

Sordal Wetland Delineation

9/19/2018



Iris Koski and Kelsey McDonald delineated wetlands on the Sordal property on 9/17/2018. Biologist Iris Koski has completed wetland delineation training and is experienced with wetland delineation. Botanist/Biologist Kelsey McDonald assisted with plant identification and delineation.

A wetland was delineated in the pasture on the 001 parcel surrounding the spring and ponds (WD-3). The wetland vegetation was primarily characterized by penny royal (*Mentha pulegium*), and both wetland soils and hydrology were present at the site. The nearby cultivation site D is suitably placed, approximately 170 feet south of the wetland, and with over 50-foot buffers between the Class III intermittent streams to the northwest and southeast.

Several other sites were also investigated on 9/17/18. The spring box and lined pond area on parcel 007 did not contain dominant wetland vegetation. The wet area on parcel 007 near road point 12 contained a mix of wetland and upland vegetation, and appeared to show seasonal wetland hydrology with cracked bare soil, sediment deposits, and a visible drainage pattern (WD-1). No new construction is currently planned in this area. If any construction were to occur in or near the wet areas on parcel 007, a full wetland delineation with soil samples would be required.

On parcel 008, a small herbaceous wetland was delineated adjacent to the Class IV ditch and a gravel mining site (WD-2). The small flat was dominated by pennyroyal (*Mentha pulegium*), and showed evidence of wetland hydrology with drainage patterns, oxidized rhizospheres, and surface cracks in the soil.

Please see the attached map showing delineated wetlands and other wet areas. Additional wetland delineation is recommended if the client plans to develop any additional areas adjacent to springs, seeps, or wetland vegetation.

Please contact us if you have any questions.

Sincerely,



Kelsey McDonald
Botanist/Biologist



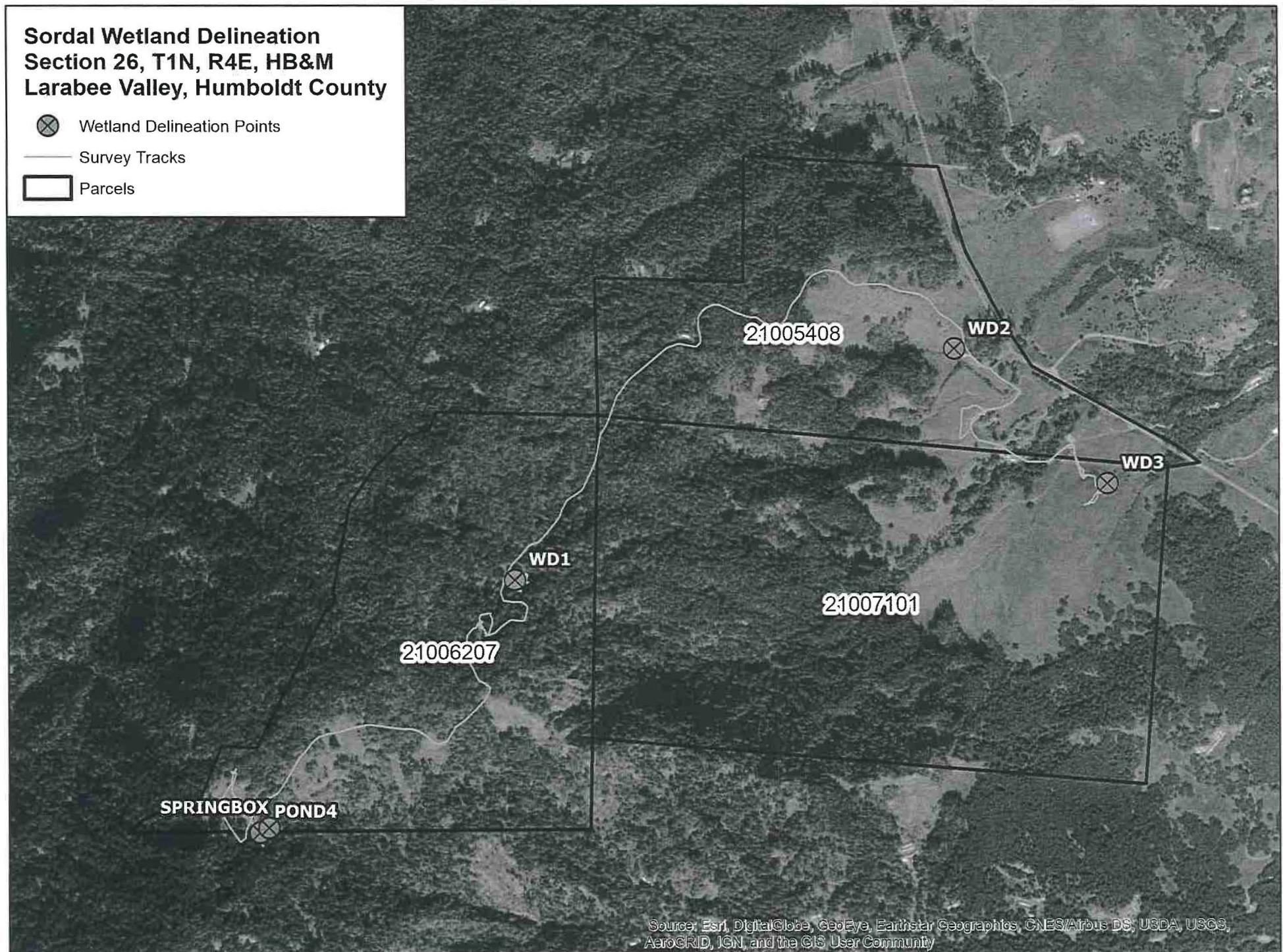
Iris Koski
Biologist

Sordal Wetland Delineation
Section 26, T1N, R4E, HB&M
Larabee Valley, Humboldt County

Wetland Delineation Points

Survey Tracks

Parcels



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Photo 1. WD-3 on Parcel 001.

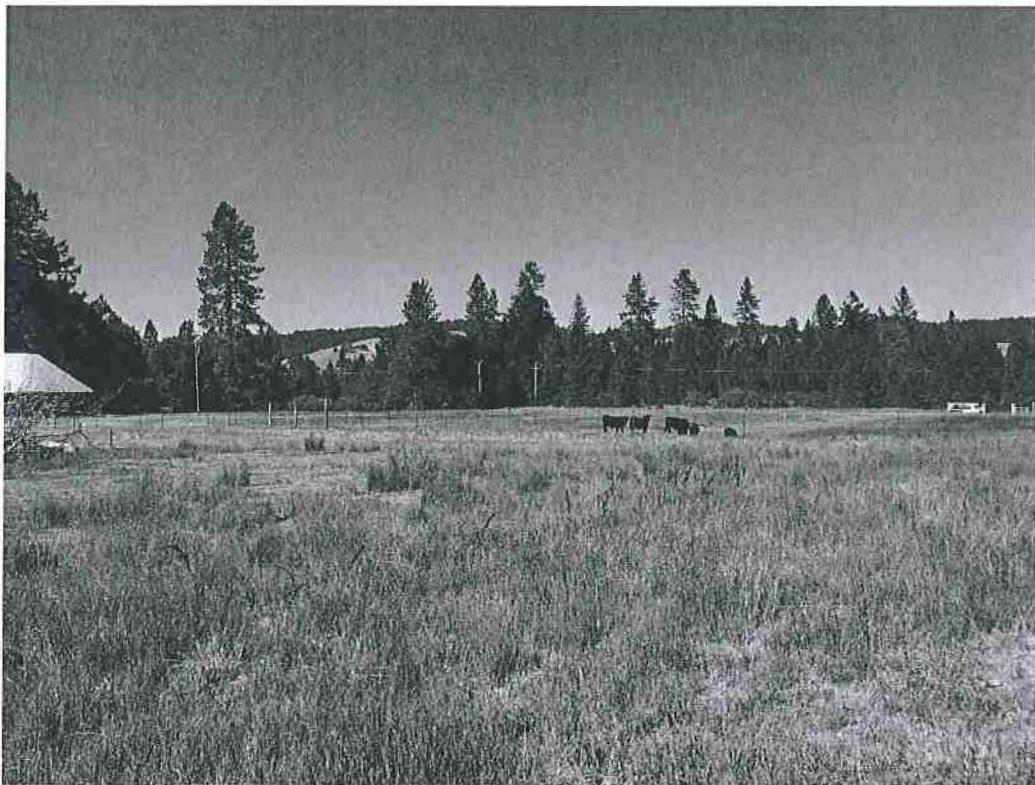


Photo 2. Wet Point on Parcel 007 near Road Point 12



Photo 3. Cracked soil indicative of wetland hydrology on Parcel 008, WD-3.



WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Sordal WD-1 City/County: Lakeview Valley, Humboldt Sampling Date: 9/17/18
 Applicant/Owner: Sordal CO7 parcel State: CA Sampling Point: WD-1
 Investigator(s): Tracy Kosty, Heskey, McDonald Section, Township, Range:
 Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 10
 Subregion (LRR): Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____
 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 <u>✓</u> No _____	Is the Sampled Area within a Wetland?
Hydric Soil Present?	Yes <u>✓</u> No _____	Yes <u>✓</u> No _____
Wetland Hydrology Present?	Yes <u>✓</u> No _____	
Remarks: <u>Dry season, appears to be a seasonal wetland</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?
1. <u>Pseudotsuga menziesii</u>	<u>5</u>	<u>UPL</u>
2. <u>Acer macrophyllum</u>	<u>5</u>	<u>FACU</u>
3. <u>Quercus kelloggii</u>	<u>1</u>	<u>UPL</u>
4. <u>Nototrichocarpis densiflorus</u>	<u>1</u>	<u>UPL</u>
	<u>12</u>	= Total Cover
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?
1. <u>Arctostaphylos manzanita</u>	<u>5</u>	<u>UPL</u>
2. <u>Salal</u>	<u>1</u>	<u>FACU</u>
3. <u>Symphoricarpos albus</u>	<u>20</u>	<u>Y</u> <u>FACU</u>
4. <u>Sambucus nigra</u>	<u>2</u>	<u>FAC</u>
5. <u>Ribes roezlii</u>	<u>1</u>	
	<u>23</u>	= Total Cover
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?
1. <u>Tunica patens</u>	<u>20</u>	<u>Y</u> <u>FACU</u>
2. <u>Brimus diandrus</u>	<u>10</u>	<u>FACU</u>
3. <u>Monotropa uniflora</u>	<u>3</u>	<u>FACU</u>
4. <u>Gymnosiphon elatior</u>	<u>10</u>	
5. <u>Festuca idahoensis</u> (subsp.)	<u>10</u>	<u>FAC</u>
6. <u>Pterospora angustifolia</u>	<u>5</u>	<u>FACU</u>
7. <u>Stachys rigida</u>	<u>2</u>	<u>FACU</u>
8. <u>Castilleja subterminalis</u>	<u>10</u>	<u>FAC</u>
9. <u>Holcus lanatus</u>	<u>10</u>	<u>FAC</u>
10. <u>Elymus glaucus</u>	<u>10</u>	<u>FACU</u>
11. <u>Dactylis glomerata</u>	<u>10</u>	<u>FACU</u>
	<u>100</u>	= Total Cover
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?
1. <u>Rubus leucodermis</u>	<u>5</u>	<u>FACU</u>
2. <u>_____</u>	<u>5</u>	
% Bare Ground in Herb Stratum	<u>2</u>	= Total Cover
Remarks:		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 0 x 1 = 0
 FACW species 32 x 2 = 44
 FAC species 32 x 3 = 64
 FACU species 58 x 4 = 232
 UPL species 12 x 5 = 60
 Column Totals: 124 (A) 400 (B)
 Prevalence Index = B/A = 3.23

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 5 - Wetland Non-Vascular Plants¹
 _____ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydroic soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ✓

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: <u>Sordal WO-2</u>	City/County: <u>Lakeview Valley, Humboldt</u>	Sampling Date: <u>9/17/18</u>								
Applicant/Owner: <u>Sordal 008 parcel</u>	State: <u>CA</u>	Sampling Point: <u>WD-2</u>								
Investigator(s): <u>Iris Koski, Kelsey McDonald</u>	Section, Township, Range: _____									
Landform (hillslope, terrace, etc.): _____	Local relief (concave, convex, none): <u>Concave</u>	Slope (%): <u>42</u>								
Subregion (LRR): _____	Lat: _____	Long: _____								
Soil Map Unit Name: _____		NWI classification: _____								
Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>✓</u> No _____ (If no, explain in Remarks.)										
Are Vegetation <u>✓</u> , Soil <u>✓</u> , or Hydrology <u>✓</u> 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.										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Hydrophytic Vegetation Present? Yes <u>✓</u> No _____</td> <td>Hydric Soil Present? Yes _____ No _____</td> <td>Wetland Hydrology Present? Yes <u>✓</u> No _____</td> <td>Is the Sampled Area within a Wetland? Yes <u>✓</u> No _____</td> </tr> <tr> <td colspan="4">Remarks: <u>Dry season, seasonally wet. Compacted soil from grazing, road</u></td> </tr> </table>			Hydrophytic Vegetation Present? Yes <u>✓</u> No _____	Hydric Soil Present? Yes _____ No _____	Wetland Hydrology Present? Yes <u>✓</u> No _____	Is the Sampled Area within a Wetland? Yes <u>✓</u> No _____	Remarks: <u>Dry season, seasonally wet. Compacted soil from grazing, road</u>			
Hydrophytic Vegetation Present? Yes <u>✓</u> No _____	Hydric Soil Present? Yes _____ No _____	Wetland Hydrology Present? Yes <u>✓</u> No _____	Is the Sampled Area within a Wetland? Yes <u>✓</u> No _____							
Remarks: <u>Dry season, seasonally wet. Compacted soil from grazing, road</u>										
VEGETATION – Use scientific names of plants.										
Tree Stratum (Plot size: _____)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:					
1. <u>None</u>					Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)				
2. _____					Total Number of Dominant Species Across All Strata: <u>2</u>	(B)				
3. _____					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u>	(A/B)				
4. _____					Prevalence Index worksheet:					
Sapling/Shrub Stratum (Plot size: _____)		<u>0</u>	= Total Cover		Total % Cover of: <u>45</u>	Multiply by: <u>31</u>				
1. <u>None</u>					OBL species <u>0</u>	x 1 = <u>0</u>				
2. _____					FACW species <u>0</u>	x 2 = <u>0</u>				
3. _____					FAC species <u>7</u>	x 3 = <u>21</u>				
4. _____					FACU species <u>20</u>	x 4 = <u>80</u>				
5. _____					UPL species <u>0</u>	x 5 = <u>0</u>				
Herb Stratum (Plot size: _____)		<u>0</u>	= Total Cover		Column Totals: <u>138</u>	(A) (B)				
1. <u>Minthia rufescens</u>	<u>35</u>	<u>Y</u>	OBL		Prevalence Index = B/A = <u>1.92</u>					
2. <u>Festuca idahoensis</u>	<u>20</u>	<u>Y</u>	FACW		Hydrophytic Vegetation Indicators:					
3. <u>Rubus strigosus</u>	<u>2</u>		FACU		<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation					
4. <u>Trifolium sp</u>	<u>10</u>				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%					
5. <u>Dianthus ciliatus</u>	<u>5</u>		FAC		<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹					
6. <u>Luzula comosa</u>	<u>1</u>		FAC		<input checked="" type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
7. <u>Artemesia americana</u>	<u>10</u>		OBL		<input checked="" type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹					
8. <u>None</u>	<u>1</u>		FAC		<input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)					
9. <u>Hypochaeris radicata</u>	<u>2</u>		FACU		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
10. _____					Hydrophytic Vegetation Present? Yes <u>✓</u> No _____					
11. _____					Remarks: _____					
Woody Vine Stratum (Plot size: _____)		<u>86</u>	= Total Cover							
% Bare Ground in Herb Stratum <u>14</u>	<u>100</u>	= Total Cover								

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: SORDAL - SITE D10B3 City/County: Lacabée Valley, Humboldt Sampling Date: 9/17/18

Applicant/Owner: Sordal COI parcel State: CA Sampling Point: WD-3

Investigator(s): Iris Koski, Helenkey Mr. Daniels Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): CONCAVE Slope (%): 2

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	

Remarks: Heavily grazed. Dry season.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)	1	UPL	
1. <i>Rosa 'rubiginosa</i>	1	UPL	
2. <i>Rubus arcticus</i>	1	FAC	
3. _____	1		
4. _____	1		
5. _____	1		
	2	= Total Cover	
Herb Stratum (Plot size: _____)	35	Y	UBL
1. <i>Martha pulcherrimum</i>	35	Y	UBL
2. <i>Juncus palens</i>	5		FACW
3. <i>Juncus effusus</i>	10		FACW
4. <i>Tieris spicigyrus</i> <small>brown heads</small>	5		FACW
5. <i>Rumex acetosa</i>	1		FAC
6. <i>Hypericum ascyronoides</i>	3		UBL
7. <i>Scirpus microcarpus</i>	1		UBL
8. <i>Ligustrum sibiricum</i>	10		FACU
9. <i>Anthoxanthum odoratum</i>	5		FACU
10. <i>Vulpia bromoides</i>	10		FAC
11. <i>Ceratium vulgare</i>	2		FACU
<i>Cynodon dactylon</i>	95		FACU
	8	= Total Cover	
Woody Vine Stratum (Plot size: _____)	1. _____	_____	_____
2. _____	_____	_____	_____
	5	= Total Cover	
% Bare Ground in Herb Stratum	5		
Remarks:			
Dominance Test worksheet:			
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)			
Total Number of Dominant Species Across All Strata: 1 (B)			
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)			
Prevalence Index worksheet:			
Total % Cover of:		Multiply by:	
OBL species	39	x 1 =	39
FACW species	26	x 2 =	40
FAC species	11	x 3 =	33
FACU species	25	x 4 =	100
UPL species	5	x 5 =	
Column Totals:	95	(A)	217 (B)
Prevalence Index = B/A = 2.23			
Hydrophytic Vegetation Indicators:			
<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation			
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%			
<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0'			
<input checked="" type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
<input checked="" type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹			
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
Hydrophytic Vegetation Present?		Yes <input checked="" type="checkbox"/> No _____	

