## WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 02-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T177_01**

Investigator(s): BAB | Landform (hillside, terrace, hummocks etc.): river bar

Local relief (concave, convex, none): bouldery | Slope: % / 3.1 ° | Elevation: 106

Subregion : Interior Alaska Mountains | Lat.: 63.0767087642 | Long.: -148.069004415 | Datum: NAD83

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 ◉ No ○ | **Is the Sampled Area within a Wetland?** **Yes ◉ No ○** |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks: Boulder bar adjacent to stream. Appears to be innundated early season.

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

| | Tree Stratum | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|---|
| 1. | | 0 | ☐ | |
| 2. | | 0 | ☐ | |
| 3. | | 0 | ☐ | |
| 4. | | 0 | ☐ | |
| 5. | | 0 | ☐ | |
| | **Total Cover:** | 0 | | |

50% of Total Cover: 0 | 20% of Total Cover: 0

| | Sapling/Shrub Stratum | | | |
|---|---|---|---|---|
| 1. | Salix alaxensis | 15 | ☑ | FAC |
| 2. | Salix pulchra | 8 | ☑ | FACW |
| 3. | Salix reticulata | 3 | ☐ | FAC |
| 4. | Spiraea stevenii | 0.1 | ☐ | FACU |
| 5. | Dasiphora fruticosa | 3 | ☐ | FAC |
| 6. | Vaccinium uliginosum | 1 | ☐ | FAC |
| 7. | Empetrum nigrum | 0.1 | ☐ | FAC |
| 8. | Salix arctica | 0.1 | ☐ | FACU |
| 9. | Betula nana | 0.1 | ☐ | FAC |
| 10. | | 0 | ☐ | |
| | **Total Cover:** | 30.4 | | |

50% of Total Cover: 15.2 | 20% of Total Cover: 6.08

| | Herb Stratum | | | |
|---|---|---|---|---|
| 1. | Chamaenerion latifolium | 2 | ☑ | FAC |
| 2. | Parnassia kotzebuei | 0.1 | ☐ | FACW |
| 3. | Antennaria monocephala | 0.1 | ☐ | UPL |
| 4. | Swertia perennis | 0.1 | ☐ | FACW |
| 5. | Arctagrostis latifolia | 2 | ☑ | FACW |
| 6. | Polemonium pulcherrimum | 1 | ☐ | UPL |
| 7. | Equisetum arvense | 0.1 | ☐ | FAC |
| 8. | Equisetum variegatum | 2 | ☑ | FACW |
| 9. | Bistorta vivipara | 0.1 | ☐ | FAC |
| 10. | Rhodiola integrifolia | 0.1 | ☐ | FAC |
| | **Total Cover:** | 7.6 | | |

50% of Total Cover: 3.8 | 20% of Total Cover: 1.52

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL Species | 0 | x 1 = | 0 |
| FACW Species | 12.2 | x 2 = | 24.40 |
| FAC Species | 24.5 | x 3 = | 73.50 |
| FACU Species | 0.2 | x 4 = | 0.800 |
| UPL Species | 1.1 | x 5 = | 5.500 |
| Column Totals: | 38 (A) | | 104.2 (B) |

Prevalence Index = B/A = 2.742

**Hydrophytic Vegetation Indicators:**

☑ Dominance Test is > 50%

☑ Prevalence Index is ≤3.0

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Plot size (radius, or length x width) 10m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground

Total Cover of Bryophytes

**Hydrophytic Vegetation Present?** **Yes ◉ No ○**

Remarks: saxpun, carlim, carmac trace

## SOIL

**Sampling Point: SW13_T177_01**

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type [1] | Loc [2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
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| | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix [2] 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:[3]**

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☑ Other (Explain in Remarks)

[3] One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present

[4] Give details of color change in Remarks

Restrictive Layer (if present):
Type:
Depth (inches):

**Hydric Soil Present?** Yes ◉ No ○

Remarks:
no soil pit, boulder field. assume hydric soils due to proximity to river. insufficient soil carbon for redox feature development.

## 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:
adjacent to stream appears to flood early season