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: % / ° | Elevation: 780

Subregion : Southcentral Alaska | Lat.: 62.8860016141 | Long.: -149.388118306 | Datum: WGS84

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Salix alaxensis	5	☑	FAC
2. Populus balsamifera	2	☑	FACU
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	7		
Sapling/Shrub Stratum	50% of Total Cover: 3.5	20% of Total Cover: 1.4	
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		
Herb Stratum	50% of Total Cover: 40	20% of Total Cover: 16	
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. Chamerion angustifolium	5	☐	FACU
7. Mertensia paniculata	2	☐	FACU
8. Aconitum delphinifolium	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.