

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Denali Borough Sampling Date: 30-Jul-13  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW13\_T212\_09  
 Investigator(s): SLI, EAC Landform (hillside, terrace, hummocks etc.): Floodplain  
 Local relief (concave, convex, none): undulating Slope: 1.0 % / 0.6 ° Elevation: 661  
 Subregion: Interior Alaska Mountains Lat.: 63.384763241 Long.: -148.904581904 Datum: WGS84  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: PSS1C

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

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

|   |  |
|---|--|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | <b>Is the Sampled Area<br/>within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks: We are sampling a high (i.e. the whole site is not inundated every year) cobble bar on the Jack River. it is located between the main channel and a larger secondary channel that is currently dry.  |  |

**VEGETATION** -Use scientific names of plants. List all species in the plot.

| <u>Tree Stratum</u>   | Absolute % Cover                | Dominant Species?                   | Indicator Status | <b>Dominance Test worksheet:</b>  |
|---|---------------------------------|-------------------------------------|------------------|---|
| 1. _____  | 0                               | <input type="checkbox"/>            | _____            | Number of Dominant Species That are OBL, FACW, or FAC: <u>2</u> (A)   |
| 2. _____  | 0                               | <input type="checkbox"/>            | _____            | Total Number of Dominant Species Across All Strata: <u>4</u> (B)  |
| 3. _____  | 0                               | <input type="checkbox"/>            | _____            | Percent of dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)  |
| 4. _____  | 0                               | <input type="checkbox"/>            | _____            |   |
| 5. _____  | 0                               | <input type="checkbox"/>            | _____            |   |
| <b>Total Cover:</b> <u>0</u>  |                                 |                                     |                  |   |
| <u>Sapling/Shrub Stratum</u>  | 50% of Total Cover: <u>0</u>    | 20% of Total Cover: <u>0</u>        |                  | <b>Prevalence Index worksheet:</b>  |
| 1. <u>Populus balsamifera</u>   | 10                              | <input checked="" type="checkbox"/> | FACU             | Total % Cover of: Multiply by:  |
| 2. <u>Salix alaxensis</u>   | 15                              | <input checked="" type="checkbox"/> | FAC              | OBL Species <u>0</u> x 1 = <u>0</u>   |
| 3. <u>Alnus viridis</u>   | 3                               | <input type="checkbox"/>            | FAC              | FACW Species <u>2.2</u> x 2 = <u>4.4</u>  |
| 4. <u>Salix pulchra</u>   | 2                               | <input type="checkbox"/>            | FACW             | FAC Species <u>23.2</u> x 3 = <u>69.60</u>  |
| 5. <u>Shepherdia canadensis</u>   | 0.1                             | <input type="checkbox"/>            | FACU             | FACU Species <u>15.3</u> x 4 = <u>61.20</u>   |
| 6. _____  | 0                               | <input type="checkbox"/>            | _____            | UPL Species <u>0.1</u> x 5 = <u>0.500</u>   |
| 7. _____  | 0                               | <input type="checkbox"/>            | _____            | Column Totals: <u>40.8</u> (A) <u>135.7</u> (B)   |
| 8. _____  | 0                               | <input type="checkbox"/>            | _____            | Prevalence Index = B/A = <u>3.326</u>   |
| 9. _____  | 0                               | <input type="checkbox"/>            | _____            |   |
| 10. _____   | 0                               | <input type="checkbox"/>            | _____            |   |
| <b>Total Cover:</b> <u>30.1</u>   |                                 |                                     |                  | <b>Hydrophytic Vegetation Indicators:</b>   |
| 50% of Total Cover: <u>15.05</u>  | 20% of Total Cover: <u>6.02</u> |                                     |                  | <input type="checkbox"/> Dominance Test is > 50%  |
| <u>Herb Stratum</u>   |                                 |                                     |                  | <input type="checkbox"/> Prevalence Index is ≤ 3.0  |
| 1. <u>Chamerion latifolium</u>  | 3                               | <input checked="" type="checkbox"/> | FAC              | <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
| 2. <u>Artemisia norvegica</u>   | 0.1                             | <input type="checkbox"/>            | FACU             | <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)                               |
| 3. <u>Artemisia tilesii</u>   | 0.1                             | <input type="checkbox"/>            | FACU             | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.              |
| 4. <u>Parnassia kotzebuei</u>   | 0.1                             | <input type="checkbox"/>            | FACW             |   |
| 5. <u>Eurybia sibirica</u>  | 0.1                             | <input type="checkbox"/>            | FAC              | Plot size (radius, or length x width) <u>5m</u>   |
| 6. <u>Calamagrostis canadensis</u>  | 2                               | <input type="checkbox"/>            | FAC              | % Cover of Wetland Bryophytes (Where applicable) _____  |
| 7. <u>Hedysarum alpinum</u>   | 5                               | <input checked="" type="checkbox"/> | FACU             | % Bare Ground <u>90</u>   |
| 8. <u>Oxytropis campestris var. cusickii</u>  | 0.1                             | <input type="checkbox"/>            | UPL              | Total Cover of Bryophytes <u>5</u>  |
| 9. <u>Rubus arcticus ssp. acaulis</u>   | 0.1                             | <input type="checkbox"/>            | FAC              |   |
| 10. <u>Pedicularis sudetica</u>   | 0.1                             | <input type="checkbox"/>            | FACW             |   |
| <b>Total Cover:</b> <u>10.7</u>   |                                 |                                     |                  | <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>                        |
| 50% of Total Cover: <u>5.35</u>   | 20% of Total Cover: <u>2.14</u> |                                     |                  |   |
| Remarks: assume hydrophytic vegetation due to geomorphic position (gravel bar of Jack River), indications of frequent flooding. trace erigeron sp., poa alpina, trisetum spicatum |                                 |                                     |                  |   |

**SOIL**

Sampling Point: SW13\_T212\_09

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

| Depth (inches) | Matrix        |   | Redox Features |   |                   |                  | Texture | Remarks |
|----------------|---------------|---|----------------|---|-------------------|------------------|---------|---------|
|                | Color (moist) | % | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |
|                |               |   |                |   |                   |                  |         |         |

<sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix    <sup>2</sup> Location: PL=Pore Lining. RC=Root Channel. M=Matrix

**Hydric Soil Indicators:**

- Histosol or Histel (A1)
- Histic Epipedon (A2)
- Hydrogen Sulfide (A4)
- Thick Dark Surface (A12)
- Alaska Gleyed (A13)
- Alaska Redox (A14)
- Alaska Gleyed Pores (A15)

**Indicators for Problematic Hydric Soils:<sup>3</sup>**

- Alaska Color Change (TA4)<sup>4</sup>
- Alaska Alpine swales (TA5)
- Alaska Redox With 2.5Y Hue
- Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- Other (Explain in Remarks)

<sup>3</sup> One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present

<sup>4</sup> Give details of color change in Remarks

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:

fluvaquent soils - gravel bar of Jack River, assume hydric soil due to geomorphic position.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Other (Explain in Remarks)

Secondary Indicators (two or more are required)

- Water Stained Leaves (B9)
- Drainage Patterns (B10)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Salt Deposits (C5)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present?    Yes     No     Depth (inches): \_\_\_\_\_

Water Table Present?    Yes     No     Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe)    Yes     No     Depth (inches): \_\_\_\_\_

**Wetland Hydrology Present?**    Yes     No

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:

Remarks:

gravel bar of Jack River. drift deposits = rafted debris and wood.