WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 23-Jun-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T10_03**

Investigator(s): SLI, LMF | Landform (hillside, terrace, hummocks etc.): Alluvial fan

Local relief (concave, convex, none): rolling | Slope: % / 4.0 ° | Elevation: 218

Subregion : Southcentral Alaska | Lat.: 62.7847383341 | Long.: -149.661835745 | 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 ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: large portions of site flooded, with salix in standing water, fully submerged geumac, calcan, and chalat. high water event, veg community and soils suggest that this is typically much more dry.

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	Absolute % Cover	Dominant Species?	Indicator Status
1. Rubus idaeus	1	☐	FACU
2. Alnus incana	7	☐	FAC
3. Salix glauca	15	☑	FAC
4. Salix lasiandra	0.1	☐	FACW
5. Populus balsamifera	10	☑	FACU
6. Salix alaxensis	5	☐	FAC
7. Salix richardsonii	3	☐	FACW
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	41.1		

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

Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Chamaenerion latifolium	10	☑	FAC
2. Artemisia tilesii	3	☐	FACU
3. Calamagrostis canadensis	7	☑	FAC
4. Carex spectabilis	1	☐	FACW
5. Geum macrophyllum	2	☐	FAC
6. Taraxacum officinale	5	☑	FACU
7. Mertensia paniculata	5	☑	FACU
8. Hedysarum boreale	1	☐	UPL
9. Achillea millefolium	1	☐	FACU
10. Equisetum scirpoides	1	☐	FACU
Total Cover:	36		

50% of Total Cover: 18 | 20% of Total Cover: 7.2

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	4.1	x 2 =	8.2
FAC Species	46	x 3 =	138
FACU Species	26	x 4 =	104
UPL Species	1	x 5 =	5
Column Totals:	77.1 (A)		255.2 (B)

Prevalence Index = B/A = 3.310

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 95

Total Cover of Bryophytes

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

Remarks: Problematic hydrophytic vegetation, site is likely transitioning to upland and gets flooded on a greater than yearly seasonal basis, colonizing with primarily FACU colonizers. using problematic veg consistent with other vegetated riverbar plots with similar photosig. Additional herbs 1% each galium triflorum, lupinus arcticus, juncus arcticus.

SOIL

Sampling Point: SW12_T10_03

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
0-4	2.5Y	3/1	100					Sandy Clay	
4-15			60					Sand	coarse sand and 40% coarse gravel

[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 hydric soil indicators but indicators of seasonal flooding, assume hydric, fluvaquent soils

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): 13

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
adjacent to susitna river. Flooding at this site would primarily occur from small upstream tributary. Located on branch off main permanently flooded channel and flood frequency may be dropping.