

Sewall Wetland Consulting, Inc.

PO Box 880 Fall City, WA 98024 Phone: 253-859-0515

October 12, 2020

Spencer Parr WLC Holdings 651 Strander Blvd, Suite 215 Tukwila, Washington 98188

RE: Critical Area Report – Parcel #15445 Kittitas County, Washington SWC Job #20-150

Dear Spencer,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on Parcel #15445, in unincorporated Kittitas County, Washington (the "site"). The irregular shaped parcel is 18.81 acres in size and located within the SW ¼ of Section 32, Township 20 North, Range 16 East of the W.M.



Above: Vicinity Map of site



Above: Aerial photograph from Kittitas Mapsifter website with wetland layer activated

METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site on August 25 & 27 of 2020. The site was reviewed using methodology described in the **Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)** (USACOE September 2008) as required by the US Army Corps of Engineers starting in June of 2009. This is the methodology currently recognized by Kittitas County for wetland determinations and delineations. The site was also reviewed using methodology described in Soil colors were identified using the 1990 Edited and Revised Edition of the **Munsell Soil Color Charts** (Kollmorgen Instruments Corp. 1990.

OBSERVATIONS

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 and the NRCS Soil Survey online mapping and Data.

National Wetlands Inventory (NWI)

The NWI map depicts emergent wetland on the north and south sides of the site. The wetland is depicted as a portion of a larger wetland that extends off-site to the east and west of the site.



Above: NWI map of the area of the site

Kittitas tax sifter website with wetland layers activated.

The Kittitas County Taxsifter website with wetland layers activated depicts the same wetlands as shown on the NWI map for the site. The entire site is also depicted as in the 100 year floodplain (pink shading). In addition the creek passing along the north side of the site is mapped as a Type 2 water.



Above: Kittitas tax sifter website mapping of the site with wetland and floodway layers activated.

Soil Survey

According to the NRCS Soil Mapper website, the site is mapped as containing Patnish-Mippon-Myzel complex soils. This soils type is considered moderately well-drained and is formed in alluvium with some volcanic ash.

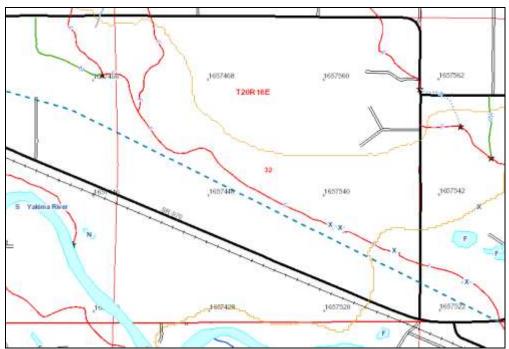


Above: NRCS soil map of the site.

This soil series is not considered "hydric" soils according to the publication Hydric Soils of the United States (USDA NTCHS Pub No.1491, 1991).

WDNR Fpars Water Type Mapping

The WDNR Fpars Water Type mapping website depicts a Type F water running just to the north of the site.



Above: WADNR Fpars Stream mapping of the area of the site.

Field observations

The site consists of a relatively flat parcel with a gravel access road passing through the west and north side of the site. The site is generally an immature pine plantation covered with scattered ponderosa pine which was planted throughout the site. Most of these pines are small appearing to be approximately 15 years old. The understory of the pine plantation is maintained in mowed grass consisting of tall fescue, quackgrass and bluegrass with a mix of weedy species. A small irrigation pond excavated from upland area sometime around 2003 is located on the western side of the site.

Soils on the site generally consist of a sandy loam which have B-horizon soil colors of 10YR 3/3-3/4 with no hydric indicators or evidence of wetland hydrology.

Wetlands

The site contains a portion of a large wetland associated with the Type 2/F water along the north side of the site. A small finger of this larger wetland also extends along the south side of the site from the east. The

creek on the north is a Type F water and mapped under the old water type designations as a Type 2 by the County, is located within the center of the wetland to the north. The edge of the wetland abutting the site was flagged with pink flagging labeled A1-A31. The wetland was gps located for preliminary mapping with gps points 203-217 (A1-A15) and 239-255 (A16-A31). The gravel access road that passes through the site breaks the wetland flagging between flags A6 & A7. A 72" culvert passes under the road near the north property line which allows the stream to flow to the east through the site within the wetland.

The portion of wetland on-site consist of emergent wetland dominated by reed canary grass and cattail, scrub -shrub areas dominated by sitka and coyote willow, rose and hardhack, and a narrow band of forested area comprised of black cottonwood and quaking aspen.

Soil pits excavated within these wetland areas revealed a cobbly loam with colors of 10YR 2/1 with common, medium distinct redoximorphic concentrations. Soils within these areas were saturated to within 8" of the surface.

Using the 2014 WADOE Wetland Rating system for Eastern Washington, and rating Wetland A as a riverine type wetland, the wetlands scored a total of 21 points with 8 for habitat. This indicates a Category II wetland. According to Kittitas County Municipal Code (KCMC) 17A.04.020, Category II wetlands have a buffer of 25'-100'. Given the high habitat score a buffer of 100' buffer would be appropriate. It should be noted that much of the existing buffer is maintained and mowed gras under a pine plantation and of relatively low habitat function despite the wetlands high habitat score. This could be averaged if needed, or possibly reduced below 100' with enhancement plantings.

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      17A.04.020 Buffer width requirements.

      Wetland buffer requirements apply to all nonexempt activities on regulated wetlands. All wetland buffers shall be measured from the wetland boundary.

      Category Size of Wetland

      Required Buffer

      I
      any size
      50 - 200 feet

      II
      over 2.000 sq. ft.
      25 - 100 feet

      III
      over 10.000 sq. ft.
      20 - 80 feet

      IV*
      43,560 sq. ft. (1 acre)
      Building setbacks will be determined by the zoning lot line setbacks, but shall not exceed 25 feet,

      "Includes only nonimigation induced or enhanced Category IV wetlands. Imigation water does influence ground water table elevations in Kittitas County.
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Type 2 Water

The Type F water, referred to as a Type 2 water by the County using the old water typing system, is a known fish bearing water. According to KCMC 17A.070.010, Type 2 waters within Kittitas County have a buffer of 40'-100'. The buffer of this stream is within the wetland buffer area on the site.

17A.07.010 Riparian habitat.

| Type 1, 2, or 3 v | t Critical Areas shall constitute Type 1, 2 and 3, including portions of Type 4 and 5 waters at the intersecting points with a vaters. Type 4 waters will be designated a critical area for a distance of forty to five hundred feet. Type 5 waters shall be tical area where it is located within the buffers for Types 1, 2 or 3 waters, as determined by the planning manager. |
|-------------------|---|
| 2. Performance St | andards Buffers. |
| Type 1 waters | 40-200 feet from OHWM. |
| Type 2 waters | 40-100 feet from OHWM. |
| Type 3 waters | 20- 50 feet from OHWM. |
| Type 4 waters | 10- 20 feet from the intersection with a Type 1, 2 or 3 water for a distance of 40 to 500 feet. From the point at which the buffer ends (40 - 500 feet upstream from the confluence), there shall be a 15-foot structural setback from the ordinary high water mark. |
| Type 5 waters | None required (buffering will be provided by the Type 1, 2 or 3 waters' buffers). Note: Building setbacks from a Type 5 water will be 15 feet, unless a buffer greater than or equal to the 15-foot setback is in place. |

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 <u>esewall@sewallwc.com</u>.

Sincerely, Sewall Wetland Consulting, Inc.

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Ed Sewall Senior Wetlands Ecologist PWS #212

Attached: Data sheets Rating Form

REFERENCES

Cowardin, L., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79-31, Washington, D. C.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. U. S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

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Muller-Dombois, D. and H. Ellenberg. 1974. Aims and Methods of Vegetation Ecology. John Wiley & Sons, Inc. New York, New York.

Munsell Color. 1988. Munsell Soil Color Charts. Kollmorgen Instruments Corp., Baltimore, Maryland.

National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. USDA Misc. Publ. No. 1491.

Reed, P., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northwest (Region 9). 1988. U. S. Fish and Wildlife Service, Inland Freshwater Ecology Section, St. Petersburg, Florida.

Reed, P.B. Jr. 1993. 1993 Supplement to the list of plant species that occur in wetlands: Northwest (Region 9). USFWS supplement to Biol. Rpt. 88(26.9) May 1988.

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



Above: location of data points.

| WETLAND DETE | RMINATION DATA I | FORM - Arid West Region | |
|---|--------------------------|--------------------------------|--------------------------|
| WETLAND DETE Project/Site: WAC Applicant/Owner: Investigator(s): Zcl Scent/ | City/County: | Kithtas | Sampling Date: 8-27-2 |
| Investigator(s): Id Scml | Section, Town | nship, Range: | |
| Landform (hillslope, terrace, etc.): | Local relief (c | oncave, convex, none); | Slope (%): |
| Subregion (LRR): | Let: | Long: | Detum: |
| Soil Map Unit Name: | | NWI classifica | ation: |
| Are climatic / hydrologic conditions on the site typical for th | is lime of year? Yes 🔜 | No | emarks.) / |
| Are Vegetation, Soli, or Hydrology | significantly disturbed? | | |
| Are Vegetation, Soil, or Hydrology | naturally problematic? | (If needed, explain any answer | |
| SUMMARY OF FINDINGS - Attach site map | showing sampling | point locations, transects, | important features, etc. |
| Hydrophytic Vagetation Present? Yes I Hydric Soil Present? Yes I Wetland Hydrology Present? Yes I | No within | Sampied Area a Wetland? Yes | _ No |
| Remerks: | | | |
| | <u></u> . | | |
| VEGETATION | | | |

| | | Dominant | | Dominance Test workshee | t: |
|--|-------------|----------|----------|---|-------------------------------------|
| Tree Stratum (Use scientific names.) 1 | | Species? | | Number of Dominant Specie That Are OBL, FACW, or FA | |
| 2. | · | | | Total Number of Dominant | - |
| 3 | | | | Species Across All Strata: | <u> </u> |
| 4 | | | | Design of Design of Constants | |
| Total Cover Sapling/Shrub Stratum | : | | | Percent of Dominant Specie That Are OBL, FACW, or FA | |
| 1 | | | | Prevalence Index workshe | st: |
| 2 | | | | Total % Cover of | Multiply by: |
| 3 | | | | OBL species | x1= |
| 4 | | | | FACW species | x2= |
| 5 | | | | FAC species | x 3 = |
| Total Cover | | | | FACU species | x 4 = |
| Herb Stratum | | | Car. | UPL species | |
| 2 Doropher reas | 40 | · | FAL | Column Totals: | (A) (B) |
| 3. | | | A | Prevalence index = 8/ | A = |
| 4 | | | | Hydrophytic Vegetation Inc | |
| 5. | | | | Oominance Test is >509 | |
| 6 | | | | Prevalence index is <3.0 | 1 |
| 7 | | | | Morphological Adaptatio | rs ¹ (Provide supporting |
| 8Total Cover | | | | Problematic Hydrophylic | |
| Woody Vine Stratum | | | | | |
| 2. | | | | 'Indicators of hydric soil and be present. | wethand hydrology must |
| Total Cover | | | | Hydrophytic Vegetation | / |
| % Bare Ground in Herb Stratum % Cover | of Biotic C | rust | | Present? Yes | No |
| Remarks: | | | | | |
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| | | | | | |
| | | | | | ······ |
| JS Army Corps of Engineers | | | | Ank | 1 West - Version 11-1-2006 |

| ydric Soll indicators: (Applicable to all LRRs, unless otherwise (| wes too Loo Texture Repeats <u>Cobles</u> 5mls La <u>Smls</u> La |
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| | tion: PL=Pore Lining, RC=Root Channel, M=Matrix. noted.) Indicators for Problematic Hydric Solis ² ; |
| | , |
| Histosol (A1) Sandy Redox (S5 | |
| Histic Epipedon (A2) Stripped Maintx (S | |
| Black Histic (A3) Loamy Mucky Min | |
| Hydrogen Sulfide (A4) Loamy Gleyed Ma | |
| Stratified Layers (A5) (LRR C) Depieted Matrix (F | |
| 1 cm Muck (A9) (LRR D) Redox Dark Surfa | |
| Depleted Below Dark Surface (A11) Depleted Dark Su | |
| Thick Derk Surface (A12) Redox Depression | |
| Sendy Mucky Mineral (S1) Vernal Pools (F9) | |
| Sandy Gloyed Matrix (S4) | welland hydrology must be present. |
| testrictive Layer (if present): | 1 |
| Туре: | |
| Depth (inches): | Hydric Soli Present? Yes No |
| (DROLOGY | |
| Vetland Hydrology Indicators: | Secondary Indicators (2 or more required) |
| | |
| Primary Indicators (any one indicator is sufficient) | Water Marks (B1) (Riverine) |
| Surface Water (A1) Salt Crust (B11) | Sedment Deposits (B2) (Riverine) |
| | |
| Saturation (A3) Aquatic invertebr | |
| Water Marks (B1) (Nonstverine) Hydrogen Sulfide | e Odor (C1) Dry-Season Water Table (C2) |
| Sediment Deposits (B2) (Nonriverine) Oxidized Rhizosp | oheres along Living Roots (C3) Thin Muck Surface (C7) |
| Drift Deposits (63) (Nonriverine) Presence of Red | uced iron (C4) Crayfish Burrows (C8) |
| | uction in Prowed Solts (C6) Saturation Visible on Aerial Imagery (C9) |
| inundation Visible on Aerial Imagery (B7) Other (Explain in | |
| Water-Stained Leaves (B9) | FAC-Neutral Test (D5) |
| Teld Observations: | |
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| Burface Water Present? Yes No Depth (inches): , | |
| Nater Table Present? Yes NoDepth (inches): , | / |
| Saturation Present? Yes No Depth (inches): | Wetland Hydrology Present? Yes No |
| includes capillary fringe) | i i i i i i i i i i i i i i i i i i i |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, | , previous inspections), if available: |
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| Remarks: | |
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| ternarks: NP 1 | vl. cate s |

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| roject/Site:/ | | City/County | - <u> </u> | 177-125 Sampling Date: 5-27- |
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| vestigator(s): 50 S- | 1 | | | State: Sampling Point: |
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| | | | | convex, none): Slope (%): |
| ibregion (LRR): | Lat: | | | Long: Datum: |
| bil Map Unit Name: | | | | NWI classification; |
| e climatic / hydrologic conditions on the site typical for t | this time of ye | ar? Yes | <u> </u> | (if no, explain in Remarks.) |
| e Vegetalion, Soll, or Hydrology | significantly | disturbed? | Are | "Normal Circumstances" present? Yes No |
| e Vegetation, Soil, or Hydrology | _naturally pro | blematic? | (if n | eeded, explain any answers in Remarks.) |
| UMMARY OF FINDINGS - Attach site ma | p showing | samplin | a point | locations, transects, important features, etc. |
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| Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes | No | ls th | e Sample | |
| | No V | with | in a Wella | nd? Yes No |
| Remarks: | | | | |
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| EGETATION | | | | |
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| Free Stratum (Use scientific names.) | | Species? | | Number of Dominant Species |
| I | | | | That Are OBL, FACW, or FAC: (A) |
| 3 | | | | Total Number of Dominant |
| | | | | Species Across All Strata: (B) |
| | | ` | | Percent of Dominant Species (DC) |
| Saoling/Shrub Stratum | ver: | | | That Are OBL, FACW, or FAC: (A/B) |
| I | | | | Prevalence Index worksheet: |
| 2 | | | | Total % Cover of:Multiply by: |
| B | <u> </u> | | | OBL species x 1 = |
| | | | | FACW species x 2 = |
| 5 Total Cox | | | | FAC species x 3 = |
| Herb Stratum | 50 | | Ea. | UPL species x 5 = |
| Prazan | | ····· | THE | Column Totals: (A) (B) |
| 2 | | | | |
| 3. | | | | Prevalence index = B/A = Hydsobhytic Vegetation Indicators; |
| · | | | | Dominance Test is >50% |
| 5 5 | | | | Prevalence index is <3.0* |
| | | | | Morphological Adaptations' (Provide supporting |
| B | | | | data in Remarks or on a separate sheet) |
| Total Cov | ver: | | | Problematic Hydrophylic Vegetation' (Explain) |
| Woody Vine Stratum | | | | Instanton of builds call as doubtined builds a set |
| | | | | Indicators of hydric soil and wetland hydrology must be present. |
| Z | | | | Hydrophytic |
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| | ver of Biotic C | rust | | Present? Yes <u>No</u> |
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| | Suffide (A4) | Loamy Gleyed Matrix (F2) | | Parent Material (TF2) |
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| | k (A9) (LRR D) | Redox Dark Surface (F6) | | · |
| | Below Dark Surface (A11) | Depleted Dark Surface (F7) | | |
| | k Surface (A12) | Redox Depressions (F8) | | |
| | cky Mineral (S1) | Vernal Pools (F9) | Indicator | of hydrophytic vegetation and |
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| etiand Hydr imaryIndical Surface W High Wate Saturation Water Mar. Sediment Sediment Drift Depo Surface Si inundation Water-Sta | niogy indicators: lors (any one indicator is suffi- fater (A1) r Table (A2) (A3) (A3) (A0nrtverine) Deposits (82) (Nonrtverine) aits (83) (Nonrtverine) aits (83) (Nonrtverine) ol Cracks (86) // Viable on Aerial imagery (87) ind Leaves (89) | deni) Self Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along LMing Presence of Reduced Iron (C4) Recent fron Reduction in Rowed S)Other (Explain in Remarks) | Seco | ndiary Indicetors (2 or more readined) Mater Marks (B1) (Riverine) Sedment Deposits (B2) (Riverine) Mit Deposits (B3) (Riverine) Trainage Patterns (B10) Tys-Sesson Watter Table (C2) Thin Muck Surface (C7) Tasylish Burrows (C8) Saduration Visible on Aerial Imagery (C9) Shallow Aquitard (D3) |
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| | | | - Arid West Region | |
|--|-----------------------------|---------------------------------------|--|---|
| roject/Site: | ci | | | Sampling Date: 8-27- |
| oplicant/Owner: | | | State: Lug | Sampling Point: DP # |
| nvestigator(s): Zel Se | m.M. s | | ange: | |
| andform (hillslope, terrace, etc.): | | | | |
| ubregion (LRR): | Let: | | Long: | Datum: |
| oil Map Unit Name: | | | NWI classific | ation; |
| Are climatic / hydrologic conditions on the site typ | sical for this time of year | ? Yes - No | (If no, explain in R | emarks.) |
| Are Vegetation | | | | |
| Are Vegetation, Soil, or Hydrolog | | | needed, explain any answe | |
| | | • | | , |
| SUMMARY OF FINDINGS - Attach s | ite map showing s | ampling point | locations, transacts | , important features, etc. |
| | No No | within a Wetl | and? Yes | No |
| EGETATION | | | | |
| Tree Stratum (Use scientific names.) | | Cominant Indicator Species? Status | | |
| 1 | | | | or FAC: (A) |
| 2 | | | Total Number of Domin | |
| 3 | | | . Species Across All Stra | ta: (B) |
| 4 | | | | |
| | | | Percent of Dominant Sp | |
| | iotal Cover. | | | becies br FAC: (A/B) |
| | | | | or FAC: (A/B) |
| Social Shrup Statum | iotal Cover. | upi | Prevalence Index work | or FAC: (A/B) |
| Saoina Shrub Stratum 1 puture puture 1. 2. | Total Cover: | up | That Are OBL, FACW, Prevalence Index work <u>Total % Cover of</u> OBL species | or FAC: (A/B) ksheet: Mukloly by: x 1 = |
| Sacing Stratum 1 princi primero 2 | Total Cover: | up | That Are OBL, FACW, a Prevalence Index work Total % Cover of: OBL species FACW species | or FAC: (A/B) ksheet: <u>Mukioly by:</u> x 1 = |

FAC

| Depth . | Mabrix | Redox | x Features | | | |
|---|--|---|--|--|---|---|
| (Inches) | Color (moist) % | Color (moist) | _% | Loc2 | Texture | Remarks |
| 110 | 10112312 | | | | Solo | tre |
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| | | | | | | |
| Type: C=Cor | centration, D=Depletion, RM | Reduced Matrix. | ² Location: PL=P | ore Lining, F | C=Root Chan | nel, M=Matrix. |
| | dicators: (Applicable to al | | | | | for Problematic Hydric Solis ³ : |
| Histosol (/ | A1) | Sandy Redo | K (S5) | | 1 cm l | fuck (A9) (LRR C) |
| | pedan (A2) | Stripped Ma | | | | Auck (A10) (LRR B) |
| Black Hist | | Loemy Muci | | | | ed Vertic (F18) |
| | Sulfide (A4) | | ed Matrix (F2) | | | arent Material (TF2) |
| | Layers (A5) (LRR C) | Depieled Ma | | | | (Explain in Remarks) |
| | k (A9) (LRR D) | Redox Dark | | | | |
| | Below Dark Surface (A11) | | nk Surface (F7) | | | |
| | k Surface (A12) | Redox Depr | | | | |
| | cky Mineral (S1) | Vernel Pools | | | Indicators | of hydrophytic vegetation and |
| | eyed Matrix (S4) | | | | | hydrology must be present. |
| | iver (if present): | | | | 1 | |
| Type: | and the presence. | | | | | |
| | · · · · · · · · · · · · · · · · · · · | | | | | |
| Depth (inch | ies): | | | | Hydric Soli | Present? Yes No |
| | | | | ديس م | e Se port | non y |
| YDROLOG | IY | | | رند | 1 D 14 | inny |
| | iY ology Indicators: | | | No | | |
| Netland Hydr | ology Indicators: | Frient's | | Nis | Seco | idary Indicators (2 or more required) |
| Wetland Hydr Primery Indice | ology Indicators: tors (any one indicator is suff | | B44) | <i>ه</i> مر | V | idary Indicators (2 or more resulted) (aler Marks (B1) (Riverine) |
| Wetland Hydr Primery Indice Surface W | cology Indicators: tors (any one indicator is suff /ster (A1) | Sait Crust (| | <i>رن</i> م | Secon W S | derv Indicators (2 or more resulted) /aler Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) |
| Wetland Hydr Primary Indica Surface W High Wate | rology Indicators: Lors (an <u>y one indicator is suff</u> /ater (A1) er Table (A2) | Selt Crust (Biotic Crusi | (B12) | | | idary Indicators (2 or more resulted) /ater Marks (B1) (Riverine) diment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation | ology Indicators: Lors (anv ene indicator is suff fater (A1) ar Table (A2) 1 (A3) | Sait Crust (Biotic Crusi Aquatic inv | r (B12) entebrates (B13) | | | idary Indicators (2 or more resulted) /aler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) ris Deposits (B3) (Riverine) rishage Patterns (B10) |
| Wetland Hydr Primery Indica Surface W High Wate Saturation Water Mas | rology Indicators: Lors (an <u>v one indicator is suff</u> Alter (A1) or Table (A2) I (A3) rks (B1) (Nonriverine) | Sait Crust (Biotic Crust Aquatic Inv Hydrogen S | t (B12) ertebrates (B13) Sulfide Odor (C1) | | Secon | darv Indicators (2 or more resulted) faler Marks (81) (Riverine) adment Deposits (82) (Riverine) rit Deposits (83) (Riverine) rahage Patterns (810) p-Season Wister Table (C2) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mai Sediment | ology Indicators: Lors (anv one indicator is suff /ster (A1) or Table (A2) (A3) (A3) (Nonriverine) Deposits (B2) (Nonriverine) | Salt Crust (Biotic Crust Aquatic Invi Hydrogen S Oxidized Ri | t (B12) ertebrates (B13) Sulfide Odior (C1) hizospheres alon | g Living Roc | Secon | idarv Indicators (2 or more resulted) /aler Marks (B1) (Riverine) edment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) rainage Patterns (B10) ny-Season Water Table (C2) in Muck Surface (C7) |
| Wetland Hydr Primerv indice Surface W High Wate Saturation Water Mas Sediment Drift Depo | ology Indicators: Lors (any one indicator is suff /ster (A1) or Table (A2) (A3) rks (B1) (Nonriverine) Deposits (B2) (Nonriverine) sits (B3) (Nonriverine) | Sait Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized Ri Presence o | t (B12) entebrates (B13) Sulfide Odor (C1) hizospheres alon if Reduced Iron (f | g Living Roc 24) | Sacor | dary Indicators (2 or more resulted) /aler Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rith Deposits (B3) (Riverine) rahage Patterns (B10) ry-Sesson Water Table (C2) in Muck Surface (C7) rayfish Burrows (C3) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface S | rology Indicators: Lors (anv one indicator is suff (ster (A1) or Table (A2) ((A3) rks (B1) (Nontiverine) Deposits (B2) (Nontiverine) sits (B3) (Nontiverine) of Cracks (B6) | Sait Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized Rit Presence o Recent Iron | t (B12) entebrates (B13) Sulfide Odor (C1) hizospheres alon if Reduced Iron (in Reduction in Plo | g Living Roc 24) | Secon | darv Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rahage Patterns (B10) p-Sesson Water Table (C2) ini Muck Surface (C7) rayfish Burrows (C8) aturation (Valet on Aerial Imagery (C9) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface S | ology Indicators: Lors (any one indicator is suff /ster (A1) or Table (A2) (A3) rks (B1) (Nonriverine) Deposits (B2) (Nonriverine) sits (B3) (Nonriverine) | Sait Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized Rit Presence o Recent Iron | t (B12) entebrates (B13) Sulfide Odor (C1) hizospheres alon if Reduced Iron (f | g Living Roc 24) | Secon | dary Indicators (2 or more resulted) /aler Marks (B1) (Riverine) ediment Deposits (B2) (Riverine) rith Deposits (B3) (Riverine) rahage Patterns (B10) ry-Sesson Water Table (C2) in Muck Surface (C7) rayfish Burrows (C3) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface S inundation | rology Indicators: Lors (any one indicator is suff (ster (A1) or Table (A2) ((A3) rks (B1) (Nontiverine) Deposits (B2) (Nontiverine) sits (B3) (Nontiverine) of Cracks (B6) | Sait Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized Rit Presence o Recent Iron | t (B12) entebrates (B13) Sulfide Odor (C1) hizospheres alon if Reduced Iron (in Reduction in Plo | g Living Roc 24) | Sincor | darv Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rift Deposits (B3) (Riverine) rahage Patterns (B10) p-Sesson Weter Table (C2) ini Muck Surface (C7) rayfish Burrows (C8) aturstion Visible on Aerial Imagery (C9) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface S inundation | rology Indicators: <u>tors (any one indicator is suff</u> (aler (A1) or Table (A2) (A3) (A3) (A3) (A3) (Nontiverine) Deposits (B2) (Nontiverine) al Cracks (B6) Ind Leaves (B9) | Sait Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized Rit Presence o Recent Iron | t (B12) entebrates (B13) Sulfide Odor (C1) hizospheres alon if Reduced Iron (in Reduction in Plo | g Living Roc 24) | Sincor | idiary Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) ranage Patterns (B10) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface S inundation Water-Sta | rology Indicators: lors (anv one indicator is suff ster (A1) or Table (A2) ((A3) Trable (A2) (A3) Trable (A2) (A0) Trable (A2) (A0) Trable (A2) (A0) Trable (A2) (A1) Trable (A2) (A1) Trable (A2) (A1) Trable (A2) (A1) Trable (A2) (A1) Trable (A2) (A1) Trable (A2) (A1) Trable (A2) (A1) Trable (A2) (A2) (A1) Trable (A2) (A | Sait Crust (Biotic Crust Aquatic Inv Hydrogen S Oxidized Rit Presence o Recent Iron | t (B12) ertebrates (B13) Builde Odor (C1) hizospheres elon if Reduced Iron (i Reduced Iron (i Reduction in Pick ain in Remarks) | g Living Roc 24) | Sincor | idiary Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) ranage Patterns (B10) |
| Wetlend Hydr Primary Indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface S Inundiation Water-Sta Field Observa Surface Water | rology Indicators: Lors (any one indicator is suff /ster (A1) or Table (A2) (A3) rks (B1) (Nonriverine) Doposits (B2) (Nonriverine) sis (B3) (Nonriverine) oi Cracks (B6) \Visble on Aerial imagery (B ined Leaves (B3) litons: Present? Yes | Self Crust (Biotic Crust (Aquatic hwy Hydrogen S Cridized Ri Presence o Recent Iron Other (Expl Depth (incl | t (B12) entebrates (B13) Suifide Odor (C1) hizospheres aton if Reduced Iron (i Reduction in Plo ain in Remarks) hes): | g Living Roc 24) | Sincor | idiary Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) ranage Patterns (B10) |
| Wetland Hydr Primary indica Surface W High Wate Saturation Water Mai Sediment Drift Depo Surface S Invudation Water Sta Field Observa Surface Water Nater Table P | rology Indicators: lors (any one indicator is suff fater (A1) r Table (A2) (A3) (A3) (Kontiverine) Deposits (B2) (Nonriverine) sits (B3) (Nonriverine) oi Cracks (B6) Mions: Present? Yes | Sait Crust (Biotic Crust) Aquetic Inv Hydrogen 5 Cridized Ri Presence o Recent Iron 7) Other (Exp No Depth (Inci No Depth (Inci | : (B12) entebrates (B13) Builide Odor (C1) hizospheres sion if Reduced Iron (i Reduction in Pic ain in Remarks) hes): | g Living Roc C4) www.cd Soits ((| Station | idary Indicators (2 or more resulted) ader Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) rahage Patterns (B10) ny-Sesson Wister Table (C2) hin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C8) aturation Visible on Aerial Imagery (C8) AC-Neutral Test (D5) |
| Wetland Hydr Primary Indica Surface W High Wate Saturation Water Ma Sediment Drift Depo Surface S Inundation Water-Sta Field Observa Surface Water Surface Water Saturation Pre Saturation Pre | rology Indicators: lors (any one indicator is suff fater (A1) or Table (A2) (A3) tris (B1) (Nonriverine) Depoals (B2) (Nonriverine) sis (B3) (Nonriverine) of Cracks (B6) i Visble on Aerial imagery (B ind Leaves (B9) titons: Present? Yes resent? Yes | Self Crust (Biotic Crust (Aquatic hwy Hydrogen S Cridized Ri Presence o Recent Iron Other (Expl Depth (incl | : (B12) entebrates (B13) Builide Odor (C1) hizospheres sion if Reduced Iron (i Reduction in Pic ain in Remarks) hes): | g Living Roc C4) www.cd Soits ((| Station | idiary Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) ranage Patterns (B10) |
| Wetland Hydr Primary Indica Surface W High Wate Surface W Water Meis Cedment Drift Depo Surface S Indicas Surface S Field Observa Surface Water Table P Saluration Pre Includes cediton Pre | rology Indicators: lors (any one indicator is suff fater (A1) or Table (A2) (A3) tris (B1) (Nonriverine) Depoals (B2) (Nonriverine) sis (B3) (Nonriverine) of Cracks (B6) i Visble on Aerial imagery (B ind Leaves (B9) titons: Present? Yes resent? Yes | Sait Crust (Biotic Crust (Aquestic Inv Hydrogen 5 Cridized R Resent Iron T) Other (Expl No Depth (Incl No De | t (B12) ertebrates (B13) Builde Odor (C1) hitospheres eto hitospheres eto hito | g Living Roc 24) www.cd Solis ((| Sacor W D A D D D D D D D D D D D D D | idary Indicators (2 or more resulted) ader Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) rahage Patterns (B10) ny-Sesson Wister Table (C2) hin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C8) aturation Visible on Aerial Imagery (C8) AC-Neutral Test (D5) |
| Wetland Hydr Primary Indica Surface W High Wate Surface W Water Meis Cedment Drift Depo Surface S Indicas Surface S Field Observa Surface Water Table P Saluration Pre Includes cediton Pre | rology Indicators: lors fany one indicator is suff ster (A1) r Table (A2) (A3) (A3) (Nontiverine) Deposits (B2) (Nontiverine) sits (B3) (Nontiverine) oi Cracks (B6) oi Cracks (B6) Montiverine) resent? Yes present? Yes set?? Yes set?? Yes set?? Yes Set Set Set Set Set Set Set Set | Sait Crust (Biotic Crust (Aquestic Inv Hydrogen 5 Cridized R Resent Iron T) Other (Expl No Depth (Incl No De | t (B12) ertebrates (B13) Builde Odor (C1) hitospheres eto hitospheres eto hito | g Living Roc 24) www.cd Solis ((| Sacor W D A D D D D D D D D D D D D D | idary Indicators (2 or more resulted) ader Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) rahage Patterns (B10) ny-Sesson Wister Table (C2) hin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C8) aturation Visible on Aerial Imagery (C8) AC-Neutral Test (D5) |
| Wetland Hydr Primary Indica Sufface W High Wetz Seturation Water Me Bediment Drift Depo Sufface So Innundation Weter-Sis Pield Observa Sufface Water Water Table P Saturation Per Includes coli Describe Recc | rology Indicators: lors fany one indicator is suff ster (A1) r Table (A2) (A3) (A3) (Nontiverine) Deposits (B2) (Nontiverine) sits (B3) (Nontiverine) oi Cracks (B6) oi Cracks (B6) Montiverine) resent? Yes present? Yes set?? Yes set?? Yes set?? Yes Set Set Set Set Set Set Set Set | Sait Crust (Biotic Crust (Aquestic Inv Hydrogen 5 Cridized R Resent Iron T) Other (Expl No Depth (Incl No De | t (B12) ertebrates (B13) Builde Odor (C1) hitospheres eto hitospheres eto hito | g Living Roc 24) www.cd Solis ((| Sacor W D A D D D D D D D D D D D D D | idary Indicators (2 or more resulted) ader Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rit Deposits (B3) (Riverine) rahage Patterns (B10) ny-Sesson Wister Table (C2) hin Muck Surface (C7) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C8) aturation Visible on Aerial Imagery (C8) AC-Neutral Test (D5) |
| Wetland Hydr Primary Indica Surface W High Wate Surface W Water Meis Cedment Drift Depo Surface S Indicas Surface S Field Observa Surface Water Table P Saluration Pre Includes cediton Pre | rology Indicators: lors fany one indicator is suff ster (A1) r Table (A2) (A3) (A3) (Nontiverine) Deposits (B2) (Nontiverine) sits (B3) (Nontiverine) oi Cracks (B6) oi Cracks (B6) Montiverine) resent? Yes present? Yes set?? Yes set?? Yes set?? Yes Set Set Set Set Set Set Set Set | Sait Crust (Biotic Crust (Aquestic Inv Hydrogen 5 Cridized R Resent Iron T) Other (Expl No Depth (Incl No De | (B12) erebrates (B13) suilde Odor (C1) hicospheres sion f Reduction in Pr ain in Remarks) hes): holos, previous in | g Living Roc C4) www.cd Solis ((| Second | diarv Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rayisth Burrows (C8) startofon Visiter Table (C2) nailow Aguitard (C3) AC-Neutral Test (D5) Present? Yes No |
| Wetland Hydr Primary Indica Sufface W High Wetz Seturation Water Me Bediment Drift Depo Sufface So Innundation Weter-Sis Pield Observa Sufface Water Water Table P Saturation Per Includes coli Describe Recc | rology Indicators: lors fany one indicator is suff ster (A1) r Table (A2) (A3) (A3) (Nontiverine) Deposits (B2) (Nontiverine) sits (B3) (Nontiverine) oi Cracks (B6) oi Cracks (B6) Montiverine) resent? Yes present? Yes set?? Yes set?? Yes set?? Yes Set Set Set Set Set Set Set Set | Sait Crust (Biotic Crust (Aquestic Inv Hydrogen 5 Cridized R Resent Iron T) Other (Expl No Depth (Incl No De | (B12) erebrates (B13) suilde Odor (C1) hicospheres sion f Reduction in Pr ain in Remarks) hes): holos, previous in | g Living Roc C4) www.cd Solis ((| Second | diarv Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rayisth Burrows (C8) startofon Visiter Table (C2) nailow Aguitard (C3) AC-Neutral Test (D5) Present? Yes No |
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| Wetland Hydr Primary Indica Sufface W High Wetz Seturation Water Me Bediment Drift Depo Sufface So Innundation Weter-Sis Pield Observa Sufface Water Water Table P Saturation Per Includes coli Describe Recc | rology Indicators: lors fany one indicator is suff ster (A1) r Table (A2) (A3) (A3) (Nontiverine) Deposits (82) (Nontiverine) sits (83) (Nontiverine) oi Cracks (86) Nable on Aertal Imagery (B Ind Leaves (89) Indicators: Present? Yes resent? Yes sett? Yes | Sait Crust (Biotic Crust (Aquestic Inv Hydrogen 5 Cridized R Resent Iron T) Other (Expl No Depth (Incl No De | (B12) erebrates (B13) suilde Odor (C1) hicospheres sion f Reduction in Pr ain in Remarks) hes): holos, previous in | g Living Roc C4) www.cd Solis ((| Second | diarv Indicators (2 or more resulted) faler Marks (B1) (Riverine) adment Deposits (B2) (Riverine) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rahage Patterns (B10) rayisth Burrows (C8) startofon Visiter Table (C2) nailow Aguitard (C3) AC-Neutral Test (D5) Present? Yes No |

US Army Corps of Engineers

Herb Stratum

Woody Vine Stratum

% Bare Ground in Herb Stratum

3

6.

8.

2.

Remarks:

iem.

Total Cover:

Total Cover:

Total Cover: ___

% Cover of Biotic Crust

60

andren

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No

1

 FACU species
 x 4 =

 UPL species
 20
 x 5 =

 Column Totals:
 82
 (A)
 2 800

Prevalence index = B/A = _____

Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soli and watland hydrology must be present.

Yes_

Hydrophytic Vegetation Indicators: __ Dominance Test is >50% Prevalence index is \$3.01

Hydrophytic Vegetation Present?

SOIL

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Sampling Point:

| oject/Site:WLC | | City/County | | thras | Sampling Da | te: <u>8-7</u> | 27- |
|--|---|----------------------|------------|---|---|----------------|-----|
| pplicant/Owner; | | | | State: WA | Sampling Po | | PH |
| vestigator(s): <u>Zel</u> Sem | \mathcal{I} | Section . To | wnshio, Ra | inge: | | | |
| andform (hillslope, tenace, etc.); | | | | | | Slope (%); | |
| ubregion (LRR): | | | | | | | |
| | | | | NWI class | | | |
| re climatic / hydrologic conditions on the site typical for | | | | (if no, expisin i | | | |
| re Vegetation, Soil, or Hydrology | significantly | disturbed? | Are | Normal Circumstance | s"present? Yes | No | |
| re Vegetation, Soil, or Hydrology | naturally pro | blematic? | | eeded, explain any ans | | | |
| UMMARY OF FINDINGS - Attach site ma | en chowing | eemolia | a point l | continue transa | te importen | t factures . | ata |
| Wetland Hydrology Present? Yes Remarks: | NU | | | | | | |
| Remerks: | NO | | | | | | |
| Remarks: | | | | | | ······ | |
| Remarks: EGETATION | Absolute | Dominant Species? | | Dominance Test w | | ······ | |
| Remarks: EGETATION I <u>ree Stratum</u> (Use scientific names.) 1. | Absolute % Cover | Species? | Status | Dominance Test w Number of Dominan Thet Are OBL, FAC1 | Species | | ~ |
| Remarks: EGETATION I <u>rres Stratum</u> (Use scientific names.) 12 | Absolute <u>% Cover</u> | Species? | Status | Number of Dominani That Are OBL, FACt Total Number of Dor | t Species N, or FAC: minant | | |
| Remarks: EGETATION T <u>ree Stratum</u> (Use scientific names.) 1 | Absolute % Cover | Species? | Status | Number of Dominan That Are OBL, FAC | t Species N, or FAC: minant | (F | |
| Remerks: /EGETATION <u>Tree Stretum</u> (Use scientific names.) 1. 2. 3. 4. | Absolute <u>% Cover</u> | Species? | Status | Number of Dominan That Are OBL, FACU Total Number of Dor Species Across All S Percent of Dominant | t Species N, or FAC: ninant Sreta: t Species | (E | 3) |
| Remarks: Image: Stratum 1. 2. 3. 4. Total Co Saciing/Shrub Stratum | Absolute <u>16 Cover</u> | <u>Species?</u> | Status | Number of Dominan That Are OBL, FACN Total Number of Dor Species Across All S Percent of Dominan That Are OBL, FACN | t Species N, or FAC: Anata: Species N, or FAC: | (E | 3) |
| Remarks: EGETATION 1. | Absolute <u>% Cover</u> | <u>Species?</u> | Status | Number of Dominan That Are OBL, FACI Total Number of Dor Species Across All S Percent of Dominant That Are OBL, FACI Prevalence Index w | t Species N, or FAC: strata: t Species N, or FAC: sortistneet: | (E | 3) |
| Remarks: TEGETATION Tree Stratum (Use scientific nerres.) 1 2 3 4 5 5 5 5 1 5 5 1 5 5 5 2 5 5 2 5 5 2 5 5 7 5 5 7 5 7 5 7 5 7 | Absolute <u>% Cover</u> | | Status | Number of Dominan That Are OBL, FACI Total Number of Dor Species Across All S Percent of Dominant That Are OBL, FACI Prevalence Index w | t Species N, or FAC: Strata: I Species N, or FAC: Nor Ksheet: of: Mai | (A | 3) |
| Remerks: Inse Stratum 1. 2. 3. 4. Total Co 3. 1. 2. 3. 3. 3. | Absolute <u>% Cover</u> | | Status | Number of Dominan That Are OBL, FACI Total Number of Dor Species Across AI S Parcent of Dominant That Are OBL, FACX Prevalence Index v | I Species V, or FAC: | | 3) |
| Remarks: TEGETATION Tree Stratum (Use scientific nerres.) 1 2 3 4 5 5 5 5 1 5 5 1 5 5 5 2 5 5 2 5 5 2 5 5 7 5 5 7 5 7 5 7 5 7 | Absolute <u>% Cover</u> | | Status | Number of Dominan That Are OBL, FACI Total Number of Dor Species Across AI S Parcent of Dominant That Are OBL, FACX Prevalence Index v | I Species V, or FAC: | | 3) |
| Remarks: EGETATION Tree Stratum (Use scientific nerres.) 1. | Absolute <u>% Cover</u> over: | | Status | Number of Dominan That Are OBL, FACI Total Number of Dor Species Across AI S Percent of Dominant That Are OBL, FACI Prevalence Index w | Ispecies w, or FAC: minant strata: | (E | 3) |
| Remarks: /EGETATION Tree Stratum (Use scientific names.) 1. | Absolute <u>% Cover</u> over: | | Status | Number of Dominan That Are OBL, FACI Total Number of Dor Species Across AI S Parcent of Dominant That Are OBL, FACX Prevalence Index v Total % Cover of OBL species FACW species | I Species | (E | 3) |

Total Cover:

Total Cover: ___ % Cover of Biotic Crust

Woody Vine Stratum

Remarks:

% Bare Ground in Herb Stratum

US Army Corps of Engineers

Hydrophytic Vegetation Present?

Prevalence Index = 8/A = Hydrophytic Vegetation Indicators: _ Dominance Test is >50% Prevalence index is \$3.0'

____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate shoet) ____ Problematic Hydrophytic Vegetation¹ (Explain)

Indicators of hydric soil and wetland hydrology must be present.

Yes ____

___ No__

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3,2

| | | | nfirm the absence of indicators.) |
|--|---|--|--|
|)epth nches) | Matrix Color (moist) % | Redax Features | c ² Texture Remerks |
| 11 | | Color (motst) % Type' Lo | |
| 14 | 1042/2.5 _ | | 956 |
| | | | - |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| ype: C=Co | ncentration, D=Depletion, RM=R | educed Matrix. ² Location: PL=Pore Lini | ng, RC=Root Channel, M=Melrix. |
| rdiric Soil i | ndicators: (Applicable to all LR | | Indicators for Problematic Hydric Solis ³ : |
| Histosol | (A1) | Sandy Redox (S5) | 1 cm Muck (A9) (LRR C) |
| | lipedon (A2) | Stripped Matrix (S6) | 2 cm Muck (A10) (LRR B) |
| Black Hit | | Loamy Mucky Minoral (F1) | Reduced Vertic (F18) |
| | | | |
| | n Sulfide (A4) | Leemy Gleyad Matrix (F2) | Red Parent Material (TF2) |
| | Layers (A5) (LRR C) | Depleted Matrix (F3) | Other (Explain in Remarks) |
| | ok (A9) (LRR D) | Redox Dark Surface (F6) | |
| | Below Dark Surface (A11) | Depieted Dark Surface (F7) | |
| Thick De | nk Surface (A12) | Redax Depressions (F8) | |
| _ Sandy M | lucky Mineral (S1) | Vernal Pools (F9) | Indicators of hydrophytic vegetation and |
| _ Sandy G | leyed Matrix (S4) | | welland hydrology must be present. |
| strictive L | ayer (if present): | | |
| Type: | | | |
| | | - | Hydric Soli Present? Yes No |
| Depth (Inc | ines): | _ | Hydric Boll Present? Yes No |
| emarks; | | | • • |
| | | NON | dicates |
| DROLO | av | NO | dicetes |
| | | No ,1 | |
| etiand Hyd | rology indicators: | | Secondary indicators (2 or more required) |
| etiand Hyd imery Indic | trology indicators: ators (any one indicator is sufficie | nt) | Seconderv Indicators (2 or more resulted) Water Marks (B1) (Riverine) |
| etiand Hyd imery Indic | rology indicators: | | Secondary indicators (2 or more required) |
| etland Hyd imary Indic Surface I | trology indicators: ators (any one indicator is sufficie | nt) | Seconderv Indicators (2 or more resulted) Water Marks (B1) (Riverine) |
| etland Hyd imary Indic Surface I | arology Indicators: ators (any one indicator is sufficie Water (A1) ter Table (A2) | nt) | Secondary indicators (2 or more required) Water Marks (31) (Riverine) Sediment Deposits (82) (Riverine) |
| etland Hyd imery indic Surface V High Wa Saturatio | arology Indicators: ators (any one indicator is sufficie Water (A1) ter Table (A2) m (A3) | nt) Self Crust (811) Biotic Crust (812) Aquelic Invertebrates (813) | Seconderv Indicators (2 or more resulted) Water Marks (B1) (Riverine) Sedment Osposits (B2) (Riverine) Drift Deposits (B3) (Riverine) Drinkage Patterns (B10) |
| otland Hyd imery indic _ Surface \ _ High Wa _ Saturatic _ Water M | frology Indicators: <u>ators (any one Indicator is sufficie</u> Water (A1) ter Table (A2) m (A3) arko (B1) (Nonriverine) | nt) Seit Crust (B11) Blotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suitide Odor (C1) | Secondary indicators (2 or more required) Water Marks (31) (Riverine) Sedment Deposits (82) (Riverine) Drit Deposits (33) (Riverine) Drithege Patterns (810) Dry-Seeson Water Table (C2) |
| etiand Hyd imary Indic Surface V High Wa Saturatio Water M Sedimen | frology Indicators: ators (any one indicator is sufficie Water (A1) br: Table (A2) nr (A3) nr (A3) (Nonriverine) it Deposits (B2) (Nonriverine) | nt) Self Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Selfide Odor (C1) Oxidized Rhizospheres along LMng | Seconderv indicators (2 or more resulted) |
| etland Hyd imary India Surface V High Wei Saturatio Water M Sedimen Drift Dep | fraiogy indicators: ators (any one indicator is sufficie Water (A1) ter Table (A2) an (A3) artis (B1) (Nontiverine) it Deposits (B2) (Nontiverine) cails (B3) (Nontiverine) | ni) Self Crust (811) Biotic Crust (812) Aquatic Invortebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres elong LMng Presence of Reduced Inn (C4) | Secondary Indicators (2 or more resulted) |
| etland Hyd imary Indic Surface V High Wei Saturatio Water M Sedimen Drift Dep Surface i | Trology Indicators: <u>ators (any one indicator is sufficie</u> Water (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) it Deposits (B2) (Nonriverine) osits (B3) (Monriverine) osits (B3) (Monriverine) Sol Cracks (B6) | nt) Sait Crust (B11) Bodic Crust (B12) Aquatic Invertebrates (B13) Address Rindson C(1) Coxidized Rhibospheres along Living Presence of Reduced iron (C4) Recent Iron Reduction in Flowed Sk | Secondary Indicators (2 or more resulted) Water Marks (31) (Riverine) Sedment Deposits (82) (Riverine) Drit Deposits (83) (Riverine) Drit Deposits (33) (Riverine) Drit Deposits (33) (Riverine) Dry-Seeson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Saturation Visible on Aerial Imagery (C9) |
| etland Hyd imary Indic Surface V High Wei Saturatio Water M Sedimen Drift Dep Surface i | fraiogy indicators: ators (any one indicator is sufficie Water (A1) ter Table (A2) an (A3) artis (B1) (Nontiverine) it Deposits (B2) (Nontiverine) cails (B3) (Nontiverine) | ni) Self Crust (811) Biotic Crust (812) Aquatic Invortebrates (813) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres elong LMng Presence of Reduced Inn (C4) | Secondary Indicators (2 or more resulted) |
| etiand Hyd imary Indic Surface V High Wa Saturatio Water M Sedimen Drift Dep Surface i inundatio | Trology Indicators: <u>ators (any one indicator is sufficie</u> Water (A1) ter Table (A2) n (A3) arks (B1) (Nonriverine) it Deposits (B2) (Nonriverine) osits (B3) (Monriverine) osits (B3) (Monriverine) Sol Cracks (B6) | nt) Sait Crust (B11) Bodic Crust (B12) Aquatic Invertebrates (B13) Address Rindson C(1) Coxidized Rhibospheres along Living Presence of Reduced iron (C4) Recent Iron Reduction in Flowed Sk | Secondary Indicators (2 or more resulted) Water Marks (31) (Riverine) Sedment Deposits (82) (Riverine) Drit Deposits (83) (Riverine) Drit Deposits (33) (Riverine) Drit Deposits (33) (Riverine) Dry-Seeson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Saturation Visible on Aerial Imagery (C9) |
| etiand Hyd imary Indic Surface V High Wa Saturatio Water M Sedimen Drift Dep Surface S inundatio Water-St | frailogy indicators: ators (any one indicator is sufficie Water (A1) ter Table (A2) an (A3) artis (B1) (Nontiverine) t Depcetts (B2) (Nontiverine) Soli Cracks (B6) on Visible on Aertal Imagery (B7) ainde Leaves (B9) | nt) Sait Crust (B11) Bodic Crust (B12) Aquatic Invertebrates (B13) Address Rindson C(1) Coxidized Rhibospheres along Living Presence of Reduced iron (C4) Recent Iron Reduction in Flowed Sk | Secondary indicators (2 or more resulted) |
| etland Hyd imary indic Surface V High Wai Saturatio Water M Sedimen Drift Dep Surface I inundatio Water-St eld Obsen | frailogy indicators: <u>stors (any one indicator is sufficie</u> Water (A1) tor Table (A2) n (A3) artis (B1) (Nonriverine) t Depoats (B2) (Nonriverine) osits (B3) (Nonriverine) Soit Cracks (B6) m Visible on Aarial Imagery (B7) alined Leaves (B9) rations: | ni) | Secondary indicators (2 or more resulted) Water Marks (31) (Riverine) Sediment Deposits (82) (Riverine) Dritt Deposits (83) (Riverine) Drahage Patterns (810) Dry-Sesson Water Table (C2) Roota (C3) Thin Muck Surface (C7) Crsytish Burrows (C4) Staturation Visitie on Aerial Imagery (C9) Shallow Aquitard (D3) |
| etiand Hyd imary India Surface V High Wat Saturatio Water M Sedimen Drift Dep Surface I inundatio Water-St eld Obsern Irface Wate | frology Indicators: ators (any one indicator is sufficie Water (A1) ter Table (A2) arts (B1) (Nonriverine) t Deposits (B3) (Nonriverine) osits (B3) (Nonriverine) Soil Cracks (B8) on Visible on Aerial Imagery (B7) alined Leaves (B9) arifolos: present? Yes | nt) Self Crust (B11) Botic Crust (B12) Aquatic hvertebrales (B13) Hydrogen Sulfide Odor (C1) Oddized Rhizospheres elong LMing Presence of Reduced Iron (C4) Recent Iron Reduction in Powed Sk Other (Explain In Remarks) | Secondary indicators (2 or more resulted) Water Marks (31) (Riverine) Sediment Deposits (82) (Riverine) Dritt Deposits (83) (Riverine) Drahage Patterns (810) Dry-Sesson Water Table (C2) Roota (C3) Thin Muck Surface (C7) Crsytish Burrows (C4) Staturation Visitie on Aerial Imagery (C9) Shallow Aquitard (D3) |
| etiand Hyd imary India Surface V High Wat Saturatio Water M Sedimen Drift Dep Surface I inundatio Water-St eld Obsern Irface Wate | frology Indicators: ators (any one indicator is sufficie Water (A1) ter Table (A2) arts (B1) (Nonriverine) t Deposits (B3) (Nonriverine) osits (B3) (Nonriverine) Soil Cracks (B8) on Visible on Aerial Imagery (B7) alined Leaves (B9) arifolos: present? Yes | nt) Sait Crust (B11) Botic Crust (B12) Aquetic hvertebrates (B13) Hydrogen Sulfide Odor (C1) Coldized Rhizospheres along LMing Presence of Reduced inon (C4) Recent Iron Reducidin in Rowed Sk Other (Explain in Remarks) | Secondary indicators (2 or more resulted) Water Marks (31) (Riverine) Sediment Deposits (82) (Riverine) Dritt Deposits (83) (Riverine) Drahage Patterns (810) Dry-Sesson Water Table (C2) Roota (C3) Thin Muck Surface (C7) Crsytish Burrows (C4) Staturation Visitie on Aerial Imagery (C9) Shallow Aquitard (D3) |
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| etland Hyc imary India Surface I High Wai Saturatic Water M Drift Dep Drift Dep Surface I Surface To Inundatic Water-St eld Obsern Intace Wate Ster Table I sturation Pr cludes cop | frology Indicators: ators (any one Indicator is sufficie Water (A1) ter Table (A2) n (A3) afris (B1) (Nonriverine) t Deposits (B2) (Nonriverine) coits (B3) (Monriverine) coits (B3) (Monriverine) Sol Cracks (B6) n Visble on Aerial Imsgery (B7) ained Leaves (B9) rations: ar Present? Yes No resent? Yes No resent? Yes No | nt) | Secondary indicators (2 or more resulted) |
| etland Hyc imary India Surface I High Wai Saturatic Water M Drift Dep Drift Dep Surface I Surface To Inundatic Water-St eld Obsern Intace Wate Ster Table I sturation Pr cludes cop | frology Indicators: ators (any one Indicator is sufficie Water (A1) ter Table (A2) n (A3) afris (B1) (Nonriverine) t Deposits (B2) (Nonriverine) coits (B3) (Monriverine) coits (B3) (Monriverine) Sol Cracks (B6) n Visble on Aerial Imsgery (B7) ained Leaves (B9) rations: ar Present? Yes No resent? Yes No resent? Yes No | nt) | Secondary indicators (2 or more realited) |
| etland Hyc imary India Surface I High Wai Saturatic Water M Drift Dep Drift Dep Surface I Surface To Inundatic Water-St eld Obsern Intace Wate Ster Table I sturation Pr cludes cop | frology Indicators: ators (any one Indicator is sufficie Water (A1) ter Table (A2) n (A3) afris (B1) (Nonriverine) t Deposits (B2) (Nonriverine) coits (B3) (Monriverine) coits (B3) (Monriverine) Sol Cracks (B6) n Visble on Aerial Imsgery (B7) ained Leaves (B9) rations: ar Present? Yes No resent? Yes No resent? Yes No | nt) | Sesondary Indicators (2 or more real/red) |
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| etland Hyd imary Indic Surface I High Wa Saturstic Water M Sedimen Drift Dep Surface I inundatic Water-St eld Observ antace Wate ater Table I sturation Pr cludes cep secribe Rec | frology Indicators: ators (any one Indicator is sufficie Water (A1) ter Table (A2) n (A3) afris (B1) (Nonriverine) t Deposits (B2) (Nonriverine) coits (B3) (Monriverine) coits (B3) (Monriverine) Sol Cracks (B6) n Visble on Aerial Imsgery (B7) ained Leaves (B9) rations: ar Present? Yes No resent? Yes No resent? Yes No | nt) | Sesondary Indicators (2 or more real/red) |
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|---|-----------------------|------------------------------------|---|-----|
| | | | weind | |
| WETLAND DET | ERMINATION | DATA FORM- | Arid West Region | - 0 |
| ject/Site: | City | County: | 11715 Sempling Date: 8-27- | 20 |
| viicant/Ourner: | | | Charles WAR Compliane Damet UP | 5 |
| estigator(s): Ed Sema | LA Sed | tion, Township, Rer | | |
| udform (hillslope, terrace, etc.): | Loc | al relief (concave, o | convex, none): Stope (%); | |
| xegion (LRR): | Lat: | 1 | Long: Detum: | |
| I Map Unit Name: | | | NVI classification: | |
| climatic / hydrologic conditions on the site typical for | this time of year? | Yes No | (If no, explain in Remarks.) | |
| Vegetation Soli, or Hydrology | _ significantly distu | irbed? Are " | Normal Circumstances' present? Yes No | |
| Vegetation, Soil, or Hydrology | naturally problen | | eded, explain any answers in Remarks.) | |
| MMARY OF FINDINGS - Attach site ma | p showing sa | mpling point k | cations, transects, important features, etc. | |
| | ×. | 1 | _ | |
| ydrophytic Vegetation Present? Yes ydric Soil Present? Yes | No | is the Sampled | | |
| /etiand Hydrology Present? Yes | No | within a Wetlan | d? Yes No | |
| emarks: | | | | |
| ree Stratum (Use scientific names.) | % Cover Sp | minant indicator recies? Status | Dominance Test worksheet: | |
| | | | Number of Dominant Species | |
| · | | | Number of Dominant Species (A) | |
| | | | That Are OBL, FACW, or FAC: (A) | |
| | | | That Are OBL, FACW, or FAC:(A) Total Number of Dominant Species Across All Strata:(B) | |
| | | | That Are OBL, FACW, or FAC: (A) | |
| Total Co sellng/Shrub Stratum | | | That Are OBL, FACW, or FAC: | |
| Total Co sçilnø/Shrub Stratum | Ner: | | That Are OBL, FACW, or FAC: | |
| solinø/Shrub Stratum | Ner: | | That Are OBL, FACW, or FAC: | |
| Total Co sçilnø/Shrub Stratum | Ner: | | That Are OBL, FACW, or FAC: | |
| Total Co | Ner: | | That Are OBL, FACW, or FAC: | |
| Total Co | Ner: | | That Are OBL, FACW, or FAC: | |
| soling/Shrub Stratum Total Co Total Co Total Co Phalme 3 order | Nor. | | That Are OBL, FACW, or FAC: | |
| Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co | Ner: | | That Are OBL, FACW, or FAC: | |
| aoiling/Shrub Stratum Total Co erb Stratum Phalars J andices Typhe Introduc | Nor. | | That Are OBL, FACW, or FAC: | |
| Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co | Ner | | That Are OBL, FACW, or FAC: | |
| solingShrub Stratum Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co | Ner | | That Are OBL, FACW, or FAC: | |
| Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co | Ner | | That Are OBL, FACW, or FAC: | |
| Total Co Total Co Total Co Total Co Total Co Total Co Total Co Typhe Int Total Co Typhe Int Total Co Total Co | Ner | | That Are OBL, FACW, or FAC: | |
| Total Co apilina/Shrub Stratum Total Co Total Co | Ner | | That Are OBL, FACW, or FAC: | |
| Total Co Total Co | Ner | | That Are OBL, FACW, or FAC: | |
| Total Co soling/Shrub Stratum Total Co Total Co | Ner | | That Are OBL, FACW, or FAC: | |
| Total Co soling/Shrub Stratum Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co | Ner: | | That Are OBL, FACW, or FAC: (A) Total Number of Dominant (B) Parcent of Dominant Species (B) Parcent of Dominant Species (AB) Prevalence Index worksheet: (AB) 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) Mydrophytic Vegetation Indicators: Dominance Test is >50% Prevalence Index is 3.01 Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheel) Problematic Hydrophytic Vegetation i (Explain) ¹ Indicators of hydric soil and watiand hydrology must be present. | |
| Total Co soling/Shrub Stratum Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co Total Co | Ner: | | That Are OBL, FACW, or FAC: | |

| rofile Description: (Describe to the dep | | |
|--|--|--|
| Depth Matrix | Redox Fostures | Texture Remarks |
| | Color (moist) % Type Loc' | Texture Remarks |
| 16 10×211 | <u> </u> | _ <u></u> |
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| | | |
| | | |
| ype: C=Concentration, D=Depletion, RM= | Reduced Matrix. ² Location: PL=Pore Lining | , RC=Root Channel, M=Mairix. |
| ydric Soli Indicators: (Applicable to all | | indicators for Problematic Hydric Solis ¹ : |
| Histosof (A1) | Sandy Redox (S5) | 1 cm Muck (A9) (LRR C) |
| Histic Epipedon (A2) | Stripped Matrix (S6) | 2 cm Muck (A10) (LRR B) |
| _ Black Histic (A3) | Loamy Mucky Mineral (F1) | Reduced Vertic (F18) |
| Hydrogen Sulfide (A4) | Loamy Oleyed Matrix (F2) | Red Parent Material (TF2) |
| _ Stratified Layers (AS) (LRR C) | Depicted Matrix (F3) | Other (Explain in Remarks) |
| _ 1 cm Muck (A9) (LRR D) | Redox Dark Surface (F6) | |
| Depleted Below Dark Surface (A11) | Depleted Dark Surface (F7) | |
| _ Thick Dark Surface (A12) | Redox Depressions (F6) | Sentendare of bushashed in constantion and |
| _ Sandy Mucky Mineral (S1) _ Sandy Gleyed Matrix (S4) | Vernal Pools (F9) | Indicators of hydrophytic vegetation and welland hydrology must be present. |
| strictive Layer (if present): | | weathd hydroidgy must be present. |
| salicate cayer (it present). | | |
| Turne' | | |
| Type: | | |
| Depth (inches): | | Hydric Soll Present? Yes No |
| Depth (Inches): | | Hydric Soli Present? Yes No |
| Depth (Inches):emarks: | | |
| Depth (Inches): emarks: /DROLOGY fetland Hydrology Indicators: | | Secondary Indicators (2 or more regulted) |
| Depth (Inches): emarks: /DROLOGY letland Hydrology Indicators: rimary indicators (any one indicator is suffic | | Secondary Indicators (2 or more regulated) |
| Depth (Inches): emarks: //DROLOGY fetland Hydrology Indicators: imary Indicators (any one indicator is suffit Surface Weter (A1) | Self Crust (B11) | Seconder v Indicators (2 or more required) Weter Marks (B1) (Riverine) Sadment Deposits (B2) (Riverine) |
| Depth (Inches): emarks: //DROLOGY fetland Hydrology Indicators: imary Indicators (any one Indicator is suffli | Selt Crust (B11) Biotic Crust (B12) | Secondary Indicators (2 or more, regulated) Water Marks (B1) (Riverine) Sadiment Deposits (B2) (Riverine) Drilt Deposits (B3) (Riverine) |
| Depth (Inches): emarks: /DROLOGY lettend Hydrology Indicators: imary Indicators (any one Indicator is suffly | Self Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) | Secondary Indicators (2 or more regulated) Weter Marks (81) (Riverine) Sadmant Deposits (82) (Riverine) Dift Deposits (83) (Riverine) Dift Deposits (83) (Riverine) |
| Depth (Inches): emarks: //DROLOGY letiand Hydrology Indicators: nimary indicators (any one indicator is suffic | Self Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) | Secondary Indicators (2 or more regulated) Weter Marks (B1) (Riverine) Sedment Deposits (B2) (Riverine) Dift Deposits (B3) (Riverine) Drainage Patterns (B10) Drainage Matter Table (C2) |
| Depth (Inches): emarks: //DROLOGY fefland Hydrology Indicators: imary Indicators (any one Indicator is suffic Surface Vester (A1) | Self Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along LMng R | Secondary Indicators (2 or more, regulated) |
| Depth (Inches): emarks: //DROLOGY /etiand Hydrology Indicators: | Self Crust (B11) Aquatic Invertebrates (B13) Aquatic Invertebrates (B13) Hydrogen Sulide Odor (C1) Oxidated Rhizospheres along Living R Presence of Reduced Iron (C4) | Secondary Indicators (2 or more rogalred) Weter Marks (B1) (Riverine) Sadment Deposits (B2) (Riverine) Dift Deposits (B3) (Riverine) Drainage Patterns (B10) Dry-Sesson Water Table (C2) toots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) |
| Depth (Inches): emarks: emarks: //DROLOGY fetland thydrology Indicators: rimary indicators (any one indicator is suffle | | Secondary Indicators (2 or more regulated) Water Marks (B1) (Riverine) Sadiment Deposits (B2) (Riverine) Drill Deposits (B3) (Riverine) Drinage Patterns (B10) Dry-Sesson Water Table (C2) (cots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Saturation Visible on Aerial Imagery (C5) |
| Depth (Inches): emarks: emarks: //DROLOGY tetland Hydrology Indicators: imary Indicators (any one indicator is suffic | | Secondary Indicators (2 or more, regulted) — Water Marks (B1) (Riverine) — Sadment Deposits (B2) (Riverine) — Dränage Patterns (B10) — Dränage Patterns (B10) — Dry-Sesson Water Table (C2) Roots (C3) — Thin Muck Surface (C7) — Crayfish Burrows (C6) a (C6) — Saturation Visible on Aerial Imagery (C3 — Shallow Aquitard (D3) |
| Depth (Inches): | | Secondary Indicators (2 or more regulated) Water Marks (B1) (Riverine) Sadiment Deposits (B2) (Riverine) Drill Deposits (B3) (Riverine) Drinage Patterns (B10) Dry-Sesson Water Table (C2) (cots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Saturation Visible on Aerial Imagery (C5) |
| Depth (Inches): emarks: emarks: //DROLOGY /etiand Hydrology Indicators: imary Indicators (any one Indicator is suffit | Seit Cruzt (B11) Biotic Cruzt (B12) Aquetic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhicospheres along LMng R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit o)Other (Explain In Remerks) | Secondary Indicators (2 or more, regulted) — Water Marks (B1) (Riverine) — Sadment Deposits (B2) (Riverine) — Dränage Patterns (B10) — Dränage Patterns (B10) — Dry-Sesson Water Table (C2) Roots (C3) — Thin Muck Surface (C7) — Crayfish Burrows (C6) a (C6) — Saturation Visible on Aerial Imagery (C3 — Shallow Aquitard (D3) |
| Depth (inches): | Seit Crust (B11)Biotic Crust (B12)Aquastic Invertebrates (B13)Hydrogen Suitide Odor (C1)Oxidized Rhizospheres along Living RPresence of Reduced Iron (C4)Recent Iron Reduction in Rowed Solit ')Other (Explain in Remerks) NoOpeph (inches): | Secondary Indicators (2 or more, regulted) — Water Marks (B1) (Riverine) — Sadment Deposits (B2) (Riverine) — Dränage Patterns (B10) — Dränage Patterns (B10) — Dry-Sesson Water Table (C2) Roots (C3) — Thin Muck Surface (C7) — Crayfish Burrows (C6) a (C6) — Saturation Visible on Aerial Imagery (C3 — Shallow Aquitard (D3) |
| Depth (Inches): | Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMng R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) Water Marks (B1) (Riverine) Sadiment Deposits (B3) (B2) (Riverine) Dril: Deposits (B3) (Riverine) Drainege Patterns (B10) Dry-Sesson Water Table (C2) tools (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) s (C6) Saturation Visible on Aerial Imagery (C6 Shallow Aquitant (C3) FAC-Neutral Test (D5) |
| Depth (Inches): | Seit Crust (B11) Giotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMing R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aeria Imagery (C3 — Saturation |
| Depth (Inches): | Seit Crust (B11) Biotic Crust (B12) Aquetic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMng R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aeria Imagery (C3 — Saturation |
| Depth (Inches): | Seit Crust (B11) Giotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMing R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aeria Imagery (C3 — Saturation |
| Depth (Inches): | Seit Crust (B11) Giotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMing R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aeria Imagery (C3 — Saturation |
| Depth (Inches): | Seit Crust (B11) Giotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMing R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aerial Imagery (C3 — Saturatio |
| Depth (Inches): | Seit Crust (B11) Giotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMing R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aerial Imagery (C3 — Saturatio |
| Depth (Inches): | Seit Crust (B11) Giotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMing R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aerial Imagery (C3 — Saturatio |
| Depth (Inches): | Seit Crust (B11) Giotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suttide Odor (C1) Oxidized Rhizospheres elong LMing R Presence of Reduced Iron (C4) Recent Iron Reduction In Powed Solit) Other (Explain In Remarks) | Secondary Indicators (2 or more, regulated) — Water Marks (B1) (Riverine) — Sadment Deposits (B3) (Riverine) — Dränege Patterns (B10) — Crayfish Burrows (C6) s (C5) — Saturation Visible on Aerial Imagery (C3 — Staturation Visible on Aerial Imagery (C3 — Saturation Visible on Aerial Imagery (C3 — Saturatio |

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|--|----------------------------------|--------------------|--|---|----------------|
| Project/Site: W | hc | City/County: | Kittins | Sampling Date: | 8-27-7 DI # |
| Applicant/Owner: | | | State: MA | Sampling Point: | DIME |
| nvestigator(s): | South | | ship, Range: | | |
| andform (hillslope, terrace, etc.): | | Local relief (co | oncave, convex, none); | Sio | pe (%): |
| Subregion (LRR): | Le | t: | Long: | | m: |
| Soil Map Unit Name: | | | | ssification: | |
| ve climatic / hydrologic conditions or | n the site typical for this line | of year? Yes | (If no, explain | in Remarks.) | / |
| ve Vegetation Soli o | or Hydrology signifi | cantly disturbed? | Are "Normal Circumstanc | es" present? Yes | No |
| ve Vegetation | or Hydrology nature | ily problematic? | (if needed, explain any a | swers in Remarks.) | |
| SUMMARY OF FINDINGS - | Attach site man sho | uina complina : | noint locations trans | ate important fe | aturas ata |
| | | | point roomtonio, a unio | inter interest interest | |
| Hydrophytic Vegetation Present? | Yes No | is the S | Sampled Area | | |
| Hydric Soll Present? | Yes No | | • | No | - |
| Wetland Hydrology Present? Remarks: | Yes No | | • | | |
| Remarks. | | | | | |
| | | | | | |
| | | | | | |
| EGETATION | | | | | |
| | | solute Dominant In | | worksheet: | |
| Tree Stratum (Use scientific name | | Cover Species? S | Statue Number of Domina | nt Species | |
| | | | Thus any Opt 64 | | 445 |
| 1 | | | | CW, or FAC: | (A) |
| 2 | | | Total Number of D | ominant | |
| 2 | | | Total Number of D | ominant | (A) (B) |
| 2 | | | Total Number of D Species Across All Percent of Domina | ominant Strata: nt Species | |
| 2 | | | Total Number of D Species Across All Percent of Domina | ominant Strata: | |
| 2 3 4 | | | Total Number of D Species Across All Percent of Domina | ominant Strata: nt Species CW, or FAC: | |

| | | Dominant Indicator | Dominance Test worksheet: | Sandy M Sandy G |
|--|----------------------|--------------------|---|-------------------------------|
| <u>Tree Stratum</u> (Use scientific names.) 1 | | Species? Status | Number of Dominant Species That Are OBL, FACW, or FAC: (A) | Restrictive i |
| 2 | | | Total Number of Dominant Species Across Alt Strata: (5) | Type: Depth (in |
| 4 | | | Percent of Dominant Species (6) That Are OBL, FACKY, or FAC: (A/B) | Remarks: |
| Sapling/Shrub Stratum | 1 57 | FACL | | |
| 2 | | | Total % Cover of: Multiply by: | HYDROLO |
| 4 | | | OBL species x 1 = FACW species x 2 = | Wetland Hy |
| 5 | | | FAC species 50 x 3= 150 | Primary India |
| | Cover: | | FACU species 50 x 4= 2.00 | Surface' High Wa |
| 1. Fifre maken | あひ | AL | UPL species x5= | Saturatio |
| 2 | | | Column Totals: (A) (B) | Water M |
| 3 | | | Prevalence Index = B/A = | Sedimen |
| 4 | | <u></u> | Hydrophytic Vegetation Indicators: | Unit Dep Surface |
| 5 | | | Dominance Test is >50% | inundati |
| 6 | | | Prevalence index is \$3.01 | Weter-St |
| 7 | | | Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) | Field Obser |
| 8 | Cover: | | Problematic Hydrophytic Vegetation ¹ (Explain) | Surface Wat |
| Woody Vine Stratum | | | | Water Table Saturation Pr |
| 1 | | | Indicators of hydric soil and wetland hydrology must be present. | (includes cap Describe Rec |
| | Cover: | | Hydrophytic Vegetation | |
| % Bare Ground in Herb Stratum 9 | 6 Cover of Biotic Cr | ust teu | Present? Yes No | Remarks: |
| Remarks: | | | 1 | |
| | | | 1 | |
| ſ | | | | |
| US Army Corps of Engineers | | | Arid West - Version 11-1-2005 | US Army Corp |

| Profile Description: (Describe to the a | application of a contrastic the molector of or | |
|--|---|---|
| Depth Matrix | Redox Features | |
| (inches) Color (moist) % | Color (moist) % Type La | c ² Remarks |
| 14 1012314 | | 9,0 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| Type: C=Concentration, D=Depletion, F | M=Reduced Matrix. ² Location: PL=Pore Lin | ing, RC=Root Channel, M=Matrix. |
| iydric Soil indicators: (Applicable to | all LRRs, unless otherwise noted.) | Indicators for Problematic Hydric Solis ³ : |
| Histosof (A1) | Sandy Redox (S5) | 1 cm Muck (A9) (LRR C) |
| Histic Epipedon (A2) | Stripped Matrix (86) | 2 cm Muck (A10) (LRR B) |
| Black Histic (A3) | Loamy Mucky Mineral (F1) | Reduced Vertic (F18) |
| Hydrogen Sulfide (A4) | Loamy Gleyed Matrix (F2) | Red Parent Material (TF2) |
| Stratified Layers (A5) (LRR C) | Depleted Matrix (F3) | Other (Explain in Remarks) |
| 1 cm Muck (A9) (LRR D) | Redox Dark Surface (F6) | - Ander (redenning and second |
| Depleted Below Dark Surface (A11) | Depleted Dark Surface (F7) | |
| Thick Dark Surface (A12) | Redox Depressions (F8) | |
| Sandy Mucky Minerat (81) | Varnal Pools (F9) | ³ Indicators of hydrophytic vegetation and |
| Sandy Mucky Minerat (51) Sandy Gleyed Matrix (S4) | | wetland hydrology must be present. |
| | | weaters nyurology must be present. |
| Restrictive Layer (If present): | | |
| Туре: | | |
| Depth (inches): | | Hydric Soll Present? Yes No |
| | | |
| Remains: | N | , indicated |
| Ternerke: | N | a indicated |
| | N | , which is |
| YDROLOGY | , No | secondary Indicators (2 or more resulted) |
| YDROLOGY Vetland Hydrology Indicators: | | Secondary Indicators (2 or more regulared) |
| YDROLOGY Vetland Hydrology Indicators: Primery Indicators (any one Indicator is s | ufficient) | Secondary Indicators (2 or more regulard) |
| YDROLOGY Vetland Hydrology Indicators: 7/imsry Indicator (any one Indicator is a Surface Water (A1) | ufficient) | Secondary Indicators (2 or more required) Weter Marks (31) (Riverine) Sedment Deposits (32) (Riverine) |
| YDROLOGY Welland Hydrology Indicators: Primery Indicators (any one Indicator is a Surface Water (A1) High Water Table (A2) | ufficient) Self Crust (B11) Biotic Crust (B12) | Secondary Indicators (2 or more reautred) |
| YDROLOGY Vetland Hydrology Indicators: Surface Water (A1) Hgr Water Table (A2) Saturation (A3) | ufficient) Seit Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) | Secondary Indicators (2 or more resulted) Weler Marks (31) (Riverine) Sedment Deposits (82) (Riverine) Drit Deposits (83) (Riverine) Drainage Patterns (810) |
| YDROLOGY Welland Hydrology Indicators: Primery Indicators (any one Indicator is a Surface Water (A1) High Water Table (A2) | ufficient) Sait Crust (B11) Botic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suifide Odor (C1) | Secondary Indicators (2 or more resulted) Water Marks (31) (Riverhe) Sedment Deposits (82) (Riverhe) Drith Deposits (83) (Riverhe) Drainage Patterns (810) Dry-Sesson Water Table (C2) |
| YDROLOGY Vetland Hydrology Indicators: Surface Water (A1) Hgr Water Table (A2) Saturation (A3) | ufficient) Sait Crust (B11) Botic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suifide Odor (C1) | Secondary Indicators (2 or more resulted) Weler Marks (31) (Riverine) Sedment Deposits (82) (Riverine) Drit Deposits (83) (Riverine) Drainage Patterns (810) |
| YDROLOGY Vietland Hydrology Indicators: | ufficient) Sait Crust (B11) Botic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Suifide Odor (C1) | Secondary Indicators (2 or more resulted) Water Marks (31) (Riverhe) Sedment Deposits (82) (Riverhe) Drith Deposits (83) (Riverhe) Drainage Patterns (810) Dry-Sesson Water Table (C2) |
| YDROLOGY Vetland Hydrology Indicators: Primery Indicator is a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Bonriverine) Sodiment Deposits (B2) (Nonriverine) | ufficient) Sait Crust (B11) Biotic Crust (B12) Aquatic hvertebrates (B13) Hydrogen Sulfide Odor (C1) e) Oxidized Rhicospheres along LMing | Secondary Indicators (2 or more resulted) — Weiter Marks (31) (Riverine) — Sediment Deposits (32) (Riverine) — Drit Deposits (33) (Riverine) — Drinage Patterns (310) — Dry-Sesson Water Table (C2)] Roots (C3) — Thin Muck Surface (C7) — Crayfish Burrows (C6) |
| YDROLOGY Vetland Hydrology Indicators: Trimery Indicators (any one Indicator is a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Itionriverine) Sodiment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Sof Cracks (B6) | ufficient) Beit: Crust (B11) Beit: Crust (B12) Aquatic hyreterates (B13) Hydrogen Sutifide Odor (C1) e)Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reducion in Roved 39 | Secondary Indicators (2 or more resulted) Weter Marks (31) (Riverine) Diff. Deposits (B2) (Riverine) Drainage Patterns (B10) Drainage Patterns (B10) Dry-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Saturation Visible on Aerial Imagery (C |
| YDROLOGY Vetland Hydrology Indicators: Zimary Indicators (any one Indicator is a Surface Water (A1) High Weter Table (A2) Saturation (A3) Water Marks (B1) (Konritverine) Satiment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery | ufficient) Beit: Crust (B11) Beit: Crust (B12) Aquatic hyretebrates (B13) Hydrogen Sutifide Odor (C1) e)Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reducion in Roved 39 | Secondary Indicators (2 or more resulted) Weler Marks (B1) (Riverhe) Bedment Deposits (B2) (Riverhe) Drithoge Patterns (B10) Dro-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Olis (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (C3) |
| YDROLOGY Welland Hydrology Indicators: Primery Indicators (any one Indicator is a Sufface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Nonriverine) Satiment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Sufface Sol Cracks (B6) Inundation Visible on Aerial Imagery Water-Stand Leaves (B9) | ufficient) Beit: Crust (B11) Beit: Crust (B12) Aquatic hyretebrates (B13) Hydrogen Sutifide Odor (C1) e)Oxidized Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reducion in Roved 39 | Secondary Indicators (2 or more resulted) Weter Marks (31) (Riverine) Diff. Deposits (B2) (Riverine) Drainage Patterns (B10) Drainage Patterns (B10) Dry-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Saturation Visible on Aerial Imagery (C |
| YDROLOGY Vetland Hydrology Indicators: Timery Indicators (any one Indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Monitiverine) Softment Deposits (B2) (Monitiverine) Drift Deposits (B3) (Monitiverine) Surface Sol Cracks (B6) Inundation Viable on Aartal Imagery Water-Stand Leaves (B9) Teld Observations: | ufficient) Self Crust (B11) Biotic Crust (B12) Aquatic hystebrates (B13) Hydrogen Sutifide Odor (C1) e)Condexed Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduced Iron (C4) Recent Iron Reduced Iron (C4) (B7)Cher (Explain In Remarks) | Secondary Indicators (2 or more resulted) Weler Marks (B1) (Riverhe) Bedment Deposits (B2) (Riverhe) Drithoge Patterns (B10) Dro-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Olis (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (C3) |
| YDROLOGY Vetland Hydrology Indicators: 7/msry Indicators (any one Indicator is a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marts (B1) (Nonriverine) Sedment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery Weld Observations: Surface Sol Sol | ufficient) Self Crust (B11) Biotic Crust (B12) Aquatic hystebrates (B13) Hydrogen Sutifide Odor (C1) e)Condexed Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduced Iron (C4) Recent Iron Reduced Iron (C4) (B7)Cher (Explain In Remarks) | Secondary Indicators (2 or more resulted) Weler Marks (B1) (Riverhe) Bedment Deposits (B2) (Riverhe) Drithoge Patterns (B10) Dro-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Olis (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (C3) |
| YDROLOGY Vetland Hydrology Indicators: 7/msry Indicators (any one Indicator is a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marts (B1) (Nonriverine) Sedment Deposits (B2) (Nonriverine) Drift Deposits (B3) (Nonriverine) Surface Sol Cracks (B6) Inundation Visible on Aerial Imagery Weld Observations: Surface Sol Sol | ufficient) Self Crust (B11) Biotic Crust (B12) Aquatic hystebrates (B13) Hydrogen Sutifide Odor (C1) e)Condexed Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduced Iron (C4) Recent Iron Reduced Iron (C4) (B7)Cher (Explain In Remarks) | Secondary Indicators (2 or more resulted) Weler Marks (B1) (Riverhe) Bedment Deposits (B2) (Riverhe) Drithoge Patterns (B10) Dro-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) Olis (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (C3) |
| YDROLOGY Vetland Hydrology Indicators: Primary Indicators (any one Indicator is a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Konriverine) Sediment Deposits (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Viable on Aerial Imagery Weter-Stained Leaves (B3) Veter-Stained Leaves (B3) Veter Table Present? Yes | ufficient) Self Crust (B11) Biotic Crust (B12) Aquatic hystebrates (B13) Hydrogen Sutifide Odor (C1) e)Condexed Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduced Iron (C4) Recent Iron Reduced Iron (C4) (B7)Cher (Explain In Remarks) | Secondary Indicators (2 or more resulted) Weler Marks (B1) (Riverhe) Bedment Deposits (B2) (Riverhe) Drithoge Patterns (B10) Dr-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfish Burrows (C6) olis (C6) Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) |
| YDROLOGY Vetland Hydrology Indicators: 7/mary Indicators (any one Indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Konriverine) Sediment Deposits (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Viable on Aerial Imagery Weter-Stained Leaves (B3) Vetid Observations: Surface Water Present? Yes | ufficient) | Secondary Indicators (2 or more resulted) Weter Marks (31) (Riverhe) Sedment Deposits (82) (Riverhe) Drainage Patterns (810) Dry-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfist Burrows (C6) oils (C6) Seturation Visible on Aerial Imagery (C Shallow Agutard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No |
| YDROLOGY Vetland Hydrology Indicators: 7/mary Indicators (any one Indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Konriverine) Sediment Deposits (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Viable on Aerial Imagery Weter-Stained Leaves (B3) Vetic Observations: Surface Water Present? Yes | ufficient) Self Crust (B11) Biotic Crust (B12) Aquatic hystebrates (B13) Hydrogen Sutifide Odor (C1) e)Condexed Rhizospheres along Living Presence of Reduced Iron (C4) Recent Iron Reduced Iron (C4) Recent Iron Reduced Iron (C4) (B7)Cher (Explain In Remarks) | Secondary Indicators (2 or more resulted) Weter Marks (31) (Riverhe) Sedment Deposits (82) (Riverhe) Drainage Patterns (810) Dry-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfist Burrows (C6) oils (C6) Seturation Visible on Aerial Imagery (C Shallow Agutard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No |
| YDROLOGY Vetland Hydrology Indicators: 7/mary Indicators (any one Indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Konriverine) Sediment Deposits (B2) (Nonriverine) Surface Sol Cracks (B6) Inundation Viable on Aerial Imagery Weter-Stained Leaves (B3) Vetic Observations: Surface Water Present? Yes | ufficient) | Secondary Indicators (2 or more resulted) Weter Marks (31) (Riverhe) Sedment Deposits (82) (Riverhe) Drainage Patterns (810) Dry-Sesson Water Table (C2) Roots (C3) Thin Muck Surface (C7) Crayfist Burrows (C6) oils (C6) Seturation Visible on Aerial Imagery (C Shallow Agutard (D3) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No |
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| YDROLOGY Wetland Hydrology Indicators: Finnery Indicators (any one Indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Monitiverline) Souther Marks (B1) (Monitiverline) Surface Soil Cracks (B6) Inundation Viable on Aerial Imagery Water-State Leaves (B5) Teld Observations: Surface Water Present? Yes Saturation Present? | ufficient) Salt Crust (811) Biotic Crust (812) Aquatic hvertebrates (813) Hydrogen Sufide Odor (C1) e) Oxidized Rhizospheres along LMng Presence of Reduced Iron (C4) Recent Iron Reduction in Rowed So (87) Other (Explain in Remarks) No Depth (Inches): No Depth (Inches): No Depth (Inches): Mo Depth (Inches): Mo Depth (Inches): No Depth (Inches): | Secondary Indicators (2 or more resulted) |
| YDROLOGY Wetland Hydrology Indicators: Finnery Indicators (any one Indicator is s Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) (Monitiverline) Souther Marks (B1) (Monitiverline) Surface Soil Cracks (B6) Inundation Viable on Aerial Imagery Water-State Leaves (B5) Teld Observations: Surface Water Present? Yes Saturation Present? | ufficient) Salt Crust (811) Biotic Crust (812) Aquatic hvertebrates (813) Hydrogen Sufide Odor (C1) e) Oxidized Rhizospheres along LMng Presence of Reduced Iron (C4) Recent Iron Reduction in Rowed So (87) Other (Explain in Remarks) No Depth (Inches): No Depth (Inches): No Depth (Inches): Mo Depth (Inches): Mo Depth (Inches): No Depth (Inches): | Secondary Indicators (2 or more resulted) |

US Army Corps of Engineers

Arid West - Version 11-1-200

RATING SUMMARY – Eastern Washington

| Name of wetland (or ID #): Wet he | 1A | Date of site vi | sit: |
|-------------------------------------|-----------|-------------------------|---------------|
| Rated by 20 Seml | | ology? YesNo Dat | e of training |
| HGM Class Used for Rating 721 vm/m. | 🥙 Unit ha | as multiple HGM classes | ?YN |

NOTE: Form is not complete without the figures requested (figures can be combined). Source of base aerial photo/map

OVERALL WETLAND CATEGORY

1. Category of wetland based on FUNCTIONS

- **_____Category I** Total score = 22 27
- Category II Total score = 19 21
- **Category III** Total score = 16 18

Category IV – Total score = 9 - 15

| FUNCTION | 18. 27 K S | impro ater C | ving Quality | , | M | /drola | gic | | Habita | at |
|---------------------------|------------|-----------------|-----------------|---|-----------|--------|-----|------|--------|----|
| | | Ci | rcle the | 9 | ap | propri | ate | rati | ngs | |
| Site Potential | Н | M |) L | 1 | H) | М | L | H | М | L |
| Landscape Potential | н | M |) L | | \hat{H} | М | L | H | М | L |
| Value | н | М | \bigcirc | | H | M | L | Н | N | L |
| Score Based on Ratings | | 3 | , | | | G | | | 8 | |

Score for each function based on three ratings (order of ratings is not *important)* 9 = H, H, H8 = H,H,M7 = H,H,L 7 = H, M, M6 = H,M,L6 = M, M, M5 = H,L,L 5 = M, M, L4 = M, L, LB = L, L, L

. . .

2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC | CATEGORY Circle the appropriate category |
|--|---|
| Vernal Pools | II III |
| Alakali | I |
| Wetland with high conservation value | I |
| Bog | I |
| Old Growth or Mature Forest – slow growing | I |
| Aspen Forest | I |
| Old Growth or Mature Forest – fast growing | I |
| Floodplain forest | I |
| None of the above | |

Wetland Rating System for Eastern WA: 2014 Update Rating Form

Maps and figures required to answer questions correctly (Eastern Washington)

Depressional Wetlands

| Map of: | To answer questions: | Figure # |
|---|----------------------|----------|
| Cowardin plant classes and classes of emergents | D 1.3, H 1.1, H 1.4 | |
| Hydroperiods | D 1.4, H 1.2, H1.3 | |
| Location of outlet (can be added to map of hydroperiods) | D 1.1, D1.4 | |
| Boundary of 150 ft buffer (can be added to another figure) | D 2.2, D 5.2 | |
| Polygon of area 1km from wetland edge - Including polygons for accessible habitat and undisturbed habitat | H 2.1, H2.2 | |
| Screen capture of map of 303d listed waters in basin (from Ecology web site) | D 3.1, D 3.2 | |
| Screen capture of list of TMDL's for WRIA in which unit is found (from web) | D 3.3 | |
| Area of open water (can be added to map of hydroperiods) | H1.3.1 | |

Riverine Wetlands

| Map of: | To answer questions: | Figure # |
|--|----------------------|----------|
| Cowardin plant classes and classes of emergents | H 1.1, H 1.4 | |
| Hydroperiods | H 1.2, H1.3 | |
| Ponded depressions | R 1.1 | |
| Boundary of 150 ft buffer (can be added to another figure) | R 2.4 | |
| Plant cover of trees, shrubs, and herbaceous plants | R 1.2, R 4.2 | |
| Width of unit vs. width of stream (can be added to another figure) | R 4.1 | |
| Polygon of area 1km from wetland edge -Including polygons for accessible habitat and undisturbed habitat | H 2.1, H2.2 | |
| Screen capture of map of 303d listed waters in basin (from Ecology web site) | R 3.1 | |
| Screen capture of list of TMDL's for WRIA in which unit is found (from web) | R 3.2, R 3.3 | |

Lake-fringe Wetlands

| Map of: | To answer questions: | Figure # |
|---|----------------------------|----------|
| Cowardin plant classes and classes of emergents | L 1.1, L 4.1, H 1.1, H 1.4 | |
| Plant cover of trees, shrubs, and herbaceous plants | L 1.2 | |
| Boundary of 150 ft buffer (can be added to another figure) | L 2.2 | |
| Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat) | H 2.1, H2.2 | |
| Screen capture of map of 303d listed waters in basin (from Ecology web site) | L 3.1 | |
| Screen capture of list of TMDL's for WRIA in which unit is found (from web) | L 3.3 | |

Slope Wetlands

| Map of: | To answer questions: | Figure # |
|---|----------------------|----------|
| Cowardin plant classes and classes of emergents | H 1.1, H 1.4 | |
| Hydroperiods | H 1.2 | |
| Plant cover of dense trees, shrubs, and herbaceous plants | S 1.3 | |
| Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above) | S 4.1 | |
| Boundary of 150 ft buffer (can be added to another figure) | S 2.1, S 5.1 | |
| Polygon of area 1km from wetland edge (Including polygons for accessible habitat and undisturbed habitat) | H 2.1, H2.2 | |
| Screen capture of map of 303d listed waters in basin (from Ecology web site) | \$ 3.1, \$ 3.2 | |
| Screen capture of list of TMDL's for WRIA in which unit is found (from web) | S 3.3 | |

HGM Classification of Wetland Units in Eastern Washington

For questions 1-4 the criteria described must apply to the entire unit being rated for it to be classified correctly.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-4 apply, and go to Question 5.

- 1. Does the entire wetland unit meet both of the following criteria?
 - The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 acres (8 ha) in size
 - At least 30% of the open water area is deeper than 10 ft (3 m)

(NO – go to **P** YES – The wetland class is Lake-fringe (Lacustrine Fringe)

- 2. Does the entire wetland unit meet all of the following criteria?
 - _____The wetland is on a slope (*slope can be very gradual*),
 - ____The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks. Does the water leaves the wetland **without being impounded**?
 - NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are
 - usually <3ft diameter and less than 1 foot deep).
 - NO go to 3 YES The wetland class is **Slope**
- 3. Does the entire wetland unit meet all of the following criteria?
 - _____The unit is in a valley, or stream channel, where it gets inundated by overbank
 - flooding from that stream or river
 - _____The overbank flooding occurs at least once every ten years.
 - NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding.
 - NO go to 4 YES The wetland class is **Riverine**
- **4**. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year. *This means that any outlet, if present, is higher than the interior of the wetland.*

NO – go to 5 YES – The wetland class is **Depressional**

5. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM Wetland Rating System for Eastern WA: 2014 Update

Rating Form

Wetland name or number_____

classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM Classes within the being rated | and the second | A CONTRACTOR OF SHE | M Class to e in Rating |
|--|--|---------------------|---------------------------|
| Slope + Riverir | le | | Riverine |
| Slope + Depressi | onal | De | pressional |
| Slope + Lake-fri | nge | La | ke-fringe |
| Depressional + Riverine (t is within the boundary | | De | pressional |
| Depressional + Lake | e-fringe | De | pressional |
| Riverine + Lake-fr | ringe | | Riverine |

If you are unable still to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

| <u>RIVERINE WETLANDS</u> Water Quality Functions - Indicators that site functions to improve water quality | ŧv | Points (only 1 score per box) |
|--|-----------------|-------------------------------------|
| R 1.0 Does the wetland unit have the <u>potential to</u> improve water quality? | | |
| R 1.1 Area of surface depressions within the riverine wetland that can trap sediments du event | ring a flooding | |
| Depressions cover >1/3 area of wetland | points = 6 | |
| Depressions cover > 1/10 area of wetland | points = 3 | |
| Depressions present but cover < 1/10 area of wetland | points = 1 | 6 |
| No depressions present | points = 0 | 4 |
| R 1.2 Structure of plants in the unit (areas with >90% cover at person height; not Cowardin class | es): | |
| Forest or shrub > 2/3 the area of the wetland | points = 10 | |
| Forest or shrub 1/3 – 2/3 area of the wetland | points = 5 | |
| Ungrazed, herbaceous plants > 2/3 area of wetland | points = 5 | |
| Ungrazed herbaceous plants 1/3 – 2/3 area of wetland | points = 2 | |
| Forest, shrub, and ungrazed herbaceous < 1/3 area of wetland | points = 0 | -> |
| Total for R1 Add the points in the | e boxes above | 11 |
| Rating of Site Potential If score is: 12 – 16 = H (6 - 11 = M) 0 | - 5 = L | |

Rating of Site Potential

If score is:

6 - 11 = M 0 - 5 = L Record the rating on the first page

| R 2.0 Does the landsca | pe have the potential to support the water quality f | function at the | site? | |
|--|---|---------------------------|--|---|
| R 2.1 Is the unit within ar | n incorporated city or within its UGA? | Yes = | 2 No = 0 | 0 |
| R. 2.2 Does the contribut | ing basin include a UGA or incorporated area? | Yes | =1No = 0 | 1 |
| R 2.3 Does at least 10% of clearcut within the | f the contributing basin contain tilled fields, pastures, or last 5 years? | forests that have Yes | and the second s | 0 |
| R 2.4 Is > 10% of the buff | er within 150 ft of wetland unit in land uses that generat | e pollutants Yes | s=1 No=0 | 0 |
| R 2.5 Are there other so R 2.1 – R 2.4? Source_ | urces of pollutants coming into the wetland that are not | listed in question Yes | and the second | 0 |
| Total for R 2 | Add the points in the boxes above | | | , |

Rating of Landscape Potential If score is: 3-6 = H

1 or 2 = M Record the rating on the first page

| R 3.0 Is the water quality | improvement p | provided by the s | ite valuable to | society? | | |
|---|-----------------------|-----------------------|--------------------|--------------------------|---------------------|-----|
| R 3.1 Is the unit along a stream | n or river that is or | the 303 d list or on | a tributary that d | Irains to one Yes = 1 | ? No = 0 | C |
| R 3.2 Does the river on stream | have TMDL limits | for nutrients, toxics | , or pathogens? | Yes = 1 | No = 0 | 0 |
| R 3. Has the site been identifie (answer YES if there is a T | | | | ning water qu Yes = 2 | uality? No = 0 | 0 |
| Total for R 3 | Add th | ne points in the box | es above | | 7 | , d |
| Rating of Value: | If score is: | 2-4 = H | 1 = M | (0 = | [] | |

| Wetland | name | or | num | ber |
|---------|------|----|-----|-----|
| | | | | |

| RIVERINE WETLANDS Hydrologic Functions - Indicators that site functions to re | duce flooding and stream erosion | Points (only 1 score per box) |
|---|-----------------------------------|-------------------------------------|
| R 4.0 Does the wetland unit have the <u>potential</u> to reduce f | looding and erosion? | |
| R 4.1 Characteristics of the overbank storage the unit provides: Estimate the average width of the wetland unit perpendicular to the distream or river channel (distance between banks). Calculate the ratio: of stream between banks). | | |
| If the ratio is more than 2 | points = 10 | |
| If the ratio is between 1 – 2 | points = 8 | |
| If the ratio is ½ - <1 | points = 4 | |
| If the ratio is ¼ - < ½ | points = 2 | |
| If the ratio is < ¼ | points = 1 | 10 |
| R 4.2 Characteristics of plants that slow down water velocities during <i>"forest or shrub". Choose the points appropriate for the best description at person height NOT Cowardin classes</i>): | | |
| Forest or shrub for more than 2/3 the area of the wetland. | points = 6 | |
| Forest or shrub for >1/3 area OR herbaceous plants > 2/3 area | points = 4 | |
| Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area | points = 2 | 4 |
| Plants do not meet above criteria | points = 0 | / |
| Total for R 5 | Add the points in the boxes above | 14 |

ating of site Potential In score is:

Record the rating on the first page

| R 5.0 Does the landscape have the potential to support the hydrolog | ic functions at the sit | e? | |
|---|-------------------------|-------------|---|
| R5.1 Is the stream/river adjacent to the unit downcut? | Yes | = 0 No = 1 | 1 |
| R 5.2 Does the upgradient watershed include a UGA or incorporated area? | Ye | s = 1No = 0 | 1 |
| R 5.3 Is The upgradient stream or river controlled by dams? | Yes | = 0 No = 1 | 1 |
| Total for R 5 | Add the points in the | boxes above | 3 |

Rating of Landscape Potential If score is: (3 = H) 1 or 2 = M

M 0 = L Record the rating on the first page

| R 6.0 Are the hydrologic | functions provide | ed by the site v | aluable to s | ociety? | | |
|--|----------------------------------|--------------------|-----------------|---------------------------------|--|---|
| R 6.1 Distance to the neare fits the site. | est areas downstrea | im that have flo | oding probler | ns? Choose the descri | ption that best | |
| The sub-basin immed human or natural Surface flooding prob No flooding problems | resources lems are in a basin | further down-g | | g problems that result | s in damage to points = 2 points = 1 points = 0 | 1 |
| R 6.2 Has the site has beer control plan? | n identified as impo | ortant for flood s | storage or floo | od conveyance in a reg Yes = | | 0 |
| Total for R 6 | | | | Add the points in th | e boxes above | 1 |
| Rating of Value | If score is | 2-4 = H | (1=M) | 0 = 1 | • | |

Record the rating on the first page

| These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat | | (only 1 score per box) |
|---|--|---------------------------|
| H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species? | | |
| H 1.1 Categories of vegetation structure Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold category is >= $\frac{1}{2}$ acre or >= 10% of the unit if unit is < 2.5 acres | for each | |
| Emergent plants 0-12 in. (0 – 30 cm) high are the highest layer and have > 30% coverEmergent plants >12 – 40 in.(>30 – 100cm) high are the highest layer with >30% coverEmergent plants > 40 in.(> 100cm) high are the highest layer with >30% coverScrub/shrub (areas where shrubs have >30% cover)4-6 checksForested (areas where trees have >30% cover)3 checks2 checks1 check | points = 3 points = 2 points = 1 points = 0 | M |
| H 1.2. Is one of the vegetation types "aquatic bed?" YES = 1 point NO = | 0 points | 0 |
| H 1.3. <u>Surface Water</u> H 1.3.1 Does the unit have areas of "open" water (without herbaceous or shrub plants) ove acre OR 10% of its area during the March to early June OR in August to the end of Septemb <i>Note: answer YES for Lake-fringe wetlands</i> YES = 3 points & go to H 1.4 NO = go t H 1.3.2 Does the unit have an intermittent or permanent, and unvegetate,d stream within i boundaries, or along one side, over at least ¼ acre or 10% of its area, (<i>answer yes only if H</i> 2 YES = 3 points NO = 0 po H 1.4. <u>Richness of Plant Species</u> | er? o H 1.3.2 ts 1.3.1 is NO)? bints | M |
| Count the number of plant species in the wetland that cover at least 10 ft ² . (different patches of species can be combined to meet the size threshold) You do not have to name the species Do not include Eurasean Milfoil, reed canarygrass, purple loosestrife, Russian Olive, Phro Canadian Thistle, Yellow-flag Iris, and Salt Cedar (Tamarisk) # of species Scoring: > 9 species = 2 points 4-9 species = 1 point < 4 species = 0 p | ies. Igmites, | 2 |
| H 1.5. Interspersion of habitats Decide from the diagrams below whether interspersion between types of plant structures (descril and unvegetated areas (open water or mudflats) is high, medium, low, or none. Use map of Cowardin plant classes prepared for questions H1.1 and map of open water fro | | Figure |
| None = 0 points Low = 1 point Moderate = 2 points | | |
| High = 3 points NOTE: If you have four or more classes or three plants classes and open water the rating is always | - | S. |

• |

| Wetland name or number | | | ,1 |
|---|-------------------------------------|--------------|----|
| H 1.6. Special Habitat Features: | | | |
| Check the habitat features that are present in the wetland | l unit. The number of checks is the | score. | |
| Loose rocks larger than 4" or large, downed, woody debris portding or in stream. | (>4in. diameter) within the area o | fsurface | |
| Cattails or bulrushes are present within the unit. | | | |
| Standing snags (diameter at the bottom > 4 inches) in the Emergent or shrub vegetation in areas that are permanent | • • • | of the edge. | |
| Stable steep banks of fine material that might be used by I slope) OR signs of recent beaver activity | peaver or muskrat for denning (>4 | 5 degree | |
| Invasive species cover less than 20% in each stratum of ve | getation (canopy, sub-canopy, shri | ıbs, | |
| herbaceous, moss/ground cover) | Maximum score po | ssible = 6 | 4 |
| H 1. TOTAL Score - | Add the check marks in the box | above | 15 |

12-16 = H

Rating of Site Potential If score is:

6 - 11 = M 0 - 5 = L Record the rating on the first page

| H 2.0. Does the landscape have the potential to support habitat at the site? H 2.1 Accessible habitat (only area of habitat abutting wetland unit). <i>Calculate:</i> % undisturbed habitat $\angle b$ + [(% moderate and low intensity land uses)/2] $\underline{34} = \underline{28}$ % | |
|---|----------|
| % undisturbed habitat $10 + [(\% \text{ moderate and low intensity land uses})/2] 34 = 28 \%$ | |
| | |
| If total accessible babitat is: | |
| i total accessible habitat is. | |
| > 1/3 (33.3%) of 1km circle (~100 hectares) | |
| 20 - 33% of 1km circle (points = 2) | |
| 10- 19% of 1km circle points = 1 | |
| <10% of 1km circle points = 0 | 2 |
| H2.2 Undisturbed habitat in 1km circle around unit. If: | |
| Undisturbed habitat > 50% of circle points = 3 | |
| Undisturbed habitat 10 - 50% and in 1-3 patches (points = 2) | |
| Undisturbed habitat 10 - 50% and > 3 patches points = 1 | Z |
| Undisturbed habitat < 10% of circle points = 0 | <u>_</u> |
| H2.3 Land use intensity in 1 km circle. If: | |
| > 50% of circle is high intensity land use points = (- 2) | - |
| Does not meet criterion above | 0 |
| H 2.4 12 The wetland unit is in an area where annual rainfall is less than 12 inches, and its water regime is not | |
| influenced by irrigation practices, dams, or water control structures. (Generally, this means outside | 6 |
| boundaries of reclamation areas, irrigation district, or reservoirs) points = 3 | 0 |
| Total for H 2 Add the points in the boxes above | Ч |
| Rating of Landscape Potential If score is: 4-6=H 1-3=M <1=L | |

Rating of Landscape Potential If score is:

Record the rating on the first page

| H 3.0 Is the Habitat provided by the site valuable to society? | | |
|---|----------------|---|
| H3.1Does the site provides habitat for species valued in laws, regulations or policies? (choose the | highest score) | |
| Site meets ANY of the following criteria: | ooints = 2 | |
| It provides habitat for Threatened or Endangered species (any plant or animal on state or | federal lists) | |
| It is a "priority area" for an individual WDFW species | | |
| It is a Wetland With a High Conservation Value as determined by the Department of Natu | ral Resources | |
| It has 3 or more priority habitats within 100m (see Appendix B) | | |
| It has been categorized as an important habitat site in a local or regional comprehensive p | lan, in a | |
| Shoreline Master Plan, or in a watershed plan | | |
| Site has 1 or 2 priority habitats within 100m (see Appendix B) | pints = 1 | 1 |
| Site does not meet any of the criteria above p | oints = 0 | |
| Rating of ValueIf score is:2 = H(1 = M)0 | = L | |

Record the rating on the first page

Wetland Rating System for Eastern WA: 2014 Update **Rating** Form -

1

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland unit meets the attributes described below and circle the appropriate Category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All units should also be characterized based on their functions.

| Wetland Type Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met. | Category |
|---|---------------------|
| SC 1.0 Vernal pools | |
| Is the wetland unit less than 4000 ft² , and does it meet at least two of the following criteria? | |
| Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input | |
| — Wetland plants are typically present only in the spring; the summer | |
| vegetation is typically upland annuals. NOTE: If you find perennial, | |
| "obligate", wetland plants the wetland is probably NOT a vernal pool | |
| The soil in the wetland are shallow (<1ft deep (30 cm)) and is underlain by | |
| an impermeable layer such as basalt or clay. | |
| — Surface water is present for less than 120 days during the "wet" season. | |
| YES = Go to SC 1.1 NO - not a vernal pool | |
| SC 1.1 Is the vernal pool relatively undisturbed in February and March? | |
| YES = Go to SC 1.2 NO – not a vernal pool with special characteristics | |
| SC 1.2 Is the vernal pool in an area where there are at least 3 separate aquatic | C-4 11 |
| resources within 0.5 miles (other wetlands, rivers, lakes etc.)? | Cat. II Cat. III |
| YES = Category II NO = Category III | Cat. m |
| SC 2.0 Alkali wetlands | |
| Does the wetland unit meets one of the following two criteria? | |
| — The wetland has a conductivity > 3.0 mS/cm. | |
| — The wetland has a conductivity between 2.0 - 3.0 mS, and more than 50% | |
| of the plant cover in the wetland can be classified as "alkali" species (see | |
| Table 4 for list of plants found in alkali systems). | |
| If the wetland is dry at the time of your field visit, the central part of the | |
| area is covered with a layer of salt. | |
| OR does the wetland unit meets two of the following three sub-criteria? | |
| — Salt encrustations around more than 80% of the edge of the wetland More than % of the plant cover consists of species listed on Table 4 | |
| — More than ¾ of the plant cover consists of species listed on Table 4 A pH above 8.0 All alkali wetlands have a high pH, but plaase note that | |
| — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not | |
| a good indicator of alkali wetlands. | |
| YES = Category I NO – not an alkali wetland | Cat. I |
| TES = Calegory I | |

| SC 2.1 Has the Department of Natural Resources updated their web site to include the list of Wetlands with High Conservation Yalue? YES - Go to SC 2.2 Cat. I SC 2.2 Is the wetland unit you are rating listed on the DNR database as having a High Conservation Value? YES = Category I NO = ort a WHCV SC 2.3 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdex/datasearCh/whipwetlands.pdf YES _ or ontat WHP/DNR and go to SC 2.4 NO = not a WHCV SC 2.4 Has DNR identified the wetland within the \$/T/R as a wetland with High Conservation value and is listed on their web site? YES _ contact WNHP/DNR and go to SC 2.4 NO = not a WHCV SC 2.4 Has DNR identified the wetland within the \$/T/R as a wetland with High Conservation value and is listed on their web site? YES = Category I NO _ not an WHCV SC 4.1 Does an area within the wetland unit have organic soil horizons [i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix C for a field key to Identify organic soils)? Yes - go to SC 4.3 No - is not a bog for rating SC 4.2. Does an area within the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or-pend?? Yes - Gategory I bog No - is not a bog for rating SC 4.3 Does an area within the unit have more than 70% cover of Misses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes - Category I bog No - go to Question SC 4.4 NOTE: if you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the PH of the water that sees into a hole dug at least 10% of the total plant cover within an area of peats and | SC 3.0 Wetlands with High Conservation Value (WHCV) | |
|---|---|--------|
| SC 2.2 Is the wetland unit you are rating listed on the DNR database as having a High Conservation Value? YES - Category I NO - not a WHCV SC 2.3 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/dataseatch/wnhptwetlands.pdf YES - Contact WNHP/DNR and go to SC 2.4 NO = not a WHCV SC 2.4 Has DNR identified the wetland within the S/T/R as a wetland with High Conservation value and is listed on their web site? YES - Category I NO not an WHCV SC 4.0 Bogs and Calcareous Fens Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens. Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yee you will still need to rate the wetland based on its functions. SC 4.1. Does an area within the wetland unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix C for a field key to identify organic soils)? Yes - go to SC 4.3 No - so ta bog for rating SC 4.3. Does an area within the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as day or volcanic ash, or that are floating on top of a lake orpend?? Yes - Category 1 bog No - so to a bog for rating SC 4.3. Does an area within the unit have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes - Category 1 bog No - so to a bog for rating SC 4.4 Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover un | Wetlands with High Conservation Value? | Cat. I |
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| SC 4.0 Bogs and Calcareous Fens Does the wetland unit (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens. Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions. SC 4.1. Does an area within the wetland unit have organic soils in orizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix C for a field key to Identify organic soils): | | |
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| soil profile? (See Appendix C for a field key to identify organic soils)? Yes - go to SC 4.3 No - go to SC 4.2 SC 4.2. Does an area within the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?? Yes - go to SC 4.3 No - <i>Is not a bog for rating</i> SC 4.3. Does an area within the unit have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes - Category I bog No - go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog. SC 4.4 Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy Yes - Category I bog NO - go to question SC 4.5 S. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? Yes - Is a Calcareous Fen for purpose of rating No - go to Question 6 6. Do the species listed in Table 6 comprise at least 10% of the total plant cover an area of peats and mucks, AND one of the two following conditions is met: Marl deposits (calcium carbonate (CaCO3) precipitate) occur on the soil surface or plant stems The pH of free water ≥ 6.8 AND electrical conductivity ≥ 200 uS/cm at multiple locations within the wetland | ÷ · · · · · | |
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| within the wetland | | |
| | | ons |
| | | Cat I |

| SC 5.0 Forested Wetlands | |
|---|---------|
| Does the wetland unit have an area of forest rooted within its boundary that meets at least | |
| one of the following three criteria? (Continue only if you have identified a forested class is | |
| present in question H 1.1) | |
| The wetland is within the "100 year" floodplain of a river or stream | |
| aspen (Populus tremuloides) represents at least 20% of the total cover of woody | |
| species | |
| — There is at least ¼ acre of trees (even in wetlands smaller than 2.5 acres) that are | |
| "mature" or "old-growth" according to the definitions for these priority habitats | |
| developed by WDFW (see definitions in question H3.1) | |
| YES = go to SC 5.1 NO - not a forested wetland with special characteristics | |
| SC 5.1 Does the wetland unit have a forest canopy where more than 50% of the tree species (by | |
| cover) are slow growing native trees (see Table 7) | Cat. I |
| YES = Category I NO = go to SC 5.2 | |
| | |
| SC 5.2 Does the unit have areas where aspen (Populus tremuloides) represents at least 20% of | Cat. I |
| the total cover of woody species. | |
| YES = Category I NO = go to SC 5.3 | |
| ite - cateboly i ite bolto contain | |
| SC 5.3 Does the wetland unit have areas with a forest canopy where more than 50% of the tree | |
| species (by cover) are fast growing species. (see Table 7) | Cat. II |
| species (by cover) are rase from its species. (See rasis 7) | |
| YES = Category II NO = go to SC 5.5 | |
| | |
| SC 5.4 Is the forested component of the wetland within the "100 year floodplain" of a river or | |
| stream? | |
| YES = Category) | Cat. II |
| | |
| Category of wetland based on Special Characteristics | |
| Choose the "highest" rating if wetland fails into several categories. | |
| If you answered NO for all types enter "Not Applicable" on p.1 | |

Appendix B: WDFW Priority Habitats in Eastern Washington

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <u>http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</u>)

Count how many of the following priority habitats are within 330 ft (100m) of the wetland unit? NOTE: This question is independent of the land use between the wetland unit and the priority habitat.

____Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).

___Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report p. 152*).

Old-growth/Mature forests: <u>Old-growth east of Cascade crest</u>: Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 25 trees/ha (10 trees/acre) that are > 53 cm (21 in) dbh, and 2.5-7.5 snags/ha (1 – 3 snags/acre) that are > 30-35 cm (12-14 in) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests: Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west and 80 - 160 years old east of the Cascade crest.

___Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

____Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

___Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

____Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.

____Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

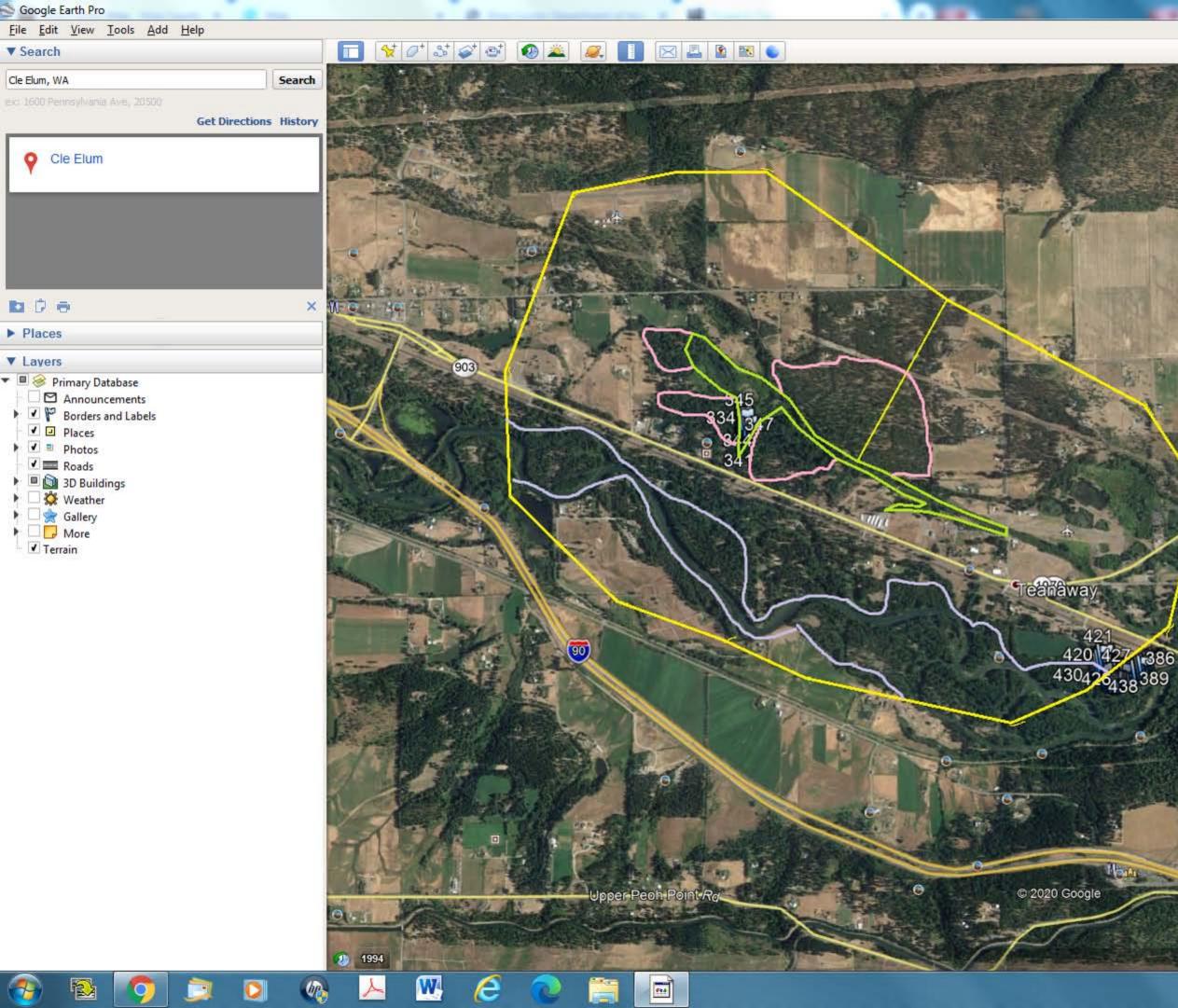
____Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

____Shrub-steppe: A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).

Eastside Steppe: Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch Wheatgrass (Pseudoroegneria spicata) is often the prevailing cover component along with Idaho Fescue (Festuca idahoensis), Sandberg Bluegrass (Poa secunda), Rough Fescue (F. campestris), or needlegrass (Achnatherum spp.).

___ Juniper Savannah: All juniper woodlands.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.



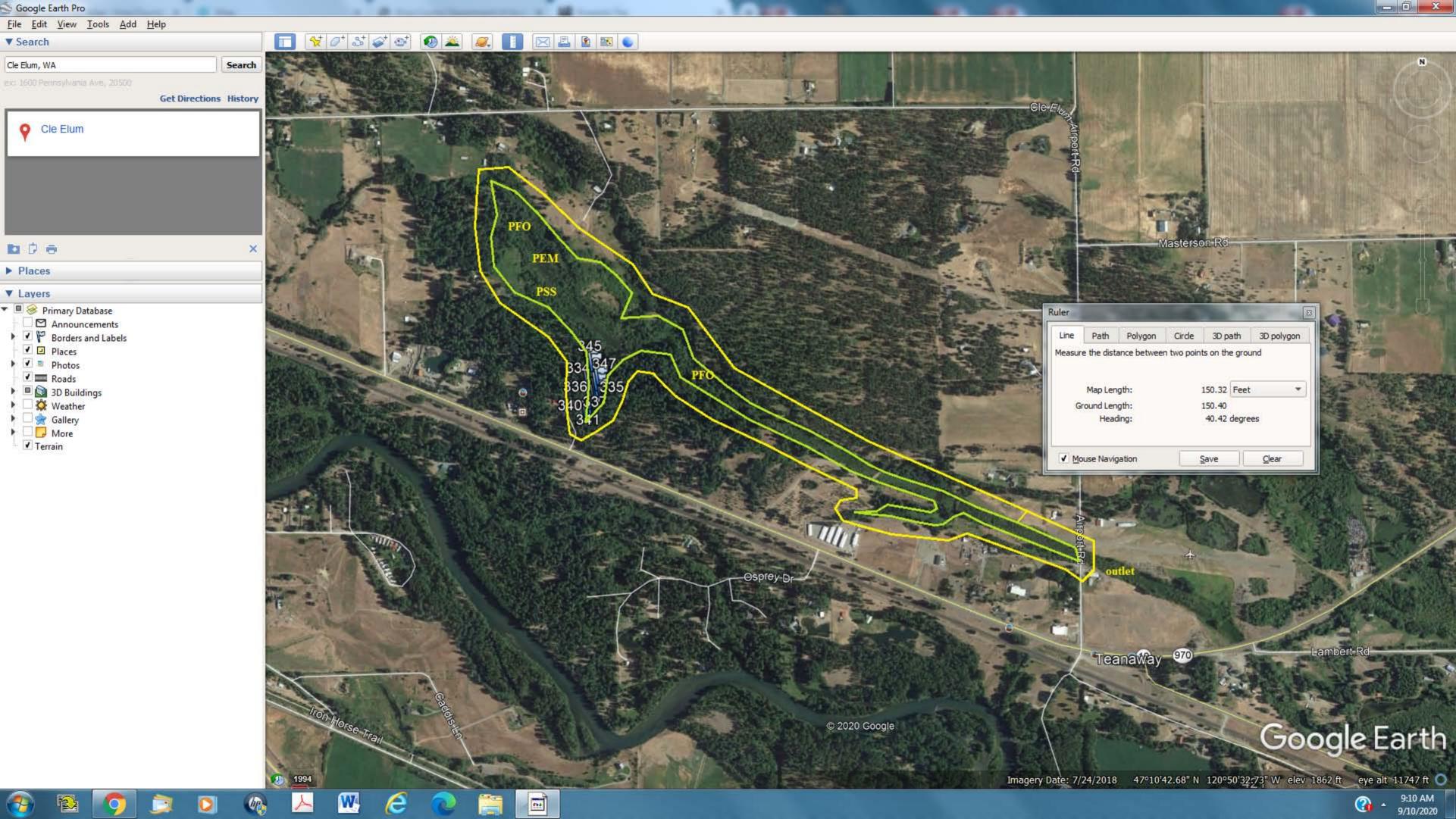
| Line | Path | Polygon | Circle 3D | path | 3D poly | ygon |
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| Measur | e the dist | ance betweer | n two points on | the grou | ind | |
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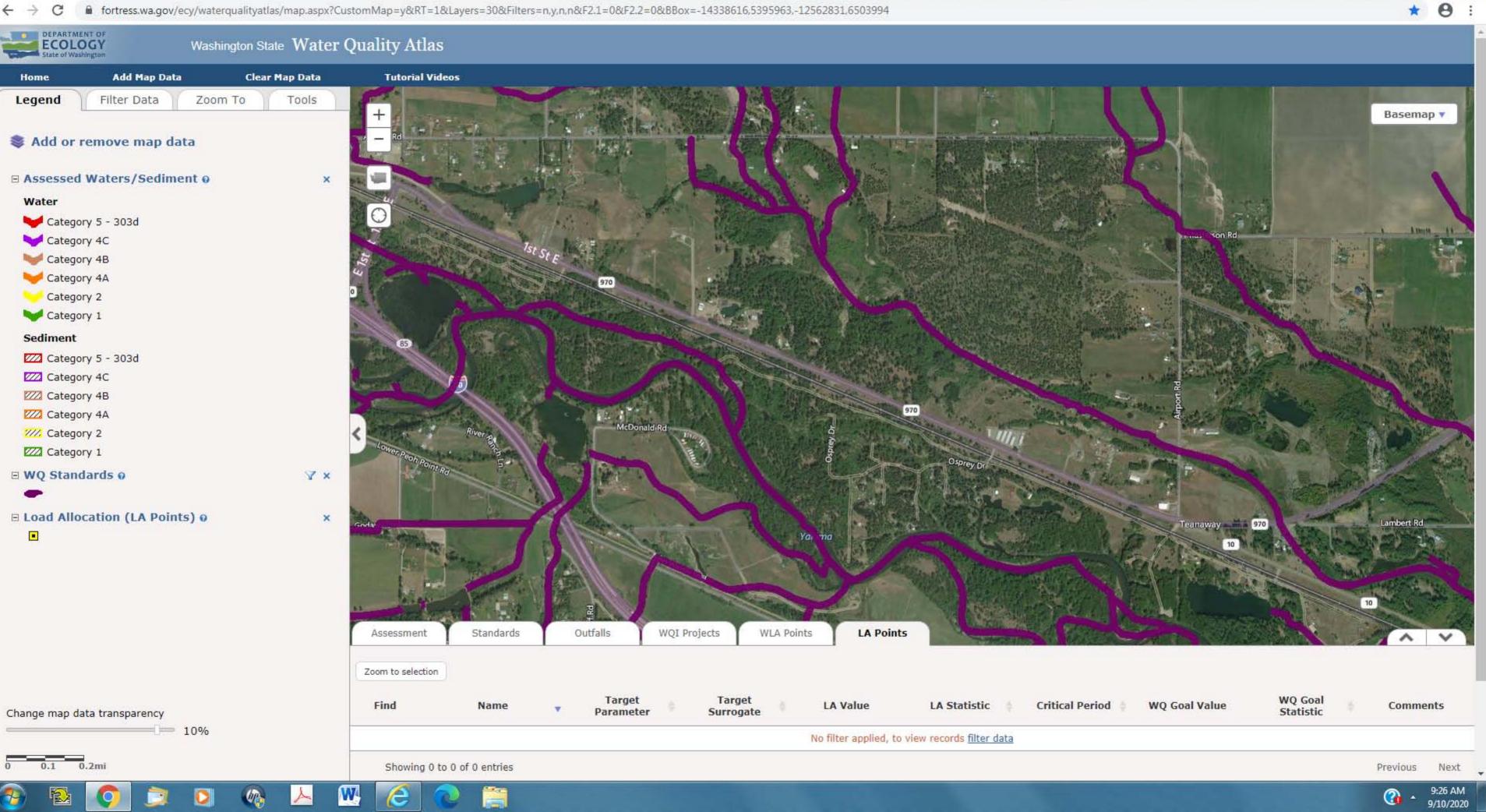
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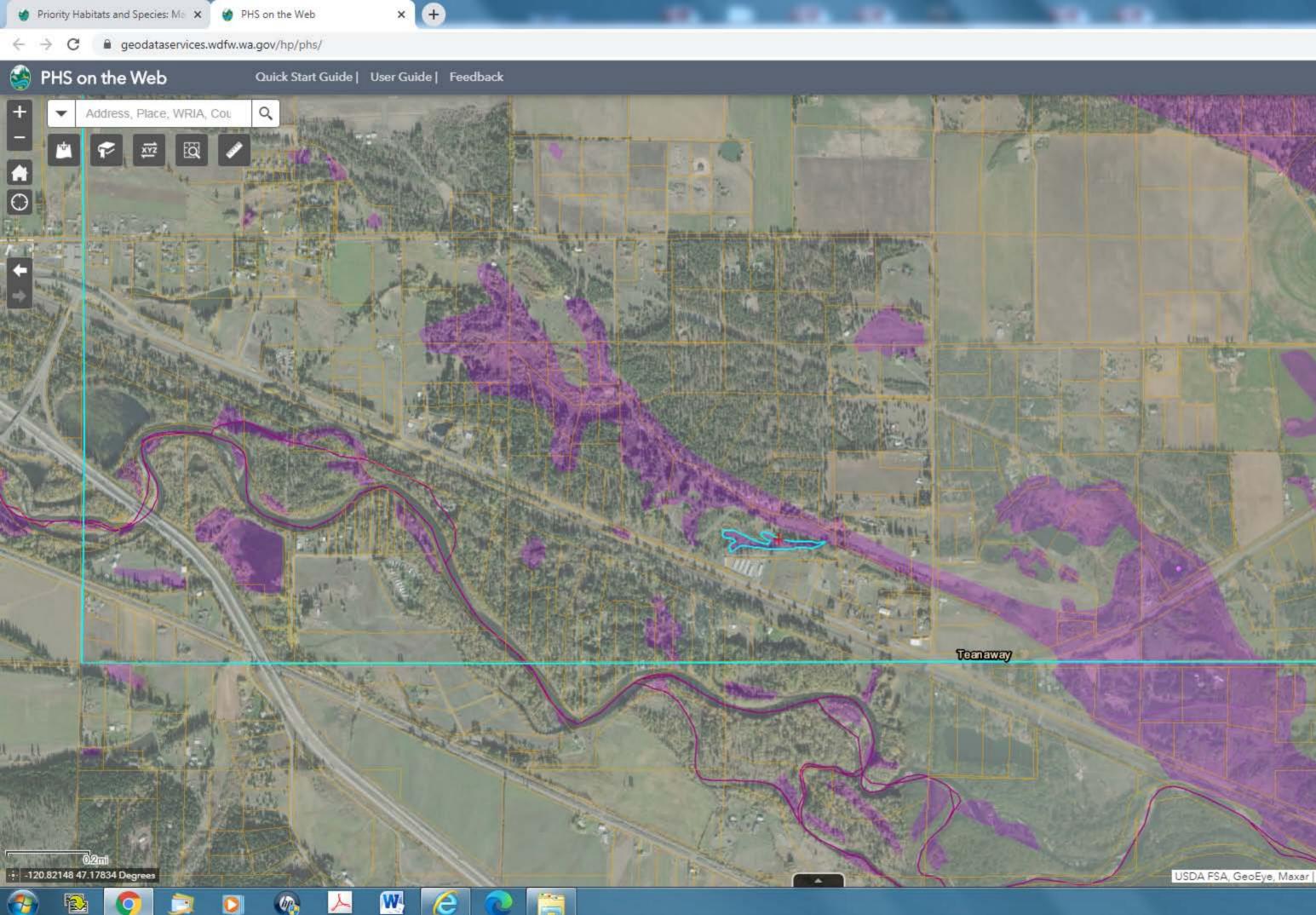
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- 0 X



USDA FSA, GeoEye, Maxar | W

PHS Identify

Generate Report

| Occurrence Name | Freshwater Emergent Wetland | | | |
|-------------------------------|---|--|--|--|
| Priority Area | Aquatic Habitat | | | |
| Site Name | N/A | | | |
| Accuracy | NA | | | |
| Notes | Wetland System: PALUSTRINE - NW Code: PEMA | | | |
| Source Dataset | NWIWetlands | | | |
| Source Name | Not Given | | | |
| Source Entity | US Fish and Wildlife Service | | | |
| Federal Status | N/A | | | |
| State Status | N/A | | | |
| PHS Listing Status | PHS Listed Occurrence | | | |
| Sensitive | N | | | |
| SGCN | N | | | |
| Display Resolution | AS MAPPED | | | |
| Management Recommendations | Click for more info. | | | |
| Geometry Type | Polygons | | | |

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| Occurrence Name | Northern Spotted Owl | | |
|-------------------------------|---|--|--|
| Scientific Name | Strix occidentalis | | |
| Notes | This polygon mask represents one o r more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obt aining information about masked se nsitive species and habitats. | | |
| Federal Status | Threatened | | |
| State Status | Endangered | | |
| PHS Listing Status | PHS Listed Occurrence | | |
| Sensitive | Y | | |
| SGCN | Y | | |
| Display Resolution | TOWNSHIP | | |
| Management Recommendations | Click for more info. | | |

9:50 AM 9/10/2020