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_01**

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

Local relief (concave, convex, none): flat | Slope: 0.0 % / 0.0 ° | Elevation: 231

Subregion : Southcentral Alaska | Lat.: 62.7861115756 | Long.: -149.658681632 | 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: dense salix-alnus community, dominated by tall, tree-form salix and alnus. pressed salbar.

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Populus balsamifera	15	☑	FACU
2. Alnus viridis ssp. sinuata	15	☑	FAC
3. Salix glauca	10	☐	FAC
4. Salix richardsonii	15	☑	FACW
5.	0	☐	
Total Cover:	55		
Sapling/Shrub Stratum (50% of Total Cover: 27.5 / 20% of Total Cover: 11)			
1. Ribes triste	3	☐	FAC
2. Alnus incana ssp. tenuifolia	10	☑	UPL
3. Salix glauca	10	☑	FAC
4. Salix alaxensis	10	☑	FAC
5. Salix barclayi	10	☑	FAC
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	43		
Herb Stratum (50% of Total Cover: 21.5 / 20% of Total Cover: 8.6)			
1. Thalictrum sparsiflorum	2	☐	FACU
2. Artemisia tilesii	1	☐	FACU
3. Mertensia paniculata	1	☐	FACU
4. Calamagrostis canadensis	3	☑	FAC
5. Trientalis europaea	1	☐	FACU
6. Heracleum maximum	1	☐	FACU
7. Galium triflorum	1	☐	FAC
8. Equisetum arvense	3	☑	FAC
9. Matteuccia struthiopteris	1	☐	FACW
10. Gymnocarpium dryopteris	3	☑	FACU
Total Cover:	17		
50% of Total Cover: 8.5 / 20% of Total Cover: 3.4			

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 70.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	16	x 2 =	32
FAC Species	65	x 3 =	195
FACU Species	24	x 4 =	96
UPL Species	10	x 5 =	50
Column Totals:	115 (A)		373 (B)

Prevalence Index = B/A = 3.243

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: 85

Total Cover of Bryophytes: 10

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: very tall (20ft), tree form alnus and salix.

SOIL

Sampling Point: SW12_T10_01

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5Y	3/1	80					Loamy Sand	20% roots
6-9	2.5Y	2.5/1	70					Sandy Clay Loam	10% roots, 20% subang gravels
9-18	5Y	3/1	20					Sand	80% gravels and cobbles (1-4in)

[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

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:
drift deposits of rafted soil and organics, 1ft above ground surface