## WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 11-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T126_12**

Investigator(s): SLI, SCB | Landform (hillside, terrace, hummocks etc.): Floodplain

Local relief (concave, convex, none): undulating | Slope: % / 6.0 ° | Elevation: 715

Subregion : Southcentral Alaska | Lat.: 62.8859022224 | Long.: -149.381010525 | Datum: NAD83

Soil Map Unit Name: | **NWI classification:** Upland

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 ◉

Hydric Soil Present? Yes ○ No ◉

Wetland Hydrology Present? Yes ◉ No ○

**Is the Sampled Area within a Wetland?** Yes ○ No ◉

Remarks: seasonally flooded riparian willow community dominated by tall salix alaxensis

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

| Tree Stratum | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix alaxensis | 5 | ☑ | FAC |
| 2. Populus balsamifera | 2 | ☑ | FACU |
| 3. | 0 | ☐ | |
| 4. | 0 | ☐ | |
| 5. | 0 | ☐ | |
| Total Cover: | 7 | | |

50% of Total Cover: 3.5 | 20% of Total Cover: 1.4

| Sapling/Shrub Stratum | | | |
|---|---|---|---|
| 1. Salix alaxensis | 70 | ☑ | FAC |
| 2. Oplopanax horridus | 10 | ☐ | FACU |
| 3. | 0 | ☐ | |
| 4. | 0 | ☐ | |
| 5. | 0 | ☐ | |
| 6. | 0 | ☐ | |
| 7. | 0 | ☐ | |
| 8. | 0 | ☐ | |
| 9. | 0 | ☐ | |
| 10. | 0 | ☐ | |
| Total Cover: | 80 | | |

50% of Total Cover: 40 | 20% of Total Cover: 16

| Herb Stratum | | | |
|---|---|---|---|
| 1. Heracleum maximum | 25 | ☑ | FACU |
| 2. Dryopteris expansa | 15 | ☑ | FACU |
| 3. Equisetum arvense | 15 | ☑ | FAC |
| 4. Streptopus amplexifolius | 5 | ☐ | FACU |
| 5. Gymnocarpium dryopteris | 5 | ☐ | FACU |
| 6. Chamaenerion angustifolium | 5 | ☐ | FACU |
| 7. Mertensia paniculata | 2 | ☐ | FACU |
| 8. Aconitum delphiniifolium | 1 | ☐ | FAC |
| 9. | 0 | ☐ | |
| 10. | 0 | ☐ | |
| Total Cover: | 73 | | |

50% of Total Cover: 36.5 | 20% of Total Cover: 14.6

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL Species | 0 | x 1 = | 0 |
| FACW Species | 0 | x 2 = | 0 |
| FAC Species | 91 | x 3 = | 273 |
| FACU Species | 69 | x 4 = | 276 |
| UPL Species | 0 | x 5 = | 0 |
| Column Totals: | 160 (A) | | 549 (B) |

Prevalence Index = B/A = 3.431

**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 20

Total Cover of Bryophytes 10

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

Remarks: streamside thicket of tall willows, mostly (all?) salala. shrub growth form up to 20ft tall, only a few >3in dbh. very scattered large popbal.

## SOIL

**Sampling Point: SW13_T126_12**

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 % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2 | | | 100 | | | | | | Sapric Organics | |
| 2-5 | 2.5Y | 3/2 | 100 | | | | | | Silt Loam | |
| 5-8 | 5Y | 5/1 | 100 | | | | | | Sand | well graded |
| 8-9 | 2.5Y | 3/2 | 100 | | | | | | Silt Loam | |
| 9-16 | 5Y | 2.5/1 | 100 | | | | | | Sand | well graded w subang gravels - cobbles |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[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:

very little organic content, insufficient for redox feature development. do not believe this site has problematic hydrophytic vegetation, cannot apply problematic hydric soil criteria.

## 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): 15 |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 15 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

drift deposits indicate flooding by adjacent stream.