WETLAND DETERMINATION DATA FORM - Alaska Region

Landform (hillside, terrace, hummocks etc.): Lowland	Project	/Site: Susitna-Watana Hydroelectric Project		Borough/City:	Matanusk	xa-Susitna Borough Sampling Date: 05-Aug-13							
Local relief (concave, convex, none): hummocky Slope: 0.0 %/ 0.0 % Elevation: 788 Zabbregion: Cooper River Basin Latt: 62.6210383326 Long: -147.413063329 Datum: WGS84 NWI classification: PSS18 Are climatic/hydrologic conditions on the site typical for this time of year? Yes													
Lati Congress Lati Lati Congress Lati													
Subregion: Copper River Basin													
Note Comment Solid App Unit Name: Note Comment Solid Are Vegetation Are Vegetation Solid Are Vegetation Are Vege			l at ·										
Are climatic hydrologic conditions on the site typical for this time of year? Are Vegetation	_		Lat	02.02 1030332									
Are Vegetation													
Step Hydric Soil Present? Yes No within a Wetland? Yes No Wetland Hydrology Present? Yes No within a Wetland? Yes No Wetland Hydrology Present? Yes No within a Wetland? Yes No Wetland Hydrology Present? Yes No within a Wetland? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present Hydroly Present Hydrology Pr	Are V Are V	egetation , Soil , or Hydrology egetation , Soil , or Hydrology MARY OF FINDINGS - Attach site map si	significant naturally p nowing sar	ly disturbed? roblematic?	Are "N (If nee	lormal Circumstances" present? Yes No Oeded, explain any answers in Remarks.)							
Wetland Hydrology Present? Yes	Is the Sampled Area												
Remarks: Substantial microtopographic relief, very hummocky. Interhummock areas ca 30% of site and very wet. VEGETATION - Use scientific names of plants. List all species in the plot. Tree Stratum		. ,											
Free Stratum Absolute % Cover Dominant Species Indicator Species? Indicator Species? Number of Dominant Species Tatus Tatus Number of Dominant Species Ta													
Picea mariana			. List all sp	ecies in the	plot.								
1. Picea mariana	Tree	Stratum											
2.					-								
3. 0		Tioda manana		. 🖳									
4.				·									
Total Cover: S Sapling/Shrub Stratum Sow of Total Cover: S Sow of Total Cover: S Sapling/Shrub Stratum Sow of Total Cover: S Sapling/Shrub Shrub Shru													
Total Cover: 5													
Sapling/Shrub Stratum 50% of Total Cover: 2.5 20% of Total Cover: 1 OBL Species 9.1 x 1 = 9.1		Total Co		. –									
1. Betula nana 15	San			•	1	0.00							
2. Vaccinium uliginosum 3. Ledum decumbens 4. Picea mariana 5. Empetrum nigrum 6. Vaccinium vitis-idaea 7. Salix pulchra 8. Salix reticulata 9. Populus balsamifera 10. Arctostaphylos rubra 11. Juncus arcticus 12. Juncus castaneus 13. FAC 15. FAC 16. Vaccinium vitis-idaea 16. Vaccinium vitis-idaea 17. FAC 18. Salix reticulata 18. FAC 19. Prevalence Index = B/A = 2.594 10. Arctostaphylos rubra 11. FAC 11. Juncus arcticus 12. Juncus castaneus 13. Carex bigelowii 15. FAC 16. FAC 17. FAC 18. FAC 19. FAC 19. FAC 11. Garex lapponica 10. FAC 11. Garex lapponica 11. Garex lapponica 12. Juncus castaneus 13. Garex lapponica 14. Carex lapponica 15. FAC 15. FAC 15. FAC 16. FAC 16. FAC 16. FAC 16. FAC 16. Vaccinium uliginosum 16. FAC 16. FAC 16. FAC 16. Vaccinium vitis-idaea 16. Vaccinium vitis-idaea 17. FAC 18. FAC 19. FAC 19. FAC 11. Garex lapponica 18. FAC 19. FAC 11. Garex lapponica 19. FAC 10. FAC 11. Garex lapponica 10. GBL 10. FAC 11. Garex lapponica 10. GBL 12. FAC 13. Garex lapponica 13. Garex lapponica 14. Garex lapponica 15. FAC 15. FAC 16. Vaccinium uliginosum 15. FAC 16. Vaccinium uliginosum 16. FAC 16. Vaccinium uliginosum 16. FAC 17. FAC 18. FAC 19. FAC 19. FAC 19. FAC 11. Garex lapponica 10. FAC 10. FAC 11. Garex lapponica 11. Garex lapponica 12. Garex lapponica 13. Garex lapponica 14. Garex lapponica 15. FAC 16. Vaccinium uliginosum 16. Vaccinium uliginosum 17. FAC 19. FAC 19. FAC 11. Garex lapponica 19. FAC 19. FAC 19. FAC 19. FAC 11. Garex lapponica 19. FAC 19. FA				_		312							
3. Ledum decumbens 4. Picea mariana 5. Empetrum nigrum 6. Vaccinium vitis-idaea 7. Salix pulchra 8. Salix reticulata 9. Populus balsamifera 10. Arctostaphylos rubra 11. Juncus arcticus 12. Juncus arcticus 13. FACU 11. Juncus arcticus 14. FACU 11. Juncus arcticus 15. Empetrum nigrum 16. Vaccinium vitis-idaea 17. Salix pulchra 18. Salix reticulata 19. Populus balsamifera 10. Arctostaphylos rubra 11. Juncus arcticus 11. Juncus arcticus 12. Juncus castaneus 13. FACU 11. Juncus arcticus 14. Carex lapponica 15. FACU 16. Column Totals: 99.1 (A) 257.1 (B) 17. Column Totals: 99.1 (A) 257.1 (B) 18. Carex bigelowii 19. FACU 19. Prevalence Index = B/A = 2.594 10. Arctostaphylos rubra 11. GBL 12. FACU 13. Garex bigelowii 15. FACU 14. Carex lapponica 15. FACU 15. FACU 16. Column Totals: 99.1 (A) 257.1 (B) 16. Column Totals: 99.1 (A) 257.1 (B) 17. Calim Totals: 99.1 (A) 257.1 (B) 18. Calim Totals: 99.1 (A) 257.1 (B) 19. Calim Totals: 99.1 (A) 257.1 (B) 19. Calim Totals: 99.1 (A) 257.1 (B) 10. Arctostaphylos rubra 15. FACU 17. FACU 18. Prevalence Index = B/A = 2.594 19. Providence Index is ≤ 3.0 10. Morphological Adaptations 1 (Provide supporting data in Remarks or on a separate sheet) 19. Problematic Hydrophytic Vegetation 1 (Explain) 11. Juncus castaneus 11. FACU 11. GBL 11. GBL 12. FACU 13. FACU 14. Prevalence Index = B/A = 2.594 15. FACU 15. FACU 16. Prevalence Index = B/A = 2.594 16. Vaccinium Totals: 99.1 (A) 257.1 (B) 16. Value Totals: 99.1 (A) 257.1 (B) 18. Calim Totals: 99.1 (A) 257.1 (B) 19. Calim Totals: 99.1 (A) 257.1 (B) 10. Calim Total													
4. Picea mariana 3													
5. Empetrum nigrum 6. Vaccinium vitis-idaea 7. Salix pulchra 8. Salix reticulata 9. Populus balsamifera 10. Arctostaphylos rubra Total Cover: 11. Juncus arcticus 1 Juncus arcticus 1 Juncus castaneus 3 Carex bigelowii 4 Garex lapponica 5 Epilobium palustre 1 Column Totals: 99.1 (A) 257.1 (B Prevalence Index = B/A = 2.594 Hydrophytic Vegetation Indicators: Hydrophytic Vegetation Indicators: 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) Noblemark Plot size (radius, or length x width)			$-\frac{5}{2}$										
6. Vaccinium vitis-idaea 7. Salix pulchra 8. Salix reticulata 9. Populus balsamifera 10. Arctostaphylos rubra Total Cover: 29 20% of Total Cover: 11.6 1. Juncus arcticus 1. Juncus castaneus 3. Carex bigelowii 4. Carex lapponica 5. Epilobium palustre Total Cover: 29 20% of Total Cover: 20 20% o			$-\frac{3}{2}$										
8. Salix reticulata 9. Populus balsamifera 10. Arctostaphylos rubra 11. Juncus arcticus 12. Juncus castaneus 13. Carex bigelowii 14. Carex lapponica 15. Epilobium palustre 16. Populus balsamifera 2		<u> </u>		. 📙		Column Totals: <u>99.1</u> (A) <u>257.1</u> (B)							
8. Salix reticulata 9. Populus balsamifera 10. Arctostaphylos rubra 11. Juncus arcticus 12. Juncus castaneus 13. Carex bigelowii 14. Carex lapponica 15. Epilobium palustre 16. Populus balsamifera 2						Prevalence Index = B/A =2.594_							
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10. Arctostaphylos rubra Total Cover: 58 Herb Stratum 50% of Total Cover: 29 20% of Total Cover: 11.6 1. Juncus arcticus 2. Juncus castaneus 3. Carex bigelowii 4. Carex lapponica 5. Epilobium palustre 1													
Total Cover: 58		<u> </u>											
Herb Stratum 50% of Total Cover: 29 20% of Total Cover: 11.6 1. Juncus arcticus 1. Juncus castaneus 3. Carex bigelowii 4. Carex lapponica 5. Epilobium palustre 50% of Total Cover: 29 20% of Total Cover: 11.6 1. Juncus arcticus 1. OBL FACW FAC OBL OBL OBL 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	10.	. ,			TAC								
2. Juncus castaneus 1	Her	(· · ·				Remarks or on a separate sheet)							
3. Carex bigelowii 4. Carex lapponica 5. Epilobium palustre 15 15 15 15 15 15 15 15 15 1													
4. Carex lapponica 5. Epilobium palustre 6. Column palustre 7. Epilobium palustre 7. Cover of Wetland Bryophytes				. 📙		¹ Indicators of hydric soil and wetland hydrology must							
5. Epilobium palustre 0.1 OBL Cover of Wetland Bryophytes				. 🖊		be present, unless disturbed or problematic.							
% Cover of Wetland Bryophytes				. 📙		Plot size (radius, or length x width)							
		<u> </u>		. 📙									
7 Coroxy tripulate	6.	Carey utriculate		. 📙		(Where applicable)							
O Coron topy ifform				. 🗀									
Total Cover of Bryophytes 45			_			Total Cover of Bryophytes 45							
J. Detailed finishing			_			Hadan bada							
Total Cover: 36.1 Vegetation	10.				Hydrophytic Vegetation								
50% of Total Cover: 18.05 20% of Total Cover: 7.22 Present? Yes • No •			7.22	Present? Yes No									
Remarks: eriacr, caraur, calcan carmis trace	_					1							

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SOIL Sampling Point: SW13_T100_06

										10 51115_1100_00			
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators) Matrix Redox Features													
Depth (inches)		Matrix		Calar (m				Loc 2		Remarks			
0-3	Color (mo	ist)	<u>%</u> _	Color (m	oist)	_%_	Type ¹	Loc	Fibric Organics	Relifance			
3-5			100%						Hemic Organics				
-													
5-8	10YR	3/2	100%						Silty Clay	w rounded gravel			
8-20		4/2	85%	7.5YR	4/4	15%	C	PL_	Silty Clay	w few rounded gravels and organic inclusio			
¹ Type: C=Con	centration. D	=Depletion.	RM=Reduc	ed Matrix	² Location:	: PL=Pore	e Lining. RO	=Root Cha	annel. M=Matrix				
Hydric Soil In	dicators:			Indicate	ors for Pro	blematic	c Hydric So	oils:					
Histosol or					a Color Cha		4		Alaska Gleyed Without H	ue 5Y or Redder			
Histic Epipe	edon (A2)			Alask	ka Alpine sw	vales (TA	5)	_	Underlying Layer				
Hydrogen S	Sulfide (A4)			✓ Alask	a Redox W	ith 2.5Y H	lue		Other (Explain in Remark	s)			
Thick Dark	Surface (A12)		3.0 :-	. d: £ l.					do.ala a			
Alaska Gley	/ed (A13)				idicator of r appropriate				mary indicator of wetland h esent	ydrology,			
Alaska Red	` '			4 Give d	etails of col	lor change	o in Domark						
☐ Alaska Gley	ed Pores (A1	5)		- Give u	etalis of col	or change	e iii Keiliair	.5					
Restrictive Laye	r (if present):												
Type: clay									Hydric Soil Present	? Yes 💿 No 🔾			
Depth (inch	es): 5												
Remarks:													
HYDROLOGY													
Wetland Hydr		ators:							Secondary Indi	cators (two or more are required)			
Primary Indicat)							ned Leaves (B9)			
Surface Water (A1) Inundation Visible on Aerial Imagery (B7) Drainage Patterns (B10)										atterns (B10)			
High Water Table (A2) Sparsely Vegetated Concave Surface (B8) Oxidized Rhizospheres along Living Roots (C3)													
✓ Saturation (A3)													
Water Marks (B1) Hydrogen Sulfide Odor (C1) Salt Deposits (C5)													
Sediment Deposits (B2) Dry-Season Water Table (C2) Stunted or Stressed Plants (D1)													
☐ Drift Depo	sits (B3)			Oth	ner (Explain	ı in Rema	rks)		Geomorph	ic Position (D2)			
Algal Mat	or Crust (B4)								✓ Shallow Ac	uitard (D3)			
Iron Depo	sits (B5)									raphic Relief (D4)			
	oil Cracks (B6)							Т	✓ FAC-neutra	l Test (D5)			
Field Observa			🝙										
Surface Water	Present?		No 💿	De	pth (inches	;):							
Water Table P	resent?	Yes 🔾	No 💿	De	pth (inches	;):		Wetla	nd Hydrology Presen	t? Yes • No O			
Saturation Pre- (includes capill		Yes	No O	De	pth (inches	;): 5							
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:													
Remarks:													
Ca 30% of plot very wet with gleyed soils.													

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