WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 01-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T41_05**

Investigator(s): SLI, KMK | Landform (hillside, terrace, hummocks etc.): Gulch or Gully

Local relief (concave, convex, none): concave | Slope: % / 9.4 ° | Elevation: 807

Subregion : Interior Alaska Mountains | Lat.: 62.798098061 | Long.: -148.015332405 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1B**

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: immediately downslope from PEM1H: open water surrounded by caraqu in 6-12+in water, with heavily used game trails through emergent wetland. This community becomes a steeper, well-defined gully further downslope.

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus viridis	20	☑	FAC
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	20		

50% of Total Cover: 10 | 20% of Total Cover: 4

Sapling/Shrub Stratum			
1. Alnus viridis	50	☑	FAC
2. Ribes triste	5	☐	FAC
3. Rosa acicularis	1	☐	FACU
4. Linnaea borealis	1	☐	FACU
5. Rubus idaeus	5	☐	FACU
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	62		

50% of Total Cover: 31 | 20% of Total Cover: 12.4

Herb Stratum			
1. Cornus canadensis	5	☐	FACU
2. Rubus arcticus (IAM)	1	☐	FACU
3. Arctagrostis latifolia	30	☑	FACW
4. Trientalis europaea	0.1	☐	FACU
5. Dryopteris expansa	1	☐	FACU
6. Thalictrum sparsiflorum	1	☐	FACU
7. Mertensia paniculata	2	☐	FACU
8. Cystopteris montana	1	☐	FAC
9.	0	☐	
10.	0	☐	
Total Cover:	41.1		

50% of Total Cover: 20.55 | 20% of Total Cover: 8.22

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (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	30	x 2 =	60
FAC Species	76	x 3 =	228
FACU Species	17.1	x 4 =	68.40
UPL Species	0	x 5 =	0
Column Totals:	123.1 (A)		356.4 (B)

Prevalence Index = B/A = 2.895

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) 2x10m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground 80

Total Cover of Bryophytes 15

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

Remarks: trace vibedu, lyccla, trieur, phegoptris connectilis, acodel, salgla, viola selkirkii (pubescent above w deep sinus), epilobium sp. collected arclat (different from at other sites) - pressed.

SOIL

Sampling Point: SW12_T41_05

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
0-1							Fibric Organics	
1-18							Sapric organics	abundant cobbles to boulders

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix [2] Location: PL=Pore Lining. RC=Root Channel. M=Matrix

Hydric Soil Indicators:

- [x] 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:
refusal at 18in

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)
- [x] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] Microtopographic Relief (D4)
- [x] 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:
intermittent stream from upslope PEM1H goes subsurface at western edge of alders, near plot, appears to flow beneath community. see general remarks for description of up and downslope features. Soils at this plot are moist, but not saturated.