M	H	Y	
W4	M	M	M	H	Y	
W5	M	L	M	M	N	N
W6	M	L	M	M	N	N
W7	M	M	M	H	Y	
JACKSON BOTTOM / HILLSBORO LANDFILL WETLANDS						
JB/HL	H	M	H	H	Y	

H = Highest function; provides diverse wildlife habitat or intact fish habitat, water quality function or hydrologic control.

M = Medium function; provides habitat for some wildlife species or fish habitat, water quality or hydrologic control is impacted or degraded.

L = Lowest function; wildlife habitat, fish habitat, water quality or hydrologic control function is lost or not present.

* Wetlands which score high in at least one of the four functions evaluated are determined to be locally significant according to DSL rules.

** Wetlands determined to be locally significant under level 2 assessment include wetlands which are rated medium for water quality function and that occur within 1/4 mile of a water quality-limited stream listed by DEQ according to DSL rules.

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Appendix 6:
OFWAM Wetland Functions Summary Table

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY
OFWAM WETLAND FUNCTIONS SUMMARY TABLE**

WETLAND UNIT	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control
DAIRY CREEK				
DrC	Habitat for some species	Intact	Intact	Intact
MCKAY CREEK TRIBUTARIES				
GS1	Habitat for some species	Impacted or degraded	Impacted or degraded	Impacted or degraded
GS2	Habitat for some species	Impacted or degraded	Intact	Intact
GS3	Habitat for some species	Intact	Intact	Intact
GSTrib1	Habitat for some species	Intact	Intact	Intact
MC	Habitat for some species	Intact	Intact	Intact
MCTrib1	Habitat for some species	Intact	Intact	Intact
WbCTrib1N	Habitat for some species	Impacted or degraded	Impacted or degraded	Impacted or degraded
WbCTrib1S	Habitat for some species	Impacted or degraded	Impacted or degraded	Impacted or degraded
WbCTrib1	Habitat for some species	Impacted or degraded	Impacted or degraded	Impacted or degraded
ROCK CREEK TRIBUTARIES				
BeC	Habitat for some species	Impacted or degraded	Intact	Intact
BeCTrib1	Habitat for some species	Impacted or degraded	Impacted or degraded	Impacted or degraded
BrC	Habitat for some species	Impacted or degraded	Intact	Intact

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY
OFWAM WETLAND FUNCTIONS SUMMARY TABLE**

WETLAND UNIT	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control
DwC5	Habitat for some species	Intact	Intact	Intact
DwCTrib1	Habitat for some species	Impacted or degraded	Intact	Intact
OC	Habitat for some species	Intact	Intact	Intact
ReC	Diverse	Intact	Intact	Intact
RoC1	Habitat for some species	Impacted or degraded	Intact	Intact
RoC2	Habitat for some species	Impacted or degraded	Intact	Intact
RoC3	Habitat for some species	Impacted or degraded	Intact	Intact
RoCTrib1	Habitat for some species	Intact	Intact	Intact
RoCTrib2	Diverse	Impacted or degraded	Intact	Intact
RoCTrib3	Habitat for some species	Intact	Intact	Intact
RoCTrib4	Habitat for some species	Impacted or degraded	Intact	Intact
TC	Habitat for some species	Intact	Intact	Intact
WHC	Diverse	Intact	Intact	Intact
WiC	Habitat for some species	Impacted or degraded	Intact	Intact
TUALATIN RIVER AND TRIBUTARIES				
DwC	Diverse	Intact	Intact	Intact

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY
OFWAM WETLAND FUNCTIONS SUMMARY TABLE**

ISOLATED WETLANDS

WETLAND UNIT	Wildlife Habitat	Fish Habitat	Water Quality	Hydrologic Control
W1	Diverse	Lost or not present	Impacted or degraded	Intact
W4	Habitat for some species	Impacted or degraded	Impacted or degraded	Intact
W5	Habitat for some species	Lost or not present	Impacted or degraded	Impacted or degraded
W6	Habitat for some species	Lost or not present	Impacted or degraded	Impacted or degraded

JACKSON BOTTOM / HILLSBORO LANDFILL WETLANDS

JB/HL	Diverse	Impacted or degraded	Intact	Intact
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Appendix 7:
OFWAM Evaluation Sheets

Wetland Beaverton Creek - 216TH to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species *PEM, PSS, PFO*
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre (b) Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% (b) Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: *buffer is small Ag. fields + some riparian/upland*

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 25%
 - c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year *Beaverton Cr.*
 - 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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *aerial*
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Ag adj to Rock/Beaver cr.
Also some residential

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

OFWAM FUNCTION SUMMARY

WH: Habitat for some species

FH: Impacted or degraded

WQ: Intact

HC: Intact

Wetland Beaverton Creek Tributary - 185th to Railroad

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 (c) Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no ___ notes: buffer is Ag fields + upland forest

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% **c. Less than 50%**
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe ditched in Ag field
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% **b. Between 10 and 25%** c. Less than 10% *in forested portion*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space **b. Agriculture** c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
a. Salmon, trout or sensitive species are present at some time during the year *Beaumont Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Impacted or degraded*
 HC: *Impacted or degraded*

Wetland Branson Creek - 185th to railroad tracks

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: Nice riparian/upland forest along 30%

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
* The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified *upper portion*
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10% *PFO + riparian/uplands*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Beaver + Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No aerial
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
* A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert) *beaver*
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Intact*
 HC: *Intact*

Notes: When Walker Road is widened to 4-lanes, may need to run OFWAM on new unit, north of Walker Road to determine significance of this unit.

Wetland Butternut Creek - 209TH to East of 229TH

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre (b) Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: Ag fields + tree farm (nursery)

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel *uppermost portion*
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10% *lots PFO*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
* The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - (a) Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - (a) Yes
 - b. Unable to determine or not applicable
 - c. No *aerial*
3. What is the degree of wetland vegetation cover?
 - (a) High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - (a) >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - (b) Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - (a) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
* A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert) *beaver*
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Diverse*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Butternut Creek Tributary - West of Vermont St. to east of 229TH

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PSS
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 (c) Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: tree farm (nursery)

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
 c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Butternut Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY
 WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Dairy Creek - Mouth of McKay Cr. to railroad

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses ^{+Some undeveloped}
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? ^{inside UCB}
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: _____

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10% *lots PFO*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *196 flood*
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert) *beaver*
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY
 WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Dawson Creek - Jacobsen Rd to Highway 26

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 (c) Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes ___ no ___ notes: Ag field

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
 c. The stream is extensively modified or confined in a non-vegetated channel or pipe *Ditched*
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Dawson cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY
 WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Dawson Creek - Highway 26 to Evergreen Rd.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses **Adjacent current development**
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes ___ no notes: Cleared to very close to wetland

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified *Ditched south of Hwy 26*
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Dawson Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - (a) Surface flow, including streams and ditches
 - (b) Precipitation or sheet flow
 - (c) Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - (a) Yes
 - (b) Unable to determine or not applicable
 - (c) No *aerial*
3. What is the degree of wetland vegetation cover?
 - (a) High (>60%; OW<40%)
 - (b) Moderate (~60%; OW=40%)
 - (c) Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - (b) Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - (a) Developed uses
 - (b) Agriculture
 - (c) Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - (c) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Intact
 HC: Impacted or degraded

Wetland Dawson Creek - Evergreen Rd to Shute Rd.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PFO
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 (c) Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses ^{Adjacent} ^{current} ^{development}
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: Buffer maybe less than 50ft after current development if completed

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Dawson Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No Intel mit. Site
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Intact*
 HC: *Intact*

Wetland Dawson Creek - Shute Rd. to Cornell Rd.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species *PEM, PSS, PFO*
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% (b) Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: *only where buffer is riparian/upland forest*

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10% ^{PFO + riparian/uplands}
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Dawson Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year.
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *serial*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No *lower portion only*
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space *Brookwood Parkway, + some airport*
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Dawson Creek - Cornell Rd to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses **Brookwood Parkway**
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide? **Extension**
 a. Greater than 40% (b) Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: **remaining A07 + undeveloped areas**

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10% ^{PFO} riparian/uplands
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year ^{Dawson Cr.}
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No '96 flood
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Dawson Creek Tributary - 229TH to Dawson Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more **(b)** 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation **(b)** Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate **(c)** Low
4. How many acres of unvegetated open water are present?
(a) More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre Intel mit. Site
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
(a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
(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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
(a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture **(c)** Developed uses Adjacent current development
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% **(b)** Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no ___ notes: Buffer may be less than 50ft after current development is completed

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
 c. The stream is extensively modified or confined in a non-vegetated channel or pipe *Upper portion ditched*
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Dawson Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - (a) Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - (a) Yes
 - b. Unable to determine or not applicable
 - c. No Intel mit. Site
3. What is the degree of wetland vegetation cover?
 - (a) High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - (a) >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - (a) Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - (c) No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY
 WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Intact*
 HC: *Intact*

Wetland Glencoe Swale - East of 26th to 25th Ave.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 (c) Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: **Aq fields + some airport**

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
 c. The stream is extensively modified or confined in a non-vegetated channel or pipe *Ditched*
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *McKay Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

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

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 (a) Surface flow, including streams and ditches b. Precipitation or sheet flow
 c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 (a) Yes b. Unable to determine or not applicable c. No *data*
3. What is the degree of wetland vegetation cover?
 (a) High (>60%; OW<40%) b. Moderate (~60%; OW=40%) c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 a. >5 acres (b) Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 a. Developed uses (b) Agriculture c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Glencoe Swale - Above Glencoe Rd. to 25TH Ave

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10% *upper portion of reach*
 Is it 50 feet wide or wider? yes ___ no notes: *In upper portion of reach some buffer is 50 ft wide*

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50% *incl. tall RCG in lower portion*
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *McKee Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No flow or aerial
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
* A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Impacted & Degraded
 WQ: Intact
 HC: Intact

Wetland Glencoe Swale - Below Glencoe Rd. to McKay Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 (c) Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: buffer is mostly agricultural land

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
* The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10% *due to PFO*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *McKay Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *3/99 aerial*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants.

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow *No culverts*
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Notes: Entire Wetland used in OFWAM assessment (including portion outside UCB)

Wetland Glencoe Swale Tributary - Jackson School Rd to Glencoe Swale

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PSS, PFO
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: buffer is riparian/upland forest along majority of tributary, except upper portion

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
* The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified *Upper part, U.S. Hamby Park*
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10% *due to PFO*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Mc Kay Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *3/99 aerial*
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Gordon Creek - East of 229TH

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no ___ notes: Ag field

Wildlife Habitat Assessment Criteria	
* The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
 c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Tualatin R.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Diverse
 FH: Impacted or degraded
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Gordon Creek - West of 229th to Reserve Golf Course

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: mostly Ag fields, also some riparian/upland forest

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
- b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
- c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Tualatin R.*
- 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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *'96 flood*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space *golf course*
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Diverse*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland McKay Creek

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PFO
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 (a) Exclusive Forest Use or Open Space b. Agriculture c. Developed uses golf course
cemetery
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10% mostly Ag
outside UGB
 Is it 50 feet wide or wider? yes X no ___ notes: _____

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders? *lots PFO*
 a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

MC

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No ^{196 flood}
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert) *beaver*
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland McKay Creek tributary - Jackson St. to McKay Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PFO
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 (a) Exclusive Forest Use or Open Space b. Agriculture c. Developed uses cemeteries golf course
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: good buffer to N/NW

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
* The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10% PFO
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year McIlroy Cr.
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - (a) Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - (a) Yes
 - b. Unable to determine or not applicable
 - c. No *196 flood photo*
3. What is the degree of wetland vegetation cover?
 - (a) High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - (a) >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - (c) Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - (c) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space *Centuries*
7. What is the dominant land use in the watershed upstream from the assessment area? *also some undeveloped*
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Orengo Creek - Campus Ct. to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS (trace PFO)**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: good riparian/upland buffer along portion

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10% *due to lots of riparian/uplands*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Rock Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

OC

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *beaver dam*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Reedville Creek - Cornelius Pass to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes ___ no notes: Closely bordered by residential

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 25%
 - c. Less than 10% **PFO**
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year **Rock Cr.**
 - 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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *aerial*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No *Below 239th Ave*
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Diverse*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Rock Creek - Highway 26 to Cornell Rd.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PSS, PFO
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes ___ no notes: bordered closely by development

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10% *lots PFD*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - (a) Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - (a) Yes
 - b. Unable to determine or not applicable
 - c. No *aerial*
3. What is the degree of wetland vegetation cover?
 - (a) High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - (a) >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - (a) Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - (a) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
* A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Intact
 HC: Intact

Wetland Rock Creek - Cornell Rd. to TU Highway

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 (a) High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 (a) More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% (b) Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: mostly closely bordered by development, but some Ag field buffer + riparian/ upland forest

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *series*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Intact*
 HC: *Intact*

Wetland Rock Creek - TV Highway to Tualatin River

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 (a) High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 (a) More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre **Mitigation Site Pond**
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% (b) Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes ___ no **X** notes: bordered closely by development

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10% *lots PFO*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - (a) Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - (a) Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - (a) >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - (b) Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - (a) Developed uses b. Agriculture c. Exclusive Forest Use or Open Space *USA plant + park*
7. What is the dominant land use in the watershed upstream from the assessment area?
 - (a) Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Intact*
 HC: *Intact*

Wetland Rock Creek tributary 1 - Road Bridge Dr. to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PFO
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes ___ no notes: bordered closely by residential

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10% PFO
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year Rock Cr.
 - 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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
* The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *'96 flood photo*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
* A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 (a) Yes b. No *Below Road Bridge Rd.*
2. Is there evidence of flooding or ponding during a portion of the growing season?
 (a) Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 (a) >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 (b) Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 (a) Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 (a) Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
* A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Rock Creek tributary 2 - Cypress St. to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation **b. Emergent vegetation and ponding, or open water only**
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High **b. Moderate** c. Low
4. How many acres of unvegetated open water are present?
 a. **More than 1 acre** b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. **The wetland is connected by surface water to another body of water**
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. **No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants**
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture **c. Developed uses**
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% **b. Between 10 and 40%** c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: buffer adjacent to lower portion only

Wildlife Habitat Assessment Criteria	
* The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year **Rock Cr.**
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *airial, '96 flood photo*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert) *Man-made ponds*
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Diverse*
 FH: *Impacted or degraded*
 WQ: *Intact*
 HC: *Intact*

Wetland Rock Creek Tributary 3 - Brookwood School to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: buffer is riparian/upland forest

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 25%
 - c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year **Rock Cr.**
 - 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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *'96 flood*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No *Lower portion*
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

OFWAM FUNCTION SUMMARY
 WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Rock Creek Tributary 4 - Cornell Rd to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or *no data* available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture (c) Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes ___ no **X** notes: bordered closely by development

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Rock Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No *Below 206TH AVE*
2. Is there evidence of flooding or ponding during a portion of the growing season?
a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Intact*
 HC: *Intact*

Wetland Tualatin River - Vicinity of confluence w/
Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PFO, POW
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 (a) More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: Ag fields

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Diverse*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Turner Creek - Cornell Rd. to Rock Cr.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species *PEM, PSS, PFO*
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes___ no___ notes: Mostly bordered closely by residential

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50% *close to 75%*
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10% *PFO + riparian/uplands*
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Rock Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No aerial
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert) *beaver*
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Waible Creek Tributary - Jacobson Rd. to Highway 26

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species **c. 1 w/ ≤ 5 plant species** *PEM*
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate **c. Low**
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre **c. Less than 0.5 acre**
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space **b. Agriculture** c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: Ag field

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
 c. The stream is extensively modified or confined in a non-vegetated channel or pipe *Ditched*
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *variable cc.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Waible Creek Tributary - Five Oaks Ind. Park to Hwy 26

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: Ag. field

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation? *Intermittent Stream*
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Wadobe Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

OFWAM FUNCTION SUMMARY

- WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Waible Creek Tributary - Highway 26 to Shute Rd.

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PFO
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 (c) Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate (c) Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: Ag field

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
 c. The stream is extensively modified or confined in a non-vegetated channel or pipe *Ditched*
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Waible Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
* The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
* A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Willow Creek - West of 185th to Beaverton Cr.
 (only 1 area inside UGB)

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PFO, POW**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes___ no notes: _____

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Beaverton Cr.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

WIC

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Impacted or degraded
 WQ: Intact
 HC: Intact

Wetland Witch Hazel Creek - Witch Hazel Rd. to Tualatin River

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PSS, PFO**
2. What is the dominant wetland vegetation cover type?
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: Ag. buffer to south

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 a. More than 25% b. Between 10 and 25% c. Less than 10% ^{PFO + riparian/uplands}
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year ^{Tualatin River}
 - 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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

WVC

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
* The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No '96 flood photo
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
* A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No *Below River Rd.*
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space *+ also USA plant*
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Diocese*
 FH: *Intact*
 WQ: *Intact*
 HC: *Intact*

Wetland Wishing Well Wetland

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, PFO
2. What is the dominant wetland vegetation cover type? 30/50
 (a) Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre (c) Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 (b) No surface water connection exists, but other bodies of water lie within 1 mile Not culverted under Alack Creek
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 NA (a) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants no upstream reaches
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: _____

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

- NA
1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
 2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
 3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
 4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
 6. Are fish present in a stream, lake or pond associated with the wetland?
a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

- NA
1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
 2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
 3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
 4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *Staff gage in wetland*
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - NA* c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Diverse*
 FH: *Last or not present*
 WQ: *Impacted or degraded*
 HC: *Intact*

Wetland Valley Memorial Cemetary Wetland

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species **c. 1 w/ ≤ 5 plant species POW**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation **b. Emergent vegetation and ponding, or open water only**
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate **c. Low**
4. How many acres of unvegetated open water are present?
a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants Rock Cr.
8. What is the dominant existing land use within 500 feet of the wetland's edge?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses *Cemetary*
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: _____

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

NA Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. No *(uniform depth ponds drained during site visit)*
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?

W4

- 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 *Carp reportedly present*
- c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water? *Artificial hydrology - water pumped into pond through irrigation pipe*
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *aerial*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet *gate to Rock Creek*
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Impacted or degraded*
 HC: *Intact*

Wetland Quatama/Lightrail Wetland

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species **PEM, PFO**
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile **no culvert**
 c. No surface water connection exists, and no other bodies of water lie within 1 mile **under lightrail**
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants **Rock Cr**
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: Ag field

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

NA **Fish Habitat (FH)**

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

NA **Part B - Lakes and Ponds**

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetlands's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetlands's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetlands's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Lost or not present
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Cornelius Pass / Cornell Road Wetland

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species c. 1 w/ ≤ 5 plant species
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate c. Low
4. How many acres of unvegetated open water are present?
 a. More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile W to east
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 NA a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 no upstream reaches
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 a. Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes no notes: Ag field

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

NA

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
 - a. More than 75%
 - b. Between 50 and 75%
 - c. Less than 50%
2. What is the physical character of the stream channel?
 - a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
 - b. Only portions of the stream channel are modified
 - c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 25%
 - c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Part B - Lakes and Ponds

NA

1. Does the lake or pond contain areas of both deep and shallow water?
 - a. Yes
 - b. Cannot be determined.
 - c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
 - a. More than 25%
 - b. Between 10 and 75%
 - c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
 - a. 60% or more
 - b. Between 20 and 59%
 - c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 - a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
 - a. Exclusive Forest Use or Open Space
 - b. Agriculture
 - c. Developed uses

66

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *aerial*
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

NA
no upstream reaches

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

*

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes
 - b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
3. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 and 5 acres
 - c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation
 - b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing
 - b. Agriculture
 - c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted of degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Habitat for some species
 FH: Lost or not present
 WQ: Impacted or degraded
 HC: Impacted or degraded

Wetland Dawson Creek Business Park

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 a. 2 or more b. 1 with >5 plant species **(c.) 1 w/ ≤ 5 plant species** POW
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation **(b.) Emergent vegetation and ponding, or open water only**
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High b. Moderate **(c.) Low**
4. How many acres of unvegetated open water are present?
(a.) More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 a. The wetland is connected by surface water to another body of water
(b.) No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
(a.) No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space b. Agriculture **(c.) Developed uses**
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
(a.) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes **X** no notes: mowed lawn

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
a. Salmon, trout or sensitive species are present at some time during the year
b. Species not covered in "a" are present at some time during the year
c. No species are present at any time during the year

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

- 6. Are fish in a stream, lake or pond associated with the wetland?
 - a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year *isolated from Dawson Creek*

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

- 1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
- 2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No
- 3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
- 4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
- 5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
- 6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reached are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

unknown, but suspect hydrology is artificial due to presence of fountains

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 - a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 - a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam, concrete structure, undersized culvert)?
 - a. Yes, the outlet is restricted or the wetland has not outlet *rocked outfall structures*
 - b. Minor restrictions slow down the water (i.e., undersized culvert)
 - c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 - a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 - c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 - a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 - a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY
 WH: *Habitat for some species*
 FH: *Impacted or degraded*
 WQ: *Impacted or degraded*
 HC: *Intact*

JB/HL

Wetland Jackson Bottom / Hillsboro Landfill

Wildlife Habitat (WH)

1. How many Cowardin wetland classes are present (include vertical strata $\geq 20\%$ cover)?
 (a) 2 or more b 1 with >5 plant species c. 1 w/ ≤ 5 plant species PEM, POW
2. What is the dominant wetland vegetation cover type?
 a. Woody vegetation (b) Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
3. What is the degree of Cowardin class interspersion for the wetland being observed (Fig. 3)?
 a. High (b) Moderate c. Low
4. How many acres of unvegetated open water are present?
 (a) More than 1 acre b. Between 0.5 and 1 acre c. Less than 0.5 acre
5. How is the wetland connected to another body of water, such as a stream, lake or pond (F. 2)?
 (a) The wetland is connected by surface water to another body of water
 b. No surface water connection exists, but other bodies of water lie within 1 mile
 c. No surface water connection exists, and no other bodies of water lie within 1 mile
6. How is the wetland connected to other wetlands?
 (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 water, 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
7. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland?
 a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
 b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 (c) One or more upstream or adjacent reaches are listed as *water quality limited* or *intolerant* or *severe* water quality condition for nonpoint source pollutants
8. What is the dominant existing land use within 500 feet of the wetland's edge?
 a. Exclusive Forest Use or Open Space (b) Agriculture c. Developed uses
- 9b. What percent of the wetland's edge is bordered by a vegetative buffer at least 25 feet wide?
 (a) Greater than 40% b. Between 10 and 40% c. Less than 10%
 Is it 50 feet wide or wider? yes X no notes: Ag fields

Wildlife Habitat Assessment Criteria	
The wetland provides <i>diverse</i> wildlife habitat if:	At least four questions are answered "a," and no more than one is answered "c."
The wetland provides <i>habitat for some species</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's wildlife habitat function is <i>lost or not present</i> if:	All questions are answered "c."

*

Fish Habitat (FH)

Part A - Streams

1. What percentage of the stream is shaded by stream-side (riparian) vegetation?
a. More than 75% b. Between 50 and 75% c. Less than 50%
2. What is the physical character of the stream channel?
 a. The stream is in a natural channel, or modified portions of the stream are returning to a natural channel
b. Only portions of the stream channel are modified
c. The stream is extensively modified or confined in a non-vegetated channel or pipe
3. What percentage of the entire stream contains instream structures such as large woody debris, floating submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 25% c. Less than 10%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses
6. Are fish present in a stream, lake or pond associated with the wetland?
 a. Salmon, trout or sensitive species are present at some time during the year *Tuaitatin R.*
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

Part B - Lakes and Ponds

1. Does the lake or pond contain areas of both deep and shallow water?
a. Yes b. Cannot be determined. c. No
2. What percentage of the wetland complex contains cover objects such as submerged logs, floating or submerged vegetation, large rocks or boulders?
a. More than 25% b. Between 10 and 75% c. Less than 10%
3. What percentage of the shoreline is shaded at the water's edge by forested or scrub-shrub vegetation?
a. 60% or more b. Between 20 and 59% c. Less than 20%
4. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (= WH7)?
a. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants
b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
c. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
5. What is the dominant existing land use within 500 feet of the wetland's edge (= WH8)?
a. Exclusive Forest Use or Open Space b. Agriculture c. Developed uses

6. Are fish in a stream, lake or pond associated with the wetland?
- a. Salmon, trout or sensitive species are present at some time during the year
 - b. Species not covered in "a" are present at some time during the year
 - c. No species are present at any time during the year

Fish Habitat Assessment Criteria	
The wetland's fish habitat function is <i>intact</i> if:	Three or more questions are answered "a," and no more than one is answered "c."
The wetland's fish habitat function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
The wetland's fish habitat function is <i>lost or not present</i> if:	All questions are answered "c."

Water Quality (Pollutant Removal; WQ)

1. What is the wetland's primary source of water?
 - a. Surface flow, including streams and ditches
 - b. Precipitation or sheet flow
 - c. Groundwater, including seeps and springs
2. Is there evidence of flooding or ponding during a portion of the growing season?
 - a. Yes
 - b. Unable to determine or not applicable
 - c. No *aerial*
3. What is the degree of wetland vegetation cover?
 - a. High (>60%; OW<40%)
 - b. Moderate (~60%; OW=40%)
 - c. Low (<60%; OW>40%)
4. What is the wetland's area in acres?
 - a. >5 acres
 - b. Between 0.5 acre and 5 acres; or <0.5 acres and the wetland is connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
 - c. <0.5 acre, and the wetland is not connected to other wetlands within a 3-mile radius by a perennial or intermittent stream, irrigation or drainage ditch, canal or lake
5. What is the dominant, existing land use within 500 feet of the wetland's edge (opposite WH8)?
 - a. Developed uses
 - b. Agriculture
 - c. Exclusive Forest Use or Open Space
6. What is the water quality condition of stream reaches in the watershed upstream of the wetland or adjacent to the wetland (opposite WH7)?
 - a. One or more upstream or adjacent reaches are listed as *water quality limited* or in *severe* water quality condition for nonpoint source pollutants
 - b. One or more upstream or adjacent reaches are listed in *moderate* water quality condition for nonpoint source pollutants
 - c. No upstream or adjacent reaches are listed as *water quality limited*, and all upstream or adjacent reaches are listed as *no problem* (or no data available) for nonpoint source pollutants

Water Quality Assessment Criteria	
A wetland's water-quality function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's water-quality function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's water-quality function is <i>lost or not present</i> if:	Four or more questions are answered "c."

Hydrologic Control (Flood Control & Water Supply; HC)

1. Is all or part of the wetland located within the 100-year floodplain or within an enclosed basin?
 a. Yes b. No
2. Is there evidence of flooding or ponding during a portion of the growing season?
 a. Yes b. Unable to determine or not applicable c. No
3. What is the wetland's area in acres?
 a. >5 acres b. Between 0.5 and 5 acres c. <0.5 acre
4. Is waterflow out of the wetland restricted (eg., beaver dam; concrete structure, undersized culvert)?
 a. Yes, the outlet is restricted or the wetland has not outlet
 b. Minor restrictions slow down the water (i.e., undersized culvert)
 c. No the outlet has unrestricted flow
5. What is the dominant wetland vegetation cover type (=WH2)?
 a. Woody vegetation b. Emergent vegetation and ponding, or open water only
 c. Emergent vegetation or wet meadow
6. What is the dominant existing land use within 500 feet of the wetland on the downstream or down-slope edge of the wetland?
 a. Developed uses b. Agriculture c. Exclusive Forest Use or Open Space
7. What is the dominant land use in the watershed upstream from the assessment area?
 a. Urban or urbanizing b. Agriculture c. Forested or natural area

Hydrologic Control Assessment Criteria	
A wetland's hydrologic control function is <i>intact</i> if:	Four or more questions are answered "a."
A wetland's hydrologic control function is <i>impacted or degraded</i> if:	Answers do not satisfy the above- or below-listed criteria.
A wetland's hydrologic control function is <i>lost or not present</i> if:	Four or more questions are answered "c."

OFWAM FUNCTION SUMMARY

WH: Diverse
 FH: Impacted or degraded
 WQ: Intact
 HC: Intact

Fish habitat function is reduced due to low shading and instream structure and adjacency to the water-quality limited Tualatin River.

Appendix 8:
OFWAM Wetlands of Special Interest for Protection
& Wetland Characterization Sheets

Jackson Bottom Wetland 1
 Tualatin R. + tributaries Wetland 2
 Wetland 3

Wetlands of Special Interest for Protection

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

Question 1

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

a. Yes
 b. No
 c. Unknown

List: bald eagle
 steelhead (upper Willamette R.)
 Chinook Salmon (upper Willamette R.)

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

Question 2

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

a. Yes
 b. No
 c. Unknown

List: Tualatin River
 McKay Creek
 Dairy Creek
 Rock Creek
 are all mapped as essential salmon habitat by DSL (plate 26)

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

	Wetland 1	Wetland 2	Wetland 3
Question 1	X	X X	
Question 2		X	

Wetland 1 Wetland 2 Wetland 3

Question 3

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

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

Information source

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

Question 4

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

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

Information source

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

Question 5

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

a. Yes
 b. No
 c. Unknown

Information source

Local planning office.

Question 6

Is the wetland a designated State Outstanding Resource Water?

a. Yes
 b. No
 c. Unknown

Information source

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

Wetland 1	Wetland 2	Wetland 3

Wetland 1 Wetland 2 Wetland 3

Question 7

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

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

Information source

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

Question 8

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

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

might be some mitigation sites

None known to be protected. All DSL permit files reviewed

Information source

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

Question 9

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

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

Information source

Natural Resources Conservation Service, Consolidated Farm Services Agency.

Wetland 1	Wetland 2	Wetland 3

Question 10

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

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

Information source

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

Wetland 1 Wetland 2 Wetland 3

Wetland 1	Wetland 2	Wetland 3

Wetland Characterization

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

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

What you need to take with you into the field:

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

Watershed Notes

Watershed setting

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

Drainage basin

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

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

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

Topography

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

Hydrologic profile

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

Watershed Notes

2C - Lower Willamette

249 sq. mi.
10%

}	McKay = 68.3
	Dairy = 10.9
	Rock = 15.1
	Beaverton = 15.2
	Dawson = 3.4
	Bronson = 4.7
	Butternut = 5.1
Gardner = 1.2	
Tualatin = 124.8	

Tributaries to Tualatin River have all been modified by culverting, channelization, or straightening.

Land uses within the watershed

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

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

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

Watershed Notes

Beaverton Cr.
Bronson Cr.
Butternut Cr.
Dairy Cr.
McKoy Cr.
Rock Cr.
Tualatin R.
Willow Cr.
are all on the
303(d) list.

Tualatin River
Gales Creek

Biological characteristics of the watershed

Watershed Notes

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

- | | <i>Type</i> |
|--|--------------------------|
| <input checked="" type="radio"/> a. Cold water. | Salmon, trout |
| <input checked="" type="radio"/> b. Warm water. | bass, sunfish |
| <input checked="" type="radio"/> c. Anadromous. | coho, steelhead, chinook |
| <input checked="" type="radio"/> d. Wild population. | Cutthroat trout |
| e. Introduced or hatchery populations. | |
| f. None. | |
| g. Other (list). | |

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

- | | <i>Species</i> |
|--|--|
| <input checked="" type="radio"/> a. Yes. | Steelhead + Chinook Salmon Present in Tualatin River and may be present in tributaries |
| b. No. | (Upper Willamette River ESU) |
| c. Unknown. | |

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

- | | <i>Species</i> |
|--|----------------|
| <input checked="" type="radio"/> a. Migratory birds. | |
| <input checked="" type="radio"/> b. Big game. | |
| <input checked="" type="radio"/> 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.)

- | | <i>Species</i> |
|--|---|
| <input checked="" type="radio"/> a. Yes. | bald eagle Present at Jackson Bottom according to Oregon Natural Heritage Program |
| b. No. | |
| c. Unknown. | |

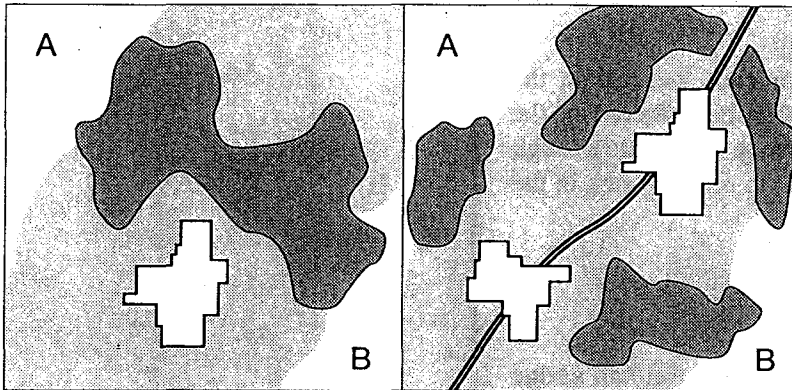


Figure 1. Watersheds as corridors for wildlife movement.

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

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

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

- There are contiguous natural areas that allow species movement, and if barriers exist, they do not stop animal or fish movement.
 - The natural areas are fragmented, but species movement is still possible.
 - The habitat system is fragmented, and there are barriers to species movement.
14. What are the landscape features at both ends of the movement corridor? (These may lie outside the assessment area.) From an aerial photo, observation or local knowledge, determine whether there are large natural areas at either end of the movement corridor. The natural area does not have to be a wetland.
- Large natural habitat areas are at both ends.
 - One end has a natural habitat area and the other end is developed.
 - Both ends are developed.

Watershed Notes

natural areas are fragmented by several 4-lane highways and much development but there are travel corridors along many streams to and from the Tualatin River.

Jackson Bottom and the Tualatin River at south end of study area.

Appendix 9:
Wetland Acreage by Habitat Type
& Percent Wetland Acreage by Habitat Type

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY
WETLAND ACREAGE BY HABITAT TYPE***

WETLAND UNIT	PFO	PFO / PSS	PSS	PSS / PEM	PEM	POW	TOTAL
DAIRY CREEK							
DrC	17.18	-	-	-	-	-	17.18
MCKAY CREEK TRIBUTARIES							
GS1	1.84	-	-	-	7.71	-	9.55
GS2	4.03	-	1.76	9.57	28.31	1.36	45.03
GS3	8.46	-	0.90	-	10.42	-	19.78
GSTrib1	6.18	-	-	3.41	3.22	-	12.81
MC	58.73	4.07	2.64	-	16.15	0.74	82.32
MCTrib1	6.33	-	-	-	8.76	-	15.09
WbCTrib1N	-	-	-	-	1.33	-	1.33
WbCTrib1S	-	-	-	-	2.83	-	2.83
WbCTrib1	2.63	-	-	-	3.32	-	5.95
ROCK CREEK TRIBUTARIES							
BeC	30.08	0.32	-	2.82	6.14	-	39.36
BeCTrib1	2.41	-	-	-	3.30	-	5.71
BrC	6.71	-	2.27	22.93	6.12	1.52	39.55
DwC1	1.29	-	-	-	6.27	-	7.56
DwC2	3.28	-	-	-	0.53	1.88	5.70
DwC3	5.05	-	2.72	-	7.01	0.93	15.70
DwC4	-	-	8.34	19.53	-	-	27.87
DwC5	30.71	-	6.04	16.31	12.40	0.70	66.16
DwCTrib1	-	-	-	6.12	8.08	3.19	17.39
OC	0.39	-	2.51	-	9.54	0.45	12.90
ReC	16.65	2.36	11.49	-	4.81	0.97	36.29
RoC1	23.82	-	-	-	17.19	0.86	41.87
RoC2	200.13	-	10.15	9.52	77.46	2.43	299.69
RoC3	40.61	-	3.67	-	26.96	-	71.25
RoCTrib1	1.62	-	-	-	-	-	1.62
RoCTrib2	2.47	-	-	3.28	-	1.75	7.50
RoCTrib3	3.19	-	-	-	0.41	-	3.60
RoCTrib4	2.92	-	1.62	2.73	-	-	7.26
TC	20.77	-	2.57	15.54	4.71	1.05	44.65
WHC	6.80	-	2.29	1.34	1.59	-	12.02
WiC	0.77	-	-	-	-	-	0.77

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY
WETLAND ACREAGE BY HABITAT TYPE***

WETLAND UNIT	PFO	PFO / PSS	PSS	PSS / PEM	PEM	POW	TOTAL
TUALATIN RIVER AND TRIBUTARIES							
BuC	15.24	-	0.71	28.05	-	0.62	44.62
BuCTrib1	-	-	-	-	1.59	-	1.59
GC1	-	-	1.53	-	0.76	-	2.29
GC2	3.96	-	-	3.48	-	0.25	7.69
TR	24.59	-	-	-	-	2.43	27.02
ISOLATED WETLANDS							
W1	1.03	-	-	-	1.12	-	2.14
W4	-	-	-	-	-	7.41	7.41
W5	0.48	-	-	-	1.12	-	1.60
W6	-	-	-	-	1.84	-	1.84
W7	-	-	-	-	-	5.94	5.94
JACKSON BOTTOM / HILLSBORO LANDFILL WETLANDS							
JB/HL	10.53	-	55.02	-	249.61	45.41	360.57
POTENTIAL WETLANDS							
PW	-	-	-	-	28.97	-	28.97
TOTAL							
	560.87	6.75	116.23	144.63	559.57	79.90	1467.94

*PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub;
PEM = Palustrine Emergent; POW = Palustrine Open Water.

**CITY OF HILLSBORO LOCAL WETLANDS INVENTORY
PERCENT WETLAND ACREAGE BY HABITAT TYPE***

WETLAND UNIT	% PFO	% PFO / PSS	% PSS	% PSS / PEM	% PEM	% POW	TOTAL
DAIRY CREEK							
DrC	100	-	-	-	-	-	100
MCKAY CREEK TRIBUTARIES							
GS1	19	-	-	-	81	-	100
GS2	9	-	4	21	63	3	100
GS3	43	-	4	-	53	-	100
GSTrib1	48	-	-	27	25	-	100
MC	71	5	3	-	20	1	100
MCTrib1	42	-	-	-	58	-	100
WbCTrib1N	-	-	-	-	100	-	100
WbCTrib1S	-	-	-	-	100	-	100
WbCTrib1	44	-	-	-	56	-	100
ROCK CREEK TRIBUTARIES							
BeC	76	1	-	7	16	-	100
BeCTrib1	42	-	-	-	58	-	100
BrC	17	-	6	58	15	4	100
DwC1	17	-	-	-	83	-	100
DwC2	58	-	-	-	9	33	100
DwC3	32	-	17	-	45	6	100
DwC4	-	-	30	70	-	-	100
DwC5	46	-	9	25	19	1	100
DwCTrib1	-	-	-	35	47	18	100
OC	3	-	19	-	74	4	100
ReC	46	6	32	-	13	3	100
RoC1	57	-	-	-	41	2	100
RoC2	67	-	3	3	26	1	100
RoC3	57	-	5	-	38	-	100
RoCTrib1	100	-	-	-	-	-	100
RoCTrib2	33	-	-	44	-	23	100
RoCTrib3	89	-	-	-	11	-	100
RoCTrib4	40	-	22	38	-	-	100
TC	47	-	6	35	10	2	100
WHC	57	-	19	11	13	-	100
WiC	100	-	-	-	-	-	100

CITY OF HILLSBORO LOCAL WETLANDS INVENTORY PERCENT WETLAND ACREAGE BY HABITAT TYPE*							
WETLAND UNIT	% PFO	% PFO / PSS	% PSS	% PSS / PEM	% PEM	% POW	TOTAL
TUALATIN RIVER AND TRIBUTARIES							
BuC	34	-	2	63	-	1	100
BuCTrib1	-	-	-	-	100	-	100
GC1	-	-	67	-	33	-	100
GC2	52	-	-	45	-	3	100
TR	91	-	-	-	-	9	100
ISOLATED WETLANDS							
W1	48	-	-	-	52	-	100
W4	-	-	-	-	-	100	100
W5	30	-	-	-	70	-	100
W6	-	-	-	-	100	-	100
W7	-	-	-	-	-	100	100
JACKSON BOTTOM / HILLSBORO LANDFILL WETLANDS							
JB/HL	3	-	15	-	69	13	100
POTENTIAL WETLANDS							
PW	-	-	-	-	100	-	100
TOTAL							
	38.2	0.5	7.9	9.9	38.1	5.4	100

*PFO = Palustrine Forested; PSS = Palustrine Scrub-Shrub;
PEM = Palustrine Emergent; POW = Palustrine Open Water.

Appendix 10:
Riparian Corridor Wildlife Habitat
& Isolated Wildlife Habitat Summary Sheets

**ISOLATED UPLAND WILDLIFE HABITAT & RIPARIAN/UPLAND
SUMMARY SHEET TABLE OF CONTENTS**

Site Code

Isolated Upland Wildlife Habitat Resources

U1	Tanasbourne Woods
U4	Orenco Woods
U8	Glendale Woods
U9	Frances Street (entire unit has been developed since 1991 inventory)
U10	Lois West (entire unit has been developed since 1991 inventory)
U11	Lois East (entire unit has been developed since 1991 inventory)
U12	NW 268 th /Airport (forest cleared due to wildlife hazard at airport)
U13	Evergreen Road south
U14	Tanasbourne Woods south
U15	53 rd Avenue
U16	west side of Primate Center
U18	Reedville Creek (entire unit has been developed since 1991 inventory)
U19	Stucki Avenue
U20	Intel-Ronler Acres
U21	Hillsboro Airport

Riparian/Upland Resources*

BeC-R/U	(Beaverton Creek)
BeCTrib1-R/U	(Beaverton Creek tributary)
BrC-R/U	(Bronson Creek [includes former U17])
BuC-R/U	(Butternut Creek)
BuCTrib1-R/U	(Butternut Creek tributary)
DwC-R/U	(Dawson Creek [includes former U3])
GS-R/U	(Glencoe Swale [includes former U5])
GSTrib1-R/U	(Glencoe Swale tributary [formerly Tributary E])
GC-R/U	(Gordon Creek)
MC	(McKay Creek)
MC Trib1-R/U	(McKay Creek tributary)
OC-R/U	(Orenco Creek)
ReC-R/U	(Reedville Creek [includes former U6 & partial U8])
RoC-R/U	(Rock Creek)
RoCTrib1-R/U	(Rock Creek tributary 1)
RoCTrib2-R/U	(Rock Creek tributary 2 [formerly Tributary D])
RoCTrib3-R/U	(Rock Creek tributary 3)
RoCTrib4-R/U	(Rock Creek tributary 4)
TC-R/U	(Turner Creek)
WHC-R/U	(Witch Hazel Creek [formerly Tributary G])

* Several streams did not have any adjacent riparian/upland forest present in the study area; therefore, there are no riparian/upland summary sheets included in the inventory for Dairy Creek, Dawson Creek tributary, Waible Creek tributary, Willow Creek and the Tualatin River. These streams and their adjacent wetlands are described in the wetland summary sheets in Appendix B.

TABLE OF CONTENTS

Site Code	Upland Summary Sheet Number
U1	1
U4	2
U8	3
U13	4
U14	5
U15	6
U16	7
U19	8
U20	9
U21	10
BeC-R/U	11
BeCTrib1-R/U	12
BrC-R/U	13
BuC-R/U	14
BuCTrib1-R/U	15
DwC-R/U	16
GS-R/U	17
GSTrib1-R/U	18
GC-R/U	19
MC-R/U	20
MCTrib1-R/U	21
OC-R/U	22
ReC-R/U	23
RoC-R/U	24
RoCTrib1,2,3,4-R/U	25
TC-R/U	26
WHC-R/U	27

G:\2000\00055\data\fnl_upland_summary_sheets.wpd

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Tanasbourne Woods

Site Code: U1

Location: south of Evergreen Parkway, east of John Olsen Avenue

Map Sheet(s) #: 5

Acreage: 6.60

Field Date(s): 9/12/00

Adjacent Land Use: residential

Zoning: A-3, A-4

T 1N, R 2W Section: 25 NW & SW

General Description: This site is an isolated Douglas fir forest with an understory of western flowering dogwood. Some Pacific yew and grand fir are also present. This is one of only a few sites within the Portland metropolitan area with a subcanopy of western flowering dogwood and stands of Pacific yew and grand fir. Snags and down woody debris are present in the forest, making it good habitat for small birds and mammals. None of this site has been developed since the 1991 inventory; however new residential development completely borders this site. This unit is connected to unit U14 to the south by an undeveloped field. Neighbors report observing owls foraging in this field and flying between U1 and U14. Some Himalayan blackberry is present in the forest edge.

Adjacent Stream Information: The unit is separated from Rock Creek to the west by more than 0.25 mile of residential development.

Mapped Soils: Woodburn

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir
Pacific yew
grand fir

Shrubs

*western flowering dogwood
*vine maple
*beaked hazelnut
snowberry
thimbleberry
serviceberry
poison oak
Himalayan blackberry

Herbs

*swordfern
*tall Oregon grape
*Pacific blackberry
*poison oak
bracken fern
white inside-out flower
western starflower

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	good structure and diversity, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	High	limited invasive species
Connectivity	Low	
Uniqueness	High	plant community

Significant? Yes, due to rarity of western flowering dogwood, Pacific yew and grand fir stands within the Portland metropolitan area

Comments/Recommendations: Control Himalayan blackberry to prevent further spread into forest.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Orenco Woods	Site Code: U4
Location: north of lightrail, west of Cornelius Pass Road	Map Sheet(s) #: 4
Acreage: 22.89	Field Date(s): 8/3/00
Adjacent Land Use: lightrail, commercial, agricultural, golf course	Zoning: SCR-MD, SCR-V
T 1S, R 2W Section: 34 NE & 35 NW	

General Description: This unit was described in the 1991 inventory as being a closed canopy primarily coniferous forest. This unit appears to have been partially logged since 1991, and currently it consists of an open canopy mixed deciduous/coniferous forest containing western red cedar and big-leaf maple. Several non-native tree species are also present including black locust, sweetgum and horse chestnut. The dense shrub layer is fairly disturbed and contains several ornamental and invasive species including ornamental hawthorn, Scot's broom and Himalayan blackberry. None of this unit has been developed since the 1991 inventory. The lightrail track borders the site on the south and east, and the Orenco Woods Golf Course is present to the south.

Adjacent Stream Information: The unit separated from Orenco Creek to the west and Rock Creek to the east by development, roads and the lightrail.

Mapped Soils: Aloha, Quatama

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*western red cedar	*Himalayan blackberry	grass
*big-leaf maple	*ornamental hawthorn	
black locust	beaked hazelnut	
sweetgum	Scot's broom	
horse chestnut	rose	

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	good structure, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	Low	many invasive & non-native species
Connectivity	Low	
Uniqueness	Low	

Significant? No, due to many non-native species present and invasion by Himalayan blackberry.

Comments/Recommendations:

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Glendale Woods	Site Code: U8
Location: west of Cornelius Pass Road, north of TV Highway	Map Sheet(s) #: 4
Acreage: 4.01	Field Date(s): 10/4/00
Adjacent Land Use: residential	Zoning: R-7
T 1S, R 2W Section: 10 NE & 11 NW	

General Description: This unit consists of a young Oregon white oak and Douglas fir forest with an open understory. Portions of this unit have been lost to residential development since the 1991 inventory, and the unit is no longer connected to Reedville Creek by a forested corridor.

Adjacent Stream Information: The unit is separated from Reedville Creek to the north by residential development.

Mapped Soils: Aloha, Amity

Dominant Vegetation: (* = major dominant)

Trees

*Oregon white oak
Douglas fir

Shrubs

*beaked hazelnut
*black hawthorn
snowberry
cherry
oceanspray
cascara
Himalayan blackberry
thimbleberry
poison oak
Oregon grape
English holly

Herbs

*white inside-out flower
*swordfern
*Pacific blackberry
bracken fern

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	good veg structure/diversity, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	High	limited invasive species
Connectivity	Low	
Uniqueness	Low	

Significant? Yes, relatively undisturbed forest with nice trail.

Comments/Recommendations: Control Himalayan blackberry at forest edge to prevent further spread.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Evergreen Parkway south	Site Code: U13
Location: south of Evergreen Parkway, east of 264 th	Map Sheet(s) #: 2
Acreage: 8.88	Field Date(s): 9/12/00
Adjacent Land Use: agricultural, commercial	Zoning: M-P
T 1N, R 2W Section: 21 SW & 28 NW	

General Description: This site consists of a mostly open canopy Oregon white oak forest, with the southwest portion being closed canopy. Himalayan blackberry is present throughout the forest. The site is predominantly bordered by agricultural land use; however, commercial development has occurred in the last several years on the east and west. None of this unit has been developed since the 1991 inventory.

Adjacent Stream Information: The headwaters of Glencoe Swale, consisting of a small intermittent drainage through an agricultural field, is located south of this unit.

Mapped Soils: Amity

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Oregon white oak	*Himalayan blackberry	grass
Oregon ash	snowberry	swordfern
cherry	beaked hazelnut	

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Low	poor veg structure/diversity, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	Low	invasive species throughout
Connectivity	Low	
Uniqueness	Low	

Significant? No, due to high level of disturbance and invasion by Himalayan blackberry.

Comments/Recommendations:

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Tanasbourne Woods south	Site Code: U14
Location: north of Cornell Road, east of John Olsen Avenue	Map Sheet(s) #: 5
Acreage: 3.09	Field Date(s): 9/12/00
Adjacent Land Use: residential	Zoning: A-3, A-4
T 1N, R 2W Section: 25 SW	

General Description: This site consists of a closed canopy Douglas fir forest. A well developed shrub layer is present. Some Himalayan blackberry and English holly is present in the forest edge. None of this unit has been developed since the 1991 inventory; however, new residential development completely borders this site. This unit is connected to unit U1 to the north by an undeveloped field. Neighbors report observing owls foraging in this field and flying between U1 and U14.

Adjacent Stream Information: The unit is separated from Rock Creek to the west by more than 0.25 mile of residential development.

Mapped Soils: Woodburn

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir
Oregon white oak

Shrubs

*beaked hazelnut
*Oregon grape
*vine maple
*cherry
snowberry
serviceberry
oceanspray
salal
western flowering dogwood
English holly

Herbs

*Pacific blackberry
*sword fern
*white inside-out flower
western trillium
bracken fern

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	diverse structure, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	Medium	invasive species & human disturbance
Connectivity	Low	
Uniqueness	Medium	high quality common habitat

Significant? No, due to human disturbance and invasive species.

Comments/Recommendations: Human disturbance from dumping lawn clippings and Christmas trees. This forest is prone to disturbance due to its shape and the resulting edge effect. Control Himalayan blackberry and English ivy at forest edge to prevent further spread.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: 53 rd Avenue	Site Code: U15
Location: north of Baseline Road, west of 53 rd Avenue	Map Sheet(s) #: 4
Acreage: 3.76	Field Date(s): 11/1/00
Adjacent Land Use: agricultural	Zoning: SCBP
T 1N, R 2W Section: 33 SE	

General Description: This unit consists of a closed canopy Douglas fir forest with an undeveloped shrub layer and low structural diversity, which indicate that the unit may have been grazed in the past. The north end of this unit has been heavily invaded by Himalayan blackberry. This unit is surrounded by agricultural land use. None of the unit has been developed since the 1991 inventory; however, the southern portion of this unit as mapped in the prior inventory included scattered trees rather than forest, resulting in a reduction of the size of this unit in 2000.

Adjacent Stream Information: The unit is separated from Rock Creek to the south, Orenco Creek to the east, and Dawson Creek to the west by agricultural fields, roads and residential development.

Mapped Soils: Aloha

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir

Shrubs

*Himalayan blackberry
*beaked hazelnut
*oceanspray
*snowberry
rose
Indian plum
dull Oregon grape

Herbs

*Pacific blackberry

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Low	low veg structure/diversity, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	Medium	invasive species
Connectivity	Low	
Uniqueness	Low	

Significant? No, the undeveloped shrub layer and resulting openness of this forest reduce its wildlife habitat value.

Comments/Recommendations: Control Himalayan blackberry at north edge of forest to prevent further spread.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Oregon Graduate Institute	Site Code: U16
Location: north of lightrail, east of 206 th Avenue	Map Sheet(s) #: 5
Acreage: 9.23	Field Date(s): 9/12/00
Adjacent Land Use: agricultural	Zoning: SCRP
T 1N, R 2W Section: 26 SW	

General Description: This unit consists of a closed canopy Douglas fir forest. The east end of the unit is a narrow hedgerow dominated by black cottonwood and a few grand fir. This unit and the large agricultural field to the south are fenced on all four sides. Passers-by report observing a pair of owls and deer in the vicinity. The unit is surrounded by agricultural land use; however, commercial development is occurring to the north. None of this site has been developed since the 1991 inventory. The Oregon Graduate Institute is located to the northeast of the site.

Adjacent Stream Information: The unit is marginally connected to Bronson Creek to the east by a narrow hedgerow.

Mapped Soils: Aloha, Woodburn

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Douglas fir	*cherry	*Pacific blackberry
red alder	*beaked hazelnut	
casara	oceanspray	
black cottonwood	snowberry	
grand fir	tall Oregon grape	
western flowering dogwood	thimbleberry	
Scouler willow	western flowering dogwood	
	Himalayan blackberry	

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	good veg structure/diversity, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	High	limited invasive species
Connectivity	Medium	to Bronson Creek via hedgerow
Uniqueness	Low	

Significant? Yes, intact forest with low human disturbance (due to fence) and invasive species.

Comments/Recommendations: Wildlife habitat value could be improved by removing the fence along the west edge and planting additional trees to the east of this unit to provide a travel corridor for wildlife to access this unit from Bronson Creek.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Stucki Avenue	Site Code: U19
Location: north of Cornell Road, east of Stucki Avenue	Map Sheet(s) #: 5
Acreage: 1.14	Field Date(s): 9/12/00
Adjacent Land Use: residential	Zoning: A-3
T 1N, R 2W Section: 25 SE	

General Description: This site consists of a closed canopy Oregon white oak forest. A narrow band of wetland vegetation is present along the south edge of the unit. The majority of this unit has been developed since the 1991 inventory, and it is completely surrounded by residential development. This unit is fenced on all four sides and is the smallest isolated upland wildlife habitat unit in the study area. English ivy is starting to invade the trees.

Adjacent Stream Information: The unit is separated from Bronson Creek by residential development and Cornell Road.

Mapped Soils: Woodburn

Dominant Vegetation: (* = major dominant)

Trees

*Oregon white oak
Oregon ash

Shrubs

*cherry
Himalayan blackberry
oceanspray
western wahoo
serviceberry
snowberry
black hawthorn
poison oak
rose cascara

Herbs

bentgrass
spreading rush
English ivy

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Low	good veg structure, small size, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	Medium	invasive species
Connectivity	Low	
Uniqueness	Low	

Significant? No, due to its small size and separation from other natural resource units.

Comments/Recommendations: Control English ivy on trees.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Intel-Ronler Acres	Site Code: U20
Location: east of Shute Road, south of Dawson Creek	Map Sheet(s) #: 2
Acreage: 2.54	Field Date(s): 10/11/00
Adjacent Land Use: industrial	Zoning: M-P
T 1N, R 2W Section: 27 NW	

General Description: This unit was not described in the 1991 inventory. This site consists of a small Oregon white oak forest located on the Intel-Ronler Acres Campus. The forest has an open understory consisting mostly of cherry and snowberry. A road is currently being constructed through the center of the forest which has increased the amount of forest edge, making the forest susceptible to invasion by Himalayan blackberry. English ivy has starting to invade the trees. Although the new road separates a portion of this unit from Dawson Creek, the proximity of this unit to Dawson Creek increases the value of this forest. The unit is bordered by a parking lot on the east, and industrial development is planned on the south side of the unit.

Adjacent Stream Information: This unit is within 200 feet of Dawson Creek.

Mapped Soils: Willamette, Woodburn

Dominant Vegetation: (* = major dominant)

Trees

*Oregon white oak
Douglas fir
birch

Shrubs

*cherry
*snowberry
beaked hazelnut
Indian plum
Himalayan blackberry

Herbs

sword fern
Pacific blackberry
English ivy

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Low	small size, open forest with poor vegetation structure
Water Quality Protection	Medium	
Ecological Integrity	Medium	invasive species
Connectivity	Medium	
Uniqueness	Low	

Significant? No, although this unit is close to Dawson Creek, the recent disturbance from road construction combined with its small size, openness and lack of structure is likely to contribute to this forest being invaded by non-native species and providing limited wildlife habitat value over the next several years. Water quality function is already served by several stormwater facilities on the site.

Comments/Recommendations: Control English ivy on trees and control Himalayan blackberry as it invades forest edge.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
UPLAND WILDLIFE HABITAT SUMMARY SHEET**

SITE: Hillsboro Airport, south of Cornell Road	Site Code: U21
Location: north of lightrail, east of NW 34 th Avenue	Map Sheet(s) #: 4
Acreage: 2.27	Field Date(s): 11/1/00
Adjacent Land Use: lightrail, agricultural	Zoning: SCFI
T 1N, R 2W Section: 33 NW & NE	

General Description: This unit was not described in the 1991 inventory. The tree canopy is dominated by cherry, and the dense understory consists primarily of Himalayan blackberry and beaked hazelnut. This unit provides good small bird habitat. The unit is surrounded by a mowed agricultural field.

Adjacent Stream Information: The unit is separated from Dawson Creek to the east by an agricultural field (and the upcoming Brookwood Parkway extension).

Mapped Soils: Amity

Dominant Vegetation: (* = major dominant)

Trees

*cherry
Oregon white oak
Douglas fir
cascara

Shrubs

*Himalayan blackberry
*beaked hazelnut
snowberry
willow
thimbleberry
tall Oregon grape
serviceberry
cultivated apple

Herbs

Pacific blackberry
bracken fern

<u>Upland Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	moderate diversity/structure, no water, isolated
Water Quality Protection	Low	
Ecological Integrity	Low	invasive species throughout
Connectivity	Low	
Uniqueness	Low	

Significant? No, due to invasion by Himalayan blackberry.

Comments/Recommendations: Wildlife habitat value could be improved by planting trees to the east of this unit to provide a travel corridor for wildlife to access Dawson Creek.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Beaverton Creek	Site Code: BeC-R/U
Location: Cornelius Pass Road to Rock Creek	Map Sheet(s) #: 4
Acreage: 6.24	Field Date(s): 11/1/00
Adjacent Land Use: residential	Zoning: A-1, R-6, R-7
T 1 N/S, R 2W Section: 34 SE, 35 SW; 2 NW, 3 NE	

General Description: Much of the reach of Beaverton Creek within the study area consists of Oregon ash forested wetland. As the forested wetland transitions into riparian/upland forest the tree canopy changes to Douglas fir, big-leaf maple and western red cedar.

Adjacent Stream Information: Perennial stream with average width of 10 feet and steep riparian corridor. DEQ water quality limited stream.

Mapped Soils: Aloha, Quatama

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir
*big-leaf maple
western red cedar

Shrubs

*Himalayan blackberry
*beaked hazelnut
snowberry
oceanspray
Pacific ninebark

Herbs

*sword fern

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	
Water Quality Protection	High	
Ecological Integrity	Low	abundant Himalayan blackberry along stream corridor
Connectivity	High	forest connected to Beaverton Creek
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations:

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Beaverton Creek tributary	Site Code: BeCTrib1-R/U
Location: 185 th Avenue to railroad	Map Sheet(s) #: 5
Acreage: 7.15	Field Date(s): 11/1/00
Adjacent Land Use: undeveloped, agricultural	Zoning: SCRP
T 1N/S, R 2W Section: 36 SE; 1 NE	

General Description: The lower portion of this small tributary to Beaverton Creek flows through the southeast corner of the Oregon Graduate Institute property where it is bordered by Douglas fir dominated riparian/upland forest. Bronson Creek, located to the north, shares this riparian upland forest. The upper portion of the Beaverton Creek tributary is bordered by agricultural land use.

Adjacent Stream Information: This potentially intermittent stream has been channelized through an agricultural field in the upper portion and it widens to the south where it is confined within a sloping forested riparian corridor.

Mapped Soils: Aloha

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir
grand fir
western red cedar
Oregon white oak
big-leaf maple

Shrubs

*beaked hazelnut
*cascara
*Indian plum
*tall Oregon grape
*salal
*oceanspray

*vine maple

Himalayan blackberry
snowberry

Herbs

*sword fern
*false Solomon's seal

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	large forest, good vegetation structure/diversity
Water Quality Protection	High	
Ecological Integrity	High	limited invasive species
Connectivity	High	forest connected to Beaverton Creek tributary
Uniqueness	Medium	high quality typical upland forest

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors. The large size of the forest on the OGI property makes this unit especially valuable.

Comments/Recommendations: As development encroaches upon this unit, priority should be placed on maintaining the connection between the forest and the stream and preservation of one large forested area rather than fragmenting the forest into several smaller isolated areas. Control Himalayan blackberry along stream channel through riparian/upland forest.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Bronson Creek	Site Code: BrC-R/U
Location: 185 th Avenue to railroad tracks	Map Sheet(s) #: 5
Acreage: 67.68	Field Date(s): none
Adjacent Land Use: Oregon Graduate Institute, agricultural, industrial	Zoning: SCRP
T 1N/S, R 2W Section: 36; 1 NE	

General Description: Portions of Bronson Creek are bordered by intact riparian/upland forest; however, riparian cover is lacking north of Walker Road and on portions of the Oregon Graduate Institute property. A large block of upland forest extends east of Bronson Creek on the Oregon Graduate Institute property. The Beaverton Creek tributary, located to the south, shares this riparian upland forest. The forest is predominantly coniferous and is dominated by up to 60-year old Douglas fir with a well developed shrub layer. The forest is subjected to very limited human disturbance and as a result, occurrence of invasive species is low except along forest edges adjacent to access roads and buildings. A Roosevelt elk buck lived on the site for several years until being transferred to an elk reserve in the Coast Range by ODFW in 1995 (The Bookin Group).

Adjacent Stream Information: Perennial stream varying from 3 feet in the upper portion to 20 feet in the lower portion where it flows through a broad flat floodplain. DEQ water quality limited stream.

Mapped Soils: Aloha, Woodburn

Dominant Vegetation: (* = major dominant)

Trees	Shrubs	
*Douglas fir	*beaked hazelnut	*salal
grand fir	*vine maple	Himalayan blackberry
western red cedar	*oceanspray	
Oregon white oak	*cascara	Herbs
big-leaf maple	*Indian plum	*sword fern
	*Oregon grape	

Riparian Habitat Function	Rating	Comments
Wildlife Habitat	High	large forest, good vegetation structure/diversity
Water Quality Protection	High	
Ecological Integrity	High	limited invasive species
Connectivity	High	forest connected to Bronson Creek
Uniqueness	Medium	high quality typical upland forest

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors. The large size of the forest on the OGI property makes this unit especially valuable.

Comments/Recommendations: As development encroaches upon this unit, priority should be placed on maintaining the connection between the forest and the stream and preservation of one large forested area rather than fragmenting the forest into several smaller isolated areas. Control Himalayan blackberry along stream channel through riparian/upland forest.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Butternut Creek	Site Code: BuC-R/U
Location: 209 th Avenue to east of 229 th Avenue	Map Sheet(s) #: 7
Acreage: 4.30	Field Date(s): 11/1/00
Adjacent Land Use: tree farm, agricultural, rural residential	Zoning: FF, RRFU
T 1S, R 2W Section: 14	

General Description: Riparian/upland forest is present on the north side of the portion of Butternut Creek located within the study area and consists of Douglas fir, grand fir and western red cedar. Himalayan blackberry has invaded the stream corridor and the BPA power line easement is highly disturbed. Agricultural and rural residential land uses border this unit to the north. No riparian/uplands are mapped to the south of Butternut Creek since it has been historically altered from its natural state due to removal of tree and shrub vegetation and land use change. The area south of the creek currently consists of a large tree farm which has a closed canopy, dense vegetation in most areas, and monospecific stands of trees, which limit its wildlife value. The Butternut Creek corridor is especially important for stormwater protection since its headwater area upstream of the study area has been fully urbanized. The stream corridor is intact downstream of the study area. A heron rookery was observed in 1998 near the western study area boundary.

Adjacent Stream Information: Perennial stream with very steep banks, meanders through a broad flat floodplain. DEQ water quality limited stream.

Mapped Soils: Aloha, Quatama

Dominant Vegetation: (* = major dominant)

Trees

- *Douglas fir
- *grand fir
- *western red cedar

Shrubs

- *Himalayan blackberry
- serviceberry
- choke cherry
- ornamental hawthorn

Herbs

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	
Water Quality Protection	High	
Ecological Integrity	Low	extensive blackberry, altered by adjacent land use
Connectivity	Medium	
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: Restore riparian corridor along south side of stream.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Dawson Creek

Site Code: DwC-R/U

Location: Jacobson Road to Rock Creek

Map Sheet(s) #: 2, 4

Acreage: 36.77

Field Dates: 10/10 & 10/11/00

Adjacent Land Use: residential, agricultural, commercial

Zoning: A-1, C-1, M-P, R-7,

T 1N/S, R 2W Section: 27, 28, 33; 4

R-10, SCBP, SCFI

General Description: The upper reaches of Dawson Creek (above Shute Road) have been channelized in the past due to adjacent agricultural land use and the riparian/upland corridor is almost non-existent, with the exception of a small Oregon white oak forest on the Intel property along reach 3. A large riparian/upland forest is present east of the Hillsboro Airport and west of the Brookwood Parkway extension. This young forest is dominated by Douglas fir and has an undeveloped shrub layer consisting predominantly of hazelnut, indicating that the site may have been grazed in the past. Beaver dams are present in the lower reaches of Dawson Creek which have created standing water and adjacent snags, both of which are important wildlife habitat features. Western pond turtle and western painted turtle were observed below Airport Road during the 1991 inventory. Deer observed at Airport Road during 2000 inventory. Much riparian/upland forest has recently been cleared for the Brookwood Parkway extension.

Adjacent Stream Information: This long perennial stream is 3 feet wide in the upper reaches and it widens to 8 feet wide in the lower reaches where it meanders through a flat floodplain.

Mapped Soils: Aloha, Amity, Quatama, Woodburn

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir
Oregon white oak
cherry

*snowberry
*rose
oceanspray
poison oak
salal

vine maple
cascara
Indian plum

Herbs

*sword fern
*Pacific blackberry
bracken fern
bentgrass
poison oak
wild strawberry
English ivy

Riparian Habitat Function

Rating

Comments

Wildlife Habitat	Medium	good habitat along lower reaches
Water Quality Protection	High	
Ecological Integrity	Medium	some encroachment of Himalayan blackberry & ivy
Connectivity	High	good forest connectivity along lower reaches
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: Enhance riparian corridor with tree plantings to improve connectivity of riparian/upland forest along lower reaches of Dawson Creek with Rock Creek.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Glencoe Swale	Site Code: GS-R/U
Location: East of 264 th Avenue to McKay Creek	Map Sheet(s) #: 1, 2, 3
Acreage: 16.84	Field Date(s): 6/21/00
Adjacent Land Use: airport, agricultural, residential	Zoning: R-7, R-10
T 1N, R 2W Section: 25, 30	

General Description: No riparian/upland forest is present adjacent to the upper reach of Glencoe Swale, and the stream has been channelized due to adjacent agricultural land use. The riparian/upland corridor along the lower portion of Glencoe Swale, below the Emma Jones Nature Preserve, is rather sparse, and the remaining areas tend to be long and narrow, which increases their susceptibility to encroachment of invasive species due to edge effect. The largest existing riparian/upland forest in this unit is planned for residential development (Fishback Creek/Shelburne Development). The proximity of this unit to the large riparian/upland forest along Glencoe Swale tributary south of Harewood Street increases the wildlife habitat value of this unit

Adjacent Stream Information: Perennial stream varies from 2 feet wide in the upper reach, to 7 feet wide in the Emma Jones Nature Preserve, and becomes an indistinguishable channel with a broad flat floodplain north of Glencoe Road.

Mapped Soils: Amity, Woodburn

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Douglas fir	*western flowering dogwood	*Oregon grape
western red cedar	*beaked hazelnut	*swordfern
Pacific yew	*elderberry	*Pacific blackberry
western hemlock	*vine maple	English ivy
	Himalayan blackberry	

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	
Water Quality Protection	High	
Ecological Integrity	Medium	some encroachment of Himalayan blackberry & ivy
Connectivity	High	forest adjacent to Glencoe swale
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: High quality diverse forest with nice trail north of Harewood St.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Glencoe Swale tributary	Site Code: GSTrib1-R/U
Location: east of Glencoe Road, south of Harewood Street	Map Sheet(s) #: 1, 3
Acreage: 27.11	Field Date(s): 6/19/00
Adjacent Land Use: residential	Zoning: R-7, R-10
T 1N, R 2W Section: 30 SW; 31 NW	

General Description: The majority of this tributary is bordered by a primarily coniferous riparian/upland forest dominated by Douglas fir, western red cedar and red alder. Several large Douglas fir trees and one large black cottonwood are present. The forest contains both structural and species diversity. A small amount of English ivy, English holly, and Himalayan blackberry are present. A footpath leads into the forest from NE Harewood Street.

Adjacent Stream Information: Perennial stream with an indistinguishable channel and broad floodplain south of Glencoe Road.

Mapped Soils: Aloha, Amity, Quatama, Willamette, Woodburn

Dominant Vegetation: (* = major dominant)

<u>Trees</u>		<u>Herbs</u>
*Douglas fir	vine maple	*swordfern
*western red cedar	snowberry	*Pacific blackberry
*red alder	salmonberry	Pacific waterleaf
black cottonwood	thimbleberry	fringecup
	oceanspray	pathfinder
	salal	western trillium
<u>Shrubs</u>	rose	white inside-out flower
*red elderberry	Oregon ash	false Solomon's seal
*beaked hazelnut	English holly	bracken fern
*Oregon grape	Himalayan blackberry	wild strawberry
cherry		English ivy
big-leaf maple		

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	large forest, good vegetation structure/diversity
Water Quality Protection	High	
Ecological Integrity	High	limited invasive species
Connectivity	High	forest connected to Glencoe Swale tributary
Uniqueness	Medium	high quality typical upland forest

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors. The large size of the forest south of Harewood St. makes this unit especially valuable.

Comments/Recommendations: As development encroaches upon this unit, priority should be placed on maintaining the connection between the forest and the stream and preservation of one large forested area rather than fragmenting the forest into several smaller isolated areas. Control small populations of Himalayan blackberry, English ivy, and English holly.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Gordon Creek	Site Code: GC-R/U
Location: East of 229 th Avenue to the Reserve Golf Club	Map Sheet(s) #: 7
Acreage: 27.93	Field Date(s): 11/1/00
Adjacent Land Use: agricultural, rural residential, golf course	Zoning: FF, RRFU
T 1S, R 2W Section: 10	

General Description: No riparian/upland forest is present adjacent to the upper reach of Gordon Creek on the Sister's of St. Mary property. Riparian/upland forest is present along the south side of Gordon Creek along the majority of reach 2. A relatively undisturbed large riparian/upland forest is present west of 229th Avenue and is dominated by Douglas fir and Oregon white oak. An intact riparian corridor and the Meriwether Golf Course and Ettinger Pond are located downstream of 229th, outside the study area.

Adjacent Stream Information: Perennial stream occupying a narrow floodplain within a sloping riparian corridor.

Mapped Soils: Aloha

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Douglas fir		
*Oregon white oak		

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	large forest, good vegetation structure/diversity
Water Quality Protection	High	
Ecological Integrity	High	limited invasive species
Connectivity	High	forest connected to Gordon Creek
Uniqueness	Medium	high quality typical upland forest

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors. The large size of the forest west of 229th Avenue makes this unit especially valuable.

Comments/Recommendations: As development encroaches upon this unit, priority should be placed on maintaining the connection between the forest and the stream and preservation of one large forested area rather than fragmenting the forest into several smaller isolated areas. Control Himalayan blackberry along stream channel through riparian/upland forest.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: McKay Creek	Site Code: MC-R/U
Location: McKay Creek Golf Course to Dairy Creek	Map Sheet(s) #: 1, 3
Acreage: 7.82	Field Date(s): 6/21/00
Adjacent Land Use: agricultural, rural residential	Zoning: R-7, SFR3
T 1N, R 3W Section: 25, 36	

General Description: Riparian/upland forest dominated by Douglas fir is present in a few areas adjacent to McKay Creek. Much of the historic riparian/upland forest was likely cleared for agriculture.

Adjacent Stream Information: Perennial stream with average width of 15 feet is generally confined within a steep riparian corridor.

Mapped Soils: Aloha, Chehalis, McBee, Quatama, Woodburn

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Douglas fir	cherry	sword fern
big-leaf maple	snowberry	English ivy
Oregon white oak	Indian plum	
	tall Oregon grape	
	serviceberry	
	vine maple	
	Himalayan blackberry	

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Water Quality Protection	High	
Ecological Integrity	Medium	some encroachment of Himalayan blackberry and ivy
Connectivity	High	forest connected to McKay Creek
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations:

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: McKay Creek tributary

Site Code: MCTrib1-R/U

Location: Jackson Street to McKay Creek

Map Sheet(s) #: 3

Acreage: 0.79

Field Date(s): 6/21/00

Adjacent Land Use: cemetery, residential, industrial

Zoning: C-1, M-2, R-7

T 1N, R 3W Section: 36

General Description: This small tributary to McKay Creek was not mapped in the 1991 inventory. Almost all of the historic riparian/upland forest adjacent to this tributary has been cleared, and only a narrow band of riparian/upland shrub habitat remains along the south side of the tributary, north of the railroad tracks.

Adjacent Stream Information: This potentially intermittent stream is narrow where it flows through the Fred Meyer mitigation site and widens to the south where it is confined within a sloping riparian corridor.

Mapped Soils: Woodburn

Dominant Vegetation: (* = major dominant)

Trees

Shrubs

Herbs

red elderberry
beaked hazelnut
Himalayan blackberry

poison hemlock

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	
Water Quality Protection	High	
Ecological Integrity	Low	encroachment of blackberry & poison hemlock
Connectivity	High	shrub habitat adjacent to McKay Creek tributary
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: Control Himalayan blackberry and poison hemlock.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Orenco Creek	Site Code: OC-R/U
Location: 37.66	Map Sheet(s) #: 4
Acreage:	Field Date(s): 10/11/00
Adjacent Land Use: agricultural, industrial, residential	Zoning: R-7, SCBP, SCI, SCR-V
T 1 N/S, R 2W Section: 34; 3 NW	

General Description: The riparian corridor along Orenco Creek is fragmented in the lower portion and is bordered predominantly by rural residential/agricultural land uses. The riparian corridor along the upper portion of Orenco Creek is predominantly forested. A large riparian/upland forest is present south of the lightrail tracks and east of Elam Young Parkway. The mixed deciduous/coniferous forest contains a diverse tree layer and a well developed and diverse understory and groundcover. The striped coralroot orchid was noted in a stand of western red cedar east of the Creek. Himalayan blackberry is present in the forest edge due to disturbance from construction of Orenco Court.

Adjacent Stream Information: Perennial stream varying from 2 feet in the upper portion to 25 feet in the lower portion and confined within a sloping riparian corridor.

Mapped Soils: Aloha, Quatama

Dominant Vegetation: (* = major dominant)

Trees

- *western red cedar
- *big-leaf maple
- *Douglas fir
- western flowering dogwood
- black locust
- cascara
- serviceberry
- Oregon white oak

Shrubs

- *beaked hazelnut
- *vine maple
- western wahoo
- snowberry
- rose
- cherry
- salal
- trumpet honeysuckle

Herbs

- *Oregon grape
- *sword fern
- white inside-out flower
- western trillium
- Henderson's sedge
- false Solomon's seal
- bracken fern
- western starflower

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	large forest, good vegetation structure/diversity
Water Quality Protection	High	
Ecological Integrity	High	limited invasive species
Connectivity	High	forest connected to Orenco Creek
Uniqueness	Medium	high quality typical upland forest

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors. The large size of the forest south of the lightrail makes this unit especially valuable.

Comments/Recommendations: As development encroaches upon this unit, priority should be placed on maintaining the connection between the forest and the stream and preservation of one large forested area rather than fragmenting the forest into several smaller isolated areas. Control small populations of Himalayan blackberry at forest edges to prevent further spread.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Reedville Creek	Site Code: ReC-R/U
Location: Cornelius Pass to Rock Creek	Map Sheet(s) #: 4, 7
Acreage: 5.93	Field Date(s): 10/4/00
Adjacent Land Use: residential	Zoning: R-6, R-7
T 1S, R 2W Section: 2, 3, 4	

General Description: Reedville Creek is closely bordered by residential development and only a few small riparian/upland forests are present adjacent to the stream. The largest remaining riparian/upland forest is located east of SE 51st Avenue.

Adjacent Stream Information: Perennial stream varying from 2 feet wide in the upper portion to 10 feet wide in the lower portion. The stream corridor is bordered by fill slopes up to residential development.

Mapped Soils: Aloha, Quatama

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Douglas fir	beaked hazelnut	
Oregon white oak	Himalayan blackberry	
western red cedar	willow	
black cottonwood	Pacific ninebark	

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Water Quality Protection	High	
Ecological Integrity	Medium	some encroachment of Himalayan blackberry
Connectivity	High	forest connected to Reedville Creek
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: The limited availability of riparian/upland habitat along this stream corridor increases the wildlife habitat value of the remaining riparian/upland forest.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Rock Creek	Site Code: RoC-R/U
Location: Highway 26 to Tualatin River	Map Sheet(s) #: 2, 4, 5, 6
Acreage: 54.40	Field Dates: 8/3,10/4/,10/10/00
Adjacent Land Use: residential, industrial, rural residential	Zoning: A-1, A-2, A-4, C-1, M-P
T 1 N/S, R 2W Section: 25, 26, 34, 35; 3, 4, 8, 9	R-7, R-10, SCBP, SCR-MD

General Description: Riparian/upland forest occurs in only a few areas along Rock Creek, mostly below Baseline Road. Much of the Rock Creek corridor consists of broad Oregon ash forested wetland. As the forested wetland transitions into riparian/upland forest the tree canopy changes to Douglas fir, big-leaf maple and western red cedar. Noble Woods Park contains a large intact riparian/upland forest, which can be viewed from a nice trail throughout the park. There is virtually no riparian/upland forest along Rock Creek where it flows through the Orenco Woods Golf Course. A large sewage treatment pond is present adjacent to Rock Creek just south of Highway 26, and a wastewater treatment plant is present near its confluence with the Tualatin River.

Adjacent Stream Information: Largest perennial stream in the study area varies from 8 to 30 feet in width, is generally confined within a steep riparian corridor and has a large floodplain. DEQ water quality limited stream.

Mapped Soils: Aloha, Quatama, Xerochrepts and Haploxerolls

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir
big-leaf maple
western red cedar
Pacific yew
red alder
western hemlock
grand fir

Shrubs

*Himalayan blackberry
*snowberry
*beaked hazelnut
*vine maple
cherry
oceanspray
cascara

salal
dull Oregon grape
blue elderberry

Herbs

*Pacific blackberry
sword fern
English ivy
wood fern

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	proximity of lower reaches to Tualatin River
Water Quality Protection	High	
Ecological Integrity	Medium	some encroachment of Himalayan blackberry & ivy
Connectivity	High	forest connected to Rock Creek
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: Many large forested wetlands along lower reaches. Good educational and recreational opportunities at Noble Woods Park.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Rock Creek tributaries	Site Code: RoCTrib1,2,3,4-R/U
Location:	Map Sheet(s) #: 3, 4, 5, 6, 7
Acreage: 2.70(trib 1), 2.17(trib 2), 5.48(trib 3), 2.47(trib 4)	Field Dates: 8/3 & 10/4/00, 7/20/01
Adjacent Land Use: residential	Zoning: C-1, R-7, R-10, SCBP
T 1 N/S, R 2W Section: 25, 35, 36; 4, 5, 8	

General Description: Rock Creek tributaries 1, 2 and 4 are partially bordered by riparian/upland forest, generally in the lower portion near their confluence with Rock Creek. Rock Creek tributary 3 is bordered by Douglas fir dominated riparian/upland forest along most of its length.

Adjacent Stream Information: Small intermittent streams confined by slope within a narrow floodplain.

Mapped Soils: Aloha, Quatama, Woodburn, Xerochrepts and Haploxerolls

Dominant Vegetation: (* = major dominant)

Trees

*Douglas fir
big-leaf maple
red alder
cherry

Shrubs

Himalayan blackberry
bittersweet nightshade
vine maple

Herbs

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	Medium	
Water Quality Protection	High	
Ecological Integrity	Medium	encroachment of Himalayan blackberry & nightshade
Connectivity	High	proximity to Rock Creek corridor
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: Enhance riparian/upland corridors along tributaries 2 and 4 with tree plantings.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Turner Creek	Site Code: TC-R/U
Location: Cornell Road to Rock Creek	Map Sheet(s) #: 3, 4, 6
Acreage: 2.36	Field Date(s): 9/15/00, 7/20/01
Adjacent Land Use: residential	Zoning: R-7
T 1 N/S, R 2W Section: 32 SW; 4 SE, 5	

General Description: Turner Creek is closely bordered by residential development. Only a few small riparian/upland forests are present adjacent to this stream.

Adjacent Stream Information: Perennial stream varying in width from 2 feet in the upper portion to 20 feet in the lower portion, according to beaver activity. The stream corridor is bordered by fill slopes up to residential development.

Mapped Soils: Quatama

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Douglas fir	beaked hazelnut	English ivy
western red cedar	Himalayan blackberry	
big-leaf maple		
red alder		

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	
Water Quality Protection	High	
Ecological Integrity	Medium	some encroachment of Himalayan blackberry
Connectivity	High	forest connected to Turner Creek
Uniqueness	Low	

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors.

Comments/Recommendations: The limited availability of riparian/upland habitat along this stream corridor increases the wildlife habitat value of the remaining riparian/upland forest. Good educational opportunities at Turner Creek Park.

**CITY OF HILLSBORO RIPARIAN CORRIDOR AND WILDLIFE HABITAT
INVENTORY AND ASSESSMENT
RIPARIAN/UPLAND SUMMARY SHEET**

SITE: Witch Hazel Creek	Site Code: WHC-R/U
Location: Witch Hazel Road to Rock Creek	Map Sheet(s) #: 6
Acreage: 18.48	Field Date(s): 10/4/00
Adjacent Land Use: residential, rural residential	Zoning: R-7, RRFU
T 1 N, R 2W Section: 9	

General Description: Riparian/upland forest is present along the majority of this stream. The riparian/upland forest is dominated by Douglas fir and western red cedar and is relatively undisturbed.

Adjacent Stream Information: Witch Hazel Creek is 2 feet wide near the headwaters and widens considerably to the south where it is confined within a sloping riparian corridor.

Mapped Soils: Aloha, McBee, Quatama

Dominant Vegetation: (* = major dominant)

<u>Trees</u>	<u>Shrubs</u>	<u>Herbs</u>
*Douglas fir	*beaked hazelnut	sword fern
*western red cedar	vine maple	
Oregon white oak	Himalayan blackberry	

<u>Riparian Habitat Function</u>	<u>Rating</u>	<u>Comments</u>
Wildlife Habitat	High	large forest, good vegetation structure/diversity
Water Quality Protection	High	
Ecological Integrity	High	limited invasive species
Connectivity	High	forest connected to Witch Hazel Creek
Uniqueness	Medium	high quality typical upland forest

Significant? Yes, due to the importance of riparian areas for water quality protection and as wildlife travel corridors. The large size of the forest south of the River Rd. makes this unit especially valuable.

Comments/Recommendations: As development encroaches upon this unit, priority should be placed on maintaining the connection between the forest and the stream and preservation of one large forested area rather than fragmenting the forest into several smaller isolated areas. Control Himalayan blackberry along stream channel.

Appendix 11:

Hillsboro Study Area Vegetation Lists (Wetlands and Uplands)

**City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory
Wetland Vegetation List (by Scientific Name)**

Common Name	Scientific Name ¹	Indicator Status ²
Wetland Vegetation		
grand fir	<i>Abies grandis</i>	FACU-
vine maple	<i>Acer circinatum</i>	FAC-
redtop	<i>Agrostis alba</i>	FAC
bentgrass	<i>Agrostis</i> species	-
colonial bentgrass	<i>Agrostis tenuis</i> [[<i>capillaris</i>]]	FAC
American water plantain	<i>Alisma plantago-aquatica</i>	OBL
water foxtail	<i>Alopecurus geniculatus</i>	OBL
meadow foxtail	<i>Alopecurus pratensis</i>	FACW
red alder	<i>Alnus rubra</i>	FAC
Saskatoon serviceberry	<i>Amelanchier alnifolia</i>	FACU
lady fern	<i>Athyrium filix-femina</i>	FAC
Oregon grape	<i>Berberis</i> species	UPL
leafy beggars-tick	<i>Bidens frondosa</i>	FACW+
water-starwort	<i>Callitriche</i> species	probably OBL
Dewey's sedge	<i>Carex deweyana</i>	FACU
greensheathed sedge	<i>Carex feta</i>	FACW
slough sedge	<i>Carex obnupta</i>	OBL
thick-headed sedge	<i>Carex pachystachya</i>	FAC
sedge	<i>Carex</i> species	-
sawbeak sedge	<i>Carex stipata</i>	OBL
common centaury	<i>Centaurium umbellatum</i> [[<i>erythraea</i>]]	FAC
enchanter's nightshade	<i>Circaea alpina</i>	FAC+

**City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory
Wetland Vegetation List (by Scientific Name)**

Common Name	Scientific Name ¹	Indicator Status ²
Wetland Vegetation		
Canada thistle	<i>Cirsium arvense</i>	FACU+
morning glory	<i>Convolvulus</i> species	-
red-osier dogwood	<i>Cornus stolonifera</i> [[<i>sericea</i>]]	FACW
black hawthorn	<i>Crataegus douglasii</i>	FAC
ornamental hawthorn	<i>Crataegus monogyna</i>	FACU+
spikerush	<i>Eleocharis</i> species	FACW/OBL
waterweed	<i>Elodea</i> species	OBL
fireweed	<i>Epilobium angustifolium</i>	FACU+
Watson's [hairy] willow-herb	<i>Epilobium watsonii</i> [<i>ciliatum</i>]	FACW-
willow-herb	<i>Epilobium</i> species	-
common horsetail	<i>Equisetum arvense</i>	FAC
giant horsetail	<i>Equisetum telmateia</i>	FACW
western wahoo	<i>Euonymus occidentalis</i>	UPL)
tall fescue	<i>Festuca arundinacea</i>	FAC-
Oregon ash	<i>Fraxinus latifolia</i>	FACW
tall mannagrass	<i>Glyceria elata</i>	FACW+
mannagrass	<i>Glyceria</i> species	FACW+/OBL
cudweed	<i>Gnaphalium</i> species	-
common velvetgrass	<i>Holcus lanatus</i>	FAC
orange balsam	<i>Impatiens capensis</i>	FACW
yellow iris (in manmade ponds)	<i>Iris pseudacorus</i>	OBL
tapered rush	<i>Juncus acuminatus</i>	OBL

City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory Wetland Vegetation List (by Scientific Name)		
Common Name	Scientific Name ¹	Indicator Status ²
Wetland Vegetation		
toad rush	<i>Juncus bufonius</i>	FACW
soft rush	<i>Juncus effusus</i>	FACW
dagger-leaf rush	<i>Juncus ensifolius</i>	FACW
pointed rush	<i>Juncus oxymeris</i>	FACW+
spreading rush	<i>Juncus patens</i>	FACW
slender rush	<i>Juncus tenuis</i>	FACW-
rice cutgrass	<i>Leersia oryzoides</i>	OBL
lesser duckweed	<i>Lemna minor</i>	OBL
black twinberry	<i>Lonicera involucrata</i>	FAC+
skunk cabbage	<i>Lysichitum</i> [[<i>Lysichiton</i>]] <i>americanum</i>	OBL
purple loosestrife (Emma Jones Nature Preserve, Hillsboro Airport)	<i>Lythrum salicaria</i>	FACW+
forget-me-not	<i>Myosotis</i> species	-
Indian plum	<i>Oemleria cerasiformis</i>	FACU
water parsley	<i>Oenanthe sarmentosa</i>	OBL
reed canarygrass	<i>Phalaris arundinacea</i>	FACW
Pacific ninebark	<i>Physocarpus capitatus</i>	FACW-
Sitka spruce (Turner Creek Park only)	<i>Picea sitchensis</i>	FAC
cutleaf plantain	<i>Plantago coronopus</i>	FACW
bluegrass	<i>Poa</i> species	-
rough-stem bluegrass	<i>Poa trivialis</i>	FACW
knotweed	<i>Polygonum</i> species	-

**City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory
Wetland Vegetation List (by Scientific Name)**

Common Name	Scientific Name ¹	Indicator Status ²
Wetland Vegetation		
white poplar	<i>Populus alba</i>	UPL
black cottonwood	<i>Populus trichocarpa</i> [<i>balsamifera</i>]	FAC
quaking aspen	<i>Populus tremuloides</i> [<i>tremula</i>]	FAC+
cherry	<i>Prunus</i> species	FAC-/FACU/UPL
western crabapple	<i>Pyrus</i> [<i>Malus</i>] <i>fusca</i>	FACW
Oregon white oak	<i>Quercus garryana</i>	UPL
western buttercup	<i>Ranunculus occidentalis</i>	FAC
creeping buttercup	<i>Ranunculus repens</i>	FACW
casacara	<i>Rhamnus purshiana</i>	FAC-
western sumac	<i>Rhus glabra</i>	UPL
currant	<i>Ribes</i> species	-
watercress	<i>Rorippa nasturtium-aquaticum</i> [<i>Nasturtium officinale</i>]	OBL
Nootka rose	<i>Rosa nutkana</i>	FAC
clustered wild rose	<i>Rosa pisocarpa</i>	FAC
rose	<i>Rosa</i> species	-
Himalayan blackberry	<i>Rubus discolor</i>	FACU
thimbleberry	<i>Rubus parviflorus</i>	FAC-
Pacific blackberry	<i>Rubus ursinus</i>	FACU
dock	<i>Rumex</i> species	-
weeping willow	<i>Salix babylonica</i>	FAC+
Pacific willow	<i>Salix lasiandra</i> [[<i>lucida</i> var. <i>lasiandra</i>]]	FACW+

City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory Wetland Vegetation List (by Scientific Name)		
Common Name	Scientific Name ¹	Indicator Status ²
Wetland Vegetation		
Piper's [[Hooker]] willow	<i>Salix piperi</i> [[hookeriana]]	FACW [[FACW-]]
curly willow	<i>Salix tortuosa</i>	UPL
willow	<i>Salix</i> species	FAC or wetter
Scouler willow	<i>Salix scouleriana</i>	FAC
red elderberry	<i>Sambucus racemosa</i>	FACU
small-fruited bulrush	<i>Scirpus microcarpus</i>	OBL
softstem bulrush	<i>Scirpus validus</i> [[tabernaemontanii]]	OBL
bittersweet nightshade	<i>Solanum dulcamara</i>	FAC+
bur-reed	<i>Sparganium</i> species	OBL
Douglas' spirea	<i>Spiraea douglasii</i>	FACW
marsh hedgenettle	<i>Stachys cooleyae</i> [emersonii]	FACW
snowberry	<i>Symphoricarpos albus</i>	FACU
Pacific yew	<i>Taxus brevifolia</i>	NI
common tansy	<i>Tanacetum vulgare</i>	NI
western red cedar	<i>Thuja plicata</i>	FAC
broad-leaf cattail	<i>Typha latifolia</i>	OBL
stinging nettle	<i>Urtica dioica</i>	FAC+
American speedwell	<i>Veronica americana</i>	OBL
purslane speedwell	<i>Veronica peregrina</i>	OBL
vetch	<i>Vicia</i> species	-

¹Scientific Name after Hitchcock and Cronquist 1973 with synonymy by [Reed 1988] or [[Kartesz 1994]]

²Wetland Indicator Status as listed in Reed 1988 and 1993 Supplement: OBL = Obligate; FACW = Facultative Wetland; FAC = Facultative; FACU = Facultative Upland; and UPL = Upland

**City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory
Upland Vegetation List (by Scientific Name)**

Common Name	Scientific Name ¹	Indicator Status ²
Upland Vegetation		
vine maple	<i>Acer circinatum</i>	FAC-
big-leaf maple	<i>Acer macrophyllum</i>	FACU
pathfinder	<i>Adenocaulon bicolor</i>	UPL
horsechestnut	<i>Aesculus</i> species	UPL
bentgrass	<i>Agrostis</i> species	-
colonial bentgrass	<i>Agrostis tenuis</i> [[<i>capillaris</i>]]	FAC
meadow foxtail	<i>Alopecurus pratensis</i>	FACW
red alder	<i>Alnus rubra</i>	FAC
Saskatoon serviceberry	<i>Amelanchier alnifolia</i>	FACU
tall Oregon grape	<i>Berberis</i> [[<i>Mahonia</i>]] <i>aquifolium</i>	UPL
dull Oregon grape	<i>Berberis nervosa</i>	UPL
Oregon grape	<i>Berberis</i> species	UPL
birch	<i>Betula</i> species	-
Henderson's sedge	<i>Carex hendersonii</i>	FAC
common thistle	<i>Cirsium vulgare</i>	FACU
thistle	<i>Cirsium</i> species	-
beaked hazelnut	<i>Corylus cornuta</i>	FACU
poison hemlock	<i>Conium maculatum</i>	FAC+
western flowering dogwood	<i>Cornus nuttalli</i>	UPL
red-osier dogwood	<i>Cornus stolonifera</i> [[<i>sericea</i>]]	FACW
black hawthorn	<i>Crataegus douglasii</i>	FAC
ornamental hawthorn	<i>Crataegus monogyna</i>	FACU+

**City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory
Upland Vegetation List (by Scientific Name)**

Common Name	Scientific Name ¹	Indicator Status ²
Upland Vegetation		
Scot's broom	<i>Cytisus scoparius</i>	UPL
tufted hairgrass (planted in buffers)	<i>Deschampsia cespitosa</i>	FACW
teasel	<i>Dipsacus sylvestris</i> [[<i>fullosum</i> ssp. <i>sylvestris</i>]]	FAC
Watson's [hairy] willow-herb	<i>Epilobium watsonii</i> [<i>ciliatum</i>]	FACW-
willow-herb	<i>Epilobium</i> species	-
western wahoo	<i>Euonymus occidentalis</i>	UPL
tall fescue	<i>Festuca arundinacea</i>	FAC-
wild strawberry	<i>Fragaria vesca</i>	UPL
Oregon ash	<i>Fraxinus latifolia</i>	FACW
catchweed bedstraw	<i>Galium aparine</i>	FACU
salal	<i>Gaultheria shallon</i>	FACU
crane's-bill	<i>Geranium</i> species	FAC-/FACU+/UPL
English ivy	<i>Hedera helix</i>	UPL
ocean spray	<i>Holodiscus discolor</i>	UPL
common velvetgrass	<i>Holcus lanatus</i>	FAC
Pacific waterleaf	<i>Hydrophyllum tenuipes</i>	UPL
English holly	<i>Ilex aquifolium</i>	UPL
slender rush	<i>Juncus tenuis</i>	FACW-
nipplewort	<i>Lapsana communis</i>	UPL
American sweetgum	<i>Liquidambar styraciflua</i>	UPL (FAC to FACW elsewhere)
trumpet honeysuckle	<i>Lonicera ciliosa</i>	UPL

**City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory
Upland Vegetation List (by Scientific Name)**

Common Name	Scientific Name ¹	Indicator Status ²
Upland Vegetation		
perennial ryegrass	<i>Lolium perenne</i>	FACU
Indian plum	<i>Oemleria cerasiformis</i>	FACU
timothy	<i>Phleum pratense</i>	FAC-
lodge-pole pine	<i>Pinus contorta</i>	FAC
ponderosa pine	<i>Pinus ponderosa</i>	FACU-
sword fern	<i>Polystichum munitum</i>	FACU
white poplar	<i>Populus alba</i>	UPL
black cottonwood	<i>Populus trichocarpa [balsamifera]</i>	FAC
cherry	<i>Prunus species</i>	FAC-/FACU/UPL
choke cherry	<i>Prunus virginiana</i>	FACU
Douglas fir	<i>Pseudotsuga menziesii</i>	FACU
bracken fern	<i>Pteridium aquilinum</i>	FACU
Oregon white oak	<i>Quercus garryana</i>	UPL
casacara	<i>Rhamnus purshiana</i>	FAC-
western azalea	<i>Rhododendron occidentale</i>	FAC
black locust	<i>Robinia pseudoacacia</i>	FACU
rose	<i>Rosa species</i>	-
Wood's rose	<i>Rosa woodsii</i>	FACU
blackberry	<i>Rubus species</i>	-
Himalayan blackberry	<i>Rubus discolor</i>	FACU
dock	<i>Rumex species</i>	-
thimbleberry	<i>Rubus parviflorus</i>	FAC-

City of Hillsboro Local Wetlands, Riparian Corridor and Upland Wildlife Habitat Inventory Upland Vegetation List (by Scientific Name)		
Common Name	Scientific Name ¹	Indicator Status ²
Upland Vegetation		
salmonberry	<i>Rubus spectabilis</i>	FAC+
Pacific blackberry	<i>Rubus ursinus</i>	FACU
elderberry	<i>Sambucus species</i>	FACU
blue elderberry	<i>Sambucus cerulea</i>	FACU
red elderberry	<i>Sambucus racemosa</i>	FACU
Scouler willow	<i>Salix scouleriana</i>	FAC
giant sequoia	<i>Sequoia gigantea</i>	UPL
false Solomon's seal	<i>Smilacina species</i>	FAC-
European mountain ash	<i>Sorbus aucuparia</i>	UPL
snowberry	<i>Symphoricarpos albus</i>	FACU
Pacific yew	<i>Taxus brevifolia</i>	NI
fringecup	<i>Tellima grandiflora</i>	UPL
western red cedar	<i>Thuja plicata</i>	FAC
western starflower	<i>Trientalis latifolia</i>	FAC-
western trillium	<i>Trillium ovatum</i>	FACU
western hemlock	<i>Tsuga heterophylla</i>	FACU-
white inside-out flower	<i>Vancouveria hexandra</i>	UPL
vetch	<i>Vicia species</i>	-

¹Scientific Name after Hitchcock and Cronquist 1973 with synonymy by [Reed 1988] or [[Kartesz 1994]]

²Wetland Indicator Status as listed in Reed 1988 and 1993 Supplement: OBL = Obligate; FACW = Facultative Wetland; FAC = Facultative; FACU = Facultative Upland; and UPL = Upland

L

Appendix 12:
Watersheds 2000 Memo

Fishman Environmental Services, LLC
CONSULTANTS IN ECOLOGY AND NATURAL RESOURCE MANAGEMENT

MEMO

DATE: June 23, 2000

FROM: Daniel Stark, Natural Resource Planner *DS*
Paul A. Fishman, Principal Ecologist *Paul*
C. Mirth Walker, Wetlands Program Manager *CMW*

TO: Jennifer Wells, City of Hillsboro

SUBJECT: Goal 5 and Watersheds 2000

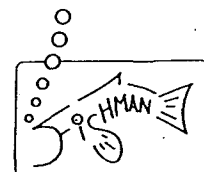
As the Watersheds 2000 program has continued to evolve, more attention has been given to the project and it's relationship to the State of Oregon's Goal 5 requirements for local jurisdictions. This memo is intended to serve as an assessment of the current relationship of the project to Goal 5 and to identify opportunities to expand the scope of Watersheds 2000 to include ecological data which is specific to the Goal 5 process.

The collection of data in the Watersheds 2000 program is based on the Rapid Stream Assessment Technique (RSAT). Collectively, the data primarily represents an evaluation of the ecological condition of streams in the USA jurisdiction. Some data is being collected regarding basic vegetation community types in the riparian zone, and some notation of the presence of wetlands will take place. Fundamentally, the collection of data focuses on stream channels, streamside areas, and the water in the streams.

For the purposes of this memorandum, Goal 5 resources include riparian corridors (OAR 660-023-0090), wetlands (OAR 660-023-0100), and wildlife habitat (OAR 660-023-0110). These are the primary natural resources found in Goal 5 that require field work to produce an acceptable Goal 5 inventory. The remaining resources listed in Goal 5 represent items on various other State and Federal inventories and will not be considered as part of this discussion.

The following is a brief review of the Goal 5 process as it relates to the subject of natural resources. Goal 5 requires local jurisdictions to inventory each of the Goal 5 resources. The inventory collects information on the quality, quantity and location of each resource site. The inventory information is the basis for the determination of "significant" Goal 5 resources, as defined in the Goal 5 rule. Although generally not defined in Goal 5,¹ the working definition for "significance" for the Goal 5 process is an indication that the resource is ecologically important enough to carry forward in the Goal 5 process and may merit some form of protection. After the inventory and determination of significance is complete, the local jurisdiction must conduct an

¹ Wetland significance is based on the Local Wetland Inventory process, significance determination is based on state rule (OAR 141-86-300)



ESEE (Economic, Social, Environment, and Energy) analysis on each of the resources. The purpose of the ESEE analysis is to weigh the consequences of protecting or not protecting each of the resources in relation to each of the ESEE factors.

Generally, this memo is intended to address how the Watersheds 2000 program may be altered to provide a Goal 5 inventory, including significance determination, for each of the listed resources. The remaining tasks in the Goal 5 process, including the ESEE analysis and the program to achieve compliance with Goal 5 (developing protection methods), will not be addressed in this memorandum.

Current State of Watersheds 2000

Riparian Corridors (OAR 660-023-0090)

Goal 5 requires an inventory of Riparian Corridors. The definition of riparian corridor in Goal 5 is "... the water areas, fish habitat, adjacent riparian areas and wetlands within the riparian area boundary (OAR 660.23.0090)" "Riparian area" is further defined as "... the area of transition from an aquatic ecosystem to a terrestrial ecosystem". It is important to recognize that this definition is based on ecological function (i.e. transitional area between ecosystems) and not on a standard distance from a water body. The method of delineating the precise location of the riparian corridor is left to the local jurisdiction to develop.

The Watersheds 2000 RSAT field method does not collect data regarding the exact location of the riparian boundary, nor riparian functions and values. The proposed method only includes data identifying the dominant streamside vegetated community type. The result will be general and limited information on location and quality.

Wetlands (OAR 660-023-0100)

Goal 5 requires all jurisdictions to conduct a wetlands inventory. The rule instructs jurisdictions to conduct a Local Wetland Inventory (LWI) for all area inside of UGB's and UUC's. For areas outside of UGB's and UUC's, local jurisdictions are only required to adopt the Statewide inventory of wetlands as part of their comprehensive plan (OAR 660-23-0100(5)).

The methods to conduct an LWI are prescribed by Oregon Administrative Rules and any work conducted to complete an LWI is overseen and eventually adopted by DSL. Under the rule, jurisdictions have the opportunity to conduct an on-site or off-site LWI. The off-site method is the less costly of the choices as it requires less field work and relies heavily on the use of GIS and other resources to identify wetlands. Even the off-site method, however, does require field work and data collection.

The Watersheds 2000 RSAT datasheet does not include evaluation of wetlands. Consultants in the field are asked to note wetlands locations while in the field. The consultants will also use wetland location to identify the "water quality sensitive" area and use this location to begin a 200'

measurement to assess adjacent land use. The boundaries of wetland will not be determined. Evaluation of the functions and values of the wetland are not included. The RSAT results will not provide information required for an LWI.

Wildlife Habitat (660-023-0110)

The Goal 5 use of the term "wildlife habitat" generally captures the areas not covered by the wetland and riparian inventory. By practice, this category is often referred to as "upland wildlife habitat" in order to keep this resource distinct from the wetland and riparian components of Goal 5. It is generally understood that all of the resources provide wildlife habitat, and that this category of resource is intended to capture those areas of upland wildlife habitat.

There are not any components of the Watersheds 2000 program that address isolated upland wildlife habitat. The notation of streamside vegetation type is the only wildlife data being collected.

Opportunities for enhancement of Watersheds 2000 to provide Goal 5 information

The current data that are proposed for collection as part of the modified RSAT in Watersheds 2000 provide good information regarding the stream resources. It may be assumed that any of the streams that are scheduled for analysis are important resources in the Tualatin basin. It may also be assumed that each of the streams are significant under the Goal 5 definition, although this decision should be formally adopted by any Goal 5 program.

In order to produce a legally sound Goal 5 program, findings of significance are required to carry the resource site forward in the process. It may be possible to develop findings on a reach by reach, stream by stream, or even a region wide level. Whichever method is used, it is critically important that scientifically sound findings of significance be developed before the resource sites are carried forward into the ESEE phase of the Goal 5 program.

Riparian:

FES has developed criteria and guidelines for determining riparian corridor resource significance. Other methods have been used by various local jurisdictions. The FES criteria include: the presence of habitat used by ESA-listed fish species; protection of ESA species habitat on- or off-site; the inclusion of other significant Goal 5 resources (i.e. wetlands or wildlife habitat) within the riparian corridor; the provision of habitat continuity for wildlife; and important headwater areas.

Wetlands

For those jurisdictions that have not yet completed an LWI in Washington County, an LWI will be required as part of the current, or upcoming Periodic Review. For Washington County, a much less onerous process requires the County to simply adopt the State-wide inventory as their own for areas outside UGB.

The Watersheds 2000 data collection effort does not focus on wetlands. No data is being collected regarding location, quantity, or quality of wetlands in the region, and no effort is extended to locating wetlands which are isolated from streams and riparian areas. A significant redesign of the Watersheds 2000 program would be required in order for the results to meet the LWI Rule.

Wildlife Habitat

To develop findings of significance for wildlife habitat, FES has developed and used a matrix of resource values. A natural resource professional determines the rating for each value (H, M, L), using guidelines and criteria provided for:

Wildlife Habitat - evaluates habitat diversity;

Water Quality Protection - evaluates the potential of the upland resource to protect contiguous streams and wetlands;

Ecological Integrity - evaluates the conditions of native site vegetation;

Connectivity - evaluates the importance of linkage or continuity of a resource site to allow wildlife passage between larger habitat units or genetic flow between plant populations;

Uniqueness - evaluates the uniqueness of the resource.

In the FES method, wildlife habitat resource areas are determined to be significant if they possess at least one high rating (this threshold of significance can be modified with input from the City or its citizens, if desired, since Goal 5 does not define how to determine significance for resource sites). It should be noted that "significant" means that the resource is identified as a Goal 5 significant resource. Application of Safe Harbors or further analysis through the ESEE process is then required to determine whether the resource is protected, or whether the conflicting use (residential or industrial development, for example) is allowed or limited.

To apply the method to the Watersheds 2000 program, each of the resource sites would have to be rated for each of the values found above. FES has used a matrix in the past to present the findings of significance. This matrix could be completed for each study area or the region as a whole. There is not currently an effort to capture upland wildlife habitat in the Watersheds 2000 program.

Conclusion

The Watersheds 2000 program is focused on streams. Using Goal 5 terminology, the Watershed 2000 program is focused on the "water area" and "fish habitat" portions of the Goal 5 riparian corridor, and limited information is being collected on the "riparian area" and "wetland within the riparian area boundary."

There is an opportunity to add a component to the Watersheds 2000 program that would provide location, quality, and quantity information for riparian corridors. Adding tasks to gather data for Local Wetland Inventories or wildlife habitat does not seem to be within the scope of Watersheds 2000.

Metro Streamside CPR

Metro is currently developing a program to protect riparian corridors of regional significance. Under the draft program, Metro uses a standard streamside setback (175 ft plus 25 ft), the FEMA 100-year floodplain, or the area of inundation of the 1996 flood, whichever is greatest, to identify a "riparian management area." This area is used for a Regional Safe Harbor. The Metro program will also allow local options, if they are in substantial compliance with the Regional Safe Harbor. The Metro program will have restrictions on development within the Riparian Management Area. The details of this proposed program are still being developed; however, all Goal 5 projects in the Metro area should now be done with the proposed Metro program in mind.

Appendix 13:
DSL Correspondence

To: dana.field@dsl.state.or.us
From: Stacy Benjamin <sbenjamin@fishenserv.com>
Subject: DSL comments re: Hillsboro LWI
Cc: kathy.verble@dsl.state.or.us, janet.morlan@dsl.state.or.us, cmwalker@fishenserv.com, dstark@fishenserv.com
Bcc:
Attached:

Dana,

Thank you for your very timely review of our draft maps and report for the City of Hillsboro Local Wetlands Inventory. I have reviewed all of your comments regarding edits to be made to the maps, summary sheets, and narrative. We are currently in the process of negotiating with the City regarding funds needed to finalize the LWI products. We hope to agree on a budget very soon and will begin incorporating your changes as soon as possible so the City can adopt the LWI.

In response to a few of your comments:

1) I will add a wetland summary sheet for Dawson Creek Park and run OFWAM on this new wetland unit. I will contact the Parks Department and try to get a little more information on the site.

2) Wetland unit W5 was determined to be significant based upon its location within 1/4 mile of Rock Creek which is on the 303(d) list for bacteria, dissolved oxygen, chlorophyll a, temperature, and biological criteria. However, you are correct in that there is no surface water connection to Rock Creek (we did not observe a culvert under the lightrail tracks), and it is unlikely that unit W5 provides pollution reduction function for Rock Creek. We will change unit W5 to a locally nonsignificant wetland.

3) We will contact Lynn Sharp and try to find out the location of the Lexington Meadows wetland identified in the 1990-1991 inventory so that we can hopefully determine if this wetland is gone (filled) or if it is still in existence and is associated with a stream or wetland unit that we have already mapped.

I really appreciate you sending me photocopies of the draft maps with your changes clearly identified. These will be very useful for incorporating edits to the final maps. Also, thank you for adding locations of the DSL determination file numbers to the maps. Mirth and I were both impressed by the thoroughness of your review and your excellent feedback. Thank you.

Stacy



Oregon

John A. Kitzhaber, M.D., Governor

January 11, 2001

Stacy Benjamin
Fishman Environmental Services
434 NW Sixth Ave, Suite 304
Portland OR 97209-3600

RECEIVED

JAN 15 2001

Ans'd.....

Division of State Lands
775 Summer Street NE, Suite No. 100
Salem, OR 97301-1279
(503) 378-3805
FAX (503) 378-4844
<http://statelands.dsl.state.or.us>

State Land Board

John A. Kitzhaber
Governor

Bill Bradbury
Secretary of State

Jim Hill
State Treasurer

RE: Review of draft City of Hillsboro Local Wetland Inventory

Dear Stacy:

Kathy Verble and I have just completed our review of your draft maps and document and are pleased that we found very few items needing correction, considering the size and complexity of the study area. Please address the following items in your final products:

Maps

1. We have enclosed 27 map changes based on delineations that have been approved after you began your project or our own field observations. With one exception, Dawson Creek Park, these map changes will not require a new summary sheet. Acreages will need to be re-calculated for those units affected. The attached list of map changes is organized by township, range, & section.
2. The map legend should include and explain your codes TSW, SWP, STP, and MMP as well as other label types. Please retain the light color lines and labeling on the map so that we can make legible black and white copies for various correspondences.
3. Add watershed boundaries to the final map, either on the index map, the 7 maps sheets, or both.
4. The final map sheets will need to edge match or preferably, have a small overlap and a match line. Please do not trim the photo coverage off at the UGB.
5. The standard disclaimer needs to be included on each map sheet.
6. It is not required in rule but would be very helpful to include the delineation number as a map label on affected lots.

J.



8. Please talk with Becky Flitcroft, our GIS guru, about the format for submitting the digital version of the final map product and attribute files. Becky can be reached at 503-378-3805 ext. 300.

9.

Summary Sheets

1. A summary sheet will be needed for Dawson Creek Park in T1N, R2W Sec. 28. This is a series of landscaped ponds excavated in two hydric soil swales, so they would be jurisdictional. I was unable to locate any further information on this site in our permit files, but you might learn more from the city parks department if the site is public, or the owner. I did not see any obvious access restriction signs. Kathy and I looked at a portion of this site, the ponds have a fringe of emergent vegetation and patches of willow and red osier dogwood, surrounded by mowed lawn. There were a couple dozen widgeon as well as other ducks and a heron using them. There were rocked outfall structures on at least some of the ponds, so I think they would score high for hydro control if not other OFWAM items.
2. Sheet BeC: Location line should be Cornelius Pass Rd. to Rock creek. I could not find 216th on the map.
3. DwCTrib1: location extends east of 229th, there is a landscaped wetland pond in a parking lot constructed in the same connected swale. The general description has an error, EM/SS is ABOVE Shute road; below Shute road it is DwC4.
4. GC1: add to the general description the potential wetland in the Ag swales. It would be helpful to add a clarifying note on the OFWAM wildlife summary that the wildlife values are in the lower reach.
5. MC: Delete the word uppermost in the general description, as it clearly extends further up. It is unclear to me where the actual western boundary of the UGB is, and how much of McKay creek is being described. There were different versions on different drafts of the map.
6. TC is not evident on map 6, only 3 & 4.
7. TR should include the large pond in the new city park on Rood Bridge Road.
8. WBCTrib1N: Add to general description: Several large shallow ponds have been created in the headwaters of this drainage, north of Jacobsen Road and the north end of Croeni Road.
9. I'm concerned that W5 actually might not meet the significance criteria. There is no surface water connection to Rock creek except possibly during high intensity storm events when water could spill across a sloping pasture swale south of the light

rail tracks. I did not find the information on what parameters are 303d listed for Rock creek. Is there a reasonable link between pollution reduction function on W5 and a listed parameter? Which parameter benefits?

Narrative

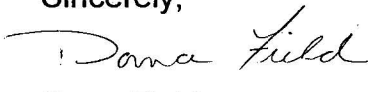
1. Page 11, 3rd paragraph. An open question remains about Lexington meadows. Could it be the small subdivision south of Reedville Creek, just west of 239th? It looks like recent vintage and is built in a hydric soil area. I looked but did not find any regulatory records on it. There is also a Lexington Park on Beaverton creek just east of Cornelius Pass. If you can verify this, change it; if not, leave it be.
2. Was wetland summary sheet page iv intentionally left blank?
3. Wetland summary sheet page vii, delete pasture as a special modifier.

Map Tweak List

- 1N1W30 ✎ Nothing
- 1N2W14 ✎ Add 5 stormwater ponds north of Jacobsen/Croeni.
✎ Cut piece of DwC1 obviously gone.
- 1N2W15 ✎ Nothing
- 1N3W24 ✎ Nothing
- 1N2W19 ✎ Nothing
- 1N2W20 ✎ Nothing
- 1N2W21 ✎ Nothing
- 1N2W22 ✎ Nothing
- 1N2W23 ✎ Add or re-label extension of WbCTrib1S southwest of junction Wagon Way and Croeni. Jurisdictional ditch.
- 1N2W25 ✎ Nothing
- 1N2W26 ✎ Add upper end of Ronler acres "zigzag" across 229th and wetland pocket in parking lot.
- 1N2W27 ✎ Nothing
- 1N2W28 ✎ Add Dawson Cr. Park complex. Show as string of MMP with dotted line between.
- 1N2W29 ✎ Nothing
- 1N2W30 ✎ Nothing
- 1N2W31 ✎ Cut back south arm of GSTrib1 along 5th Ave. Dr. at Buena Vista. Mostly Doug fir.
- 1N2W32 ✎ Nothing
- 1N2W33 ✎ Nothing
- 1N2W34 ✎ Add tiny wetland swale just north of Baseline, west of Noble Park.
- 1N2W35 ✎ Add Det 98-0130 in swale north of golf clubhouse.

- ✧ Add narrow swale bottom in trees connecting it to RoC2 on golf course Det. 99-148.
 - ✧ Add more PEMC north of end of Nicholas Ct. as shown.
- 1N2W36
 - ✧ Add PFO in hydric swale to BeCTrib1 as shown.
 - ✧ Add large stormwater pond just south of Walker Rd. and east of Bronson Cr.
 - ✧ Change R/U to PFO for ½ of width as shown.
- 1N3W24 ✧ Nothing
- 1N3W25 ✧ Cut back at least ½ of PFO patch on west side of McKay Creek. Steep slope and looks like Doug fir.
- 1N3W36 ✧ Nothing
- 1S3W01 ✧ Add small wetland west of Bailey Ave. GA2240 enhanced this site.
- 1S2W01 ✧ Nothing
- 1S2W02 ✧ Nothing
- 1S2W03
 - ✧ Reduce PFO south of creek in Noble Wood Park. It's mostly Doug Fir.
 - ✧ FYI – Det. 98-0535 closed without concurrence.
 - ✧ Reduce PFO south of Helene as shown.
- 1S2W04
 - ✧ Add PEM northwest of Pine St. to RoC2 as shown.
 - ✧ Reduce PFO south of Rock Creek Park, west of Brookwood as shown. Doug Fir at edges, only lowest end has hydric soil.
 - ✧ Reduce PFO at end of SE Cedar St., east of Brookwood.
- 1S2W05
 - ✧ Add to TC behind Turner Park tennis courts.
 - ✧ Add to TC as shown on Det. 00-0293.
- 1S2W06 ✧ Nothing
- 1S2W07 ✧ Change structure in Jackson Bottom to upland (Is this an interp. Center?)
- 1S2W08 ✧ Nothing
- 1S2W09 ✧ Nothing
- 1S2W10 ✧ Nothing
- 1S2W11 ✧ Add agricultural swale label and extend swale as shown.
- 1S2W14
 - ✧ Add small trib. BuC by structures.
 - ✧ Widen BuCTrib as shown on draft.
 - ✧ Add potential wetland to hydric soil area as shown.
- 1S2W15 ✧ Nothing
- 1S2W16 ✧ Nothing
- 1S2W17 ✧ Reduce PFO. It's mostly Doug Fir.

Sincerely,

KV
ja 

Dana Field
Wetlands Planner

Enclosures

Responses to DSL email items in bold

From: FIELD Dana <Dana.Field@dsl.state.or.us>
To: "sbenjamin@fishenserv.com" <sbenjamin@fishenserv.com>
Cc: VERBLE Kathy <kathy.verble@dsl.state.or.us>
Subject: LWI review update
Date: Tue, 12 Dec 2000 10:23:21 -0800

Stacy, Kathy and I spent most of last friday and yesterday going over the Hillsboro product, and we will do so again this friday. So far things are in pretty good order, but I'll just give you a heads-up on the main items we'll be asking for that we've discovered so far, in case you want to get started before you have a full list. I didn't find any Cowardin class special modifiers on the maps or summary sheets, although you have a description of them in the text. (there are some errors in the text - eg definition of palustrine is off - and some of the modifiers are not in Cowardin's classification.) **There are three wetlands with special modifiers which are listed on the wetland summary sheets: the headwaters of Unit GS-1 is PEMf, Unit W4 (the Valley Memorial Cemetery pond) is POWh, and Unit W6 (potential agricultural wetland) is PEMf. A few stream headwater areas (Waible Creek tributary, Dawson Creek, and Dawson Creek tributary) consist of narrow channelized streams, which could be classified as excavated. The definitions contained in the introduction to the wetland summary sheets are the same as were contained in previous LWIs that have been submitted to DSL (Lakeside, Wilsonville, Stayton). The pasture special modifier was added to the Stayton LWI at the request of Janet Morlan, we will remove it from this report.**

Each map sheet will need the standard disclaimer - suggested language is in the rule. **We will add a disclaimer when we reprint the final maps.**

The map legend should include your codes TSW, SWP, STP, & MMP as well as other label types. **We add these codes to the legend when we reprint the final maps.**

The map is supposed to include watershed boundaries. It's ok with me if you put these lines on the index map. **We will add watershed boundaries to the final index map.**

There is a large landscape pond complex in T1N, R2W, sec 28 that will need a new summary sheet. It is excavated in hydric soil so will be jurisdictional. **Unfortunately we do not have any site photographs of these man-made amenity ponds located at the Dawson Creek Corporate Center. The aerial photos do not adequately reflect the extremely artificial nature of these ponds, some of which contain fountains. However, several of the ponds do appear to be at least one acre in size and these can be classified as POWx and a summary sheet prepared for this unit. These ponds are surrounded by mowed grass, so there will probably not be any PEM fringe (only a trace amount of cattail and yellow iris present in the edge of the some ponds).**

The final map sheets will need to edge-match or preferably overlap a little, no 3 inch gap of missing coverage! Also, trimming off the photo coverage at the UGB is really hard to work with - waterways and even polygons run off then back onto the map - it's visually confusing. **We will reprint the final maps so that there is a small amount (~ 1 inch) of overlap on adjacent sheets. We will not trim the photo coverage at the UGB on the final maps.**

I'm hoping (not a requirement) that the Det #'s can be included on the final map. It's most helpful for both us and the city to know what has already been delineated. **We propose adding a point labeled with the Det # to tax lots for which a determination/delineation has been conducted.**

From: FIELD Dana <Dana.Field@dsl.state.or.us>
To: "'sbenjamin@fishenserv.com'" <sbenjamin@fishenserv.com>
Cc: VERBLE Kathy <kathy.verble@dsl.state.or.us>
Subject: LWI review update
Date: Tue, 12 Dec 2000 10:23:21 -0800
X-Mailer: Internet Mail Service (5.5.2650.21)

Stacy, Kathy and I spent most of last friday and yesterday going over the Hillsboro product, and we will do so again this friday. So far things are in pretty good order, but I'll just give you a heads-up on the main items we'll be asking for that we've discovered so far, in case you want to get started before you have a full list.

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Fishman Environmental Services, LLC
CONSULTANTS IN ECOLOGY AND NATURAL RESOURCE MANAGEMENT

November 29, 2000

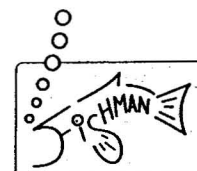
Dana Field
Division of State Lands
775 Summer St. NE
Salem, OR 97301

SUBJECT: City of Hillsboro Goal 5 Natural Resource Inventory and Assessment
Delivery of Draft Products for DSL Review

Dear Dana,

Here is a list of information enclosed to facilitate your review of the Hillsboro LWI.

- 1) City of Hillsboro Goal 5 Natural Resource Inventory and Assessment (FES 2000)
- 2) Field Maps #1-8 on 1998 air photos
 - show preliminary hand mapping of wetlands, riparian/uplands, and isolated uplands
 - includes DSL determination & permit file numbers
 - study area boundary is green or blue line
- 3) Draft Maps #2-8 on 1999 air photos (draft map #1 not printed due to overlap of study area on adjacent maps, i.e. all wetlands on map #1 are also contained on map #3)
 - show preliminary digitizing with units labeled by habitat type (PEM, PSS, PFO, POW, R/U and U/R = riparian/upland forest, U = isolated upland wildlife habitat). Note: several errors in resource labeling on this draft have been corrected in the final draft maps.
 - study area boundary is thin white line or black sharpie pen
- 4) Final Draft Maps #1-7 on 1999 air photos (draft maps renumbered: draft map #1&3 = final draft #2; draft map #2 = final draft #1; 4 = 3; 5 = 4; 6 = 5; 7 = 6; 8 = 7)
 - units labeled by site code (too messy to include both site code and habitat type on maps)
 - includes observation points (yellow & red dots indicate locations where it was possible to park alongside road and take field notes). Mapping was also visually verified at many other road crossings of streams and wetlands which are not indicated on the map.
 - includes aerial photo signature verification plots 1 - 4 (blue dots on maps 4 & 6)
 - aerial photo turned off at city limit boundary instead of at UGB, refer to Draft Maps 1, 3 & 6 for mapping of areas outside city limits and inside UGB.
 - riparian/uplands will be shown in red (as on maps 4 & 7) rather than light green (as on the remaining maps) when the final maps are plotted. After discussions with the City, we changed red from indicating the study area boundary and unincorporated county islands within the city to indicate riparian/uplands for greater clarity between riparian/uplands and isolated upland wildlife habitat. The legend on maps 4 & 7 shows the colors that will be used when the final maps are plotted.



- 5) Inventory of Wetlands, Riparian and Upland Wildlife Habitat Areas in Hillsboro Oregon, Volumes 1 & 2 (Lev & Sharp 1990, 1991)
- 6) City of Hillsboro Goal 5 Natural Resource Sites ESEE Consequences Analysis (Winterowd 1993)
- 7) Hillsboro Natural Resource Map from 1990-1991 inventory (ASCG & WPS no date)
- 8) Natural Resources and Stormwater Management: Background, Integrated Plan and Impact Assessment Report: Hillsboro South Urban Reserve Concept Plan (W&H Pacific 1998).
- 9) Airphoto of South Hillsboro Urban Reserve, Draft (McKeever/Morris, inc. in association with W&H Pacific)
- 10) 1999 aerial photo base map with hydric soils and NWI mapping overlay
- 11) 1996 flood inundation line map
- 12) 1996 flood photos
- 13) City of Hillsboro & Washington County Zoning maps
- 14) Soil Survey of Washington County, sheets 24, 25, 30, 31, 37
- 15) National Wetland Inventory Maps, Linnton, Forest Grove, Hillsboro, and Scholls quadrangles
- 16) Thomas Guide maps showing study area boundary

Please contact Mirth or myself if you have any questions. We will provide DSL with a copy of the GIS information on a CD after we have incorporated any necessary changes and the mapping has been approved by DSL.

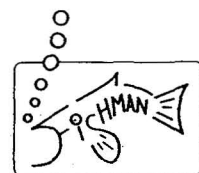
Sincerely,

Stacy N. Benjamin

Stacy N. Benjamin
Wetlands Ecologist

c: Janet Morlan, DSL
Kathy Verble, DSL

G:\2000\00055\correspondence\DSL_draftproducts.wpd



X-Sender: cmwalker@mail.hurrah.com
X-Mailer: QUALCOMM Windows Eudora Pro Version 4.2.0.58
Date: Tue, 14 Nov 2000 16:31:25 -0800
To: sbenjamin@eros.hurrah.com, dstark@eros.hurrah.com
From: Coral Mirth Walker <cmwalker@fishenserv.com>
Subject: Fwd: RE: Hillsboro LWI checking in

From: FIELD Dana <Dana.Field@dsl.state.or.us>
To: C Walker <cmwalker@fishenserv.com>
Subject: RE: Hillsboro LWI checking in
Date: Tue, 14 Nov 2000 16:25:22 -0800
X-Mailer: Internet Mail Service (5.5.2650.21)

Thanks for the heads-up. I will certainly try to review the LWI more expediently than has happened in the past. Yes I received Stacy's letter on OFWAM units, haven't read it yet as I assumed it was just documentation of our phone agreement. Emily Roth may be a suitable courier - she is working for us part time for a couple months until we fill Annette's position. Or Lori Waner or Bill Parks as they may be working in your neighborhood.

-----Original Message-----

From: C Walker
Sent: Tuesday, November 14, 2000 12:17 PM
To: FIELD Dana
Cc: VERBLE Kathy; MORLAN Janet; sbenjamin@eros.hurrah.com; dstark@eros.hurrah.com
Subject: Hillsboro LWI checking in

Hello Dana and all:

Wanted to keep you up to date on our progress with the City of Hillsboro LWI, RCI, and Wildlife Habitat (Goal 5) Inventory and Assessment. We are presenting the draft results and maps and report and summary sheets (etc!) to the public at a Planning Commission meeting this Wednesday evening (11/15/00). We will then attempt to get you the draft products ASAP so that you may review them. The city very much wants to adopt the inventory by the end of this year.

I realize that this will be a tight time frame for you but it will also be nice to get this thing done prior to the upcoming LWI rule change as well.

That is our game plan. We will furnish as much of the information as you want, in addition to the draft products, like our field maps etc.... Dana, will you be in Portland any time in the next two weeks? If not we will schedule a drop off to Salem for you, although it would be really nice to go over all the information that we have prior to the drop off. Let me know what your schedule is anticipated to be. Thank you big time.

PS: Stacy was wondering if you received her letter dated November 6th requesting approval of proposed OFWAM units.

Thank you for your involvement etc. I hope you can sense the urgency underlying this email. Best to all, see ya soon, Mirth

Fishman Environmental Services, LLC
CONSULTANTS IN ECOLOGY AND NATURAL RESOURCE MANAGEMENT

November 6, 2000

Dana Field
Division of State Lands
775 Summer St. NE
Salem, OR 97310

SUBJECT: City of Hillsboro Local Wetlands Inventory
Request for Approval of Proposed OFWAM Units

Dear Dana,

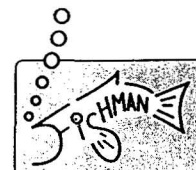
This letter is a follow-up to our email correspondence and telephone conversation last month regarding our proposed OFWAM units for the City of Hillsboro Local Wetlands Inventory. I have responded below to each issue raised in your October 10, 2000 email.

1) You expressed concern that some agricultural wetlands appeared to have faint signatures on the July 1998 aerial photo map that we sent you and that we may want to scrutinize other photos for Ag wetlands. As we discussed on the phone, our preliminary wetland mapping was done on 1998 air photos but we have subsequently revised our mapping on the basis of 1999 air photos we later received from the City which have darker wetland signatures, resulting in mapping of additional wetland areas. In addition, we have been reviewing black and white aerial photo contact prints dated 3/19/99 to confirm mapping of wetland boundaries, and we have purchased copies of the 1996 flood photos on file at the Corps of Engineers to identify Ag fields which had ponded water, as well as those which did not, during the 1996 flood (no coverage was available for the outer portions of the study area). We propose mapping these ponded areas and Ag fields displaying a wetland signature on the 1999 air photos as "potential wetlands". Based on the data available and our limited field work which was conducted during the dry season before wetland hydrology had recharged, we do not feel it would be accurate to definitively label these areas as Ag wetlands and feel it is more accurate to map these areas as potential wetlands. Potential wetland restoration sites (i.e. additional potential wetland areas) will be identified on a map to be included with our final products which will show hydric soils mapped in Ag fields. Potential restoration sites will be those areas with mapped hydric soils that do not display any wetland signature on the aerial photos.

2) Intel owns all of the land adjacent to Dawson Creek tributary 1, and plans to develop most of it over the long term. The upper portion of the reach is not a farmed swale, rather this portion of the stream channel was realigned into its current zigzag configuration a few years ago when development was proposed on the site. Intel plans to restore the stream channel in the near future to return it to a more natural channel. We propose leaving Dawson Creek tributary 1 as one reach based on similar land use.

3) We will split Gordon Creek at 229th Avenue into two reaches based on different adjacent land use.

Page 1



4) We field examined the headwaters of Orenco Creek and do not believe any wetlands are present in the Ag field with mapped hydric soils. Orenco Creek is culverted under this field from the parking lot of a new condominium development (Club 1201) located to the east. This narrow scrub-shrub wetland will be mapped as a "too small wetland" since it is less than 0.5 acre and is effectively isolated from Orenco Creek by the 1400 foot culvert.

The blue stream line on the map I sent you is a GIS layer from Metro which indicates potential streams. This map is for general information only and many small tributaries and headwaters are not accurately mapped. This blue stream line will not be displayed on the final map product as we realize that it can be misleading, but we thought it might be of use for DSL in identifying the stream corridors for those not familiar with the study area. We are field checking all headwater areas within the study area to ensure that no wetlands/swales/ditches are present upstream of the upstream end of our OFWAM reaches.

5) Turner Creek is culverted underneath Main Street (2-lane road) and the railroad overpass does not affect the hydrological connection; therefore we propose to evaluate Turner Creek as 1 OFWAM unit.

6) All reaches of Rock Creek are significant under OFWAM, and splitting Rock Creek reach 2 at the confluence with Dawson Creek would not result in any difference under OFWAM; therefore we do not think it is necessary to split reach 2.

7) We field verified the large NWI-mapped wetland in Section 4 north of Rock Creek from the road. We have been using a map of the 1999 air photo with the hydric soils and NWI GIS layers plotted on it for use as a mapping tool, so as not to miss any potential wetland areas.

We feel that we have addresses your concerns. Please do not hesitate to call to discuss these issues or if you have any questions.

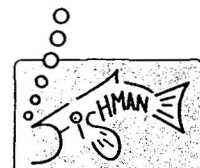
Sincerely,

Stacy N Benjamin

Stacy N. Benjamin
Wetlands Ecologist

c: Janet Morlan, DSL
Kathy Verble, DSL

attachment: email correspondence



From: Dana Field <Dana.Field@dsl.state.or.us>
To: "Stacy Benjamin" <sbenjamin@fishenserv.com>
Cc: Janet Morlan <Janet.Morlan@dsl.state.or.us>, Kathy Verble <kathy.verble@dsl.state.or.us>
Subject: RE: revised OFWAM list
Date: Tue, 10 Oct 2000 09:45:49 -0700
X-Mailer: Internet Mail Service (5.5.2650.21)

Stacy and Mirth, thanks for sending the Hillsboro photo over. I looked through your reach breaks and corrections in your email list, and also looked at NWI and soils and a new delineation we just got in for the airport expansion. (I'll get you copies of any Hillsboro delineations as we approve them, up until we send back our review of the draft.) Here's the list of sticky notes I've got on the map :

Northwest of the airport are some large farmed wetlands on Amity soils -- must be the Dayton inclusions. I don't know what date your airphoto is, but the FW photo signature is awfully faint around the airport. You may want to scrutinize some other photos for Ag wetlands. I suspect you may find several ag wetlands once you start looking. I'm concerned that lumping them for OFWAM may fail to capture differences between the units in hydrological control function that could be important for city stormwater management in specific areas. Knowing that OFWAM is weak at recognizing potential of ag sites, and if you're skipping the restoration potential rating, these sites will get short shrift. So, if you see differences that would make a difference, please split them out. You might want to highlight the restoration potential of these things in the text.

I think Dawson trib #1 should be split if the farmed swale is not hydrologically connected. If not, I trust the 2 branches would be described as separate wetland units then lumped for OFWAM.

Same situation for Gordon creek - different land use on 2 branches.

Orenco creek continues above your upper break as a swale w/ hydric soil - if it's not paved already- and the upper swale may be different enough to call a separate unit. There are many places where hydric soil swales continue on above the end of the blue line where you cut off the top of reaches. I trust these will be scrutinized carefully and length of each reach adjusted according to your field verification.

Check for hydrological connection of Turner creek under the RR overpass - the combination of 2 lanes plus tracks may have the same fragmentation effect as a 4-lane, and therefore merit a split into 2 OFWAM units.

Rock creek reach 2 looks to be nearly 5 miles long - way larger than any other unit. Would OFWAM come out the same for 2 pieces if you made a reach break based on change in stream order at the Dawson confluence? I suspect all of it will come out significant either way.

There is a fairly large NWI wetland in section 4, north of Rock creek a bit. I hope you can get there to field verify it.

-----Original Message-----

From: Stacy Benjamin [mailto:sbenjamin@fishenserv.com]



Oregon

John A. Kitzhaber, M.D., Governor

FES 00055

Division of State Lands
775 Summer Street NE
Salem, OR 97301-1279
(503) 378-3805
FAX (503) 378-4844
TTY (503) 378-4615

August 9, 2000

RECEIVED

Ans'd.....

Wink Brooks
Planning Director
City of Hillsboro
123 W. Main
Hillsboro, OR 97124

State Land Board

John A. Kitzhaber
Governor

Bill Bradbury
Secretary of State

Jim Hill
State Treasurer

Re: City of Hillsboro Local Wetlands Inventory Method Modifications

Dear Mr. Brooks:

Mirth Walker of Fishman Environmental Services, the firm contracted by the City to conduct the Goal 5 wetland, riparian and wildlife habitat work, requested that the Division approve certain modifications to the Local Wetlands Inventory (LWI) method and the functional assessment method (OFWAM) that is required for significant wetland determination. I have reviewed the request with Janet Morlan, wetlands team leader.

The proposed modifications that would upgrade certain elements of the "offsite" LWI methodology do not require authorization because the LWI rules set forth minimum standards. The modifications proposed will improve the usefulness of the product. The LWI rule revisions that are in progress may change or even eliminate the offsite option. We will, as requested, include a "grandfather" section for any LWIs that are funded and in progress. That section may include an expiration date, but that should not present a problem for the Hillsboro project.

The Significant Wetland rules allow modification of the functional assessment method upon written approval by the Director (OAR 141-86-340). Streamlining OFWAM to include only the first four functions is acceptable with the understanding that (1) wetland assessment units will be approved by the Division's project manager prior to completing the assessment; (2) the wetlands of special interest and wetland characterization questions (Chapter V) will be completed for all wetland assessment units; (3) all questions for wildlife habitat, fish habitat (as appropriate), water quality and hydrology control will be completed for each wetland unit; and (4) the raw data for the assessment questions will be provided to the Division along with the other draft inventory products.

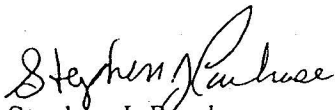


It is not appropriate to delay determination of proximity to a water quality limited stream because that determination must be made at the time of the initial wetland characterization in order to address the mandatory significance criteria. It will also be necessary to determine up front if any of the wetland units meet the "exclusion" criteria in 141-86-350 (1). It is acceptable to address the optional criteria, such as educational uses, after the other criteria are applied, if at all.

Although the LWI rules do not require landowner notification of the offsite inventory results, we recommend that the city notify property owners affected by mapped wetlands after the Division approves the final product. This alerts landowners to potential wetland permit requirements and helps to avoid unintended violations. We also strongly encourage a public information element at the beginning of the project and at the draft product stage, including publicizing the opportunity to review draft maps before they are finalized. From our experience, this goes a long way toward gaining public acceptance of the inventory process and products.

We appreciate that Fishman Environmental Services is working closely with our staff to ensure that the LWI meets all applicable requirements. Dana Field (extension 238) will be your primary Division of State Lands contact for the project and will conduct the review and approval of the LWI. Please do not hesitate to contact her or Janet Morlan (extension 236) at any time during the project.

Respectfully,


Stephen J. Purchase
Acting Director

cc: C. Mirth Walker, Fishman Environmental Services
Jennifer Wells, City of Hillsboro Planning Department
Meg Fernekees, DLCD
Dana Field, DSL
Annette Lalka, DSL

Fishman Environmental Services, LLC
CONSULTANTS IN ECOLOGY AND NATURAL RESOURCE MANAGEMENT

June 30, 2000

Paul Cleary, Director
Wetlands Program
Division of State Lands
775 Summer St. NE
Salem, OR 97310

COPY

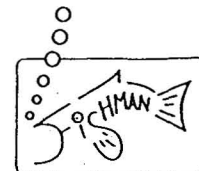
SUBJECT: City of Hillsboro Local Wetlands Inventory (and Riparian Corridor and Wildlife
Habitat Goal 5 Inventory and Assessment)
Request for Approval of Proposed Method Modifications
And Acknowledgment of Current Rule Validity

Dear Mr. Cleary:

This letter is a follow-up to the 8:00 a.m. meeting with Dana Field and Kathy Verble at the DSL offices on June 22, 2000. As you may know, the City of Hillsboro has contracted Fishman Environmental Services, LLC to conduct an offsite Local Wetland Inventory within the city limits and former Urban Reserve Areas 52 - 55 (former URA 51 is being removed from the study area). This LWI builds upon the Natural Resource Inventory conducted by Esther Lev and Lynn Sharp in 1990-1991. We are proposing the following modifications for the purposes of 1) making the offsite method more consistent with the onsite method and 2) streamlining the determination of wetland significance. We are formally requesting your approval of these modifications.

The proposed modifications to the offsite LWI methodology include adding the following onsite options: adding parcel boundaries to wetland maps; adding wetland/plant community descriptions to the Wetland Summary Sheets; adding wetland/upland boundary characteristics to the Wetland Summary Sheets; and we are encouraging the City to notify property owners of wetlands mapped on their property at the end of the project, after the inventory is approved by DSL.

Streamlining the determination of wetland significance involves evaluating only the first four functions of the Oregon Freshwater Wetland Assessment Methodology (OFWAM), which include Wildlife Habitat, Fish Habitat, Water Quality Function, and Hydrologic Function. We will then apply the DSL-defined determination of significance criteria for wetlands, and if a wetland site is not significant under this first-four function assessment, then we would look at the other parameters for determining significance, such as nearness of water quality limited water body, use of a publicly owned site for educational purposes by a school, etc. This streamlining will provide the necessary, useful data and eliminate the assessment of the other values in OFWAM (recreation, education, aesthetics, enhancement potential, sensitivity to future impacts), except as noted above. We will still document wetland sites used by sensitive species and review the other background information required by OFWAM.



I would also like to request formal acceptance by DSL of the offsite method for the Hillsboro LWI, and request that if the LWI rules change prior to the completion of the inventory, which is slated for January 2001, that the inventory will be reviewed by DSL under the current rules, not the revised rules.

The reason that the offsite method is appropriate for use in Hillsboro include:

- extensive background information is available, including excellent aerial photographs showing wetland hydrology
- many wetland delineations have been conducted in the study area and approved by the DSL
- the Metro Regional Land Information System GIS data are available
- we are very familiar with the study area

We currently have a contract with the City of Hillsboro to conduct an offsite LWI (and riparian corridor and wildlife habitat inventory and assessment for the purposes of Goal 5) and we would need to stop work and modify the contract and budget amount to conduct an onsite LWI; this would also delay the schedule due to the public involvement requirement for permission to access sites under the onsite method. Please confirm that our current project will be grandfathered under the current rules should those rules change during the timeline of the project.

Thank you for your attention to this matter and please do not hesitate to call with any questions or to set up a meeting to review our background materials for this project.

Sincerely,



C. Mirth Walker, PWS
Wetlands Program Manager

c: Jennifer Wells, Urban Planner, City of Hillsboro
Pat Ribellia, Planning Supervisor, City of Hillsboro
Wink Brooks, Planning Director, City of Hillsboro