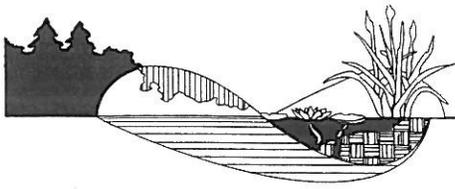


**YELLOWSTONE TRAIL ESTATES
KITITTAS COUNTY
CRITICAL AREAS REPORT**

Prepared For:

**Gary Maughan
22591 Road M
Mattawa, Washington 98344**

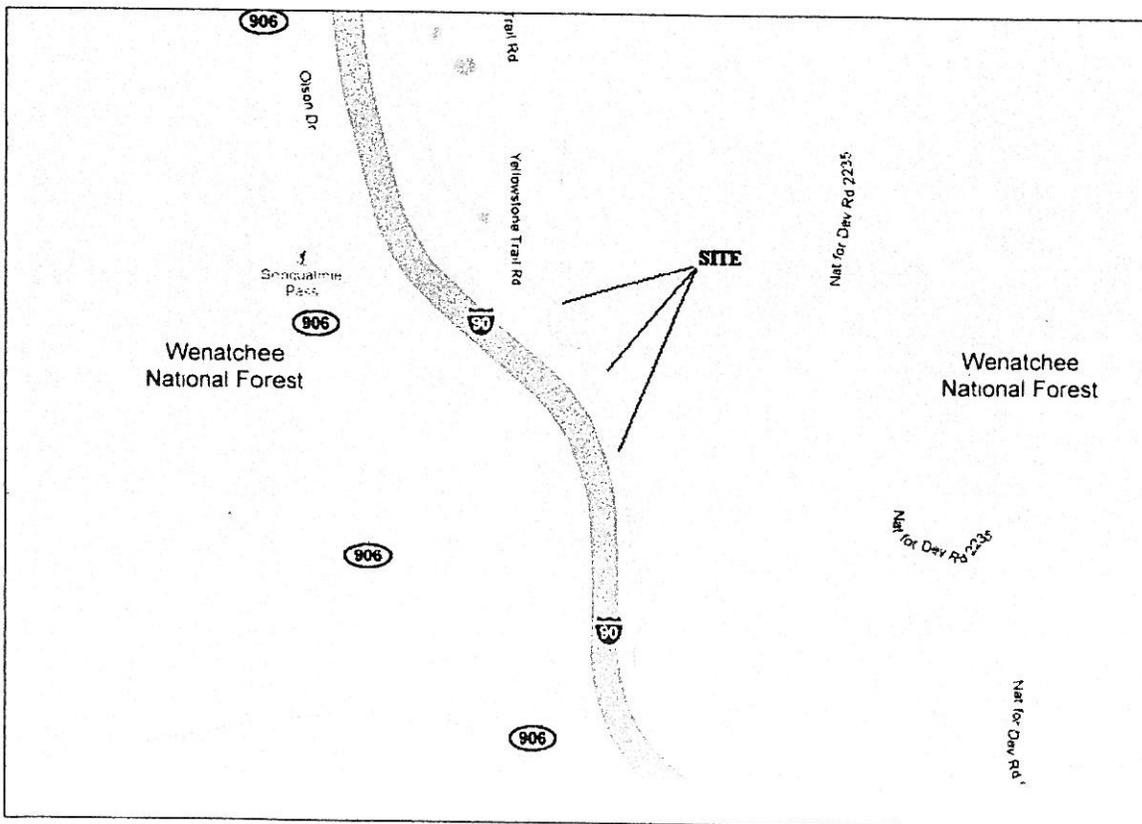
**December 9, 2009
Job#A9-155**



**YELLOWSTONE TRAIL ESTATES
KITITTAS COUNTY
CRITICAL AREAS REPORT**

1.0 INTRODUCTION

This report describes our observations of jurisdictional wetlands, streams and buffers as well as a review of listed plant and animal species on the proposed Yellowstone Trail Estates project, located in the Snoqualmie Pass area of unincorporated Kittitas County, Washington (the "site").



Above: Vicinity Map of the site.

Specifically, the site is a 17.48 acre, roughly triangular shaped property located in portions of the eastern half of Section 9, Township 22 North, Range 11 East of the W.M.

in Kittitas County Washington. The site is generally defined by Interstate 90 on the west and undeveloped forestland on the north and east.

The site consists of thinned and logged forest land. An old abandoned gravel road passes through the site and there is evidence of significant historic soils disturbance, probably associated with logging as well as construction of Interstate 90 and the old Sunset Highway.

The site contains the upper two forks of Coal Creek as well as a small tributary channel and 3 wetlands.

The proposed project is the development of a 22 Lot Plat as well as associated infrastructure.

2.0 METHODOLOGY

2.1 *Wetlands*

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site in October of 2009. The site was reviewed using methodology described in the *Washington State Wetlands Identification Manual* (WADOE, March 1997). This is the methodology currently recognized by Kittitas County and the State of Washington for wetland determinations and delineations. The site was also reviewed using the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (USACOE April 2008) as required by the US Army Corps of Engineers starting in June of 2009. Soil colors were identified using the 1990 Edited and Revised Edition of the *Munsell Soil Color Charts* (Kollmorgen Instruments Corp. 1990).

The *Washington State Wetlands Identification and Delineation Manual* and the *Interim Corps of Engineers Wetlands Delineation Manual* all require the use of the three-parameter approach in identifying and delineating wetlands. A wetland should support a predominance of hydrophytic vegetation, have hydric soils and display wetland hydrology. To be considered hydrophytic vegetation, over 50% of the dominant species in an area must have an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL), according to the National List of Plant Species That Occur in Wetlands: Northwest (Region 9) (Reed, 1988). A hydric soil is "a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part". Anaerobic conditions are indicated in the field by soils with low chromas (2 or less), as determined by using the Munsell Soil Color Charts; iron oxide mottles; hydrogen sulfide odor and other indicators. Generally, wetland hydrology is defined by inundation or saturation to the surface for a consecutive period of 12.5% or greater of the growing season. Areas that contain indicators of wetland hydrology

between 5%-12.5% of the growing season may or may not be wetlands depending upon other indicators. Field indicators include visual observation of soil inundation, saturation, oxidized rhizospheres, water marks on trees or other fixed objects, drift lines, etc. Under normal circumstances, indicators of all three parameters will be present in wetland areas.

Wetlands were flagged with pink "WETLAND DELINEATION" flagging and numbered and lettered sequentially. All flags were subsequently surveyed by Encompass Engineering & Surveying.

2.2 *Streams*

The ordinary high water mark (OHWM) of the streams on the site was located based upon the criteria described in the Washington Department of Ecology draft publication *Determining The Ordinary High Water Mark on Streams In Washington State* (WADOE Publication 08-06-001, March 2008). The OHWM of streams were marked with sequentially numbered white/blue dot flagging.

3.0 **OBSERVATIONS**

3.1 *Existing Site Documentation.*

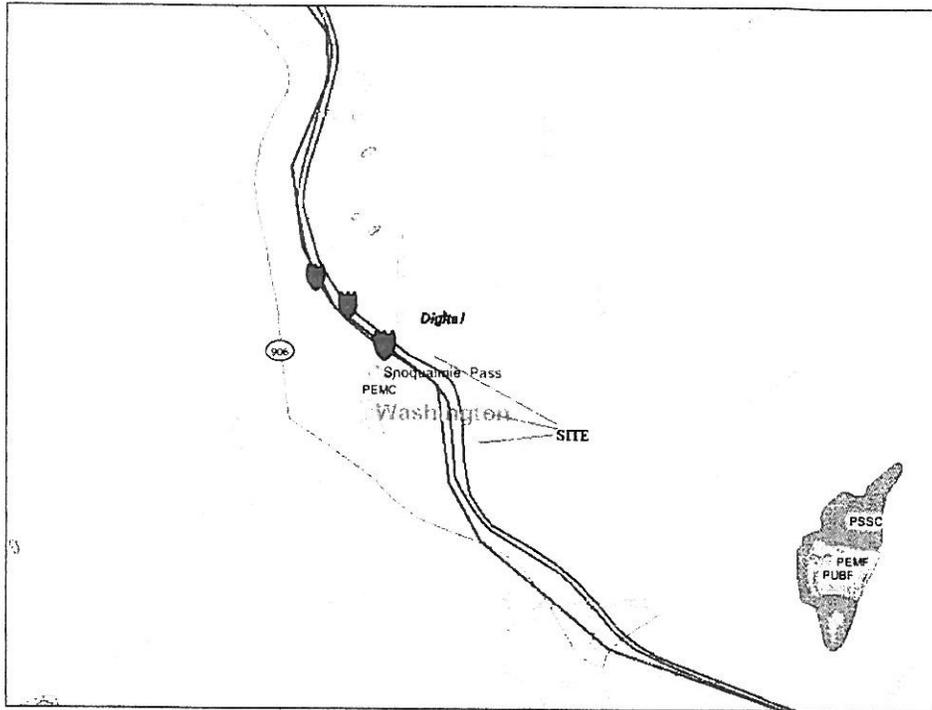
Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the National Wetland Inventory Map, the Washington State Department of Natural Resources (WADNR) FPARS stream mapping website, the Kittitas County Mapsifter website with Wetland layers, and data on file at the Kittitas County NRCS office in regards to soil data for the site.

3.1.1 **Soil Survey**

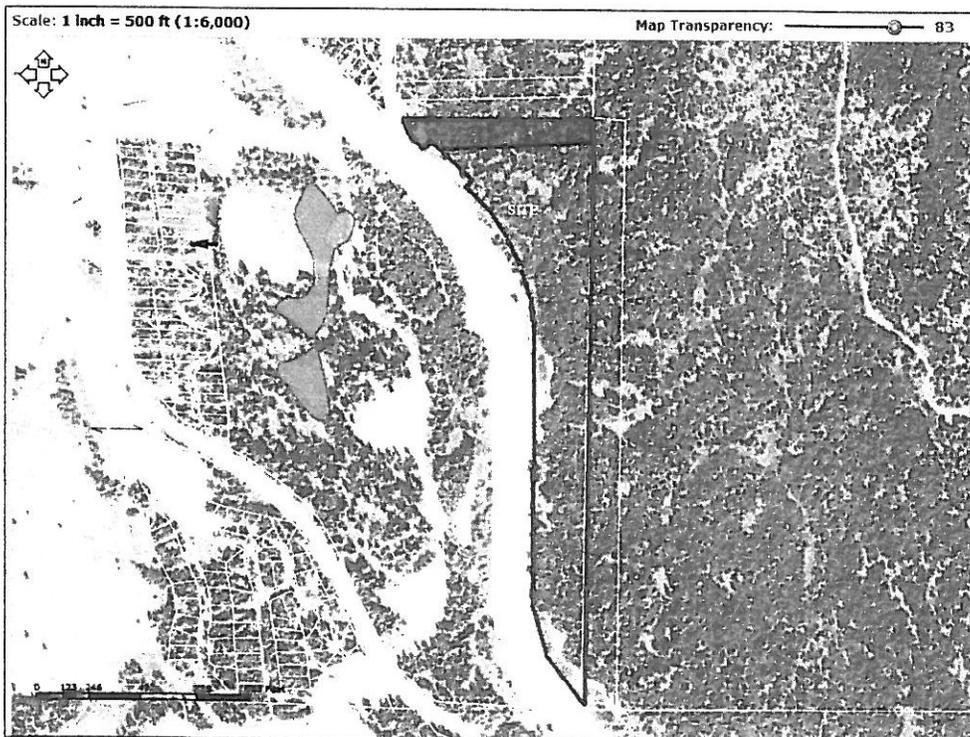
According to data on file with the NRCS Soil Mapper website, the site is mapped as 100% Chinkmin ashy, sandy loam, 5%-30% slopes. Chinkman soils are well drained soils formed in volcanic ash and pumice over dense basal till. Chinkman soils are not considered a hydric or wetland soil. A detailed soil report specific to the Yellowstone Trail Estates site is included as an attachment to this report.

3.1.2 **National Wetlands Inventory (NWI)**

According to the NWI map for the site, there are no wetlands on or near the site. Coal Creek is depicted along the west side of the site.



Above: National Wetlands Inventory Map of the site.



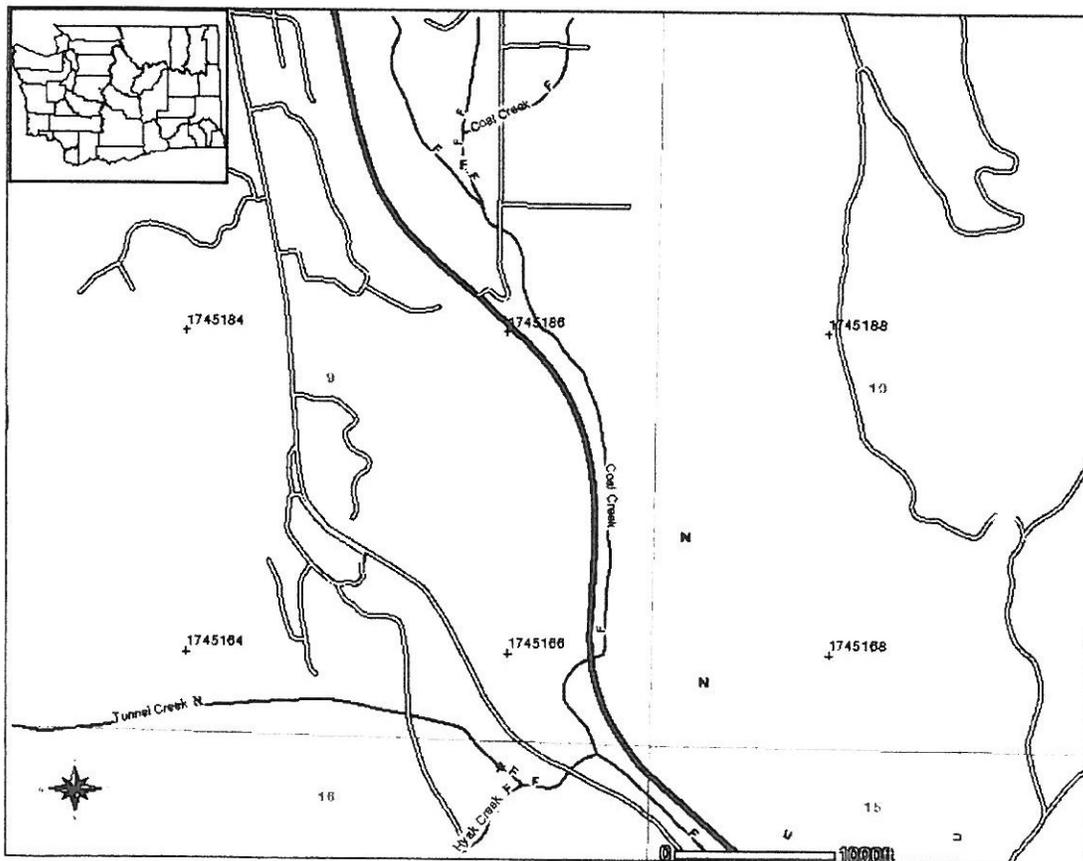
Above: Kittitas County Mapsifter webpage depicting the site (12-7-09).

3.1.3 Kittitas County Mapsifter – Wetland Layer

The Kittitas County Mapsifter website depicts no wetlands on or near the site. The closest wetlands are two wetlands located to the west of the site on the opposite side of Interstate 90 approximately 500' away.

3.1.4 WADNR FPARS website

According to the WADNR FPARS website with stream types layers activated, there is one stream on the site; Coal Creek. Coal Creek is depicted as a Type F water (equates to old system Type 3 waters).



Above: WADNR FPARS website depicting Coal Creek passing through the west side of the site.

3.2 Field observations

3.2.1 Uplands

As previously described, the site generally afforested site which has been altered by past logging activities as well as significant disturbance along the I-90 corridor. Much of Coal Creek is channelized in a rock lined ditch feature at the toe of the highway grade.

The site is vegetated with a mix of Douglas fir (*Psuedotsuga menziesii*), silver fir (*Abies amabilis*), mountain hemlock (*Tsuga mertensiana*), western red cedar (*Thuja plicata*), and alder (*Alnus rubra*). Much of the area has been disturbed from past logging and highway road work and as a result a strip of vegetation several hundred feet wide bordering I-90 is vegetated with immature Douglas fir and mountain hemlock with a very sparse to non-existent understory. In gaps several species of huckleberry (*Vaccinium* spp.) are found as well as some slide alder (*Alnus sinuata*).

To the east and up the slope, more mature third growth vegetation is present and a section of forest between Wetlands B & C contains larger, possibly second growth Douglas fir, silver fir, cedar and hemlock. Understory under the trees is sparse but in openings huckleberry thickets are dense, as well as scattered salmonberry (*Rubus spectabilis*), white azalea (*Rhododendron albiflorum*), mountain ash (*Sorpus scoparius*), slide alder, current (*Ribes* spp.), devils club (*Oplopanux horridium*) and thimbleberry (*Rubus parviflorus*) are present.

Soil pits excavated within the upland areas of the site generally revealed a gravelly loam with a color of 10YR 4/3 with no hydric characteristics. Soils within upland areas were dry during all site visits.

3.2.2 Wetlands & Streams

The site contains a total of three wetlands and three streams (two of which are branches of Coal Creek). Below is a description of these features;

Wetland A

Wetland A consists of a small riparian/slope type wetland located at the end of Yellowstone Drive on the west side of the west fork of Coal Creek. This wetland was flagged with pink wetland flagging labeled A1-A9. The wetland consists of a scrub-shrub plant community dominated by a mix of willow (*Salix* spp), hardhack (*Spirea douglasii*), lady fern (*Athyrium filix femina*), skunk cabbage (*Lysichitum americanum*), manna grass (*Glyceria* spp.), and hedge nettle (*Stachys cooleyae*).

This wetland contains a seep which drains down slope through the wetland into Coal Creek.

Soil pits excavated within the wetland revealed a mucky soil with layers of sand that was saturated at the surface. The layers of sand appear to be deposited from storm flows and snow melt that runoff the pavement of Yellowstone Drive into the wetland un-detained.

Using the US Fish and Wildlife Wetland Classification Method (Cowardin et al. 1979), Wetland A would be classified as PSS1E (palustrine, scrub-shrub, broad leaved deciduous, saturated).

Kittitas County also utilizes the old Washington Department of Ecology Wetland Ratings System from 1991. Using this system, Wetlands A meets the criteria of Category 3 wetland due to a total score of 20 points. A score of less than 22 points indicates a Category 3 wetland. According to Kittitas County Code 17A.04.020, Category 3 wetlands >10,000sf in size have a minimum buffer of 20'.

Wetland B

Wetland B is an emergent and scrub-shrub slope wetland located near the northeast corner of the site. This wetland was flagged with pink wetland flags labeled B1-B13 and BB1-BB23. This wetland consists of a seeping meadow surrounded by a narrow band of shrubs and draining in a westerly direction before infiltrating into the ground.

The narrow band of shrubs consists of willow, slide alder, and some white rhododendron. The meadow area has fen and bog like qualities and includes small patches of Sphagnum moss (*Sphagnum* spp.), scattered small clumps of bog laurel (*Kalmia polifolia*), hedge nettle, unidentified sedge (*Carex* spp.), skunk cabbage, California hellbore (*Veratrum californicum*), and manna grass.

Several small mud bottom areas with shallow standing water and no vegetation, possibly "wallows" used by elk or deer were noted in the wetland.

Soil pits excavated within the wetland revealed soils were saturated to the surface during our site visit. The upper soil horizon consists of a black (10YR 2/1) sapric peat layer approximately 12" thick overlying a gravelly loam with a soil color of 10YR 3/2.

Kittitas County also utilizes the old Washington Department of Ecology Wetland Ratings System from 1991. Using this system, Wetland B meets the criteria of Category 2 wetland due to a total score of 27 points. According to Kittitas County Code 17A.04.020, Category 2 wetlands >2,000sf in size have a minimum buffer of 25'.

Wetland C

Wetland C is a forested and emergent slope wetland located near the center of the site. The wetland consists of a narrow, sloping depression in a grove of large cedars and firs, emerging into a sloping meadow. A small Type 5 stream (Stream A) drains some water from this wetland to the south and into Coal Creek.

Wetland C has an emergent plant community with a character similar to Wetland B. The forested portion consists of a dense overstory of western red cedar with scattered salmonberry, deer fern, skunk cabbage, and vanilla leaf (*Achlys triphylla*) in the understory. Many of these trees are large, appearing to be second growth or old third growth age class.

Soil pits excavated within the wetland revealed soils were saturated to the surface during our site visit. The upper soil horizon consists of a black (10YR 2/1) sapric peat layer approximately 12" thick overlying a gravelly loam with a soil color of 10YR 3/2.

Kittitas County also utilizes the old Washington Department of Ecology Wetland Ratings System from 1991. Using this system, Wetland B meets the criteria of Category 2 wetland due to a total score of 37 points. According to Kittitas County Code 17A.04.020, Category 2 wetlands >2,000sf in size have a minimum buffer of 25'.

Coal Creek (East and West Forks)

The upper reaches of Coal creek are located along the west side of the site. The western fork enters the site after draining southerly in the vicinity of Yellowstone Drive. The eastern fork enters the north center of the site before joining the western fork in one channel along the west side of the site along I-90. The eastern fork drains small alpine lakes located above and east of the site.

Coal Creek drains through the site before entering Lake Kecheelus near its confluence with Gold Creek. Both of the upper forks of the creek on the north end of the site have a wide, cobble and boulder covered bottom with steep, incised banks from high spring flows through the streams. As the two streams converge, they flow in a partially constructed channel of rip-rap and boulders along the toe of Interstate 90. The ordinary high water marks of these creeks were identified by white/blue dot flagging and labeled sequentially.

Both streams had flow during our site visit although the eastern fork was dry during late September of this year.

The WADNR Fpars Maps indicate this is a Type F water, indicating it is used by fish. Type F waters equate to the older Type 3 water as used by Kittitas County. Under Kittitas County Code Type 3 waters typically have a 20-50' wide buffer measured from the OHWM.

Stream A

Stream A is a small, apparently intermittently flowing channel which drains water out of Wetland C.

Under Kittitas County Code (which uses the same water typing system as the City) Type 5 waters typically have a 15' building setback measured from the channel.

4.0 REGULATIONS

In addition to the wetland regulations previously described for wetlands, certain activities (filling and dredging) within "waters of the United States" may fall under the jurisdiction of the U.S. Army Corps of Engineers (USACOE). The USACOE regulates all discharges into "waters of the United States" (wetlands) under Section 404(b) of the Clean Water Act. Wetlands that are hydrologically isolated are not regulated by the USACOE, per the SWANCC and as interpreted by the Corps and EPA in their Regulatory Guidance Letter.

Discharges (fills) into any wetlands that are not considered "isolated" are regulated by the Corps. However, only the Corps can make that determination.

The Washington Department of Fish and Wildlife (WDFW) regulates all work within waters of the state (streams) under the Hydraulic Project Approval process. All work proposed within the streams on site would require obtaining approval under this process from WDFW.

5.0 PROPOSED PROJECT

The proposed project is the construction of a 22 lot plat. In order to access the site, crossing of both forks of Coal Creek will be required. Additionally, a small impact (1,967sf total) to the upper end of Wetlands A and Wetland C will be required in order to access the southern portion of the property. Additionally, buffer averaging has been employed to fit the lots and road crossings on the site.

The creek crossings will be made with appropriate sized bridges approved through the WDFW HPA process. The minor impact to Wetlands A and C will be mitigated through creating an equal area (1,967sf) of wetland along the southwest side of Wetland C where

topography will allow wetland creation to occur through appropriate grading. This area will be accessed from proposed Lot 6 using mats or other appropriate method of protecting the wetland during the crossing with equipment. The area will be excavated out to a grade just below the existing wetland grade, and then brought to grade with stockpiled wetland soil removed from the fill area. The area will then be planted with native plants found in this wetland to include cedar, sedges and willows.

The wetland crossing area will also include installation of culverts to allow water to pass through this slope wetland as has occurred in the past.

As previously described, buffer averaging has been employed based upon the minimum required buffers for the wetlands and streams. An equal area of buffer has been added to the standard buffers to compensate for all impacts as depicted on the attached Conceptual Mitigation Plan.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at esewall@sewallwc.com .

Sincerely,
Sewall Wetland Consulting, Inc.



Ed Sewall
Senior Wetlands Ecologist PWS #212

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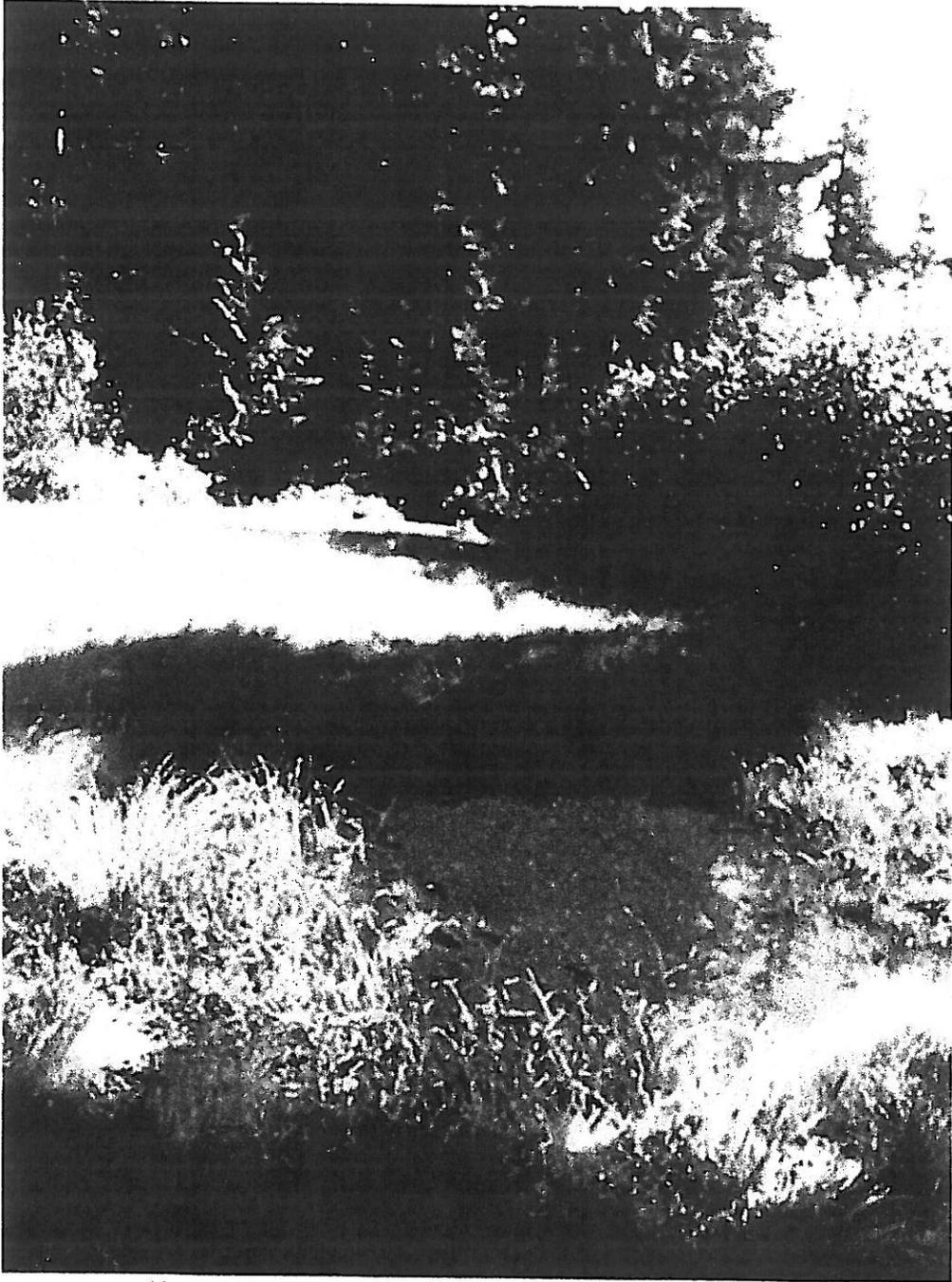
USDA NRCS & National Technical Committee for Hydric Soils, September 1995. Field Indicators of Hydric Soils in the United States - Version 2.1

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Above: Central portion of Wetland B looking east.



Above: Emergent portion of Wetland C looking south.



Above: Typical undisturbed section of Coal Creek on the site.

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

Project/Site: Yellowstone Trail Estates City/County: Kittitas Sampling Date: 10-7-09
 Applicant/Owner: _____ State: WA Sampling Point: WETA
 Investigator(s): Ed Sewall – Sewall Wetland Consulting, inc. Section, Township, Range: S9,T22N,R11E
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Chinkman NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: |
|--|------------------|-------------------|------------------|---|
| 1. _____ | _____ | _____ | _____ | Number of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| 4. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| Sapling/Shrub Stratum (Plot size: _____) | | | | |
| 1. <u>Salix sitchensis</u> | <u>80</u> | | <u>FACW</u> | |
| 2. _____ | _____ | _____ | _____ | |
| 3. _____ | _____ | _____ | _____ | |
| <u>80</u> = Total Cover | | | | |
| Herb Stratum (Plot size: _____) | | | | |
| 1. <u>Lysichiton americanus</u> | <u>20</u> | | <u>OBL</u> | |
| 2. <u>Athyrium Filix Femina</u> | <u>20</u> | | <u>FAC</u> | |
| 3. <u>Glyceria spp</u> | <u>20</u> | | <u>FACW</u> | |
| 4. _____ | _____ | _____ | _____ | |
| 5. _____ | _____ | _____ | _____ | |
| 6. _____ | _____ | _____ | _____ | |
| 7. _____ | _____ | _____ | _____ | |
| 8. _____ | _____ | _____ | _____ | |
| 9. _____ | _____ | _____ | _____ | |
| 10. _____ | _____ | _____ | _____ | |
| 11. _____ | _____ | _____ | _____ | |
| <u>60</u> = Total Cover | | | | |
| Woody Vine Stratum (Plot size: _____) | | | | |
| 1. _____ | _____ | _____ | _____ | |
| 2. _____ | _____ | _____ | _____ | |
| _____ = Total Cover | | | | |
| % Bare Ground in Herb Stratum _____ | | | | |
| _____ = Total Cover | | | | |
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ | | | | |
| Remarks: | | | | |

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

Project/Site: Yellowstone Trail Estates City/County: Kittitas Sampling Date: 10-7-09
 Applicant/Owner: _____ State: WA Sampling Point: Wet B
 Investigator(s): Ed Sewall – Sewall Wetland Consulting, inc. Section, Township, Range: S9,T22N,R11E
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Chinkman NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: | |

VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: |
|--|------------------|-------------------|------------------|---|
| 1. _____ | | | | Number of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| _____ = Total Cover | | | | Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____ |
| Sapling/Shrub Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | |
| 1. _____ | | | | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| _____ = Total Cover | | | | |
| Herb Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is $\geq 3.0^1$ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 1. <u>Carex spp</u> | <u>95</u> | | <u>FACW</u> | |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| <u>95</u> = Total Cover | | | | |
| Woody Vine Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ |
| 1. _____ | | | | |
| 2. _____ | | | | |
| <u>95</u> = Total Cover | | | | |
| % Bare Ground in Herb Stratum _____ | | | | |
| Remarks: | | | | |

SOIL

Sampling Point: wet B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|---|----------------|---|-------------------|------------------|-------------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 12 | 10YR 2/1 | | | | | | supric muck | |
| 16 | 10YR 3/2 | | | | | | gully lam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

| | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: |
| <input checked="" type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|---|---|--|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): -6"

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0"

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: Yellowstone Trail Estates City/County: Kittitas Sampling Date: 10-7-09
 Applicant/Owner: _____ State: WA Sampling Point: WETC
 Investigator(s): Ed Sewall – Sewall Wetland Consulting, inc. Section, Township, Range: S9,T22N,R11E
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Chinkman NWI classification: _____

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

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | |
|--|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ | Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: | |

VEGETATION – Use scientific names of plants.

| Stratum (Plot size: _____) | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet: |
|--------------------------------------|-------------------------|-------------------|------------------|---|
| <u>Tree Stratum</u> | | | | Number of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A) |
| 1. <u>Thuja plicata</u> | <u>80</u> | | <u>FAC</u> | Total Number of Dominant Species Across All Strata: _____ (B) |
| 2. _____ | | | | Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B) |
| 3. _____ | | | | |
| 4. _____ | | | | |
| | <u>80</u> = Total Cover | | | |
| <u>Sapling/Shrub Stratum</u> | | | | Prevalence Index worksheet: |
| 1. <u>Rubus spectabilis</u> | <u>20</u> | | <u>FAC</u> | Total % Cover of: _____ Multiply by: _____ |
| 2. _____ | | | | OBL species _____ x 1 = _____ |
| 3. _____ | | | | FACW species _____ x 2 = _____ |
| 4. _____ | | | | FAC species _____ x 3 = _____ |
| 5. _____ | | | | FACU species _____ x 4 = _____ |
| | <u>20</u> = Total Cover | | | UPL species _____ x 5 = _____ |
| <u>Herb Stratum</u> | | | | Column Totals: _____ (A) _____ (B) |
| 1. <u>Lysichiton americanum</u> | <u>20</u> | | <u>OBL</u> | Prevalence Index = B/A = _____ |
| 2. _____ | | | | |
| 3. _____ | | | | |
| 4. _____ | | | | |
| 5. _____ | | | | |
| 6. _____ | | | | |
| 7. _____ | | | | |
| 8. _____ | | | | |
| 9. _____ | | | | |
| 10. _____ | | | | |
| 11. _____ | | | | |
| | <u>20</u> = Total Cover | | | |
| <u>Woody Vine Stratum</u> | | | | Hydrophytic Vegetation Indicators: |
| 1. _____ | | | | <input type="checkbox"/> Dominance Test is >50% |
| 2. _____ | | | | <input type="checkbox"/> Prevalence Index is $\geq 3.0^1$ |
| | | | | <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) |
| | | | | <input type="checkbox"/> Wetland Non-Vascular Plants ¹ |
| | | | | <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) |
| | | | | ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| | <u>80</u> = Total Cover | | | |
| <u>% Bare Ground in Herb Stratum</u> | | | | Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ |
| Remarks: | | | | |

SOIL

Sampling Point: Wet C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
|----------------|---------------|---|----------------|---|-------------------|------------------|---------|---------|
| | Color (moist) | % | Color (moist) | % | Type ¹ | Loc ² | | |
| 12 | 10YR 2/1 | | | | | | slipic | muck |
| 16 | 10YR 3/2 | | | | | | graly | low |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

| | | | |
|--|---|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | Indicators for Problematic Hydric Soils³: | |
| <input checked="" type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Dark Surface (F6) | | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | | |
| | | | |
| | | | |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

| | | |
|---|---|--|
| <u>Primary Indicators (minimum of one required; check all that apply)</u> | | <u>Secondary Indicators (2 or more required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): -4"

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0"

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLANDS RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Name of Rater: Ed Smith Affiliation: Semell Wetl. Consult. Date: 11-5-09

Name of wetland (if known): Wetland A - Yellowstone Trail

Government Jurisdiction of wetland: Kittitas Co

Location: 1/4 S: _____ of 1/4 S: _____ SEC: 9 TOWNSHIP: 22N RANGE: 11E

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: USGS Topo Map: NWI map: Aerial Photo: Soils survey:

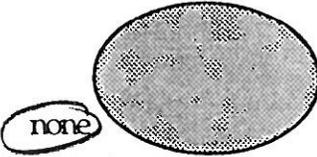
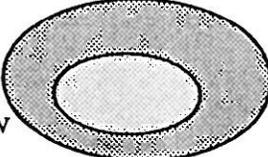
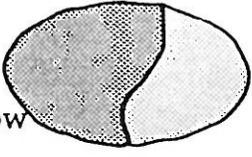
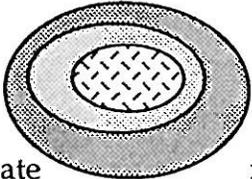
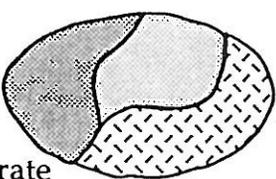
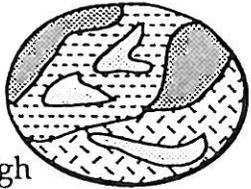
Other: ___ Describe: _____

WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE: 3

| | |
|---|---|
| <p>Q.1. High Quality Natural Heritage Wetland.</p> <p>Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b and 1c are all NO, contact the Natural Heritage program of DNR.</p> <p>1a. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes <u>could</u> include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s: <u>road + highway fill along edges</u></p> <p>1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s): _____</p> <p>1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use or dead fish etc. Briefly describe: _____</p> | <p>Circle answers:</p> <p><u>Yes: go to Q.3.</u> No: go to 1b.</p> <p>Yes: go to Q.3. No: go to 1c.</p> <p>Yes: go to Q.3. No: <u>Possible Category I</u></p> |
|---|---|

| | |
|--|---|
| <p>Q.2. <u>Regionally Rare Native Wetland Communities</u></p> <p>The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use.</p> | |
| <p>Q.3. <u>Irreplaceable Ecological Functions:</u></p> <p>Does the wetland:</p> <ul style="list-style-type: none"> - have at a least 1/2 acre of contiguous peat wetland; - <u>or</u>, have a forested class greater than 1 acre ; | <p>No to <u>both</u>: go to Q.4.</p> <p>Yes: go to 3a.</p> <p>Yes: go to 3b.</p> |
| <p>Q.3a. <u>Peat Wetlands.</u></p> <p>3a1. Does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19, <u>and</u> have < 80% areal cover of <i>Spirea douglasii</i>?</p> | <p>Yes: Category I No: go to Q.4.</p> |
| <p>Q.3b. <u>Mature forested wetland.</u></p> <p>3b1. Is the average age of dominant trees in the forested wetland > 80 years?</p> <p>3b2. Is the average age of dominant trees in the forested wetland 50-80 years, <u>and</u> is the structural diversity high as characterized by a multi-layer community of trees > 50' tall <u>and</u> trees 20'-49' tall <u>and</u> shrubs <u>and</u> herbaceous groundcover? ..</p> <p>3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list? ..</p> | <p>Yes: Category I No: go to 3b2.</p> <p>Yes: go to 3b3. No: go to Q.5.</p> <p>Yes: go to Q.5. No: Category I</p> |
| <p>Q.4. <u>Category IV wetlands</u></p> <p>4.1. Is the wetland: less than 1 acre <u>and</u>, hydrologically isolated <u>and</u>, comprised of <u>one</u> vegetated class that is dominated (> 80% areal cover) by <u>one</u> species from the list in guidance p.18.</p> <p>4.2. Is the wetland: less than two acres <u>and</u>, hydrologically isolated, with <u>one</u> vegetated class, and > 90% of areal cover is <u>any</u> combination of species from the list in guidance p.19.</p> | <p>Yes: Category IV No: <u>go to 4.2</u></p> <p>Yes: Category IV No: <u>go to Q.5</u></p> |

| Q.5. Significant habitat value. Answer all questions and enter data requested. | | Circle scores that qualify | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|--------------|---------|--------------------|---------|---------|---------|---------|---------|---------|---------|----------|-------------------------------------|--------|-------|-----|--------|-------|-----|--------|-------|--------------------|--------|-------|-----|--------|-------|-----|--------|-------|-----------------|------|-------|-----|------|-------|-----|--------|-------|-------------------------------------|
| <p>5a. <u>Total wetland area</u></p> <p>Estimate area, select from choices in the near-right column, and score in the far column:</p> <p>Enter acreage of wetland here: _____ acres, and source: _____</p> | <p>acres</p> <p>> 20.00</p> <p>10 - 19.99</p> <p>5 - 9.99</p> <p>1 - 4.99</p> <p>0.1 - 0.99</p> <p><0.1</p> | <p>Yes=6</p> <p>Yes=5</p> <p>Yes=4</p> <p>Yes=3</p> <p>Yes=2</p> <p>Yes=1</p> <p style="text-align: right;">2</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5b. <u>Wetland classes</u>: Circle the wetland classes below that qualify:</p> <p><u>Open Water</u>: if the area of open water is > 1/2 acre or > 10% of the total wetland area. Source: _____</p> <p><u>Aquatic Beds</u>: if the area of aquatic beds > 10% of the <u>open water</u> area <u>or</u> > 1/2 acre.</p> <p><u>Emergent</u>: if the area of emergent class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p><u>Scrub-Shrub</u>: if the area of scrub-shrub class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> <p><u>Forested</u>: if area of forested class is > 1/2 acre <u>or</u> > 10% of the total wetland area.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Add the number of wetland classes, above, that qualify, and then score according to the columns at right.</p> <p>e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 8 points in the far right column.</p> | <table border="1"> <thead> <tr> <th># of classes</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Yes = 1</td> </tr> <tr> <td>2</td> <td>Yes = 3</td> </tr> <tr> <td>3</td> <td>Yes = 5</td> </tr> <tr> <td>4</td> <td>Yes = 8</td> </tr> <tr> <td>5</td> <td>Yes = 11</td> </tr> </tbody> </table> | # of classes | | 1 | Yes = 1 | 2 | Yes = 3 | 3 | Yes = 5 | 4 | Yes = 8 | 5 | Yes = 11 | <p style="text-align: right;">1</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # of classes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Yes = 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Yes = 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Yes = 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Yes = 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Yes = 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5c. <u>Plant species diversity</u>.</p> <p>For all wetland classes (at right) that qualify in 5b. above, count the number of different plant species you can find. You do not have to name them.</p> <p>Score in column at far right:</p> <p>e.g. If a wetland has an aquatic bed class with 3 species, an emergent class with 4 species and a scrub-shrub class with 2 species you would circle 2, 2, and 1 in the far column.</p> | <table border="1"> <thead> <tr> <th>Class</th> <th># of species</th> <th></th> </tr> </thead> <tbody> <tr> <td><u>Aquatic Bed</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 3...</td> <td>Yes=3</td> </tr> <tr> <td><u>Emergent</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Scrub-Shrub</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Forested</u></td> <td>1...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>2...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 2...</td> <td>Yes=3</td> </tr> </tbody> </table> | Class | # of species | | <u>Aquatic Bed</u> | 1-2... | Yes=1 | " " | 3... | Yes=2 | " " | > 3... | Yes=3 | <u>Emergent</u> | 1-2... | Yes=1 | " " | 3-4... | Yes=2 | " " | > 4... | Yes=3 | <u>Scrub-Shrub</u> | 1-2... | Yes=1 | " " | 3-4... | Yes=2 | " " | > 4... | Yes=3 | <u>Forested</u> | 1... | Yes=1 | " " | 2... | Yes=2 | " " | > 2... | Yes=3 | <p style="text-align: right;">3</p> |
| Class | # of species | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Aquatic Bed</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 3... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Emergent</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3-4... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 4... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Scrub-Shrub</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3-4... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 4... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Forested</u> | 1... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 2... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 2... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|--|--|
| <p>5d. <u>Structural diversity.</u> If the wetland has a forested class, add 1 point for each of the following:</p> <ul style="list-style-type: none"> -trees > 50' tall Yes=1 -trees 20'- 49' tall Yes=1 -shrubs Yes=1 -herbaceous ground cover Yes=1 | <p style="text-align: right;">NA</p> |
| <p>5e. Decide from the diagrams below whether <u>interspersion between wetland classes</u> is high, moderate, low or none?</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center; margin: 10px;">  <p>none</p> </div> <div style="text-align: center; margin: 10px;">  <p>low</p> </div> <div style="text-align: center; margin: 10px;">  <p>low</p> </div> <div style="text-align: center; margin: 10px;">  <p>moderate</p> </div> <div style="text-align: center; margin: 10px;">  <p>moderate</p> </div> <div style="text-align: center; margin: 10px;">  <p>high</p> </div> </div> | <p style="text-align: right;"> High=3 Moderate=2 Low=1 <u>None=0</u> </p> <p style="text-align: right;">0</p> |
| <p>5f. <u>Habitat features.</u></p> <p>Answer questions below, circle features that apply, and score to right:</p> <ul style="list-style-type: none"> Is there evidence of current use by beavers? <u>No</u> Yes=3 Is a heron rookery located within 300'? <u>No</u> Yes=2 Are raptor nest/s located within 300'? <u>No</u> Yes=1 Are there at least 3 standing dead trees (snags) per acre? <u>No</u> Yes=1 Are any of these standing dead trees (snags) > 10" in diameter? <u>No</u> Yes=1 Are there any other perches (wires, poles or posts)? <u>No</u> Yes=1 Are there at least 3 downed logs per acre? <u>No</u> Yes=1 | <p style="text-align: right;">0</p> |
| <p>5g. <u>Connection to streams.</u> (Score one answer only.)</p> <p>Is the wetland connected at any time of the year via surface water:</p> <ul style="list-style-type: none"> to a perennial stream or a seasonal stream <u>with</u> fish; <u>Yes=6</u> <u>or</u>, to a seasonal stream <u>without</u> fish; Yes=4 <u>or</u>, is not connected to any stream? Yes=0 | <p style="text-align: right;">G</p> |

5h. Buffers.

| STEP 1 Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply the %/s by the factor(s) below and enter result in column to right: | STEP 2 Multiply result(s) of step 1: by 1, if buffer width is 25-50'; by 2, if buffer width is 50-100'; by 3, if buffer width is >100'. Enter results below and add subscore: |
|---|---|
| roads, buildings or parking lots: % <u>60</u> x 0 = | 0 |
| lawn, grazed pasture, vineyards or annual crops: % ___ x 1 = | ___ x ___ = ___ |
| ungrazed grassland or orchards: % ___ x 2 = | ___ x ___ = ___ |
| open water or native grasslands: % ___ x 3 = | ___ x ___ = ___ |
| forest or shrub: % <u>40</u> x 4 = | <u>160</u> x <u>3</u> = <u>480</u> |
| Add Buffer total = ___ | |

| STEP 3. Score points according to table at right : | <u>Buffer total</u> |
|---|--------------------------|
| | 900-1200... Yes=4 |
| | 600-899.... Yes=3 |
| | 300-599.... <u>Yes=2</u> |
| | 100-299.... Yes=1 |

2

| 5i. Connection to other habitat areas: | |
|---|--------------|
| - Is there a riparian corridor to other wetlands within 0.25 of a mile, <u>or</u> a corridor > 100' wide with good forest or shrub cover to any other habitat area? | <u>Yes=6</u> |
| - Is there a narrow corridor < 100' wide with good cover <u>or</u> a wide corridor > 100' wide with low cover to any other habitat area? | Yes=4 |
| - Is there a narrow corridor < 100' wide with low cover <u>or</u> a significant habitat area within 0.25 mile but no corridor? | Yes=1 |
| - Is the wetland and buffer completely isolated by development and or cultivated agricultural land? | Yes=0 |

6

NOW: Add the scores circled (for Q.5a - Q.5i above) to get a Total.
 Is the Total greater than or equal to 22 points.

Total = 20
 Yes: Category II
 No: Category III

WETLANDS RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Name of Rater: Ed Small Affiliation: _____ Date: 11-5-09

Name of wetland (if known): Wetland B - Yellowstone Trail

Government Jurisdiction of wetland: K. Atlas Co.

Location: 1/4 S: _____ of 1/4 S: _____ SEC: 9 TOWNSHIP: 22N RANGE: 11E

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: USGS Topo Map: NWI map: Aerial Photo: Soils survey:

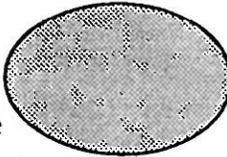
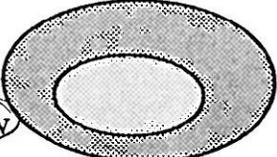
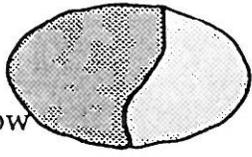
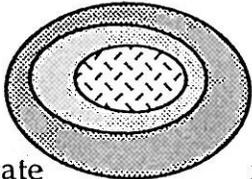
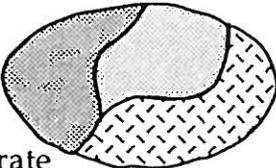
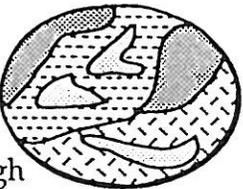
Other: _____ Describe: _____

| | |
|---|---|
| WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE: | 2 |
|---|---|

| | |
|--|---|
| <p>Q.1. High Quality Natural Heritage Wetland.</p> <p>Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b and 1c are all NO, contact the Natural Heritage program of DNR.</p> <p>1a. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes <u>could</u> include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s: _____</p> <p>1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s): _____</p> <p>1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use or dead fish etc. Briefly describe: _____</p> | <p>Circle answers:</p> <p>Yes: go to Q.3. <u>No: go to 1b.</u></p> <p>Yes: go to Q.3. <u>No: go to 1c.</u></p> <p>Yes: go to Q.3. <u>No: Possible Category I</u></p> |
|--|---|

| | |
|--|--|
| <p>Q.2. <u>Regionally Rare Native Wetland Communities</u></p> <p>The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use.</p> | |
| <p>Q.3. <u>Irreplaceable Ecological Functions:</u></p> <p>Does the wetland:</p> <ul style="list-style-type: none"> - have at least 1/2 acre of contiguous peat wetland; - <u>or</u>, have a forested class greater than 1 acre ; | <p>No to <u>both</u>. go to Q.4.</p> <p>Yes: go to 3a.</p> <p>Yes: go to 3b.</p> |
| <p>Q.3a. <u>Peat Wetlands.</u></p> <p>3a1. Does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19, <u>and</u> have < 80% areal cover of <i>Spirea douglasii</i>?</p> | <p>Yes: Category I</p> <p>No: go to Q.4.</p> |
| <p>Q.3b. <u>Mature forested wetland.</u></p> <p>3b1. Is the average age of dominant trees in the forested wetland > 80 years?</p> <p>3b2. Is the average age of dominant trees in the forested wetland 50-80 years, <u>and</u> is the structural diversity high as characterized by a multi-layer community of trees > 50' tall <u>and</u> trees 20'-49' tall <u>and</u> shrubs <u>and</u> herbaceous groundcover? ..</p> <p>3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list? ..</p> | <p>Yes: Category I</p> <p>No: go to 3b2.</p> <p>Yes: go to 3b3.</p> <p>No: go to Q.5.</p> <p>Yes: go to Q.5.</p> <p>No: Category I</p> |
| <p>Q.4. <u>Category IV wetlands</u></p> <p>4.1. Is the wetland: less than 1 acre <u>and</u>, hydrologically isolated <u>and</u>, comprised of <u>one</u> vegetated class that is dominated (> 80% areal cover) by <u>one</u> species from the list in guidance p.18.</p> <p>4.2. Is the wetland: less than two acres <u>and</u>, hydrologically isolated, with <u>one</u> vegetated class, and > 90% of areal cover is <u>any</u> combination of species from the list in guidance p.19.</p> | <p>Yes: Category IV</p> <p>No: go to 4.2</p> <p>Yes: Category IV</p> <p>No: go to Q.5.</p> |

| O.5. Significant habitat value. Answer all questions and enter data requested. | | Circle scores that qualify | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--------------|--|--------------------|--------|-------|-----|------|-------|-----|-------|-------|-----------------|--------|-------|-----|--------|-------|-----|-------|-------|--------------------|--------|-------|-----|--------|-------|-----|-------|-------|-----------------|------|-------|-----|------|-------|-----|-------|-------|--|
| <p>5a. <u>Total wetland area</u></p> <p>Estimate area, select from choices in the near-right column, and score in the far column:</p> <p>Enter acreage of wetland here: <u>.5</u> acres, and source: <u>Survey</u></p> | <p>acres</p> <p>> 20.00</p> <p>10 - 19.99</p> <p>5 - 9.99</p> <p>1 - 4.99</p> <p>0.1 - 0.99</p> <p><0.1</p> | <p>Yes=6</p> <p>Yes=5</p> <p>Yes=4</p> <p>Yes=3</p> <p>Yes=2</p> <p>Yes=1</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5b. <u>Wetland classes</u>: Circle the wetland classes below that qualify:</p> <p><u>Open Water</u>: if the area of open water is > 1/2 acre or > 10% of the total wetland area. Source: _____</p> <p><u>Aquatic Beds</u>: if the area of aquatic beds > 10% of the <u>open water</u> area or > 1/2 acre.</p> <p><u>Emergent</u> if the area of emergent class is > 1/2 acre or > 10% of the total wetland area.</p> <p><u>Scrub-Shrub</u> if the area of scrub-shrub class is > 1/2 acre or > 10% of the total wetland area.</p> <p><u>Forested</u>: if area of forested class is > 1/2 acre or > 10% of the total wetland area.</p> <p>Add the number of wetland classes, above, that qualify, and then score according to the columns at right.</p> <p>e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 8 points in the far right column.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p># of classes</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> | <p>Yes =1</p> <p>Yes =3</p> <p>Yes =5</p> <p>Yes =8</p> <p>Yes =11</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5c. <u>Plant species diversity</u>.</p> <p>For all wetland classes (at right) that qualify in 5b. above, count the number of different plant species you can find. You do not have to name them.</p> <p>Score in column at far right:</p> <p>e.g. If a wetland has an aquatic bed class with 3 species, an emergent class with 4 species and a scrub-shrub class with 2 species you would circle 2, 2, and 1 in the far column.</p> | <table border="1"> <thead> <tr> <th>Class</th> <th># of species</th> <th></th> </tr> </thead> <tbody> <tr> <td><u>Aquatic Bed</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>>3...</td> <td>Yes=3</td> </tr> <tr> <td><u>Emergent</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>>4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Scrub-Shrub</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>>4...</td> <td>Yes=3</td> </tr> <tr> <td><u>Forested</u></td> <td>1...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>2...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>>2...</td> <td>Yes=3</td> </tr> </tbody> </table> | Class | # of species | | <u>Aquatic Bed</u> | 1-2... | Yes=1 | " " | 3... | Yes=2 | " " | >3... | Yes=3 | <u>Emergent</u> | 1-2... | Yes=1 | " " | 3-4... | Yes=2 | " " | >4... | Yes=3 | <u>Scrub-Shrub</u> | 1-2... | Yes=1 | " " | 3-4... | Yes=2 | " " | >4... | Yes=3 | <u>Forested</u> | 1... | Yes=1 | " " | 2... | Yes=2 | " " | >2... | Yes=3 | <p>Yes=1</p> <p>Yes=2</p> <p>Yes=3</p> <p>Yes=1</p> <p>Yes=2</p> <p>Yes=3</p> <p>Yes=1</p> <p>Yes=2</p> <p>Yes=3</p> |
| Class | # of species | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Aquatic Bed</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | >3... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Emergent</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3-4... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | >4... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Scrub-Shrub</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3-4... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | >4... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Forested</u> | 1... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 2... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | >2... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|--|---|
| <p>5d. <u>Structural diversity.</u> If the wetland has a forested class, add 1 point for each of the following:</p> <ul style="list-style-type: none"> -trees > 50' tall -trees 20'- 49' tall -shrubs..... -herbaceous ground cover..... | <p>Yes=1 Yes=1 Yes=1 Yes=1 NA</p> |
| <p>5e. Decide from the diagrams below whether <u>interspersion between wetland classes</u> is high, moderate, low or none?</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center; margin: 10px;">  <p>none</p> </div> <div style="text-align: center; margin: 10px;">  <p>low</p> </div> <div style="text-align: center; margin: 10px;">  <p>low</p> </div> <div style="text-align: center; margin: 10px;">  <p>moderate</p> </div> <div style="text-align: center; margin: 10px;">  <p>moderate</p> </div> <div style="text-align: center; margin: 10px;">  <p>high</p> </div> </div> | <p>High=3 Moderate=2 Low=1 None=0</p> |
| <p>5f. <u>Habitat features.</u></p> <p>Answer questions below, circle features that apply, and score to right:</p> <ul style="list-style-type: none"> Is there evidence of current use by beavers? <u>NO</u> Yes=3 Is a heron rookery located within 300'? <u>NO</u> Yes=2 Are raptor nest/s located within 300'? <u>NO</u> Yes=1 Are there at least 3 standing dead trees (snags) per acre?..... <u>NO</u> Yes=1 Are any of these standing dead trees (snags) > 10" in diameter?..... <u>NO</u> Yes=1 Are there any other perches (wires, poles or posts)?..... <u>NO</u> Yes=1 Are there at least 3 downed logs per acre?..... <u>Yes</u> <u>Yes=1</u> | |
| <p>5g. <u>Connection to streams.</u> (Score one answer only.)</p> <p>Is the wetland connected at any time of the year via surface water:</p> <ul style="list-style-type: none"> to a perennial stream or a seasonal stream <u>with</u> fish;..... Yes=6 <u>or</u>, to a seasonal stream <u>without</u> fish;..... <u>Yes=4</u> <u>or</u>, is not connected to any stream?..... Yes=0 | |

5h. Buffers.

| | | | | | | | | | | | |
|--|--|---------------------|--|-------------|-------|-------------|-------|-------------|-------|-------------|-------|
| <p>STEP 1 Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary.</p> <p>Then multiply the %/s by the factor(s) below and enter result in column to right:</p> | <p>STEP 2 Multiply result(s) of step 1: by 1, if buffer width is 25-50'; by 2, if buffer width is 50-100'; by 3, if buffer width is >100'.</p> <p>Enter results below and add subscore:</p> | | | | | | | | | | |
| <p>roads, buildings or parking lots: %__ x 0 =</p> | <p>0</p> | | | | | | | | | | |
| <p>lawn, grazed pasture, vineyards or annual crops: %__ x 1 =</p> | <p>_____ x ____ = ____</p> | | | | | | | | | | |
| <p>ungrazed grassland or orchards: %__ x 2 =</p> | <p>_____ x ____ = ____</p> | | | | | | | | | | |
| <p>open water or native grasslands: %__ x 3 =</p> | <p>_____ x ____ = ____</p> | | | | | | | | | | |
| <p>forest or shrub: %<u>100</u> x 4 =</p> | <p><u>40</u> x <u>3</u> = ____</p> | | | | | | | | | | |
| <p style="text-align: right;">Add Buffer total = ____</p> | | | | | | | | | | | |
| <p>STEP 3. Score points according to table at right :</p> | <table border="0"> <tr> <td style="text-align: right;"><u>Buffer total</u></td> <td></td> </tr> <tr> <td style="text-align: right;">900-1200...</td> <td style="text-align: right;">Yes=4</td> </tr> <tr> <td style="text-align: right;">600-899....</td> <td style="text-align: right;">Yes=3</td> </tr> <tr> <td style="text-align: right;">300-599....</td> <td style="text-align: right;">Yes=2</td> </tr> <tr> <td style="text-align: right;">100-299....</td> <td style="text-align: right;">Yes=1</td> </tr> </table> | <u>Buffer total</u> | | 900-1200... | Yes=4 | 600-899.... | Yes=3 | 300-599.... | Yes=2 | 100-299.... | Yes=1 |
| <u>Buffer total</u> | | | | | | | | | | | |
| 900-1200... | Yes=4 | | | | | | | | | | |
| 600-899.... | Yes=3 | | | | | | | | | | |
| 300-599.... | Yes=2 | | | | | | | | | | |
| 100-299.... | Yes=1 | | | | | | | | | | |
| <p>5i. <u>Connection to other habitat areas:</u></p> <p>- Is there a riparian corridor to other wetlands within 0.25 of a mile, <u>or</u> a corridor > 100' wide with good forest or shrub cover to any other habitat area?.....</p> <p>- Is there a narrow corridor < 100' wide with good cover <u>or</u> a wide corridor > 100' wide with low cover to any other habitat area?</p> <p>- Is there a narrow corridor < 100' wide with low cover <u>or</u> a significant habitat area within 0.25 mile but no corridor?.....</p> <p>- Is the wetland and buffer completely isolated by development and or cultivated agricultural land?.....</p> | <p style="text-align: right;">Yes = <u>6</u></p> <p style="text-align: right;">Yes=4</p> <p style="text-align: right;">Yes=1</p> <p style="text-align: right;">Yes=0</p> | | | | | | | | | | |
| <p>NOW: Add the scores circled (for Q.5a - Q.5i above) to get a Total.</p> <p>Is the <u>Total</u> greater than or equal to 22 points.</p> | <p style="text-align: right;">Total = <u>27</u></p> <p style="text-align: right;">Yes: <u>Category II</u></p> <p style="text-align: right;">No: Category III</p> | | | | | | | | | | |

WETLANDS RATING FIELD DATA FORM

BACKGROUND INFORMATION:

Name of Rater: Ed Sewell Affiliation: Sewell Wetland Con. Date: 11-5-09

Name of wetland (if known): Wetland C - Yellowstone Trawl

Government Jurisdiction of wetland: Kiiftitas Co

Location: 1/4 S: _____ of 1/4 S: _____ SEC: 9 TOWNSHIP: 22N RANGE: 11E

SOURCES OF INFORMATION: (Check all sources that apply)

Site visit: USGS Topo Map: NWI map: Aerial Photo: Soils survey:

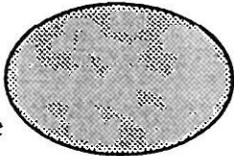
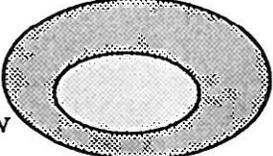
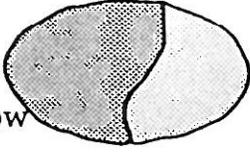
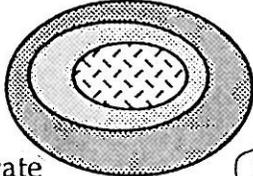
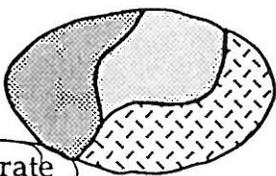
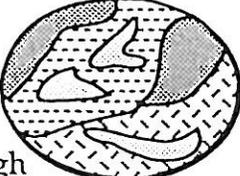
Other: Describe: _____

WHEN THE FIELD DATA FORM IS COMPLETE ENTER CATEGORY HERE: 2

| | |
|--|---|
| <p>Q.1. High Quality Natural Heritage Wetland.</p> <p>Answer this question if you have adequate information or experience to do so. If not find someone with the expertise to answer the questions. Then, if the answer to questions 1a, 1b and 1c are all NO, contact the Natural Heritage program of DNR.</p> <p>1a. Is there significant evidence of human-caused changes to topography or hydrology of the wetland? Significant changes <u>could</u> include clearing, grading, filling, logging of the wetland or its immediate buffer, or culverts, ditches, dredging, diking or drainage of the wetland. Briefly describe the changes and your information source/s: _____</p> <p>_____</p> <p>_____</p> <p>1b. Are there populations of non-native plants which are currently present and appear to be invading native populations? Briefly describe any non-native plant populations and information source(s): _____</p> <p>_____</p> <p>_____</p> <p>1c. Is there significant evidence of human-caused disturbance of the water quality of the system? Degradation of water quality could be evidenced by culverts entering the system, direct road/parking lot runoff, evidence of historic dumping of wastes, oily sheens, extreme eutrophic conditions, livestock use or dead fish etc. Briefly describe: _____</p> <p>_____</p> <p>_____</p> | <p>Circle answers:</p> <p>Yes: go to Q.3 No: go to 1b.</p> <p>Yes: go to Q.3. No: go to 1c.</p> <p>Yes: go to Q.3. No: <u>Possible Category 1</u></p> |
|--|---|

| | |
|--|--|
| <p>Q.2. <u>Regionally Rare Native Wetland Communities</u></p> <p>The Department of Ecology is developing a methodology for regionally rare native wetland communities. It is not yet available for use.</p> | |
| <p>Q.3. <u>Irreplaceable Ecological Functions:</u></p> <p>Does the wetland:</p> <ul style="list-style-type: none"> - have at a least 1/2 acre of contiguous peat wetland; - <u>or</u>, have a forested class greater than 1 acre ; | <p>No to <u>both</u>: go to Q.4.</p> <p>Yes: go to 3a.</p> <p>Yes: go to 3b.</p> |
| <p>Q.3a. <u>Peat Wetlands.</u></p> <p>3a1. Does at least 1/2 acre of the contiguous peat wetland have < 25% areal cover of any combination of species from the list of invasive/exotic species on p.19, <u>and</u> have < 80% areal cover of <i>Spirea douglasii</i>?</p> | <p>Yes: Category I</p> <p>No: go to Q.4.</p> |
| <p>Q.3b. <u>Mature forested wetland.</u></p> <p>3b1. Is the average age of dominant trees in the forested wetland > 80 years?</p> <p>3b2. Is the average age of dominant trees in the forested wetland 50-80 years, <u>and</u> is the structural diversity high as characterized by a multi-layer community of trees > 50' tall <u>and</u> trees 20'-49' tall <u>and</u> shrubs <u>and</u> herbaceous groundcover? ..</p> <p>3b3. Is > 50% (areal cover) of the dominant plants in one or more layers (canopy, young trees, shrubs, herbs) invasive/exotic plant species from the p.19 list? ..</p> | <p>Yes: Category I</p> <p>No: go to 3b2.</p> <p>Yes: go to 3b3.</p> <p>No: go to Q.5.</p> <p>Yes: go to Q.5.</p> <p>No: Category I</p> |
| <p>Q.4. <u>Category IV wetlands</u></p> <p>4.1. Is the wetland: less than 1 acre <u>and</u>, hydrologically isolated <u>and</u>, comprised of <u>one</u> vegetated class that is dominated (> 80% areal cover) by <u>one</u> species from the list in guidance p.18.</p> <p>4.2. Is the wetland: less than two acres <u>and</u>, hydrologically isolated, with <u>one</u> vegetated class, and > 90% of areal cover is <u>any</u> combination of species from the list in guidance p.19.</p> | <p>Yes: Category IV</p> <p>No: go to 4.2.</p> <p>Yes: Category IV</p> <p>No: go to Q.5.</p> |

| Q.5. Significant habitat value. Answer all questions and enter data requested. | | Circle scores that qualify | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--------------|-------|--------------------|--------|---------|--------|---------|---------------|---------|--------|---------|-----------------|--------|-------|-----|--------|-------|-----|--------|--------------|--------------------|--------|-------|-----|--------|-------|-----|--------|--------------|-----------------|------|-------|-----|------|-------|-----|--------|--------------|
| <p>5a. <u>Total wetland area</u></p> <p>Estimate area, select from choices in the near-right column, and score in the far column:</p> <p>Enter acreage of wetland here: <u>1.75</u> acres, and source: <u>SURV</u></p> | <p>acres</p> <p>> 20.00</p> <p>10 - 19.99</p> <p>5 - 9.99</p> <p>1 - 4.99</p> <p>0.1 - 0.99</p> <p><0.1</p> | <p>Yes=6</p> <p>Yes=5</p> <p>Yes=4</p> <p>Yes=3</p> <p><u>Yes=2</u></p> <p>Yes=1</p> <p style="text-align: right;">2</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5b. <u>Wetland classes</u>: Circle the wetland classes below that qualify:</p> <p><u>Open Water</u>: if the area of open water is > 1/2 acre or > 10% of the total wetland area. Source: _____</p> <p><u>Aquatic Beds</u>: if the area of aquatic beds > 10% of the <u>open water</u> area or > 1/2 acre.</p> <p><u>Emergent</u>: if the area of emergent class is > 1/2 acre or > 10% of the total wetland area.</p> <p><u>Scrub-Shrub</u>: if the area of scrub-shrub class is > 1/2 acre or > 10% of the total wetland area.</p> <p><u>Forested</u>: if area of forested class is > 1/2 acre or > 10% of the total wetland area.</p> <p>Add the number of wetland classes, above, that qualify, and then score according to the columns at right.</p> <p>e.g. If there are 4 classes (aquatic beds, open water, emergent & scrub-shrub), you would circle 8 points in the far right column.</p> | | <table border="1"> <thead> <tr> <th># of classes</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Yes =1</td> </tr> <tr> <td>2</td> <td>Yes =3</td> </tr> <tr> <td>3</td> <td><u>Yes =5</u></td> </tr> <tr> <td>4</td> <td>Yes =8</td> </tr> <tr> <td>5</td> <td>Yes =11</td> </tr> </tbody> </table> <p style="text-align: right;">5</p> | # of classes | Score | 1 | Yes =1 | 2 | Yes =3 | 3 | <u>Yes =5</u> | 4 | Yes =8 | 5 | Yes =11 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| # of classes | Score | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Yes =1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Yes =3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | <u>Yes =5</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Yes =8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Yes =11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5c. <u>Plant species diversity</u>.</p> <p>For all wetland classes (at right) that qualify in 5b. above, count the number of different plant species you can find. You do not have to name them.</p> <p>Score in column at far right:</p> <p>e.g. If a wetland has an aquatic bed class with 3 species, an emergent class with 4 species and a scrub-shrub class with 2 species you would circle 2, 2, and 1 in the far column.</p> | <table border="1"> <thead> <tr> <th>Class</th> <th># of species</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td><u>Aquatic Bed</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 3...</td> <td>Yes=3</td> </tr> <tr> <td><u>Emergent</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 4...</td> <td><u>Yes=3</u></td> </tr> <tr> <td><u>Scrub-Shrub</u></td> <td>1-2...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>3-4...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 4...</td> <td><u>Yes=3</u></td> </tr> <tr> <td><u>Forested</u></td> <td>1...</td> <td>Yes=1</td> </tr> <tr> <td>" "</td> <td>2...</td> <td>Yes=2</td> </tr> <tr> <td>" "</td> <td>> 2...</td> <td><u>Yes=3</u></td> </tr> </tbody> </table> <p style="text-align: right;">9</p> | Class | # of species | Score | <u>Aquatic Bed</u> | 1-2... | Yes=1 | " " | 3... | Yes=2 | " " | > 3... | Yes=3 | <u>Emergent</u> | 1-2... | Yes=1 | " " | 3-4... | Yes=2 | " " | > 4... | <u>Yes=3</u> | <u>Scrub-Shrub</u> | 1-2... | Yes=1 | " " | 3-4... | Yes=2 | " " | > 4... | <u>Yes=3</u> | <u>Forested</u> | 1... | Yes=1 | " " | 2... | Yes=2 | " " | > 2... | <u>Yes=3</u> |
| Class | # of species | Score | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Aquatic Bed</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 3... | Yes=3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Emergent</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3-4... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 4... | <u>Yes=3</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Scrub-Shrub</u> | 1-2... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 3-4... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 4... | <u>Yes=3</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Forested</u> | 1... | Yes=1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | 2... | Yes=2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| " " | > 2... | <u>Yes=3</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|--|---|
| <p>5d. <u>Structural diversity.</u> If the wetland has a forested class, add 1 point for each of the following:</p> <ul style="list-style-type: none"> -trees > 50' tall Yes=1 -trees 20'- 49' tall Yes=1 -shrubs Yes=1 -herbaceous ground cover. Yes=1 | <p style="text-align: right;">3</p> |
| <p>5e. Decide from the diagrams below whether <u>interspersions between wetland classes</u> is high, moderate, low or none?</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">  <p>none</p> </div> <div style="text-align: center;">  <p>low</p> </div> <div style="text-align: center;">  <p>low</p> </div> <div style="text-align: center;">  <p>moderate</p> </div> <div style="text-align: center;">  <p>moderate</p> </div> <div style="text-align: center;">  <p>high</p> </div> </div> | <p style="text-align: right;">High=3 Moderate=2 Low=1 None=0</p> <p style="text-align: right;">2</p> |
| <p>5f. <u>Habitat features.</u></p> <p>Answer questions below, circle features that apply, and score to right:</p> <ul style="list-style-type: none"> Is there evidence of current use by beavers? <i>Yes</i> Yes=3 Is a heron rookery located within 300'? <i>Yes</i> Yes=2 Are raptor nest/s located within 300'? <i>Yes</i> Yes=1 Are there at least 3 standing dead trees (snags) per acre? <u>Yes=1</u> Are any of these standing dead trees (snags) > 10" in diameter? Yes=1 Are there any other perches (wires, poles or posts)? Yes=1 Are there at least 3 downed logs per acre? <u>Yes=1</u> | <p style="text-align: right;">2</p> |
| <p>5g. <u>Connection to streams.</u> (Score one answer only.)</p> <p>Is the wetland connected at any time of the year via surface water:</p> <ul style="list-style-type: none"> to a perennial stream or a seasonal stream <u>with</u> fish; Yes=6 <u>or</u>, to a seasonal stream <u>without</u> fish; <u>Yes=4</u> <u>or</u>, is not connected to any stream? Yes=0 | <p style="text-align: right;">4</p> |

5h. Buffers.

| STEP 1 Estimate (to the nearest 5%) the % of each buffer or land-use type (below) that adjoins the wetland boundary. Then multiply the %/s by the factor(s) below and enter result in column to right: | STEP 2 Multiply result(s) of step 1: by 1, if buffer width is 25-50'; by 2, if buffer width is 50-100'; by 3, if buffer width is >100'. Enter results below and add subscore: |
|---|---|
| roads, buildings or parking lots: %__ x 0 = | 0 |
| lawn, grazed pasture, vineyards or annual crops: %__ x 1 = | _____ x ____ = ____ |
| ungrazed grassland or orchards: %__ x 2 = | _____ x ____ = ____ |
| open water or native grasslands: %__ x 3 = | _____ x ____ = ____ |
| forest or shrub: % <u>10</u> x 4 = | <u>400</u> x <u>3</u> = <u>1200</u> |
| Add Buffer total = ____ | |

STEP 3. Score points according to table at right :

| | |
|---------------------|-------|
| <u>Buffer total</u> | |
| 900-1200. . . | Yes=4 |
| 600-899. . . . | Yes=3 |
| 300-599. . . . | Yes=2 |
| 100-299. . . . | Yes=1 |

4

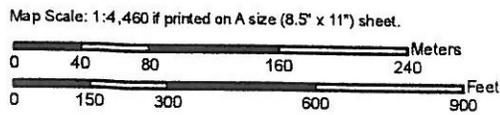
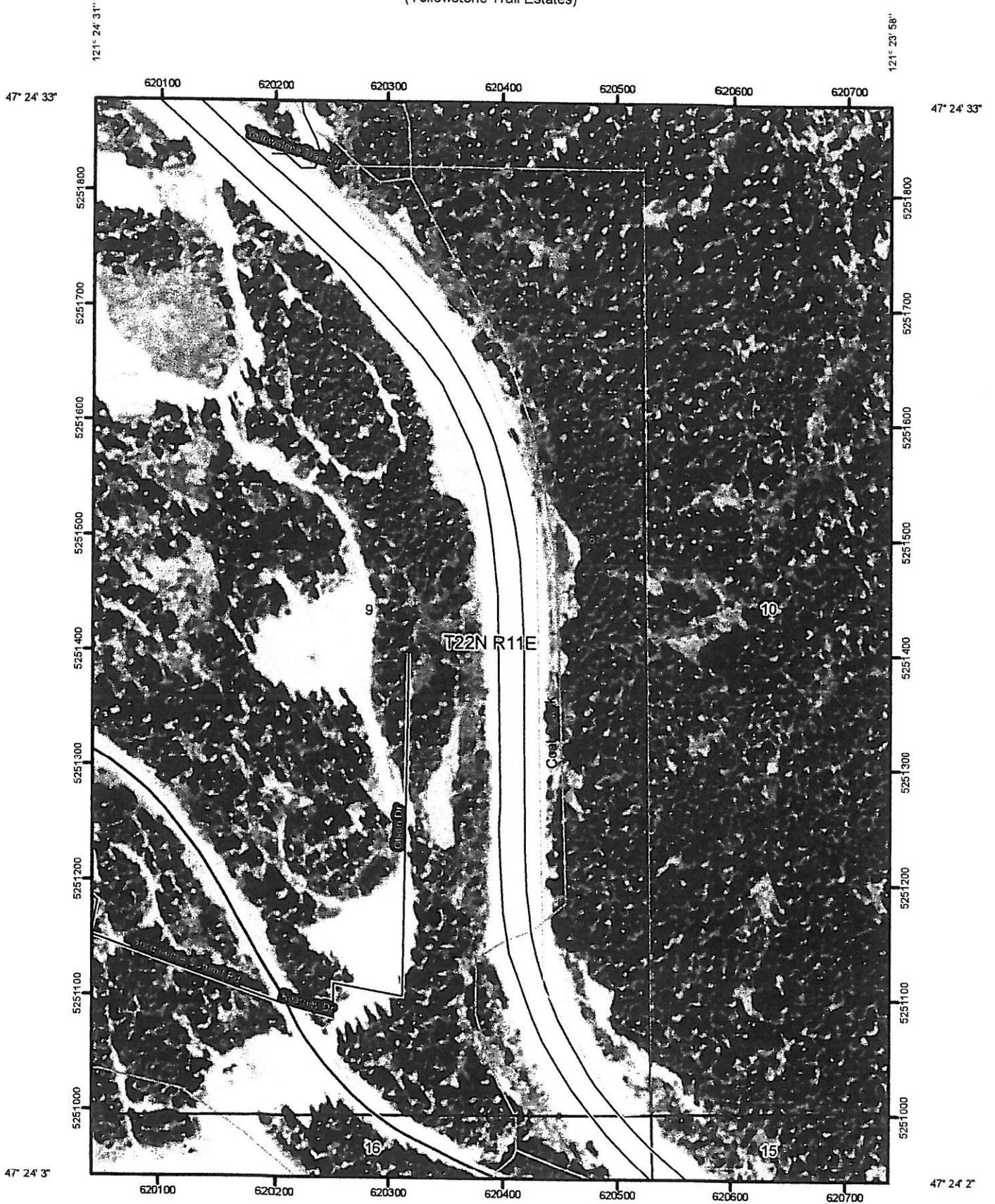
5i. Connection to other habitat areas:

| | |
|---|-------|
| - Is there a riparian corridor to other wetlands within 0.25 of a mile, <u>or</u> a corridor > 100' wide with good forest or shrub cover to any other habitat area? | Yes=6 |
| - Is there a narrow corridor < 100' wide with good cover <u>or</u> a wide corridor > 100' wide with low cover to any other habitat area? | Yes=4 |
| - Is there a narrow corridor < 100' wide with low cover <u>or</u> a significant habitat area within 0.25 mile but no corridor? | Yes=1 |
| - Is the wetland and buffer completely isolated by development and or cultivated agricultural land? | Yes=0 |

6

NOW: Add the scores circled (for Q.5a - Q.5i above) to get a Total. Total = 37
 Is the Total greater than or equal to 22 points. Yes: Category II
 No: Category III

Soil Map—Kittitas County Area, Washington
(Yellowstone Trail Estates)



Map Unit Legend

| Kittitas County Area, Washington (WA637) | | | |
|--|--|--------------|----------------|
| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
| 187 | Chinkmin ashy sandy loam, 5 to 30 percent slopes | 23.8 | 100.0% |
| Totals for Area of Interest | | 23.8 | 100.0% |

MAP LEGEND

| | | | |
|-------------------------------|------------------------|------------------------------|-------------------------|
| | Area of Interest (AOI) | | Very Stony Spot |
| | Soils | | Wet Spot |
| | Soil Map Units | | Other |
| Special Point Features | | | |
| | Blowout | Special Line Features | |
| | Borrow Pit | | Gully |
| | Clay Spot | | Short Steep Slope |
| | Closed Depression | | Other |
| | Gravel Pit | Political Features | |
| | Gravelly Spot | | Cities |
| | Landfill | | PLSS Township and Range |
| | Lava Flow | | PLSS Section |
| | Marsh or swamp | Water Features | |
| | Mine or Quarry | | Oceans |
| | Miscellaneous Water | | Streams and Canals |
| | Perennial Water | Transportation | |
| | Rock Outcrop | | Rails |
| | Saline Spot | | Interstate Highways |
| | Sandy Spot | | US Routes |
| | Severely Eroded Spot | | Major Roads |
| | Sinkhole | | Local Roads |
| | Slide or Slip | | |
| | Sodic Spot | | |
| | Spoil Area | | |
| | Stony Spot | | |

MAP INFORMATION

Map Scale: 1:4,460 if printed on A size (8.5" x 11") sheet.
 The soil surveys that comprise your AOI were mapped at 1:24,000.
 Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 10N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kittitas County Area, Washington
 Survey Area Data: Version 3, Jun 15, 2009
 Date(s) aerial images were photographed: 8/5/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Kittitas County Area, Washington

187—Chinkmin ashy sandy loam, 5 to 30 percent slopes

Map Unit Setting

Elevation: 2,500 to 5,900 feet
Mean annual precipitation: 40 to 120 inches
Mean annual air temperature: 35 to 41 degrees F
Frost-free period: 40 to 85 days

Map Unit Composition

Chinkmin and similar soils: 80 percent
Minor components: 20 percent

Description of Chinkmin

Setting

Landform: Lateral moraines, valley sides
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Volcanic ash and pumice over dense basal till

Properties and qualities

Slope: 5 to 30 percent
Depth to restrictive feature: 20 to 40 inches to cemented horizon
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability (nonirrigated): 6e
Other vegetative classification: Pacific silver fir/rusty menziesia (CFS542)

Typical profile

0 to 1 inches: Moderately decomposed plant material
1 to 2 inches: Highly decomposed plant material
2 to 5 inches: Ashy sandy loam
5 to 11 inches: Cobbly medial loam
11 to 16 inches: Cobbly medial loam
16 to 23 inches: Very cobbly medial sandy loam
23 to 33 inches: Very gravelly medial sandy loam
33 to 41 inches: Cemented material

Minor Components

Nimue

Percent of map unit: 7 percent

Vabus

Percent of map unit: 5 percent

Thetis

Percent of map unit: 5 percent

Cryaquepts

Percent of map unit: 3 percent

Landform: Troughs, depressions

Other vegetative classification: Sitka alder/alluvial bar (SWGR12)

Data Source Information

Soil Survey Area: Kittitas County Area, Washington

Survey Area Data: Version 3, Jun 15, 2009