### Montana Department of Transportation w Monitoring Report

### **ROSTAD RANCH MITIGATION SITE**

### **Project Overview**

Watershed: Watershed #10 - Musselshell River Basin

**Monitoring Year: 2019** 

Years Monitored: 7<sup>th</sup> year of monitoring

Corps Permit Number: NWO-2006-90851-MTB

Monitoring Conducted By: RESPEC/HDR

**Dates Monitoring Was Conducted:** August 8, 2019

**Purpose of the Approved Project:** 

The site was constructed to provide 39.70 acres of compensatory wetland mitigation credits for wetland impacts associated with future transportation project related wetland impacts in Watershed #10 – Musselshell River Basin. The initial project included the filling of drainage ditches, excavating and grading the site to distribute water across the site, and creating open-water areas. Adaptive management actions were taken in 2017 to create low spreader dikes to help spread irrigation water across the site.

### Site Location:

Latitude: 46.462457 Longitude: -110.294063

County: Meagher Nearest Town: Martinsdale, MT

Map Included: Yes

Mitigation Site Construction Started: 2012 Construction Ended: 2012/Adaptive Management 2017

Dates of Any Recent Corrective or Maintenance Activities (since previous report):

Activity: Weed Spraying Date: July 3, 2019 Specific recommendations for any additional corrective

**actions:** Weed treatment will continue in 2020.

**Anticipated Wetland Credit Acres: 39.70** 

Wetland Credit Acres Generated to Date: 29.34

**Previous Monitoring Reports:** 

https://www.mdt.mt.gov/publications/brochures/wetland mitigation.shtml

<u>Requirements</u> (from approved mitigation plan, banking instrument, or Department of Army (DA) permit conditions)

**Monitoring Period:** 5 years from construction completion or until concurrence by the US Army Corps of Engineers (USACE).

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**Performance Standards:** A summary of performance standards established for the Rostad site and whether or not they are being achieved is provided in Table 1.

**Table 1. Summary of Performance Standards** 

Performance Standards	Suscess Criteria	Criteria Achieved Y/N	Discussion
Wetland Characteristics	The three parameter criteria for hydrology, vegetation, and soils are met as outlined in the 1987 Wetland Manual and 2010 GP Regional Supplement.	Y	Wetland habitat areas within the mitigation site meet the three parameter criteria.
Wetland Hydrology	Soil saturation is present for at least 12.5 percent of the growing season.	Y	Irrigation water was turned into the site on May 10 and turned off on July 5, 2019. All wetlands within the project area were saturated for greater than the minimum 12.5 percent of growing season.
Hydric Soil	Hydric soil conditions are present or appear to be forming.	Y	The constructed wetland complex is beginning to exhibit hydric soil development in areas originally identified as nonhydric before construction. Preexisting hydric soil characteristics are present in several areas that had been identified as wetland before project construction.
,	Soil is sufficiently stable to prevent erosion.	Υ	Disturbed soil is stable and does not exhibit signs of erosion.
	Soil is able to support plant cover.	Υ	Plant cover has continued to develop across disturbed soils.
I bada a badi a	Combined absolute cover of facultative or wetter species is greater than or equal to 70 percent.	Υ	Areas identified as wetland habitat within the mitigation site support a prevalence of hydrophytic vegetation (OBL, FACW, and FAC) with absolute cover exceeding 70 percent.
Hydrophytic Vegetation	Noxious weeds do not exceed 5 percent cover.	Υ	Noxious weed infestations have been mapped across this site, primarily outside of wetland areas. Noxious weed infestations continue to receive annual treatment and are decreasing sitewide. Estimated noxious weed cover within delineated wetlands is below 5 percent.
Woody Plants	Plantings exceed 50 percent survival after 5 years.	Y	Approximately 50 percent of the woody plantings observed were alive in 2019, which meets the 50 percent survival rate.
Herbaceous Plants	At the conclusion of the monitoring period, ocular coverage of desirable hydrophytic vegetation will be at least 80 percent.	Y	Created wetlands exhibited greater than 90 percent vegetation cover during the 2019 monitoring event.
Open-Water Areas	Open water that is established within the designated wetland cells will be considered successful and creditable if open water does not exceed 10 percent of the total wetland acreage.	Y	Small pockets of perennial open water occur behind recently constructed spreader berms towards the center of the site, while seasonal open water occurs in the northeast corner of the site. In 2019, less than 10 percent of the total wetland acreage across the site was considered open water.
	Success will be achieved when noxious weeds do not exceed 5 percent cover within the buffer areas on the site.	Y	Noxious weed infestations, including Canada thistle, spotted knapweed, and hoary alyssum were mapped within the site in 2019. Although a variety of noxious weeds are present throughout the site, aerial coverage does not exceed 5 percent.
Upland Buffer	Any area that was disturbed within creditable buffer zone must have at least 50 percent aerial cover of desirable upland plant species by the end of the monitoring period.	Y	Upland buffers that surround wetland areas within the site exhibited greater than 50 percent aerial cover of non-weed species in 2019.

Performance Standards	Suscess Criteria	Criteria Achieved Y/N	Discussion
Weed Control	Weed-control measures are implemented to minimize and/or eliminate infestations of statelisted noxious weed species within the site.	Y	State-listed noxious weed species across the site have been estimated at 2 percent absolute cover in 2019.
Fencing	Wildlife-friendly fencing is installed along the easement boundaries.	Y	Wildlife-friendly fencing has been installed around the easement boundaries and is in good condition.

### **Summary Data**

**Wetland Delineation** – The total wetland acreage delineated in 2019, including preexisting wetland areas, was 28.86 acres (see maps in Appendix A), which is the same acreage as 2018, but a 13.96-acre increase since 2016. The adaptive management strategies implemented in 2017 resulted in broader inundation across the site, and in response to the inundation, some areas that were previously delineated as upland were delineated as wetland in 2019. Certain areas across the site, like near vegetation transect T-4, have yet to develop a prevalence of wetland vegetation in spite of being inundated for much of the growing season.

**Functional Assessment** – The 2019 results of the functional assessments are summarized in the Table 2. Completed Montana Wetland Assessment Method (MWAM) forms for the Rostad Ranch Site are provided in Appendix B. Overall, the site rates as a Category III wetland and has generated 175.59 Functional Units.

Table 2. Montana Wetland Assessment Method Summary for the Rostad Ranch Site

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	2016	2017	2018	2019
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	Low (0)	Low (0)	Low (0)	Low (0)
Montana Natural Heritage Program (MTNHP) Species Habitat	High (0.9)	High (0.9)	High (0.9)	High (0.9)
General Wildlife Habitat	Mod (0.5)	Mod (0.5)	Mod (0.5)	Mod (0.5)
General Fish/Aquatic Habitat	N/A	N/A	N/A	N/A
Flood Attenuation	N/A	N/A	N/A	N/A
Short- and Long-Term, Surface-Water Storage	Mod (0.6)	High (0.9)	High (0.9)	High (0.9)
Sediment/Nutrient/Toxicant Removal	High (1.0)	High (1.0)	High (1.0)	High (1.0)
Sediment/Shoreline Stabilization	High (0.9)	High (0.9)	High (0.9)	High (0.9)
Production Export/Food Chain Support	High (0.8)	High (0.8)	High (0.8)	High (0.8)
Groundwater Discharge/Recharge	Mod (0.7)	Mod (0.7)	Mod (0.7)	Mod (0.7)
Uniqueness	Low (0.3)	Low (0.3)	Low (0.3)	Low (0.3)
Recreation/Education Potential (bonus points)	Low (0.05)	Low (0.05)	Low (0.05)	Low (0.05)
Actual Points/Possible Points	5.75/9	6.05/9	6.05/9	6.05/9
% of Possible Score Achieved	63.9%	67%	67%	67%
Overall Category	III	II	II	II
Total Acreage of Assessed Wetlands Within Site Boundaries	14.96	26.42	28.86	28.86
Functional Units (acreage × actual points)	86.02	159.85	175.59	175.59

**Vegetation** – A total of 70 plant species were identified on the site from 2013 through 2019. No new species were identified at the site in 2019. Vegetation plant communities were identified by plant composition and dominance. The following vegetation community types were identified in 2019:

- Upland Type 8 Bromus inermis/Trifolium spp.
- Upland Type 11 Elymus trachycaulus/Pascopyrum smithii
- Wetland Type 2 Juncus balticus/Carex nebrascensis
- Wetland Type 3 Salix exigua
- Wetland Type 5 Glyceria grandis/Typha latifolia
- Wetland Type 6 Open Water/Aquatic Macrophytes
- Wetland Type 7 *Phalaris arundinacea*
- Wetland Type 10 Alopecurus pratensis.

The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring form (Appendix B), and the community boundaries are shown on Figure A-3 (Appendix A).

Vegetation cover was measured along four transects in 2019 (Figure A-2, Appendix A). Details of each transect are provided in the site monitoring form in Appendix B. Photographs of the transect end points are provided in Appendix C. Table 3 summarizes the data for T-1. T-1 is 422 feet long and intersected upland community Types 8 and 11, and wetland community Types 2, 5, 6, and 7; 62 percent of the transect crossed wetland habitat, which is a 6 percent increase since 2017. Total vegetative cover has remained constant at 95 percent from 2016 to 2019.

Table 3. Data Summary for T-1 From 2016 Through 2019 at the Rostad Ranch Site

Monitoring Year	2016	2017	2018	2019
Transect Length (feet)	422	422	422	422
Vegetation Community Transitions Along Transect	4	5	5	5
Vegetation Communities Along Transect	5	5	5	5
Hydrophytic Vegetation Communities Along Transect	4	4	4	4
Total Vegetative Species	26	23	26	23
Total Hydrophytic Species	10	10	11	10
Total Upland Species	16	13	15	13
Estimated % Total Vegetative Cover	95	95	95	95
Estimated % Unvegetated	5	5	5	5
% Transect Length Comprising Hydrophytic Vegetation Communities	59.0	56.0	62	62
% Transect Length Comprising Upland Vegetation Communities	41.0	44.0	38	38
% Transect Length Comprising Unvegetated Open Water	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0

Data collected on T-2 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 4. T-2 is 453 feet long and intersects upland community Type 8 and wetland community Types 2 and 7; 78 percent of the transect crossed wetland habitat in 2019, which is a 2 percent increase from 2018. Total vegetative cover has remained constant at 95 percent from 2016 to 2019.

Table 4. Data Summary for T-2 From 2016 Through 2019 at the Rostad Ranch Site

Monitoring Year	2016	2017	2018	2019
Transect Length (feet)	453	453	453	453
Vegetation Community Transitions Along Transect	2	2	3	3
Vegetation Communities Along Transect	2	2	3	3
Hydrophytic Vegetation Communities Along Transect	1	1	2	2
Total Vegetative Species	25	17	16	16
Total Hydrophytic Species	7	6	7	9
Total Upland Species	18	11	9	7
Estimated % Total Vegetative Cover	95	95	95	95
Estimated % Unvegetated	5	5	5	5
% Transect Length Comprising Hydrophytic Vegetation Communities	70	76	76	78
% Transect Length Comprising Upland Vegetation Communities	30	24	24	22
% Transect Length Comprising Unvegetated Open Water	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0

Data collected on T-3 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 5. T-3 is 320 feet long and intersects wetland community Types 2, 5, and 7; 100 percent of the transect crossed wetland habitat in 2019.

Table 5. Data Summary for T-3 From 2016 Through 2019 at the Rostad Ranch Site

Monitoring Year	2016	2017	2018	2019
Transect Length (feet)	320	320	320	320
Vegetation Community Transitions Along Transect	4	3	3	3
Vegetation Communities Along Transect	4	3	3	3
Hydrophytic Vegetation Communities Along Transect	3	2	3	3
Total Vegetative Species	30	23	23	21
Total Hydrophytic Species	16	15	16	16
Total Upland Species	14	8	7	5
Estimated % Total Vegetative Cover	90	80	85	85
Estimated % Unvegetated	10	20	15	15
% Transect Length Comprising Hydrophytic Vegetation Communities	93.4	91	100	100
% Transect Length Comprising Upland Vegetation Communities	6.6	9	0	0
% Transect Length Comprising Unvegetated Open Water	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0

Data collected on T-4 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 6. T-4 was established in 2017 following adaptive management actions at the site and is 412 feet long. T-4 intersects upland community Type 8 and 11 and wetland community Type 7; 21 percent of the transect crossed wetland habitat in 2019, which is an increase of 9 percent since 2018.

Approximately 2,000 willow cuttings were planted throughout the excavated areas. An estimated 50 percent of the willow cuttings survived through 2019. The cuttings appeared healthy and vigorous with some sign of browse. A total of 100 black cottonwoods (*Populus balsamifera*) and 100 quaking

aspens (*Populus tremuloides*) were installed around the perimeter of the proposed open-water areas in 2012. Survival of these containerized, 5-gallon plant materials was also estimated at 50 percent in 2019. A new area of community Type 3 – *Salix exigua* was mapped in the northeastern portion of the site in 2019 as a result of continued willow development in this area.

Table 6. Data Summary for T-4 From 2016 Through 2019 at the Rostad Ranch Site

Monitoring Year	2017	2018	2019
Transect Length (feet)	412	412	412
Vegetation Community Transitions Along Transect	4	3	3
Vegetation Communities Along Transect	3	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	1
Total Vegetative Species	10	16	14
Total Hydrophytic Species	1	3	5
Total Upland Species	10	13	9
Estimated % Total Vegetative Cover	70	80	80
Estimated % Unvegetated	30	20	20
% Transect Length Comprising Hydrophytic Vegetation Communities	12	12	21
% Transect Length Comprising Upland Vegetation Communities	88	88	79
% Transect Length Comprising Unvegetated Open Water	0	0	0
% Transect Length Comprising of Mudflat	0	0	0

*Hydrology* — The hydrology for the site is supplied from multiple sources, including a shallow seasonal groundwater table, groundwater that emerges from a natural spring located near the narrow-leaf willow (*Salix exigua*) stand in the southern portion of the site, direct precipitation, surface runoff, and surface-water diversion out of an adjacent irrigation canal. Irrigation water was first diverted into the site on May 10, 2019, and turned off on July 5, 2019. Adaptive management activities in the spring of 2017 created areas of open water toward the middle of the site and helped distribute water to other areas of the mitigation site. Overall, inundation increased from approximately 15 acres in 2016 to more than 25 acres across the site in 2017 and nearly 29 acres in 2018 and 2019. Because of the late monitoring date in 2019, the lower wetland cell in the northeast corner of the site did not contain standing water, but soils were saturated to the surface and drift lines in the vegetation indicate standing water was present during much of the early growing season. One groundwater monitoring well remains at the site and is monitored monthly by the US Geological Survey (USGS). Groundwater elevations at this well were relatively constant at 4.0–4.5 feet below land surface from July through September.

**Photographs** – Photographs were taken at photo points 1–10 (PP1 to PP10), transect endpoints, and data points are provided in Appendix C with comparisons between 2019 and the first year of monitoring. Please refer to previous years' monitoring reports for all previous annual photographs (https://www.mdt.mt.gov/publications/brochures/wetland mitigation.shtml).

**Soils** – Soil test pits were excavated at six locations and all were within what was originally mapped as the Delpoint variant-Marmarth-Cabbart loam soil series (Figure A-2, Appendix A). DP-1W, DP-2W, and DP-3W are located in areas that exhibited hydric soils. The soil at DP-1W, which is located at the edge of an excavated depression, consisted of an upper 4-inch brown (10YR 4/3) loam and a lower 16-inch dark gray (10YR 4/1) clay loam with 10 percent yellowish-brown (10YR 5/6) redoximorphic concentrations. The soil met the criteria for depleted matrix (F3) and classification as a hydric soil. DP-1U, which is located upslope from DP-1W, displayed a dark grayish-brown (10YR 4/2) clay loam and did not meet the criteria for any hydric soil indicators. The soil profile at DP-2W, which was a new location in 2018,

revealed a single 20-inch layer of 10YR 4/2 clay loam with 20 percent 10YR 5/8, redoximorphic concentrations. The soil met the criteria for depleted matrix (F3) and classification as a hydric soil. DP-2U, which is located upslope from DP-2W, exhibited a dark grayish-brown (10YR 4/2) clay loam and did not meet the criteria for any hydric soil indicators. The soil profile at DP-3W, which was a new data point in 2018, revealed a 10-inch A Horizon of 10YR4/2 loam over a 10-inch layer of 10YR 3/2 clay loam with 10 percent 10YR 5/8, redoximorphic concentrations. The soil met the criteria for depleted matrix (F3) and classification as a hydric soil. DP-3U, which is located upslope from DP-3W, exhibited a dark grayish-brown (10YR 4/2) clay loam and did not meet the criteria for any hydric soil indicators.

**Credit Summary** – Table 7 summarizes the estimated wetland credits based on the USACE-approved credit ratios and the wetland delineation completed in August 2019. Proposed mitigation credits from the 2007 *Rostad Ranch Mitigation Plan, Meagher County, Montana* [Montana Department of Transportation, 2007] included reestablishing 27.11 wetland acres, rehabilitating 2.63 wetland acres, creating 9.84 wetland acres, preserving 0.25 wetland acre, and maintaining 6.76 acres of upland buffer. The wetland acreages that were delineated in 2019 included 14.62 acres of reestablished wetlands, 0.81 acre of rehabilitated wetland, 13.18 acres of created wetland, and 0.25 acre of preservation wetland (community Type 3 – *Salix exigua*). Adaptive management activities on the site in 2017 resulted in a shift of crediting, which decreased the overall rehabilitated wetland acreage and increased the reestablished and created wetland acreage. The total mitigation credit estimated in 2019, including the upland buffer credit and the deduction for the 0.41-acre wetland impact incurred during mitigation construction, totaled 29.34 credit acres, which is an increase of 14.15 acres since 2016. The site is still approximately 10.36 acres short of the original goal of 39.70 acres of credit.

**Wildlife** – Seven bird species were identified in 2019. Six of the seven bird boxes installed at the site are functional and all appeared to be used in 2019 by a variety of species including tree swallows (*Tachycineta bicolor*). In addition to the bird species, deer and raccoon (*Procyon lotor*) tracks were noted across the site.

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Table 7. Wetland Mitigation Credits Estimated for the Rostad Ranch Site (2017–2019)

Compensatory Mitigation Type	Wetland Type <sup>(a)</sup>	Approved Mitigation Ratio <sup>(b)</sup>	Anticipated Mitigation Area (acres)	Anticipated Mitigation Credit (acres)	2017 Delineated Mitigation Areas (acres)	2017 Estimated Mitigation Credit (acres)	2018 Delineated Mitigation Areas (acres)	2018 Estimated Mitigation Credit (acres)	2019 Delineated Mitigation Areas (acres)	2019 Estimated Mitigation Credit (acres)
Restoration (Reestablishment)	Palustrine emergent	1:1	27.11	27.11	14.62	14.62	14.62	14.62	14.62	14.62
Creation (Establishment)	Palustrine emergent	1:1	9.84	9.84	10.74	10.74	13.18	13.18	13.18	13.18
Restoration (Rehabilitation)	Palustrine emergent	1.5:1	2.63	1.75	0.81	0.54	0.81	0.54	0.81	0.54
Preservation	Palustrine, scrub/shrub	4:1	0.25	0.06	0.25	0.06	0.25	0.06	0.25	0.06
Upland Buffer	N/A	5:1	6.76 <sup>(c)</sup>	1.35	6.76	1.35	6.76	1.35	6.76	1.35
Permanent Wetland Impact	N/A	1:1	N/A	-0.41	N/A	-0.41	N/A	-0.41	N/A	-0.41
	Totals		46.59	39.70	33.18	26.90	35.62	29.34	35.62	29.34

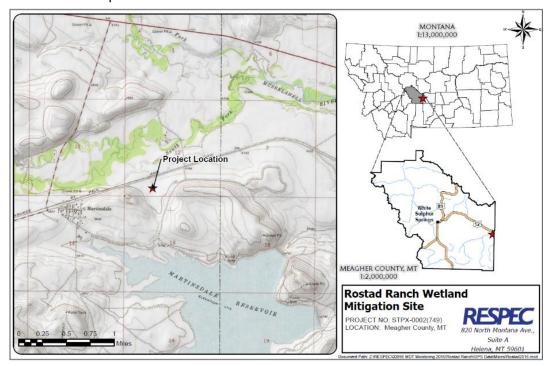
<sup>(</sup>a) Cowardin et al. [1979].

<sup>(</sup>b) The mitigation credit ratios that were used are from the Montana Corps Regulatory Programs 2005 Wetland Credit Ratios [USACE, 2005].

<sup>(</sup>c) The anticipated upland buffer credit was used until wetland areas expand to full extent.

### Maps, Plans, Photos

Site Location Map



Project Area Maps/Figures: See Appendix A

Data Forms: See Appendix B (Site Monitoring form, plant list, USACE data forms, and MWAM forms)

**Photos:** See Appendix C

Plans: See Appendix D of 2018 Monitoring Report

https://www.mdt.mt.gov/other/webdata/external/planning/wetlands/2018-REPORTS/2018-FINAL-

Rostad-Ranch.PDF

### **Conclusions**

Based on the results of the seventh year of monitoring, the Rostad Ranch mitigation site is continuing to develop into a diverse wetland ecosystem. Since adaptive management actions were implemented to spread hydrology across the site in 2017, the site is meeting all of the project's performance standards but is approximately 10.36 acres short of the original goal of 39.70 acres of credit. The site is trending positively toward planned wetlwand credit acreage goals. Since 2016, a total of 29.34 wetland credit acres have developed across the Rostad Ranch site.

### References

**Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe, 1979.** *Classification of Wetlands and Deepwater Habitats of the United States,* FWS/OBS-79-31, prepared by the US Department of the Interior, Fish and Wildlife Service, Washington, DC.

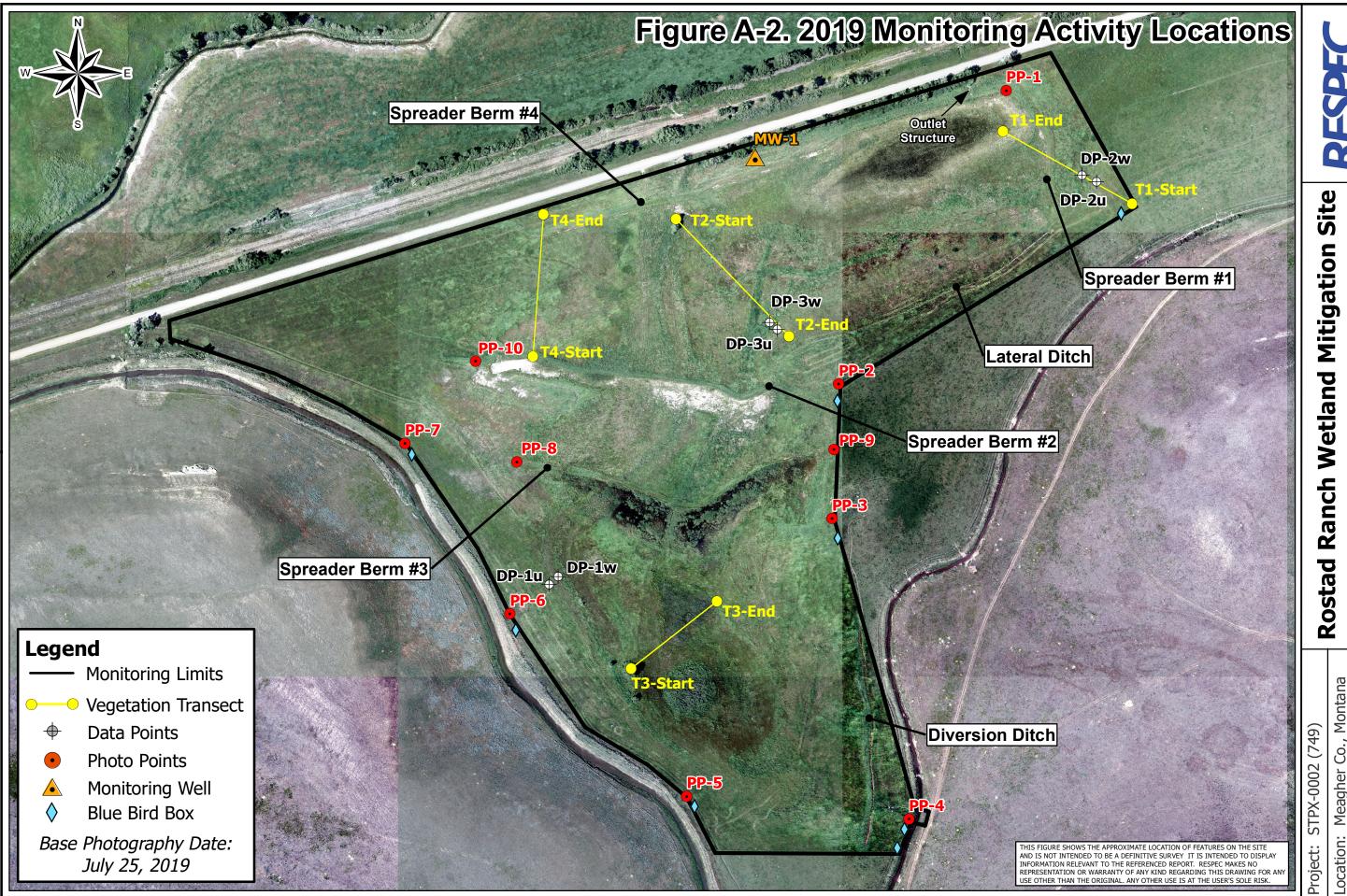
Montana Department of Transportation, 2007. Rostad Ranch Wetland Mitigation Plan, Meagher County, Montana, prepared by the Montana Department of Transportation, Helena, MT.

**US Army Corps of Engineers, 2005.** "Montana Mitigation Information," *army.mil*, retrieved October 10, 2016, from <a href="http://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/Mitigation">http://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/Mitigation</a>

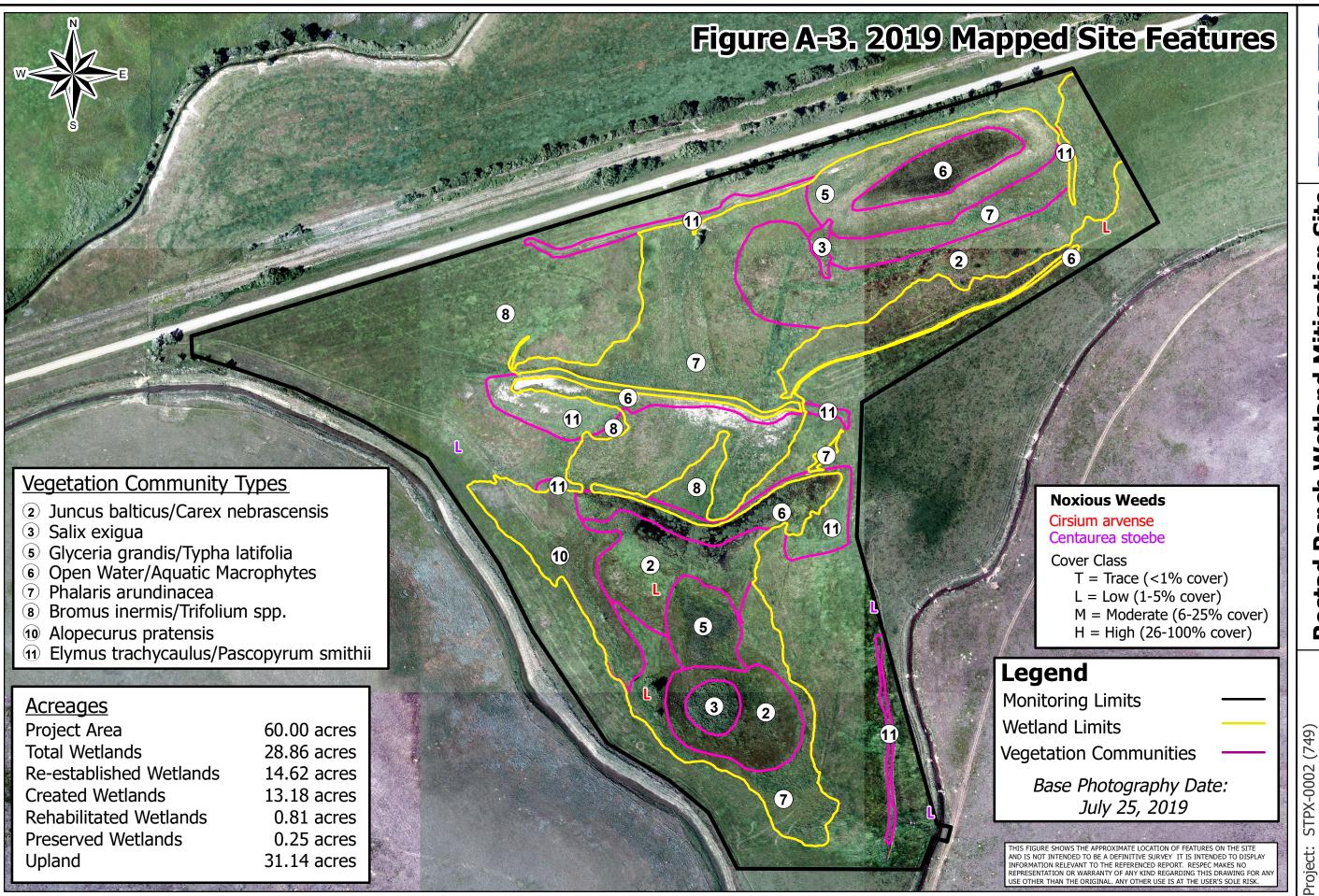
# APPENDIX A PROJECT AREA MAPS

MDT Wetland Mitigation Monitoring Rostad Ranch Meagher County, Montana

A-1 RSI-2975

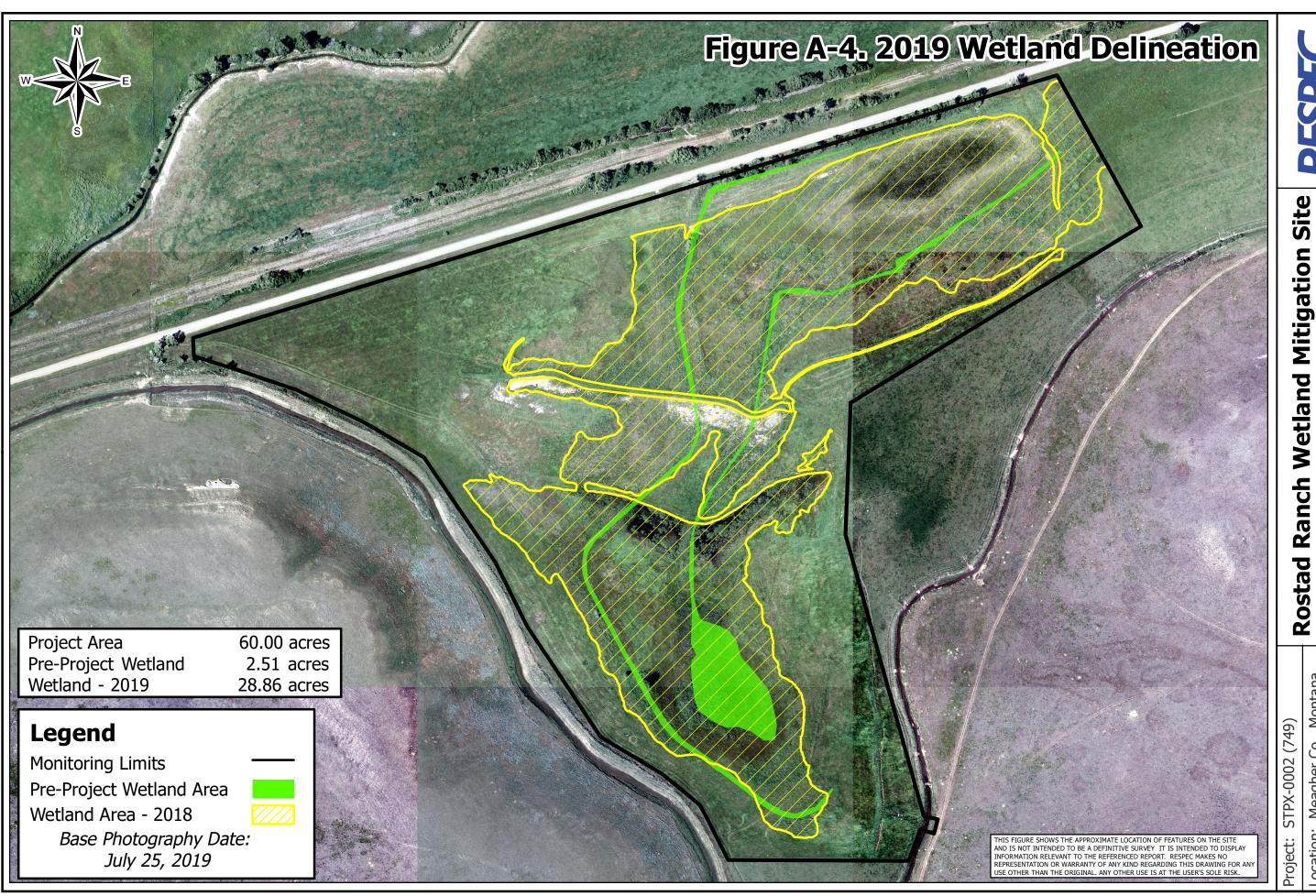


# 2019 Monitoring Activity Locations



# Site Rostad Ranch Wetland Mitigation 2019 Mapped Site Features

A-3



**Wetland Delineation** 

2019

# APPENDIX B MONITORING FORMS

MDT Wetland Mitigation Monitoring Rostad Ranch Meagher County, Montana

B-1 RSI-2975

### RESPEC/MDT WETLAND MITIGATION SITE MONITORING FORM

Assessment Date: Assess	dale, Mon T <u>8N</u> as: Sunny, Date: Augu	2019 tana R <u>11E</u> So 85 degrees st 21, 2013	ection <u>12 an</u> Monit	Project Number: n(s) conducting the MDT District: <b>B</b> nd 13 Time of Day: 10: oring Year: 7 # ounding wetland:	e assessmen  Sillings  :00 AM  Visits in Ye	ear: <u>1</u>	
		Н	YDROLOG	GY			
Inundation: Present Percent of assessment area of the Present If assessment area of the Present If assessment area of the Present Inundation: Pres	Surface Water Source: Groundwater, supplemental hydrology from ditch/headgate, surface runoff Inundation: Present Average Depth: 1.0 feet Range of Depths: 0.25-2 ft. Percent of assessment area under inundation: 25% Depth at emergent vegetation-open water boundary: 2.0 feet If assessment area is not inundated then are the soils saturated within 12 inches of surface: Yes Other evidence of hydrology on the site (ex. – drift lines, erosion, stained vegetation, etc.): Drainage patterns, soil saturation, water marks, drift deposits, oxidized rhizospheres on living roots, geomorphic position, FAC-nuetral test Groundwater Monitoring Wells: Present						
Well Number	Depth	Well Number	<b>Depth</b>	Well Number	Depth		
MW-1						_	
						1	

### **VEGETATION COMMUNITIES**

Community Number: **8** Community Title (main spp): **Bromus inermis / Trifolium spp.** 

Dominant Species	% Cover	Dominant Species	% Cover
Bromus inermis	5 = > 50%	Pascopyrum smithii	1 = 1-5%
Trifolium repens	3 = 11-20%	Phleum pratense	3 = 11-20%
Schedonorus pratensis	2 = 6-10%	Populus angustifolia	1 = 1-5%
Elymus repens	2 = 6-10%	Taraxacum officinale	1 = 1-5%
Melilotus officinalis	2 = 6-10%	Trifolium pratense	1 = 1-5%
Achillea millefolium	1 = 1-5%	Centaurea stoebe	1 = 1-5%

Comments / Problems: <u>Previously recorded as community Type 1 with a prevalence of Phleum</u> pratense. Upland communities across the site are dominated by Bromus inermis.

Community Number: 2 Community Title (main spp): Juncus balticus / Carex nebrascensis

Dominant Species	% Cover	Dominant Species	% Cover
Carex nebrascensis	4 = 21-50%	Open Water	1 = 1-5%
Juneus balticus	4 = 21-50%	Poa palustris	1 = 1-5%
Beckmannia syzigachne	3 = 11-20%	Sonchus arvensis	1 = 1-5%
Phalaris arundinacea	2 = 6-10%	Deschampsia caespitosa	1 = 1-5%
Hordeum jubatum	2 = 6-10%	Rumex crispus	1 = 1-5%
Eleocharis palustris	1 = 1-5%	Typha latifolia	1 = 1-5%

Comments / Problems: Wet meadow, revegetation successful since 2013.

Community Number: 3 Community Title (main spp): Salix exigua /

Dominant Species	% Cover	Dominant Species	% Cover
Salix exigua	5 = > 50%	Alopecurus pratensis	1 = 1-5%
Deschampsia caespitosa	2 = 6-10%	Carex nebrascensis	1 = 1-5%
Poa palustris	2 = 6-10%	Agrostis gigantea	+=<1%
Beckmannia syzigachne	1 = 1-5%	Veronica peregrina	+ = < 1%
Carex utriculata	1 = 1-5%	Typha latifolia	+=<1%
Eleocharis palustris	1 = 1-5%		

Comments / Problems: <u>Undisturbed salix community near southern extent of monitoring boundary.</u>

Community Number: 5 Community Title (main spp): Glyceria grandis / Typha latifolia

Dominant Species	% Cover	Dominant Species	% Cover
Glyceria grandis	4 = 21-50%		
Typha latifolia	3 = 11-20%		
Eleocharis palustris	3 = 11-20%		
Open Water	3 = 11-20%		
Beckmannia syzigachne	2 = 6-10%		

Comments	/ Problems:
Comments	/ I TOUICIIIS.

### **VEGETATION COMMUNITIES (continued)**

Community Number: 6 Community Title (main spp): Open Water / Aquatic macrophytes

Dominant Species	% Cover	Dominant Species	% Cover
Open Water	5 = > 50%	Carex nebrascensis	+ = < 1%
Eleocharis palustris	2 = 6-10%	Juncus balticus	+ = < 1%
Typha latifolia	3 = 11-20%	Polypogon monspeliensis	+ = < 1%
Beckmannia syzigachne	2 = 6-10%	Downingia laeta	+ = < 1%
Glyceria grandis	1 = 1-5%	Rumex crispus	+ = < 1%
Phalaris arundinacea	+ = < 1%	Veronica peregrina	+ = < 1%

Comments / Problems: New ponds - Typha, Beckmannia, Eleocharis palustris, Phalaris arundinacea

Community Number: 7 Community Title (main spp): Phalaris arundinacea /

Dominant Species	% Cover	Dominant Species	% Cover
Phalaris arundinacea	5 = > 50%		
Elymus trachycaulus	3 = 11-20%		
Poa pratensis	1 = 1-5%		
Trifolium pratense	1 = 1-5%		
Medicago sativa	+ = < 1%		
Thlaspi arvense	1 = 1-5%		

Comments / Problems:

Community Number: 11 Community Title (main spp): Elymus trachycaulus / Pascopyrum smithii

Dominant Species	% Cover	Dominant Species	% Cover
Bare Ground	2 = 6-10%	Trifolium hybridum	3 = 11-20%
Chenopodium sp.	2 = 6-10%		
Elymus trachycaulus	3 = 11-20%		
Pascopyrum smithii	3 = 11-20%		
Melilotus officinalis	3 = 11-20%		
Sinapis arvensis	3 = 11-20%		

Comments / Problems: Construction in spring 2017 resulted in several berms and other disturbed areas. In 2019 constructed berms had 80% vegetative cover with planted species and volunteer grasses and forbs.

Community Number: **10** Community Title (main spp): **Alopecurus pratensis** 

Dominant Species	% Cover	Dominant Species	% Cover
Alopecurus pratensis	4 = 21-50%		
Phalaris arundinacea	3 = 11-20%		
Agrostis gigantea	2 = 6-10%		
Juneus balticus	2 = 6-10%		
Hordeum jubatum	1 = 1-5%		

Comments / Problems: \_\_\_\_\_

### PLANTED WOODY VEGETATION SURVIVAL

Plant Species	Number Originally Planted	Number Observed	Mortality Causes
Populus balsamifera	100		Estimated 50% survival
Populus tremuloides	100		Estimated 50% survival
Salix spp.	2000		Estimated 50% survival
		·	

Comments / Problems: Willow stakes were planted in spring 2013. Due to tall herbaceous vegetation, locating all plantings was difficult during the site visit. Especially difficult was locating plants (stems) that had died. Those plants observed looked healthy with minor deer browse noted. Survival in 2019 was estimated at 50% survival based on the number of live stems observed. Willows are naturally expanding around Vegetation Community 3 in the south portion of the site.

Site: Rostad Ranch Date: August 8, 2019 Examiner: M. Traxler, T. Traxler

Transect Number: 1 Approximate Transect Length: 422 feet Compass Direction from Start: 290° Note:

Transect Interval Length: 140 feet (station 0-140)		
Vegetation Community Type: Bromus inermis / Trifolium spp.		
Plant Species	Cover	
Bromus inermis	5 = > 50%	
Poa palustris	2 = 6-10%	
Trifolium pratense	2 = 6-10%	
Achillea millefolium	1 = 1-5%	
Medicago sativa	1 = 1-5%	
Phleum pratense	+=<1%	
Cirsium arvense	1 = 1-5%	
Taraxacum officinale	1 = 1-5%	
Juncus balticus	1 = 1-5%	
Total Vegetative Cover:	90%	

Transect Interval Length: 126 feet (station 140-266)	
Vegetation Community Type: Juncus balticus / Carex nebr	ascensis
Plant Species	Cover
Poa palustris	3 = 11-20%
Juneus balticus	4 = 21-50%
Carex nebrascensis	3 = 11-20%
Phalaris arundinacea	3 = 11-20%
Trifolium pratense	2 = 6-10%
Alopecurus pratensis	1 = 1-5%
Total Vegetative Cover:	95%

Transect Interval Length: 20 feet (station 266-286)		
Vegetation Community Type: Elymus trachycaulus / Pascopyrum		
smithii		
Plant Species	Cover	
Bare Ground	2 = 6-10%	
Elymus trachycaulus	4 = 21-50%	
Melilotus officinalis	1 = 1-5%	
Trifolium pratense	1 = 1-5%	
Phalaris arundinacea	4 = 21-50%	
Pascopyrum smithii	2 = 6-10%	
Total Vegetative Cover:	80%	

Transect Interval Length: 65 feet (station 286-351)	
Vegetation Community Type: Phalaris arundinacea	
Plant Species	Cover
Phalaris arundinacea	5 = > 50%
Elymus trachycaulus	2 = 6-10%
Phleum pratense	+=<1%
Rumex crispus	2 = 6-10%
Carex nebrascensis	2 = 6-10%
Cirsium arvense	1 = 1-5%
Agrostis gigantea	1 = 1-5%
Total Vegetative Cover:	90%

Site: <b>Rostad Ranch</b>	Date: August 8, 2019 Examiner: M. Trax	<u>ler, T. Traxler</u>
Transect Number: 1	Approximate Transect Length: <b>422 feet</b>	Compass Direction from Start: 290° Note:

Transect Interval Length: <b>42 feet</b> ( <b>station 351-393</b> )	
Vegetation Community Type: Glyceria grandis / Typah latifolia	
Plant Species	Cover
Glyceria grandis	2 = 6-10%
Phalaris arundinacea	4 = 21-50%
Typha latifolia	1 = 1-5%
Eleocharis palustris	3 = 11-20%
Rumex crispus	2 = 6-10%
Total Vegetative Cover:	75%

Transect Interval Length: <b>29 feet (station 393-422)</b> Vegetation Community Type: Open Water / Aquatic macrophytes	
Bare Ground with algal mats from early open water	4 = 21-50%
Glyceria grandis	1 = 1-5%
Eleocharis palustris	4 = 21-50%
Typha latifolia	2 = 6-10%
Beckmannia syzigachne	2 = 6-10%
Phalaris arundinacea	3 = 11-20%
Total Vegetative Cover:	50%

Transect Interval Length:	
Vegetation Community Type:	
Plant Species	Cover
Total Vegetative Cover:	%

Transect Interval Length:	
Vegetation Community Type:	
Plant Species	Cover
Total Vegetative Cover:	%

Site: Rostad Ranch Date: August 8, 2019 Examiner: M. Traxler, T. Traxler

Transect Number: 2 Approximate Transect Length: 453 feet Compass Direction from Start: 120° Note:

Transect Interval Length: 60 feet (station 0-60)		
Vegetation Community Type: Bromus inermis / Trifolium	Vegetation Community Type: Bromus inermis / Trifolium spp.	
Plant Species	Cover	
Bromus inermis	1 = 1-5%	
Trifolium pratense	1 = 1-5%	
Poa palustris	2 = 6-10%	
Elymus repens	2 = 6-10%	
Phalaris arundinacea	5 = > 50%	
Populus angustifolia	3 = 11-20%	
Total Vegetative Cover:	85%	

	-
Transect Interval Length: 115 feet (station 300-415)	
Vegetation Community Type: Phalaris arundinacea	
Plant Species	Cover
Phalaris arundinacea	5 = > 50%
Phleum pratense	2 = 6-10%
Total Vegetative Cover:	80%

Transect Interval Length: 240 feet (station 60-300)	
Vegetation Community Type: Juncus balticus / Carex nebrascensis	
Plant Species	Cover
Juneus balticus	4 = 21-50%
Carex nebrascensis	4 = 21-50%
Trifolium pratense	1 = 1-5%
Phleum pratense	1 = 1-5%
Phalaris arundinacea	3 = 11-20%
Poa pratensis, Agrostis gigantea	2 = 6-10%
Salix exigua	1 = 1-5%
Pascopyrum smithii	1 = 1-5%
Alopecurus pratensis	3 = 11-20%
Carex stipata	1 = 1-5%
Typha latifolia	1 = 1-5%
Total Vegetative Cover:	90%

Transect Interval Length: 38 feet (station 415-453)	
Vegetation Community Type: Bromus inermis / Trifolium spp.	
Plant Species	Cover
Bromus inermis	3 = 11-20%
Trifolium pratense	1 = 1-5%
Poa pratensis	4 = 21-50%
Elymus trachycaulus	1 = 1-5%
Juncus balticus	2 = 6-10%
Pascopyrum smithii	2 = 6-10%
Elymus repens	1 = 1-5%
Phalaris arundinacea	1 = 1-5%
Phleum pratense	1 = 1-5%
Total Vegetative Cover:	75%

Site: **Rostad Ranch** Date: **August 8, 2019** Examiner: **M. Traxler, T. Traxler** 

Transect Number: 3 Approximate Transect Length: 320 feet Compass Direction from Start: 30° Note:

Transect Interval Length: 28 feet (station 0-28)	
Vegetation Community Type: Phalaris arundinacea	
Plant Species	Cover
Populus angustifolia	4 = 21-50%
Phalaris arundinacea	4 = 21-50%
Elymus repens	2 = 6-10%
Amaranthus retroflexus	1 = 1-5%
Phleum pratense	1 = 1-5%
Bare Ground	1 = 1-5%
Total Vegetative Cover:	90%

Transect Interval Length: 165 feet (station 135-300)	
Vegetation Community Type: Glyceria grandis / Typha latifolia	
Plant Species	Cover
Glyceria grandis	3 = 11-20%
Typha latifolia	5 = > 50%
Eleocharis palustris	4 = 21-50%
Alopecurus pratensis	1 = 1-5%
Beckmannia syzigachne	1 = 1-5%
Salix exigua	2 = 6-10%
Open Water	1 = 1-5%
Total Vegetative Cover:	80%

Transect Interval Length: 107 feet (station 28-135)	
Vegetation Community Type: Juncus balticus / Carex nebrascensis	
Plant Species	Cover
Hordeum jubatum	1 = 1-5%
Deschampsia caespitosa	1 = 1-5%
Juneus balticus	4 = 21-50%
Phalaris arundinacea	2 = 6-10%
Salix exigua	2 = 6-10%
Agrostis gigantea, Eleocharis palustris	4 = 21-50%
Alopecurus pratensis	2 = 6-10%
Carex nebrascensis	2 = 6-10%
Epilobium ciliatum	1 = 1-5%
Beckmannia syzigachne	1 = 1-5%
Juncus bufonius	1 = 1-5%
Total Vegetative Cover:	90%

Transect Interval Length: 20 feet (station 300-320)	
Vegetation Community Type: Juncus balticus / Carex nebrascensis	
Plant Species	Cover
Eleocharis palustris	5 = > 50%
Phalaris arundinacea	2 = 6-10%
Salix exigua	2 = 6-10%
Carex nebrascensis	2 = 6-10%
Juneus balticus	4 = 21-50%
Beckmannia syzigachne	+ = < 1%
Hordeum jubatum	+ = < 1%
Deschampsia caespitosa	+ = < 1%
Total Vegetative Cover:	75%

Site:	Rostad	Ran	<u>ich</u>	Date:	<u>Aug</u>	<u>ust 8,</u>	<u> 2019</u>	Exan	nine	er: <u>M</u>	[ <b>.</b> T	<u>raxler</u>	<u>, T.</u>	<u>Traxler</u>		
		_	-			_		_	_		_				~	_

Transect Number: <u>4</u> Approximate Transect Length: <u>412 feet</u> Compass Direction from Start: <u>0</u>° Note: \_\_\_\_\_

Transect Interval Length: 13 feet (station 0-13)							
Vegetation Community Type: Elymus trachycaulus/Pascopyrum smithii							
Plant Species Cover							
Bromus inermis	3 = 11-20%						
Elymus trachycaulus	3 = 11-20%						
Pascopyrum smithii	3 = 11-20%						
Melilotus officinalis	+=<1%						
Phalaris arundinacea	3 = 11-20%						
Total Vegetative Cover:	90%						

Transect Interval Length: 87 feet (station 13-100)	
Vegetation Community Type: Phalaris arundinacea	
Plant Species	Cover
Phalaris arundinacea	1 = 1-5%
Bromus inermis	1 = 1-5%
Phleum pratense	1 = 1-5%
Poa palustris	5 = > 50%
Alopecurus arundinaceus	2 = 6-10%
Poa pratensis	1 = 1-5%
Typha latifolia	1 = 1-5%
Eleocharis palustris	2 = 6-10%
Total Vegetative Cover:	80%

Transect Interval Length: 192 feet (station 100-292)					
Vegetation Community Type: Bromus inermis/ Trifolium sp.					
	I				
Plant Species	Cover				
Trifolium pratense	+ = < 1%				
Bromus inermis	5 = > 50%				
Phleum pratense	1 = 1-5%				
Poa pratensis	2 = 6-10%				
Poa palustris	3 = 11-20%				
Total Vegetative Cover:	90%				

Transect Interval Length: 20 feet (station 292-312)								
Vegetation Community Type: Elymus trachycaulus/Pascopyrum								
smithii								
Plant Species	Cover							
Bare Ground	1 = 1-5%							
Chenopodium sp.	+ = < 1%							
Elymus trachycaulus	4 = 21-50%							
Pascopyrum smithii	4 = 21-50%							
Bromus inermis	3 = 11-20%							
Total Vegetative Cover:	90%							

Site: Rostad Ranch Transect Number: 4  Date: August 8, 2019 Examiner: Approximate Transect Length: 41	M. Traxler, T. 7	<u>Fraxler</u> pass Direction from Start: <u>0</u> ° Note:	
Transect Interval Length: 100 feet (station 312-412)		Transect Interval Length:	
Vegetation Community Type: Bromus inermis/Trifolium s	in .	Vegetation Community Type:	
Plant Species	Cover	Plant Species	Cover
Trifolium pratense	1 = 1-5%		
Bromus inermis	5 = > 50%		
Phleum pratense	2 = 6-10%		
Poa pratensis	2 = 6-10%		
1 ou praveniors	2 0 10/0		
Total Vegetative Cover:	90%	Total Vegetative Cover:	%
Transect Interval Length:		Transect Interval Length:	
Vegetation Community Type:		Vegetation Community Type: .	
Plant Species	Cover	Plant Species	Cover
1 lant species	COVCI	1 lant species	COVCI

Cover Estimate	e 3 = 11-10%	Indicator Class + = Obligate	Source P = Planted
+ = < 1% $1 = 1-5%$	3 = 11-10% 4 = 21-50%	+ = Obligate - = Facultative/Wet	V = Volunteer
2 = 6-10%	5 = > 50%	0 = Facultative	
Percent of perint Establish transe location with a sopen water), or Estimate cover	neter developing weth cts perpendicular to to standard metal fencer at the point where wa within a 10 foot wide	land vegetation (excluding dam/berm structure). The shoreline (or saturated perimeter). The post. Extend the imaginary transect line towater depths or saturation are maximized. Me "belt" along the transect length. At a mini	transect should begin in the upland area. Permanently mark this wards the center of the wetland, ending at the 3 foot depth (in ark this location with another metal fencepost.  mum, establish a transect at the windward and leeward sides of
the wettand. Re	member that the pur	pose of this sampling is to monitor, not invi	entory, representative portions of the wetland site.
Comments:			

### **PHOTOGRAPHS**

Take photographs of the following permanent reference points listed in the check list below. Record the direction of the photograph using a compass. When at the site for the first time, establish a permanent reference point by setting a ½ inch rebar or fencepost extending 2-3 feet above ground. Survey the location with a resource grade GPS and mark the location on the aerial photograph.

Photograph Checklist:
One photograph for each of the four cardinal directions surrounding the wetland.
At least one photograph showing upland use surrounding the wetland. If more than one upland
exists then take additional photographs.
At least one photograph showing the buffer surrounding the wetland.
One photograph from each end of the vegetation transect, showing the transect.

Location	Photograph Frame #	Photograph Description & Lat/Long	Compass Reading (°)
PP-1		Photo Point 1 (Pano): 46.463894 / -110.292686	140-240
PP-2		Photo Point 2 (Pano): 46.461612 / -110.294534	180-70
PP-2		Photo Point 2 (WNW): 46.461612 / -110.294534	275
PP-3		Photo Point 3 (Pano): 46.460579 / -110.294502	160-360
PP-4		Photo Point 4 (Pano): 46.458241 / -110.29377	190-340
PP-5		Photo Point 5 (Pano): 46.458417 / -110.296185	300-110
PP-6		Photo Point 6 (NNE): 46.459839 / -110.298195	30
PP-6		Photo Point 6 (ESE): 46.459839 / -110.298195	100
PP-7		Photo Point 7 (Pano): 46.461119 / -110.299371	0-300
PP-8		Photo Point 8 (E): 46.460987 / -110.298118	90
PP-9		Photo Point 9 (SW): 46.461106 / -110.294579	240
PP-10		Photo Point 10 (ENE): 46.461759 / -110.298593	80
T-1 start		Transect 1 start: 46.463043 / -110.291222	290
T-1 end		Trasnect 1 end: 46.463577 / -110.29274	110
T-2 start		Transect 2 start: 46.46286 / -110.296341	130
T-2 end		Transect 2 end: 46.46191 / -110.295059	310
T-3 start		Transect 3 start: 46.459347 / -110.296814	30
T-3 end		Transect 3 end: 46.459827 / -110.295876	210
T-4 start		Transect 4 start: 46.462945 / -110.297834	0
T-4 end		Transect 4 end: 46.461803 / -110.297953	180
DP-1W		Wetland soil pit #1: 46.462577 / -110.294263	
DP-1U		Upland soil pit #1: 46.462457 / -110.294063	
DP-2W		Wetland soil pit #2: 46.463243 / -110.29184	
DP-2U		Upland soil pit #2: 46.463196 / -110.291675	
DP-3W		Wetland soil pit #3: 46.462084 / -110.295312	
DP-3U		Upland soil pit #3: 46.462029 / -110.295224	

C	comment	ts /	'Pi	ob	lems	:	

### **GPS SURVEYING**

Using a resource grade GPS survey the items on the checklist below. Collect at least 3 location points set at a 5 second recording rate. Record file numbers for site in designated GPS field notebook.

<ul> <li>GPS Checklist:</li> <li>□ Upland/wetland boundary.</li> <li>□ 4-6 landmarks that are recognizable on the aerial photograph.</li> <li>□ Start and End points of vegetation transect(s).</li> <li>□ Photograph reference points.</li> <li>□ Groundwater monitoring well locations.</li> <li>□ Bird nest boxes.</li> </ul>
Comments / Problems:
WETLAND DELINEATION (attach COE delineation forms)
At each site conduct these checklist items:  Delineate wetlands according to the 1987 Army COE manual and regional supplement.  Delineate wetland – upland boundary onto aerial photograph.
Comments / Problems:
FUNCTIONAL ASSESSMENT  Complete and attach full MDT Montana Wetland Assessment Method field forms.
Comments / Problems:
MAINTENANCE
Were man-made nesting structure installed at this site? <u>Yes</u> If yes, do they need to be repaired? <u>No</u> If yes, describe the problems below and indicate if any actions were taken to remedy the problems.
Were man-made structures built or installed to impound water or control water flow into or out of the wetland? <u>Yes</u> If yes, are the structures working properly and in good working order? <u>Yes</u> If no, describe the problems below.

### **WILDLIFE**

### **Birds**

Were man-made nesting structures installed? <u>Yes</u> If yes, type of structure: <u>Box</u> How many? <u>7</u> Are the nesting structures being used? <u>Yes</u> Do the nesting structures need repairs? <u>No</u>

### **Mammals and Herptiles**

Mammal and Hamtile Species	Number	Number Indirect Indication of Us					
Mammal and Herptile Species	Observed	Tracks	Scat	Burrows	Other		
Deer sp.							
Raccoon		$\boxtimes$					

### **Additional Activities Checklist:**

**NA** Macroinvertebrate Sampling (if required)

Comments / Problems: One bird box originally located near the start of Transect T-1 in the NE corner of the site is missing. All other boxes in good condition. Periodic cleaning of bird boxes may be useful.

### **BIRD SURVEY - FIELD DATA SHEET**

Site: Rostad Ranch Date: 8/8/19
Survey Time: 10:00 am to 4:00 pm

Bird Species	#	Behavior	Habitat	Bird Species	#	Behavior	Habitat
Song sparrow	1	FO	UP				
Common Raven	1	FO	UP				
Brown-headed Cowbird	4	F L FO	UP MA				
Red-winged Blackbird	20	LFFO	UP MA				
Tree Swallow	1	FO	UP				
Brewer's Blackbird	4	F FO L	UP MA				
Wislon's snipe	4	LFFO	MA UP				

### **BEHAVIOR CODES**

**BP** = One of a breeding pair **BD** = Breeding display

F = Foraging FO = Flyover L = Loafing N = Nesting

Weather: 85 degrees, sunny

TA 1		
	otes:	
1.	OLOS.	

### HABITAT CODES

AB = Aquatic bed
FO = Forested
I = Island
WM = Wet meadow
MA = Marsh
US = Unconsolidated shore

 $\mathbf{MF} = \mathbf{Mud} \ \mathbf{Flat}$  $\mathbf{OW} = \mathbf{Open} \ \mathbf{Water}$ 

### Rostad Ranch – Plant list (2013-2019)

Scientific Names	Common Names	GP Indicator Status <sup>(a)</sup>
Achillea millefolium	Common Yarrow	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
Agrostis gigantea	Black Bent	FACW
Algae, green	Algae, green	NL
Alopecurus arundinaceus	Creeping-Meadow Foxtail	FACW
Alopecurus pratensis	Field Meadow-Foxtail	FACW
Amaranthus retroflexus	Red-Root	FACU
Ambrosia acanthicarpa	Flat-spine Ragweed	UPL
<i>Aster</i> sp.	Aster	UPL
Bassia scoparia	Mexican-Fireweed	FACU
Beckmannia syzigachne	American Slough Grass	OBL
Berteroa incana	Hoary False-alyssum	UPL
Bromus arvensis	Field Brome	FACU
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	UPL
Cardaria draba	Whitetop	UPL
Carex nebrascensis	Nebraska Sedge	OBL
Carex utriculata	Northwest Territory Sedge	OBL
Carex stipata	Stalk-Grain Sedge	OBL
Centaurea stoebe	Spotted Knapweed	UPL
Chenopodium album	Lamb's-Quarters	FACU
<i>Chenopodium</i> sp.	Goosefoot	UPL
Cirsium arvense	Canadian Thistle	FACU
Convolvulus arvensis	Field Bindweed	UPL
Cynoglossum officinale	Gypsy-Flower	FACU
Cyrtorhyncha cymbalaria	Alkali Buttercup	OBL
Deschampsia caespitosa	Tufted Hair Grass	FACW
Descurainia sophia	Herb Sophia	UPL
Downingia laeta	Great Basin Calico-Flower	OBL
Eleocharis palustris	Common Spike-Rush	OBL
Elymus repens	Creeping Wild Rye	FACU
Elymus trachycaulus	Slender Wild Rye	FACU
Epilobium ciliatum	Fringed Willowherb	FACW
Glyceria grandis	American Manna Grass	OBL
Glycyrrhiza lepidota	American Licorice	FACU
Helianthus annuus	Common Sunflower	FACU
Hordeum jubatum	Fox-Tail Barley	FACW

Scientific Names	Common Names	GP Indicator Status <sup>(a)</sup>
Juncus articulatus	Joint-Leaf Rush	OBL
Juncus balticus	Baltic Rush	FACW
Juncus bufonius	Toad Rush	OBL
Lactuca serriola	Prickly Lettuce	FAC
Lepidium densiflorum	Miner's Pepperwort	FAC
Medicago sativa	Alfalfa	UPL
Melilotus albus	White Sweetclover	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU
Mentha arvensis	American Wild Mint	FACW
Pascopyrum smithii	Western-Wheat Grass	FACU
Phalaris arundinacea	Reed Canary Grass	FACW
Phleum pratense	Common Timothy	FACU
Poa palustris	Fowl Blue Grass	FACW
Poa pratensis	Kentucky Blue Grass	FACU
Polypogon monspeliensis	Annual Rabbit's-Foot Grass	FACW
Populus angustifolia	Narrow-Leaf Cottonwood	FACW
Populus balsamifera	Balsam Poplar	FACW
Populus tremuloides	Quaking Aspen	FAC
Potentilla gracilis	Graceful Cinquefoil	FAC
Rumex crispus	Curly Dock	FAC
Rumex occidentalis	Western Dock	OBL
Salix exigua	Narrow-Leaf Willow	FACW
Schedonorus pratensis	Meadow False Rye Grass	FACU
Sinapis arvensis	Wild Mustard	UPL
Sonchus arvensis	Field Sow-Thistle	FAC
Tanacetum vulgare	Common Tansy	FACU
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Pennycress	FACU
Tragopogon dubius	Meadow Goat's-beard	UPL
Trifolium arvense	Rabbit-foot Clover	UPL
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FACU
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Veronica peregrina	Neckweed	FACW

<sup>(</sup>a) 2016 NWPL [Lichvar et al., 2016]

### WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rostad Ranch		c	city/County:	Meagher		Samp	ling Date: 08-	Aug-19
Applicant/Owner: MDT				State:	: MT <b>Sa</b> r	npling Point:	DP-	·1U
investigator(s): Mark Traxler, Tanner Traxle	r		Section, To	wnship, Ra	nge: <b>S</b> 12	T_8N	R 11E	
Landform (hillslope, terrace, etc.): Foots	slope		Local relief	(concave, c	convex, none): CONV	ex	Slope: 1.5	%/0.9 °
Gubregion (LRR): LRR F		Lat.: 46.	.462457		Long.: -110.2940	 63	Datum:	WGS 19
oil Map Unit Name: Delpoint variant-Man	marth-Cabbart loan				-	assification:	— – Not Manned	
e climatic/hydrologic conditions on the				s • No		_		
		ignificantly		Are "N	ormal Circumstance		•	lo O
		aturally pro				-		
Summary of Findings - Attac	_			•	eded, explain any an ations, transe		•	ıres, etc.
	s O No 💿	<u> </u>				,		<b>,</b>
, , , ,	s • No ·			Sampled A				
•	s O No 💿		withir	n a Wetland	<sub>I?</sub> Yes O No •			
Remarks:								
Upland sample point.								
VEGETATION - Use scientific	names of pla	nts	Dominant	FWS Re	gion: GP			
			Species?	Indicator	Dominance Test w	orksheet:		
Tree Stratum (Plot size: 30 Foot Radi	us )	% Cover		Status	Number of Dominan			
1		0			That are OBL, FACW		0	(A)
2		0	Ц		Total Number of Do	minant		
3		0			Species Across All St		1	(B)
4		0			Daniera de daniera	t C		
Sapling/Shrub Stratum (Plot size: 15 Fo	oot Radius )	0	= Total Co	ver	Percent of domina That Are OBL, FAC		0.0%	(A/B)
		0			D T J			
1 2.					Prevalence Index		مراحا بالمنظارية	
3.					Total % Cov		$\frac{\text{1ultiply by:}}{\text{1 = 0}}$	_
4.					FACW species		<b>2 =</b> 30	
5.		0			FAC species		3 = 0	
		0	= Total Co	ver	FACU species		4 = 20	
Herb Stratum (Plot size: 5 Foot Radius	5)				UPL species		5 = 400	
1. Bromus inermis		80	80.0%	UPL	Column Totals:	-	(a) 450	
2. Poa palustris		15	15.0%	FACW				(6)
3. Phleum pratense 4.			5.0%	FACU	Prevalence In	dex = B/A =	4.5	
5.			0.0%		Hydrophytic Veget	ation Indicat	ors:	
6.		- 0	0.0%		1 - Rapid Test	for Hydroph	ytic Vegetation	1
7.			0.0%		2 - Dominance	e Test is > 50	1%	
8.		0	0.0%		3 - Prevalence	Index is ≤3	. <b>0</b> <sup>1</sup>	
9.		0	0.0%		4 - Morpholog	ical Adaptati	ons¹(Provide s	upporting
10.		0			data in Rem	arks or on a	separate sheet	)
		100	= Total Co	ver	Problematic H	lydrophytic V	egetation <sup>1</sup> (Exp	olain)
Woody Vine Stratum (Plot size: 30 Fc	oot Radius )				<sup>1</sup> Indicators of hy	dric soil and	wetland hydro	logy must
1		0			be present.			
2		0						
		0	= Total Co	ver	Hydrophytic			
% Bare Ground in Herb Stratum $0$					Vegetation Present? Y	es O No	lacktriangle	
Remarks:								
Smooth brome is dominant grass in this	upland plot.							

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Soil Sampling Point: DP-1U

Depth	Matrix			ox Featur				
inches)	Color (moist)	<u>%</u> -	Color (moist)		Tvpe <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks mottles
0-20	10YR 4/2		10YR 5/8	10		M	Clay Loam	
ype: C=Co	ncentration. D=Deple	tion. RM=Redu	ced Matrix, CS=Covere	ed or Coate	d Sand Grai	ns <sup>2</sup> Loca	ation: PL=Pore Lining.	M=Matrix
		able to all LR	Rs, unless otherwis					roblematic Hydric Soils <sup>3</sup> :
Histosol (	•		Sandy Gleyed				1 cm Muck (A	, , , ,
Black Hist	pedon (A2)		Sandy Redox ( Stripped Matrix	•				e Redox (A16) (LRR F, G, H)
	Sulfide (A4)		Loamy Mucky I	. ,	)		Dark Surface	(S7) (LRR G) Depressions (F16)
	Layers (A5) (LRR F)		Loamy Gleyed		-		_ 3	utside of MLRA 72 and 73)
	k (A9) (LRR F,G,H)		✓ Depleted Matri	. ,	•		Reduced Vert	· · · · · · · · · · · · · · · · · · ·
	Below Dark Surface (	A11)	Redox Dark Su	. ,			Red Parent M	` '
•	k Surface (A12)		Depleted Dark	. ,	7)			Dark Surface (TF12)
Sandy Mu	ck Mineral (S1)		Redox depress	ions (F8)			_ ·	n in Remarks)
2.5 cm M	ucky Peat or Peat (S2	(LRR G, H)	High Plains De	pressions (	F16)			ophytic vegetation and wetland
5 cm Muc	ky Peat or Peat (S3)	LRR F)	(MLRA 72	and 73 of	LRR H)		hydrology must be	e present, unless disturbed or proble
ICUVE L	ayer (if present):						1	
Type:	, , , ,							
Type: Depth (inc							Hydric Soil Preser	nt? Yes   No
Depth (inc	hes):	Matrix. This s	ite was historically v	vet and hy	vdric soils	remain. h		
Depth (incommarks: I meets cri	hes):	Matrix. This s	ite was historically v	vet and hy	/dric soils	remain, t		nt? Yes  No  tation and wetland hydrology ar
Depth (incommarks: meets cripresent.	hes):teria for Depleted	Matrix. This s	ite was historically v	vet and hy	/dric soils	remain, t		
Depth (incomarks: meets cripresent.  drology tland Hyd	hes):teria for Depleted  y  rology Indicators:				/dric soils	remain, t	out hydrophytic vegel	
Depth (incomarks: meets cripresent.  drology tland Hyd	hes):teria for Depleted  y  rology Indicators:		ite was historically v		dric soils	remain, t	out hydrophytic veger	tation and wetland hydrology ar
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi	hes):teria for Depleted  y  rology Indicators:		d; check all that app	oly) 11)		remain, t	Secondary Ir	tation and wetland hydrology ar
Depth (incomarks: meets cripresent.  drology tland Hyde mary Indi Surface V	teria for Depleted  Y  Irology Indicators: cators (minimum c		d; check all that app	oly) 11)		remain, t	Secondary Ir Surface Sparsel	tation and wetland hydrology ar ndicators (minimum of two requ Soil Cracks (B6)
Depth (incomarks: meets cripresent.  drology tland Hydemary Indi Surface V	teria for Depleted  y  rology Indicators: cators (minimum colore) Vater (A1) ter Table (A2)		d; check all that app	oly) 11) rtebrates (f	B13)	remain, t	Secondary Ir Surface Sparsel Drainag	tation and wetland hydrology ar ndicators (minimum of two requ Soil Cracks (B6) y Vegetated Concave Surface (B8)
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat	teria for Depleted  y  lrology Indicators: cators (minimum of Water (A1) er Table (A2) n (A3)		d; check all that app Salt Crust (B	oly) 11) rtebrates (I	B13) (C1)	remain, t	Secondary Ir Surface Sparsel Drainag Oxidize	tation and wetland hydrology ar ndicators (minimum of two requ Soil Cracks (B6) y Vegetated Concave Surface (B8) ge Patterns (B10)
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat Saturatio Water Ma	teria for Depleted  y  lrology Indicators: cators (minimum of Water (A1) er Table (A2) n (A3)		d; check all that app Salt Crust (B Aquatic Inve	oly) 11) rtebrates (I Ilfide Odor Water Table	B13) (C1) e (C2)		Secondary Ir Surface Sparsel Drainag Oxidize	tation and wetland hydrology are national method in the requirement of
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat Saturatio Water Ma Sediment	teria for Depleted  y  Irology Indicators: cators (minimum of Vater (A1) ter Table (A2) n (A3) arks (B1)		d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season V	oly) 11) rtebrates (I Ilfide Odor Water Table	B13) (C1) e (C2)		Secondary Ir Surface Sparsel Drainag Oxidize (w	tation and wetland hydrology are naticators (minimum of two requestions (B6) by Vegetated Concave Surface (B8) by Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled)
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat Saturatio Water Ma Sediment Drift depo	teria for Depleted  y  irology Indicators: cators (minimum of Vater (A1) irer Table (A2) in (A3) arks (B1) ir Deposits (B2)		d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season V	oly) 11) rtebrates (I ilfide Odor Water Table zospheres (	B13) (C1) e (C2) on Living Ro		Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish	tation and wetland hydrology are ndicators (minimum of two requestions of two requestions). The second of two requestions of two requestions (B6) by Vegetated Concave Surface (B8) are Patterns (B10) de Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8)
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat Saturatio Water Ma Sediment Drift depo	teria for Depleted  y  rology Indicators: cators (minimum of Vater (A1) ter Table (A2) n (A3) arks (B1) ter Deposits (B2) osits (B3)		d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season \ Oxidized Rhi (where re	oly) 11) rtebrates (fillide Odor Water Table zospheres (	B13) (C1) e (C2) on Living Ro		Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomo	tation and wetland hydrology are adicators (minimum of two requestions (B6) by Vegetated Concave Surface (B8) are Patterns (B10) de Rhizospheres on Living Roots (C3) there tilled) are Burrows (C8) ion Visible on Aerial Imagery (C9)
Depth (incomarks: meets cripresent.  drology etland Hyd mary Indi Surface V High Wat Saturatio Water Ma Sediment Drift dept Algal Mat Iron Dept	teria for Depleted  verial for	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season N Oxidized Rhi (where I	oly)  11)  rtebrates (Fallide Odor Water Table Zospheres of tilled)  Reduced Irourface (C7)	B13) (C1) e (C2) on Living Ro		Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi	tation and wetland hydrology are adicators (minimum of two requestions (B6) by Vegetated Concave Surface (B8) be Patterns (B10) de Rhizospheres on Living Roots (C3) there tilled) a Burrows (C8) ion Visible on Aerial Imagery (C9) rephic Position (D2)
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat Saturatio Water Ma Sediment Drift depo Algal Mat Iron Depo	teria for Depleted  verial for	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season N Oxidized Rhi (where I Presence of I Thin Muck So	oly)  11)  rtebrates (Fallide Odor Water Table Zospheres of tilled)  Reduced Irourface (C7)	B13) (C1) e (C2) on Living Ro		Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat Saturatio Water Ma Sediment Drift depu Algal Mat Iron Depu Inundatio Water-St	teria for Depleted  y  Irology Indicators: cators (minimum of the control of the	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck St Other (Expla	oly)  11)  rtebrates (Fallide Odor Water Table Zospheres of tilled)  Reduced Irourface (C7)	B13) (C1) e (C2) on Living Ro		Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Depth (incomarks: meets cripresent.  drology tland Hyd mary Indi Surface V High Wat Saturatio Water Ma Sediment Drift depo Algal Mat Iron Depo Inundatic Water-Sta Id Observ face Water	teria for Depleted  Variology Indicators: cators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) is Deposits (B2) posits (B3) is or Crust (B4) posits (B5) on Visible on Aerial Intained Leaves (B9) ations: Present?  Ye	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi (where I Presence of I Thin Muck Si Other (Expla	oly) 11) rtebrates (I ilfide Odor Nater Table zospheres o not tilled) Reduced Iro urface (C7) in in Remai	B13) (C1) e (C2) on Living Ro		Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5)
Depth (incomarks: meets cripresent.  drology etland Hyd imary Indi Surface V High Wat Saturatio Water Ma Sediment Drift depo Algal Mat Iron Depo Inundatio Water-Steld Observ face Water	teria for Depleted  y  rology Indicators: cators (minimum of Vater (A1) ter Table (A2) in (A3) ter Table (B2) osits (B3) tor Crust (B4) osits (B5) on Visible on Aerial In tained Leaves (B9) ations: Present?  ye  ye	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck So Other (Expla	oly)  11)  rtebrates (I  ilfide Odor  Water Table  zospheres o  not tilled)  Reduced Ird  urface (C7)  in in Remai	B13) (C1) e (C2) on Living Ro	oots (C3)	Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomon FAC-nee	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)
Depth (incommarks: I meets cripresent.  I mary Indi I surface V I high Wat I saturatio I water Ma I sediment I prift depo I nundatio I water-St I meets cripresent I water-St I meets cripresent I mary Indi I mary Indi I mary Indi I mary I meets cripresent I mary Indi I mary	teria for Depleted  V  Irology Indicators: cators (minimum of Vater (A1) ter Table (A2) to (A3) to (A3	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck So Other (Expla	oly)  11)  rtebrates (I  Ilfide Odor  Water Table  zospheres of  not tilled)  Reduced Irr  urface (C7)  in in Remain	B13) (C1) e (C2) on Living Ro	oots (C3)	Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) ghere tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rephic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)
Depth (incommarks: I meets crist present.  I dept mary Indi I surface V Mater Mary Indi I water Mary Indi I water Mary Indi I water Steeld Observer face Water Table Presented on Presented Scapil	teria for Depleted  y  Irology Indicators: cators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) in Deposits (B2) posits (B3) in or Crust (B4) posits (B5) in Visible on Aerial In ained Leaves (B9) ations: Present? Yesent? Yesent? Idary fringe)	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck So Other (Expla	oly)  11)  rtebrates (I  ilfide Odor  Water Table zospheres o  not tilled)  Reduced Iro  urface (C7)  in in Remai	B13) (C1) e (C2) on Living Ro on (C4) rks)	oots (C3)	Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi FAC-nei Frost Hi	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)
Depth (incommarks: I meets crist present.  I depole imary Indi I Saturatio I Saturatio I Saturatio I Saturatio I Mater Ma I For Depole I Inundatio I Water-Streeld Observer face Water Table Peturation Precludes capil I escribe Recommarks.	teria for Depleted  y  Irology Indicators: cators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) in Deposits (B2) posits (B3) in or Crust (B4) posits (B5) in Visible on Aerial In ained Leaves (B9) ations: Present? Yesent? Yesent? Idary fringe)	f one require	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi (where I Presence of I Thin Muck Si Other (Expla	oly)  11)  rtebrates (I  ilfide Odor  Water Table zospheres o  not tilled)  Reduced Iro  urface (C7)  in in Remai	B13) (C1) e (C2) on Living Ro on (C4) rks)	oots (C3)	Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi FAC-nei Frost Hi	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)
Depth (incommarks: I meets critic present.  I mary Indi I Surface V I High Water Mater Mater Mater Table Presented Describe Recommarks:	teria for Depleted  y  Irology Indicators: cators (minimum of Vater (A1) ter Table (A2) in (A3) arks (B1) in Deposits (B2) posits (B3) in or Crust (B4) posits (B5) in Visible on Aerial In ained Leaves (B9) ations: Present? Yesent? Yesent? Idary fringe)	f one require  aggery (B7)  No (B)  No (B)  No (B)  n gauge, more	d; check all that app Salt Crust (B Aquatic Inve Hydrogen Su Oxidized Rhi (where I Presence of I Thin Muck Si Other (Expla	oly)  11)  rtebrates (I  ilfide Odor  Water Table zospheres o  not tilled)  Reduced Iro  urface (C7)  in in Remai	B13) (C1) e (C2) on Living Ro on (C4) rks)	oots (C3)	Secondary Ir Surface Sparsel Drainag Oxidize (w Crayfish Saturati Geomoi FAC-nei Frost Hi	tation and wetland hydrology are adicators (minimum of two requisoil Cracks (B6) by Vegetated Concave Surface (B8) ge Patterns (B10) d Rhizospheres on Living Roots (C3) there tilled) in Burrows (C8) ion Visible on Aerial Imagery (C9) rphic Position (D2) utral Test (D5) eave Hummocks (D7) (LRR F)

US Army Corps of Engineers Great Plains - Version 2.0

### WETLAND DETERMINATION DATA FORM - Great Plains Region

Sampling Date: 08-Aug-19
ng Point: DP-1W
R 11E
Slope: 1.5 % / 0.9
Datum: WGS 19
ication: Not Mapped
Remarks.) resent? Yes • No •
rs in Remarks.)
, important features, etc.
_
sheet:
cies FAC:3 (A)
nt 3 (B)
pecies or FAC: <u>100.0%</u> (A/B)
sheet:
f: Multiply by:
0 x 1 = 0
80 x 2 = 160
$\frac{0}{2}$ x 3 = $\frac{0}{2}$
$\frac{2}{2}$ x 4 = $\frac{8}{2}$
$\frac{0}{x} = \frac{0}{x}$
82 (A) <u>168</u> (B)
= B/A = <u>2.049</u>
n Indicators:
Hydrophytic Vegetation
st is > 50%
lex is ≤3.0 <sup>1</sup>
Adaptations 1 (Provide supporting
or on a separate sheet)  phytic Vegetation <sup>1</sup> (Explain)
soil and wetland hydrology must
● No ○

US Army Corps of Engineers

Soil Sampling Point: DP-1W

Profile Description: (Desc DepthN	nise to the Iatrix			lox Featu				,		
(inches) Color (m		%	Color (moist)	<u>%</u>	Tvpe 1	Loc <sup>2</sup>	Texture			Remarks
0-4 10YR	4/3	100					Loam			
4-20 10YR	4/1	90	10YR 5/6	10	D	М	Clay Loam	r	nottles	
			-				-			
Type: C=Concentration. D=						ins <sup>2</sup> Loca	ation: PL=Pore Lin			
ydric Soil Indicators: (	Applicable	to all LRR			)		Indicators fo		-	c Soils <sup>3</sup> :
Histosol (A1) Histic Epipedon (A2)			Sandy Gleyed Sandy Redox				=	ck (A9) (LF		N F G III
Black Histic (A3)			Stripped Matri	. ,				rairie Red face (S7) (	ox (A16) (LRF	R F, G, H)
Hydrogen Sulfide (A4)			Loamy Mucky	. ,	:1)			, , ,	sions (F16)	
Stratified Layers (A5) (Li	RR F)		Loamy Gleyed					•	of MLRA 72	and 73)
1 cm Muck (A9) (LRR F,0			✓ Depleted Matr	•	•		_ `	Vertic (F1		
Depleted Below Dark Su			Redox Dark Su	. ,	)			ent Materia	•	
Thick Dark Surface (A12)	)		Depleted Dark	Surface (	F7)				Surface (TF12	2)
Sandy Muck Mineral (S1)	)		Redox depress	sions (F8)			_ ′	xplain in R	•	-,
2.5 cm Mucky Peat or Pe	eat (S2) (LRF	R G, H)	High Plains De	epressions	(F16)		<sup>3</sup> Indicators of	•	•	and wetland
5 cm Mucky Peat or Peat	t (S3) (LRR I	F)	(MLRA 72	and 73 o	of LRR H)					sturbed or problen
strictive Layer (if prese	ent):									
Turnou										
Type:							Hydric Soil Pr	esent?	Yes 💿	No O
Depth (inches):							Hydric Soil Pr	esent?	Yes	No O
							Hydric Soil Pr	esent?	Yes •	No O
Depth (inches):	4 inches.						Hydric Soil Pr	esent?	Yes •	No O
Depth (inches):emarks:	4 inches.						Hydric Soil Pr	esent?	Yes •	No O
Depth (inches):emarks: dox features starting at	4 inches.						Hydric Soil Pr	esent?	Yes •	No O
Depth (inches):emarks: dox features starting at										
Depth (inches):emarks: edox features starting at ydrology	ators:	e required	: check all that an	nlv)			Seconda	ry Indicat	ors (minimu	
Depth (inches):emarks: dox features starting at  ydrology  etland Hydrology Indications (mining)	ators:	e required					Seconda	ry Indicat	ors (minimu Cracks (B6)	um of two requii
Depth (inches):emarks: dox features starting at	ators:	e required	Salt Crust (E	311)	(B13)		Seconda Sur	ry Indicat rface Soil C arsely Vege	ors (minimi Cracks (B6) etated Concav	
Depth (inches):emarks: edox features starting at edox features s	ators:	e required	Salt Crust (E	311) ertebrates	` '		Seconda Sui Spi	ry Indicat rface Soil C arsely Vege ainage Patt	ors (minimu Cracks (B6) etated Concav eerns (B10)	um of two requii ve Surface (B8)
Depth (inches):emarks: edox features starting at edox features s	ators:	e required	Salt Crust (E Aquatic Inve	311) ertebrates ulfide Odo	r (C1)		Seconda Sui Spi	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz	cors (minimu Cracks (B6) etated Concav eerns (B10) cospheres on	um of two requi
pepth (inches): emarks: edox features starting at  ydrology  yetland Hydrology Indicators (minin  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	ators: num of one	e required	Salt Crust (E Aquatic Inve Hydrogen St Dry Season	311) ertebrates ulfide Odo Water Tab	r (C1) ble (C2)	oots (C3)	Seconda Sui Spi V Dra	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz <b>(where</b> t	cors (minimu Cracks (B6) etated Concav terns (B10) cospheres on tilled)	um of two requii ve Surface (B8)
Depth (inches):emarks: edox features starting at edox features at edox fea	ators: num of one	e required	Salt Crust (E Aquatic Inve Hydrogen St Dry Season Oxidized Rh	311) ertebrates ulfide Odo Water Tab izospheres	r (C1) ble (C2) s on Living R	oots (C3)	Seconda Sui Spi Dra Ox	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t	cors (minimu Cracks (B6) etated Concav terns (B10) cospheres on tilled) ows (C8)	um of two requin re Surface (B8) Living Roots (C3)
Depth (inches):  demarks:  dox features starting at  ydrology  /etland Hydrology Indicators (minin  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift deposits (B3)	ators: num of one	e required	Salt Crust (E Aquatic Inve Hydrogen Si Dry Season Oxidized Rh (where	B11) ertebrates ulfide Odo Water Tab izospheres not tilled	r (C1) ble (C2) s on Living R	oots (C3)	Seconda Sur Spr Dra Ox	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis	cors (minimu Cracks (B6) etated Concav eerns (B10) cospheres on tilled) ows (C8) sible on Aeria	um of two requii ve Surface (B8)
pepth (inches): emarks: edox features starting at  ydrology  vetland Hydrology Indicators (mining and	ators: num of one	e required	Salt Crust (E Aquatic Inve Hydrogen St Dry Season Oxidized Rh (where Presence of	B11) ertebrates ulfide Odo Water Tab izospheres not tilled Reduced 1	r (C1) ble (C2) s on Living R  ron (C4)	oots (C3)	Seconda Sur Spr V Dra Ox Cra Sat	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro curation Vis omorphic F	cors (minimum Cracks (B6) etated Concaverns (B10) cospheres on tilled) bws (C8) sible on Aeria Position (D2)	um of two requing re Surface (B8) Living Roots (C3)
Depth (inches):  demarks:  dox features starting at  ydrology  /etland Hydrology Indicators (mining)  Surface Water (A1)  High Water Table (A2)  Z Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)	ators: num of one		Salt Crust (E Aquatic Inve Hydrogen St Dry Season Oxidized Rh (where Presence of Thin Muck S	B11) ertebrates ulfide Odo Water Tab izospheres not tilled Reduced 1 furface (C7	r (C1) ble (C2) s on Living R ) Iron (C4)	oots (C3)	Seconda Sur Spr Dra Ox Cra Sat Ge FA	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T	cors (minimum Cracks (B6) etated Concavers (B10) cospheres on tilled) cospheres on tilled) co	um of two requing e Surface (B8) Living Roots (C3) I Imagery (C9)
Depth (inches): emarks: edox features starting at  ydrology  vetland Hydrology Indicators (minin  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)  Inundation Visible on Ae	ators: num of one		Salt Crust (E Aquatic Inve Hydrogen St Dry Season Oxidized Rh (where Presence of	B11) ertebrates ulfide Odo Water Tab izospheres not tilled Reduced 1 furface (C7	r (C1) ble (C2) s on Living R ) Iron (C4)	oots (C3)	Seconda Sur Spr Dra Ox Cra Sat Ge FA	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T	cors (minimum Cracks (B6) etated Concaverns (B10) cospheres on tilled) bws (C8) sible on Aeria Position (D2)	um of two requing e Surface (B8) Living Roots (C3) I Imagery (C9)
Depth (inches): emarks: dox features starting at  ydrology  /etland Hydrology Indicators (minin 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)	ators: num of one		Salt Crust (E Aquatic Inve Hydrogen St Dry Season Oxidized Rh (where Presence of Thin Muck S	B11) ertebrates ulfide Odo Water Tab izospheres not tilled Reduced 1 furface (C7	r (C1) ble (C2) s on Living R ) Iron (C4)	oots (C3)	Seconda Sur Spr Dra Ox Cra Sat Ge FA	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T	cors (minimum Cracks (B6) etated Concavers (B10) cospheres on tilled) cospheres on tilled) co	um of two requing e Surface (B8) Living Roots (C3) I Imagery (C9)
Depth (inches): emarks: dox features starting at  ydrology  vetland Hydrology Indicators (minim 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) Inundation Visible on Ae Water-Stained Leaves (I ield Observations:	erial Imagen	y (B7)	Salt Crust (E Aquatic Inve Hydrogen St Dry Season Oxidized Rh (where Presence of Thin Muck S Other (Explain	B11) ertebrates ulfide Odo Water Tat izospheres not tilled Reduced I uurface (C7 ain in Rem	r (C1) ble (C2) s on Living R ) Iron (C4)	oots (C3)	Seconda Sur Spr Dra Ox Cra Sat Ge FA	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T	cors (minimum Cracks (B6) etated Concavers (B10) cospheres on tilled) cospheres on tilled) co	um of two requing e Surface (B8) Living Roots (C3) I Imagery (C9)
Depth (inches):  demarks:  dox features starting at a a a control of the starting at a control of the s	erial Imagen	y (B7)	Salt Crust (E Aquatic Inve Hydrogen Si Dry Season Oxidized Rh (where Presence of Thin Muck S Other (Expla	all) ertebrates ulfide Odo Water Tab izospheres not tilled Reduced 1 iurface (C7 ain in Rem	r (C1) ble (C2) s on Living R ) Iron (C4)	oots (C3)	Seconda Sur Spr Dra Ox Cra Sat Ge FA	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T	cors (minimum Cracks (B6) etated Concavers (B10) cospheres on tilled) cospheres on tilled) co	um of two requir ve Surface (B8) Living Roots (C3)
Depth (inches): demarks: dox features starting at  ydrology  /etland Hydrology Indicators (mining) 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) Inundation Visible on Active Water-Stained Leaves (Inches Water Present?  //dield Observations: urface Water Present?	erial Imagen	y (B7) No • No •	Salt Crust (E Aquatic Inve Hydrogen St Dry Season Oxidized Rh (where Presence of Thin Muck S Other (Expla	B11) ertebrates ulfide Odo Water Tat izospheres not tilled Reduced I surface (C7 sin in Rem  thes):	r (C1) ole (C2) s on Living R ) Iron (C4) r) aarks)	_	Seconda Sur Spr Dra Ox Cra Sat Ge FA	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T ost Heave H	cors (minimum Cracks (B6) etated Concavers (B10) cospheres on tilled) cospheres on tilled) co	um of two requing e Surface (B8) Living Roots (C3) I Imagery (C9)
Depth (inches):  demarks:  dox features starting at  ydrology  /etland Hydrology Indicators (mining)  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)  Inundation Visible on Accompany of the Company of t	erial Imagen yes Yes Yes	y (B7)  No   No   No   No   No	Salt Crust (E Aquatic Inve Hydrogen Si Dry Season Oxidized Rh (where Presence of Thin Muck S Other (Expla	and tilled Reduced 1 in Rem  ches):  ches):  ches):  ches):  ches):  ches):  ches):  cheson and series are series and series are series and series are series and series are series and series are series and series and series are series and ser	r (C1) ple (C2) s on Living R ) (ron (C4) ) plarks)	- Wetla	Seconda Sui Spi V Dra Ox Cra Sai Ge V FAI	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T ost Heave H	cors (minimus Cracks (B6) etated Concav cerns (B10) cospheres on tilled) cospheres (bospheres) cospheres (bospheres)	um of two require Surface (B8) Living Roots (C3) I Imagery (C9) 7) (LRR F)
Depth (inches): demarks: dox features starting at  ydrology  /etland Hydrology Indicators (minin 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) Inundation Visible on Ac Water-Stained Leaves (I ield Observations: urface Water Present? //ater Table Present? aturation Present? includes capillary fringe)	erial Imagen yes Yes Yes	y (B7)  No   No   No   No   No	Salt Crust (E Aquatic Inve Hydrogen Si Dry Season Oxidized Rh (where Presence of Thin Muck S Other (Expla	and tilled Reduced 1 in Rem  ches):  ches):  ches):  ches):  ches):  ches):  ches):  cheson and series are series and series are series and series are series and series are series and series are series and series and series are series and ser	r (C1) ple (C2) s on Living R ) (ron (C4) ) plarks)	- Wetla	Seconda Sui Spi V Dra Ox Cra Sai Ge V FAI	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T ost Heave H	cors (minimus Cracks (B6) etated Concav cerns (B10) cospheres on tilled) cospheres (bospheres) cospheres (bospheres)	um of two requing e Surface (B8) Living Roots (C3) I Imagery (C9) 7) (LRR F)
Depth (inches): demarks: dox features starting at  ydrology  Vetland Hydrology Indicators (minin 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) Inundation Visible on Aa Water-Stained Leaves (I ield Observations: urface Water Present? //ater Table Present?	erial Imagen yes Yes Yes	y (B7)  No   No   No   No   No	Salt Crust (E Aquatic Inve Hydrogen Si Dry Season Oxidized Rh (where Presence of Thin Muck S Other (Expla	and tilled Reduced 1 in Rem  ches):  ches):  ches):  ches):  ches):  ches):  ches):  cheson and series are series and series are series and series are series and series are series and series are series and series and series are series and ser	r (C1) ple (C2) s on Living R ) (ron (C4) ) plarks)	- Wetla	Seconda Sui Spi V Dra Ox Cra Sai Ge V FAI	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T ost Heave H	cors (minimus Cracks (B6) etated Concav cerns (B10) cospheres on tilled) cospheres (bospheres) cospheres (bospheres)	um of two require Surface (B8) Living Roots (C3) I Imagery (C9) 7) (LRR F)
Depth (inches):emarks: edox features starting at experiments and experiments are greatly and experiments are greatly at each of the property and experiments are greatly at each of the property at each of the propert	erial Imagen B9)  Yes O Yes O Yes Stream gat	y (B7)  No   No   No   No   No	Salt Crust (E Aquatic Inve Hydrogen Si Dry Season Oxidized Rh (where Presence of Thin Muck S Other (Expla	and tilled Reduced 1 in Rem  ches):  ches):  ches):  ches):  ches):  ches):  ches):  cheson and series are series and series are series and series are series and series are series and series are series and series and series are series and ser	r (C1) ple (C2) s on Living R ) (ron (C4) ) plarks)	- Wetla	Seconda Sui Spi V Dra Ox Cra Sai Ge V FAI	ry Indicat rface Soil C arsely Vege ainage Patt idized Rhiz (where t ayfish Burro turation Vis omorphic F C-neutral T ost Heave H	cors (minimus Cracks (B6) etated Concav cerns (B10) cospheres on tilled) cospheres (bospheres) cospheres (bospheres)	um of two require Surface (B8) Living Roots (C3) I Imagery (C9) 7) (LRR F)

US Army Corps of Engineers Great Plains - Version 2.0

### WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rostad Ranch		c	City/County:	Meagher		Samp	ling Date: 08-	-Aug-19
Applicant/Owner: MDT				State:	: MT S	ampling Point:	DP	-2U
Investigator(s): Mark Traxler, Tanner 1	Гraxler		Section, To		nge: <b>S</b> _12	T_8N	R 11E	
Landform (hillslope, terrace, etc.):	Footslope		Local relief	(concave, o	convex, none): cor	ncave	Slope: 1.0	0 % / <u>0.6</u> °
- Subregion (LRR): LRR F		<b>Lat.:</b> 46.	.463196		Long.: -110.291	.675	Datum:	WGS_19
oil Map Unit Name: Delpoint variant					-	classification:		<u> </u>
e climatic/hydrologic conditions on				s • No		ain in Remarks		
Are Vegetation , Soil		significantly of		Are "N	ormal Circumstan		•	No O
Are Vegetation , Soil ,		naturally pro			eded, explain any a	•		
Summary of Findings - At	_			•	,		•	ures, etc.
Hydrophytic Vegetation Present?	Yes O No 💿				<u> </u>			
Hydric Soil Present?	Yes O No 💿			Sampled A		)		
Wetland Hydrology Present?	Yes O No 💿		withi	n a Wetland	<sub>I?</sub> Yes O No 🖲	<i>y</i>		
Remarks:								
Soil moist to surface but no hydrolo	ogy.							
VEGETATION - Use scien	tific names of pl	ants	Dominant	FWS Re	gion: GP			
			_Species? Rel.Strat.	Indicator		worksheet:		
Tree Stratum (Plot size: 30 Foot	Radius )	% Cover		Status	Number of Domina			
1					That are OBL, FAC		1_	(A)
2		0	<u> </u>		Total Number of D	lominant		
3		0			Species Across All		4	(B)
4					Davaget of dami	nant Cassiss		
_Sapling/Shrub Stratum_ (Plot size:	15 Foot Radius \	0	= Total Co	ver	Percent of domine That Are OBL, F	•	25.0%	(A/B)
		0			,			
1 2.					Prevalence Index		4 li: 1 l	
2					Total % Co		$\begin{array}{ccc} \text{1ultiply by:} \\ 1 & 1 & 0 \end{array}$	_
4.					FACW species			5
5.		0			FAC species		-	)
		0	= Total Co	ver	FACU species		$4 = \frac{160}{}$	_
<b>Herb Stratum</b> (Plot size: 5 Foot F	ladius )				UPL species		$5 = \frac{100}{100}$	
		20	24.1%	FACU		•	` •	_
		20	24.1%	FACW	Column Totals		(A) <u>30</u> 6	
			24.1%	UPL	Prevalence 1	Index = B/A =	3.687	-
4. Elymus trachycaulus			24.1%	FACU	Hydrophytic Veg	etation Indicat	ors:	
6			2.4%	FACW	1 - Ranid Te	st for Hydroph	vtic Vegetatio	n
7			0.0%	FACW		ice Test is > 50		
8			0.0%			ce Index is ≤3		
9			0.0%			ogical Adaptati		sunnortina
10.		0	0.0%			marks or on a		
		83	= Total Co	ver	Problematic	Hydrophytic V	egetation $^1$ (Ex	plain)
Woody Vine Stratum (Plot size:	30 Foot Radius )				<sup>1</sup> Indicators of I	hydric soil and	wetland hydre	ology must
1		0			be present.	-		
2.								
-			= Total Co	ver	Hydrophytic			
% Bare Ground in Herb Stratum	17				Vegetation Present?	Yes O No	•	
					Present			
Remarks:								
Plot dominated by FACU and UPL s	pecies.							

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Soil Sampling Point: DP-2U

Depth inches         Matrix         Redox Features           0-10         10YR         3/2         100    Redox Features  Color (moist) % Type 1 Loc2	
0-10 10YR 3/2 100	
0 10 10 10 N 5/2 100	Loam roots and earthworms
10-20 10YR 4/2 100	Clay Loam
	<u> </u>
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2l	Location: PL=Pore Lining. M=Matrix
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1) Sandy Gleyed Matrix S4	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2) Sandy Redox (S5)	Coastal Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3) Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1)  Stratified Layers (A5) (LRR F) Loamy Gleved Matrix (F2)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)  Loamy Gleyed Matrix (F2)  1 cm Muck (A9) (LRR F,G,H)  Depleted Matrix (F3)	(LRR H outside of MLRA 72 and 73)
Depleted Below Dark Surface (A11)  Redox Dark Surface (F6)	Reduced Vertic (F18)
Thick Dark Surface (A12)  Depleted Dark Surface (F7)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)
Sandy Muck Mineral (S1) Redox depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 and 73 of LRR H)	hydrology must be present, unless disturbed or problem
strictive Layer (if present):	
Type:	-
Depth (inches):	Hydric Soil Present? Yes No •
emarks:	
hydric soil indicators observed.	
,,	
vdrology	
etland Hydrology Indicators:	Secondary Indicators (minimum of two requi
etland Hydrology Indicators: imary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two requi
rimary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Salt Crust (B11)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Aquatic Invertebrates (B13)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)	Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C2)  Drift deposits (B3) (where not tilled)	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C Drift deposits (B3)  Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)
imary Indicators (minimum of one required; check all that apply)  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)  Salt Crust (B11)  Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1)  Dry Season Water Table (C2)  Oxidized Rhizospheres on Living Roots (C	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C Drift deposits (B3) (where not tilled)  Algal Mat or Crust (B4) Presence of Reduced Iron (C4)  Iron Deposits (B5) Thin Muck Surface (C7)  Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)  Water-Stained Leaves (B9)	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C Drift deposits (B3) (where not tilled)  Algal Mat or Crust (B4) Presence of Reduced Iron (C4)  Iron Deposits (B5) Thin Muck Surface (C7)  Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)  Water-Stained Leaves (B9)	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C Oxidized Rhizospheres (C Oxidi	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)  Frost Heave Hummocks (D7) (LRR F)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C Drift deposits (B3) (where not tilled)  Algal Mat or Crust (B4) Presence of Reduced Iron (C4)  Iron Deposits (B5) Thin Muck Surface (C7)  Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)  Water-Stained Leaves (B9)  Peld Observations:  rface Water Present? Yes No Depth (inches):  Depth (inches):	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1) Salt Crust (B11)  High Water Table (A2) Aquatic Invertebrates (B13)  Saturation (A3) Hydrogen Sulfide Odor (C1)  Water Marks (B1) Dry Season Water Table (C2)  Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C Drift deposits (B3) (where not tilled)  Algal Mat or Crust (B4) Presence of Reduced Iron (C4)  Iron Deposits (B5) Thin Muck Surface (C7)  Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks)  Water-Stained Leaves (B9)  Peld Observations:  Ifface Water Present? Yes No Depth (inches):  Depth (inches):	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)  Frost Heave Hummocks (D7) (LRR F)
imary Indicators (minimum of one required; check all that apply)  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)  Inundation Visible on Aerial Imagery (B7)  Water Stained Leaves (B9)  Peld Observations:  Irface Water Present?  Yes  No  Depth (inches):  The Muck Surface (C7)  Depth (inches):  Depth (inches):  Depth (inches):  Water Stained Leaves (B9)	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)  Frost Heave Hummocks (D7) (LRR F)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1)	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)  Frost Heave Hummocks (D7) (LRR F)
imary Indicators (minimum of one required; check all that apply)  Surface Water (A1)	Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)  Oxidized Rhizospheres on Living Roots (C3)  (where tilled)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  FAC-neutral Test (D5)  Frost Heave Hummocks (D7) (LRR F)

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#### WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rostad Ranch		City/County:	Meagher	Sampling Date: 08-Aug-19									
pplicant/Owner: MDT			State:	e: MT Sampling Point: DP-2W									
nvestigator(s): Mark Traxler, Tanner Traxler		Section, To		ange: S 12 T 8N R 11E									
Landform (hillslope, terrace, etc.): Lowland		Local relief	(concave, c	convex, none): concave Slope: 1.5 % / 0.9									
ubregion (LRR): LRR F	 Lat.: 46	.463243		Long.: -110.291840 Datum: WGS 19									
oil Map Unit Name: Delpoint variant-Marmarth-Cabbart				NWI classification: Not Mapped									
e climatic/hydrologic conditions on the site typical for			s • No C										
Are Vegetation , Soil , or Hydrology	_			Normal Circumstances" present? Yes  No  No									
Are Vegetation , Soil , or Hydrology	_ ,			eded, explain any answers in Remarks.)									
			•	cations, transects, important features, etc									
Hydrophytic Vegetation Present? Yes No													
Hydric Soil Present? Yes No		Is the Sampled Area											
Wetland Hydrology Present? Yes No		within	a Wetland	<sub>d?</sub> Yes ◉ No ○									
Remarks:													
Wetland data point in NE corner of site.													
VEGETATION - Use scientific names of	plants	Dominant Species 2	FWS Re	egion: GP									
		Species? Rel.Strat.	Indicator	Dominance Test worksheet:									
<u>Tree Stratum</u> (Plot size: <u>30 Foot Radius</u> )	% Cover	Cover	Status	Number of Dominant Species									
1		<u> </u>		That are OBL, FACW, or FAC: (A)									
2	0			Total Number of Dominant									
4.				Species Across All Strata: (B)									
·	0	= Total Co		Percent of dominant Species									
Sapling/Shrub Stratum (Plot size: 15 Foot Radius )		- 10tai Co	VEI	That Are OBL, FACW, or FAC: 100.0% (A/B)									
1.	0			Prevalence Index worksheet:									
2			-	Total % Cover of: Multiply by:									
3	0			OBL species 0 x 1 = 0									
4				FACW species $100 \times 2 = 200$									
5		<u> </u>		FAC species $0 \times 3 = 0$									
(State Section 1)	0	= Total Co	ver	FACU species $0 \times 4 = 0$									
Herb Stratum (Plot size: 5 Foot Radius )				UPL species $0 \times 5 = 0$									
1. Juncus balticus		50.0%	FACW	Column Totals: 100 (A) 200 (B)									
Phalaris arundinacea     3.		50.0%	FACW										
Δ		0.0%		Prevalence Index = B/A =2									
5.		0.0%		Hydrophytic Vegetation Indicators:									
6.		0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation									
7.	0	0.0%		✓ 2 - Dominance Test is > 50%									
8.	0	0.0%		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>									
9.				4 - Morphological Adaptations (Provide supporting									
10.				data in Remarks or on a separate sheet)									
	100	= Total Co	ver	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)									
Woody Vine Stratum (Plot size: 30 Foot Radius )				$^{1}$ Indicators of hydric soil and wetland hydrology must be present.									
1				be present.									
2.													
<u>-</u> -	•	= Total Co	ver	Hydrophytic									
	0			Vegetation									
% Bare Ground in Herb Stratum 0				Present? Yes No No									

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Soil Sampling Point: DP-2W

Depth (inches)		ille deptil liee			or confirm the	e absence of indicators.)
	Matrix Color (moist)	%	Red Color (moist)	ox FeaturesTvp	e <sup>1</sup> Loc²	
0-20	10YR 4/2		10YR 5/8	20 D		Clay Loam
	10110 1/2		3,0			
-						
1Type: C=Co	ncentration. D=Depletio	n. RM=Reduced	d Matrix, CS=Covere	d or Coated San	d Grains <sup>2</sup> Loo	cation: PL=Pore Lining, M=Matrix
	Indicators: (Applicab					Indicators for Problematic Hydric Soils 3:
Histosol (	(A1)		Sandy Gleyed	Matrix S4		1 cm Muck (A9) (LRR I, J)
	ipedon (A2)		Sandy Redox (	•		Coastal Prairie Redox (A16) (LRR F, G, H)
Black His	` '		Stripped Matrix			Dark Surface (S7) (LRR G)
_ ′ -	n Sulfide (A4) Layers (A5) (LRR F)		Loamy Mucky I Loamy Gleyed			High Plains Depressions (F16)
	ck (A9) (LRR F,G,H)		✓ Depleted Matri			(LRR H outside of MLRA 72 and 73)  Reduced Vertic (F18)
Depleted	Below Dark Surface (A1	1)	Redox Dark Su	rface (F6)		Red Parent Material (TF2)
	rk Surface (A12)		Depleted Dark	٠,		Very Shallow Dark Surface (TF12)
	uck Mineral (S1)	IDD C 11)	Redox depress	` '		Other (Explain in Remarks)
	lucky Peat or Peat (S2) (I cky Peat or Peat (S3) (LR			pressions (F16) <b>and 73 of LRR</b>	ш\	<sup>3</sup> Indicators of hydrophytic vegetation and wetland
		.K.I.)	(MERA 72	aliu 73 UI LKK	'''	hydrology must be present, unless disturbed or problematic.
Type:	.ayer (if present):					
Depth (inc	hes).					Hydric Soil Present? Yes   No
Remarks:			_			
Prominent re	dov features					
T TOTTILLETIC TE	dox reatures.					
Hydrolog	У					
Wetland Hyd	drology Indicators:					Secondary Indicators (minimum of two required)
Primary Ind	icators (minimum of o	one required;	check all that app	ly)		Surface Soil Cracks (B6)
Surface \	Water (A1)		Salt Crust (B	11)		
High Wa	ter Table (A2)		Aquatic Inve	rtebrates (B13)		Sparsely Vegetated Concave Surface (B8)
C_1	on (A3)					Sparsely Vegetated Concave Surface (B8)  Drainage Patterns (B10)
				lfide Odor (C1)		
Water Ma	` '		Dry Season \	Vater Table (C2)		<ul><li>Drainage Patterns (B10)</li><li>Oxidized Rhizospheres on Living Roots (C3)</li><li>(where tilled)</li></ul>
Water Ma	t Deposits (B2)		Dry Season \ Oxidized Rhi	Vater Table (C2) zospheres on Liv		☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres on Living Roots (C3) <b>(where tilled)</b> ☐ Crayfish Burrows (C8)
Water Maler	t Deposits (B2) posits (B3)		Dry Season \ Oxidized Rhi (where I	Vater Table (C2) zospheres on Liv not tilled)	ing Roots (C3)	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Water Malander Maland	t Deposits (B2) posits (B3) t or Crust (B4)		Dry Season V Oxidized Rhi (where I	Vater Table (C2) zospheres on Liv not tilled) Reduced Iron (C4	ing Roots (C3)	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Water Mail Sedimen Drift dep Algal Mail Iron Dep	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5)	nery (R7)	Dry Season N Oxidized Rhi (where I Presence of I Thin Muck So	Vater Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7)	ing Roots (C3)	<ul> <li>□ Drainage Patterns (B10)</li> <li>□ Oxidized Rhizospheres on Living Roots (C3)</li> <li><b>(where tilled)</b></li> <li>□ Crayfish Burrows (C8)</li> <li>□ Saturation Visible on Aerial Imagery (C9)</li> <li>□ Geomorphic Position (D2)</li> <li>✓ FAC-neutral Test (D5)</li> </ul>
Water Mail Sediment Drift dep Algal Mail Iron Dep Inundation	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Imag	gery (B7)	Dry Season N Oxidized Rhi (where I Presence of I Thin Muck So	Vater Table (C2) zospheres on Liv not tilled) Reduced Iron (C4	ing Roots (C3)	Drainage Patterns (B10) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Water Mi Sedimen Drift dep Algal Mai Iron Dep Inundati	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Imag	gery (B7)	Dry Season N Oxidized Rhi (where I Presence of I Thin Muck So	Vater Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7)	ing Roots (C3)	<ul> <li>□ Drainage Patterns (B10)</li> <li>□ Oxidized Rhizospheres on Living Roots (C3)</li> <li><b>(where tilled)</b></li> <li>□ Crayfish Burrows (C8)</li> <li>□ Saturation Visible on Aerial Imagery (C9)</li> <li>□ Geomorphic Position (D2)</li> <li>✓ FAC-neutral Test (D5)</li> </ul>
Water Mi Sedimen Drift dep Algal Mai Iron Dep Inundati Water-St	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Imagianed Leaves (B9) rations:		Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck Si	Vater Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7) in in Remarks)	ing Roots (C3)	<ul> <li>□ Drainage Patterns (B10)</li> <li>□ Oxidized Rhizospheres on Living Roots (C3)</li> <li><b>(where tilled)</b></li> <li>□ Crayfish Burrows (C8)</li> <li>□ Saturation Visible on Aerial Imagery (C9)</li> <li>□ Geomorphic Position (D2)</li> <li>✓ FAC-neutral Test (D5)</li> </ul>
Water Mail Sediment Drift dep Algal Mail Iron Dep Inundation Water-St Field Observ Surface Water	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Imagianed Leaves (B9) rations: Present? Yes	○ No	Dry Season V Oxidized Rhi (where I Presence of I Thin Muck St Other (Expla	Water Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7) in in Remarks)	ing Roots (C3)	<ul> <li>□ Drainage Patterns (B10)</li> <li>□ Oxidized Rhizospheres on Living Roots (C3)</li> <li><b>(where tilled)</b></li> <li>□ Crayfish Burrows (C8)</li> <li>□ Saturation Visible on Aerial Imagery (C9)</li> <li>□ Geomorphic Position (D2)</li> <li>✓ FAC-neutral Test (D5)</li> </ul>
Water Mi Sedimen Drift dep Algal Mai Iron Dep Inundati Water-St Field Observ Surface Water Water Table P	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Imagrained Leaves (B9) prations: Present? Yes	○ No	Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck St Other (Expla	Water Table (C2) zospheres on Liv not tilled) Reduced Iron (C2 urface (C7) in in Remarks)  mes):	ing Roots (C3)	<ul> <li>□ Drainage Patterns (B10)</li> <li>□ Oxidized Rhizospheres on Living Roots (C3)</li> <li><b>(where tilled)</b></li> <li>□ Crayfish Burrows (C8)</li> <li>□ Saturation Visible on Aerial Imagery (C9)</li> <li>□ Geomorphic Position (D2)</li> <li>✓ FAC-neutral Test (D5)</li> </ul>
Water Mail Sediment Drift dep Algal Mail Iron Dep Inundation Water-St Field Observ Surface Water	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Imagentaried Leaves (B9)  vations: Present? Yes esent? Yes	○ No	Dry Season V Oxidized Rhi (where I Presence of I Thin Muck St Other (Expla	Water Table (C2) zospheres on Liv not tilled) Reduced Iron (C2 urface (C7) in in Remarks)  mes):	ing Roots (C3)	<ul> <li>□ Drainage Patterns (B10)</li> <li>□ Oxidized Rhizospheres on Living Roots (C3)</li> <li><b>(where tilled)</b></li> <li>□ Crayfish Burrows (C8)</li> <li>□ Saturation Visible on Aerial Imagery (C9)</li> <li>□ Geomorphic Position (D2)</li> <li>▼ FAC-neutral Test (D5)</li> <li>□ Frost Heave Hummocks (D7) (LRR F)</li> </ul>
Water Mi Sedimen Drift dep Algal Mai Iron Dep Inundati Water-St Field Observ Surface Water Water Table P Saturation Pre (includes capil	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Imagentaried Leaves (B9)  vations: Present? Yes esent? Yes	No • No • No •	Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck Si Other (Expla)  Depth (incl Depth (incl	Vater Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7) in in Remarks)  nes):	ing Roots (C3)	□ Drainage Patterns (B10) □ Oxidized Rhizospheres on Living Roots (C3)
Water Mi Sedimen Drift dep Algal Mai Iron Dep Inundati Water-St Field Observ Surface Water Water Table P Saturation Pre (includes capid Describe Red	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Image tained Leaves (B9) vations: Present? Present? Yes esent? Ilary fringe) Yes esents	No • No • No •	Dry Season \ Oxidized Rhi (where I Presence of I Thin Muck Si Other (Expla)  Depth (incl Depth (incl	Vater Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7) in in Remarks)  nes):	ing Roots (C3)	□ Drainage Patterns (B10) □ Oxidized Rhizospheres on Living Roots (C3)
Water Mail Sediment Sediment Drift dep Algal Mail Iron Dep Inundation Water-St Field Observ Surface Water Water Table P Saturation Precincludes capil Describe Rec	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Image tained Leaves (B9)  vations: Present? Present.	No No No O	Dry Season N Oxidized Rhi (where I Presence of I Thin Muck St Other (Expla)  Depth (incl Depth (incl Depth (incl or well, aerial pho	Water Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7) in in Remarks)  nes): nes): tos, previous in	Wet	□ Drainage Patterns (B10) □ Oxidized Rhizospheres on Living Roots (C3)
Water Mail Sediment Sediment Drift dep Algal Mail Iron Dep Inundation Water-St Field Observ Surface Water Water Table P Saturation Precincludes capil Describe Rec	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Image tained Leaves (B9) vations: Present? Present? Yes esent? Ilary fringe) Yes esents	No No No O	Dry Season N Oxidized Rhi (where I Presence of I Thin Muck St Other (Expla)  Depth (incl Depth (incl Depth (incl or well, aerial pho	Water Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7) in in Remarks)  nes): nes): tos, previous in	Wet	□ Drainage Patterns (B10) □ Oxidized Rhizospheres on Living Roots (C3)
Water Mail Sediment Drift dep Algal Mail Iron Dep Inundation Water-St  Field Observ Surface Water Water Table P Saturation Precincludes capil Describe Reconstruction Remarks:	t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) on Visible on Aerial Image tained Leaves (B9)  vations: Present? Present.	No No No O	Dry Season N Oxidized Rhi (where I Presence of I Thin Muck St Other (Expla)  Depth (incl Depth (incl Depth (incl or well, aerial pho	Water Table (C2) zospheres on Liv not tilled) Reduced Iron (C4 urface (C7) in in Remarks)  nes): nes): tos, previous in	Wet	□ Drainage Patterns (B10) □ Oxidized Rhizospheres on Living Roots (C3)

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#### WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rostad Ranch	Ci	ity/County: Meagher	Sampling Date: 08-Aug-19
Applicant/Owner: MDT		Sta	ate: MT Sampling Point: DP-3U
Investigator(s): Mark Traxler, Tanner Traxler		Section, Township,	
Landform (hillslope, terrace, etc.): Footslope		Local relief (concave	e, convex, none): <u>concave</u> Slope: <u>1.0</u> % / <u>0.6</u> °
Subregion (LRR): LRR F	<b>Lat.:</b> 46.4	462029	Long.: -110.295224
Soil Map Unit Name: Delpoint variant-Marmarth-Cabbart loan	m, 2 to 8 perce	ent slopes	NWI classification: Not Mapped
re 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 d	listurbed? Are	"Normal Circumstances" present? Yes   No
Are Vegetation, Soil, or Hydrology	naturally prob	olematic? (If	needed, explain any answers in Remarks.)
Summary of Findings - Attach site map sh	owing sa	mpling point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No   No		Is the Sample	d Area
Hydric Soil Present? Yes ○ No •		-	and? Yes ○ No •
Wetland Hydrology Present? Yes No		within a wetia	and? 165 6 116 6
Remarks: Located near end of Transect 2.  VEGETATION - Use scientific names of pl	ants		Region: GP
(5)		Species? Rel.Strat. Indicat	tor Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30 Foot Radius )	<u><b>% Cover</b></u> 0	Cover Status	Number of Dominant Species
1 2			That are OBL, FACW, or FAC:1(A)
3.			Total Number of Dominant Species Across All Strata: 3 (B)
4.	0		
	0	= Total Cover	Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)
1.	0		Prevalence Index worksheet:
2	0		Total % Cover of: Multiply by:
3			OBL species x 1 =
4			FACW species35 x 2 =70
J		_ Total Cover	FAC species $0 \times 3 = 0$
Herb Stratum (Plot size: 5 Foot Radius )	0	= Total Cover	FACU species $\underline{20}$ x 4 = $\underline{80}$
1. Bromus inermis	40	<b>✓</b> 42.1% UPL	UPL species $\frac{40}{}$ x 5 = $\frac{200}{}$
Poa palustris		✓ 42.1% OF L  ✓ 31.6% FACW	Column Totals: <u>95</u> (A) <u>350</u> (B)
3. Phleum pratense		<b>✓</b> 21.1% FACU	Prevalence Index = B/A = 3.684
4. Phalaris arundinacea	5	5.3%FACW_	Hydrophytic Vegetation Indicators:
5	0		Bouid Took for Understanding
6. 7.		0.0%	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50%
8.		0.0%	3 - Prevalence Index is ≤ 3.0 <sup>1</sup>
9.		0.0%	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
10.	0	0.0%	data in Remarks or on a separate sheet)
	95	= Total Cover	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
			$^{\mathrm{1}}$ Indicators of hydric soil and wetland hydrology must be present.
1	0		— De present.
2		<u> </u>	
% Bare Ground in Herb Stratum _5	0	= Total Cover	Hydrophytic Vegetation Present?  Yes ○ No ●
Remarks:			
Data point is very close to upland/wetland boundary and in	ncludes a co-de	ominance of upland	and wetland species.

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Soil Sampling Point: DP-3U

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	Clay Loam earthworms  ocation: PL=Pore Lining. M=Matrix
1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Lc  Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	ocation: PL=Pore Lining. M=Matrix
lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosol (A1)  Sandy Gleyed Matrix S4	
Histosol (A1) Sandy Gleyed Matrix S4	
	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histor Francisco (A2)	1 cm Muck (A9) (LRR I, J)
Histic Epipedon (A2) ☐ Sandy Redox (S5)  Black Histic (A3) ☐ Stripped Matrix (S6)	Coastal Prairie Redox (A16) (LRR F, G, H)  Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)  Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 and 73)
1 cm Muck (A9) (LRR F,G,H) Depleted Matrix (F3)	Reduced Vertic (F18)
Depleted Below Dark Surface (A11) Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12) Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Sandy Muck Mineral (S1) Redox depressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 and 73 of LRR H)	hydrology must be present, unless disturbed or problem
estrictive Layer (if present):	
Type:	
Depth (inches):	Hydric Soil Present? Yes ○ No ●
Remarks:	
lo hydric soil indicators observed. Earthworms in pit.	
o nyane son maleacors osserved Editino no più	
ydrology	
/etland Hydrology Indicators:	Secondary Indicators (minimum of two require
rimary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Salt Crust (B11)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)  Aquatic Invertebrates (B13)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor (C1)	Oxidized Rhizospheres on Living Roots (C3)
Water Marks (B1) Dry Season Water Table (C2)	(where tilled)
Sediment Deposits (B2)	
Drift deposits (B3) (where not tilled)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7)	FAC-neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)	Frost Heave Hummocks (D7) (LRR F)
Other (Explain in Remarks)	Trost reave numinocks (D7) (ERR 1)
Mateur Chained Leaves (DO)	
Water-Stained Leaves (B9)	
ield Observations:	
Field Observations: Surface Water Present?  Yes No  Depth (inches):	
Field Observations:  Surface Water Present?  Yes No Depth (inches):  Vater Table Present?  Yes No Depth (inches):	
Field Observations:  Furface Water Present? Yes No Depth (inches):  Vater Table Present? Yes No Depth (inches):  Furface Water Present? Yes No Depth (inches):  We Depth (inches):	etland Hydrology Present? Yes O No 💿
Field Observations:  Surface Water Present?  Ves No Depth (inches):  Water Table Present?  Yes No Depth (inches):  We includes capillary fringe)  We Depth (inches):  We Depth (inches):	
Field Observations:  Surface Water Present?  Ves No Depth (inches):  Water Table Present?  Yes No Depth (inches):  We includes capillary fringe)  We Depth (inches):  We Depth (inches):	
Field Observations: Sourface Water Present?  Yes No Depth (inches): Vater Table Present?  Yes No Depth (inches): Solution Present?  Yes No Depth (inches):  We Depth (inches):  Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections),	
Field Observations:  Surface Water Present?  Yes No Depth (inches):  Water Table Present?  Yes No Depth (inches):  Ween Depth (inches):  Ween Depth (inches):  Ween Depth (inches):	
Field Observations: Sourface Water Present?  Yes No Depth (inches): Sourface Water Present?  We Depth (inches): Sourface Water Present?  Yes No Depth (inches): Sourface Water Present?  We Depth (inches): Sourface Water Present?  We Depth (inches): Sourface Water Present?  Yes No Depth (inches): Sourface Water Present?  We Depth (inches): Sourface Water Present.  We Depth (inches): Sourface Water	

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#### WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Rostad Ranch	c	City/County:	Meagher	Sampling Date: 08-Aug-19					
Applicant/Owner: MDT			State:	: MT Sampling Point:	: DP-3W				
Investigator(s): Mark Traxler, Tanner Traxler		Section, To	wnship, Ra	nge: S 12 T 8N	R 11E				
Landform (hillslope, terrace, etc.): Lowland		Local relief	(concave, c	convex, none): concave	Slope: 0.0 % / 0.0 °				
Gubregion (LRR): LRR F	<b>Lat.:</b> 46.	.462084		<b>Long.:</b> -110.295312	Datum: WGS_19				
oil Map Unit Name: Delpoint variant-Marmarth-Cabbart loar	— — — m. 2 to 8 perc	rent slopes		NWI classification:	Not Mapped				
e climatic/hydrologic conditions on the site typical for this			s • No						
Are Vegetation , Soil , or Hydrology	significantly of	disturbed?	Are "N	ormal Circumstances" present?	Yes   No				
	naturally pro	blematic?		eded, explain any answers in Rei					
Summary of Findings - Attach site map sh			•	,	•				
Hydrophytic Vegetation Present? Yes  No									
Hydric Soil Present? Yes • No •			Sampled A						
Wetland Hydrology Present? Yes  No		withir	a Wetland	<sub>1?</sub> Yes • No ·					
Remarks:									
Located near end of Transect 2.									
VEGETATION - Use scientific names of pla	ants	Dominant	FWS Re	gion: GP					
	Absolute	Species? Rel.Strat.	Indicator	Dominance Test worksheet:					
<u>Tree Stratum</u> (Plot size: 30 Foot Radius )	% Cover	Cover	Status	Number of Dominant Species					
1				That are OBL, FACW, or FAC:	(A)				
2	0			Total Number of Dominant					
3. 4.		<u> </u>		Species Across All Strata:	(B)				
T		= Total Co		Percent of dominant Species					
	0	= 10(a) Co	ver	That Are OBL, FACW, or FAC:	100.0% (A/B)				
1.	0			Prevalence Index worksheet:					
2.	0				Multiply by:				
3.	0				x 1 =0				
4				FACW species 75	x 2 = 150				
5				FAC species0	x 3 =0				
	0	= Total Co	ver	FACU species 20	x 4 = <u>80</u>				
Herb Stratum (Plot size: 5 Foot Radius )				UPL species0	x 5 = 0				
Phalaris arundinacea     Juncus balticus		✓ 57.9% ✓ 21.1%	FACW	Column Totals: 95	(A) <u>230</u> (B)				
2 811 .		15.8%	FACU FACU	Prevalence Index = B/A =	2.421				
Phieum pratense     Poa pratensis		5.3%	FACU						
5.		0.0%		Hydrophytic Vegetation Indica	tors:				
6.		0.0%		✓ 1 - Rapid Test for Hydroph	ytic Vegetation				
7.	0			2 - Dominance Test is > 50					
8.	0	0.0%		✓ 3 - Prevalence Index is ≤3	3.0 <sup>1</sup>				
10.				4 - Morphological Adaptati					
	0			data in Remarks or on a  Problematic Hydrophytic N	• •				
(D)	95	= Total Co	ver						
Woody Vine Stratum (Plot size: 30 Foot Radius )	_			Indicators of hydric soil and be present.	wetland hydrology must				
1 2.		Ц		-					
۷				Undrambustia					
0/ Barra Creared in Harb Streeture	0	= Total Co	ver	Hydrophytic Vegetation Present?  Yes No					
% Bare Ground in Herb Stratum 5				Present? Yes No					
Remarks:									
Phalaris-dominated.									

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Soil Sampling Point: DP-3W

Profile Desc	cription: (Describ	e to the depth	needed to document	t the ind	icator or co	nfirm the	absence of indicators	s.)	
Depth (inches)	Matr		Rec	dox Feat	ures Tvpe <sup>1</sup>	Loc <sup>2</sup>	Texture	D.	marks
(inches) 0-10			Color (moist)	90	TVDE	LOC-	Loam	roots	marks
			10)/D 5/0						
10-20	10YR 3/	2 90	10YR 5/8	10	_ <u>D</u>	M	Clay Loam		
-				-					
′′			duced Matrix, CS=Cover			ins <sup>2</sup> Loca	ation: PL=Pore Lining. N		2
		licable to all L	RRs, unless otherwis		-			oblematic Hydric	Soils 3:
Histosol	(AI) pipedon (A2)		Sandy Gleyed Sandy Redox		+		1 cm Muck (As	9) (LRR I, J) Redox (A16) (LRR F	- C H)
Black His	. ,		Stripped Matri	. ,			Dark Surface (		-, G, П)
	n Sulfide (A4)		Loamy Mucky	. ,	F1)		= `	pressions (F16)	
Stratified	d Layers (A5) (LRR F	=)	Loamy Gleyed	l Matrix (F	<sup>2</sup> 2)		(LRR H ou	side of MLRA 72 a	nd 73)
	ck (A9) (LRR F,G,H)		✓ Depleted Mati	. ,			Reduced Verti	c (F18)	
	Below Dark Surfac	e (A11)	Redox Dark S	•	•		Red Parent Ma	terial (TF2)	
	ork Surface (A12)		Depleted Dark		. ,		_ '	Dark Surface (TF12)	
_ ′	uck Mineral (S1) Jucky Peat or Peat (	(S2) (IDD C H)	Redox depres High Plains De	. ,			Other (Explain	•	
	cky Peat or Peat (S	, , , ,		•	of LRR H)		<sup>3</sup> Indicators of hydro		nd wetland Irbed or problematic.
	Layer (if present)		(1.2.7.2				Trydrology mast be	present, amess dist	arbed of problematic.
Type:	Layer (II present)	•							
Depth (in	ches):						Hydric Soil Present	:? Yes 💿 I	No O
Remarks:	,						1		
Prominent re	edox features belo	ων 10"							
T TOTTILLE TO	odox reacares ben	,,, 10 .							
Hydrolog	IY								
Wetland Hy	drology Indicator	's:					Secondary Inc	dicators (minimun	n of two required)
Primary Ind	licators (minimun	n of one requir	ed; check all that ap	ply)			Surface :	Soil Cracks (B6)	
Surface	Water (A1)		Salt Crust (I	311)			Sparsely	Vegetated Concave	Surface (B8)
High Wa	ater Table (A2)		Aquatic Inve	ertebrates	(B13)		Drainage	Patterns (B10)	
Saturation	on (A3)		Hydrogen S	ulfide Odd	or (C1)		Oxidized	Rhizospheres on Liv	ing Roots (C3)
Water M	larks (B1)		Dry Season	Water Ta	ble (C2)		(wh	ere tilled)	
	nt Deposits (B2)		Oxidized Rh	izosphere	s on Living R	oots (C3)	Crayfish	Burrows (C8)	
☐ Drift dep	posits (B3)		(where	not tilled	i)		Saturation	on Visible on Aerial I	magery (C9)
Algal Ma	at or Crust (B4)		Presence of	Reduced	Iron (C4)		✓ Geomorp	ohic Position (D2)	
Iron Dep	posits (B5)		Thin Muck S	Surface (C	7)		✓ FAC-neu	tral Test (D5)	
Inundati	ion Visible on Aerial	Imagery (B7)	Other (Expl	ain in Ren	narks)		Frost He	ave Hummocks (D7)	(LRR F)
Water-S	tained Leaves (B9)								
Field Observ									
Surface Wate		Yes O No		ches):		-			
Water Table I	Present?	Yes O No	Depth (inc	ches):		- Worls	and Hydrology Preser	nt? Yes 💿	No O
Saturation Pro (includes capi		res 🔾 No '	<ul><li>Depth (inc</li></ul>	ches):		_ Wetia	and nydrology Preser	itr les 🔾	NO C
		eam gauge, mo	onitor well, aerial pho	otos, pre	vious inspe	ctions), if	available:		
Remarks:									
	,	,	was completed later	in seaso	on than usu	al and are	a had dried out over	the summer. This	area is typically
saturated du	uring most of gro	wing season.							

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#### MDT MONTANA WETLAND ASSESSMENT FORM (revised March 2008)

١.	Project Name: Rostad Rancr	1 2. MIDI Project #: 51PX-00	02(749) 3. Control #: 5565		
3.	Evaluation Date: August 8, 2	019 4. Evaluator(s): M. Trax	ler, T. Traxler 5. Wetland/Site	#(s): Rostad Mitigation Site	
6.	Wetland Location(s): Towns	ship <u>8 N,</u> Range <u>11 E</u> , Section <u>1</u>	<u>12;</u> Township <u>8 N</u> , Range <u>11 E</u> ,	Section 13	
	Approximate Stationing or F	Roadposts:			
	Watershed: 10 - Musselshel	County: Meagher			
7.	Evaluating Agency: RESPECT Purpose of Evaluation:  Wetland potentially affect Mitigation wetlands; promotion Mitigation wetlands; pool Other	ected by MDT project e-construction	, ,	: (visually estimated)  28.86 (measured, e.g. GPS)  AA) Size (acre): (visually remining AA)  28.86 (measured)	
1(	). CLASSIFICATION OF WET	LAND AND AQUATIC HABITA	ATS IN AA (See manual for def	initions.)	
	HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% OF AA
	Slope	Emergent Wetland	Excavated	Seasonal / Intermittent	78
	Slope	Scrub-Shrub Wetland		Seasonal / Intermittent	2
	Depressional	Unconsolidated Bottom	Excavated	Seasonal / Intermittent	6
	Depressional	Emergent Wetland	Excavated	Seasonal / Intermittent	14

Comments:

- 11. ESTIMATED RELATIVE ABUNDANCE (of similarly classified sites within the same Major Montana Watershed Basin; see manual.) common
- 12. GENERAL CONDITION OF AA

 Disturbance: Use matrix below to select the appropriate response; see manual for Montana listed noxious weed and aquatic nuisance vegetation species lists.

species lists.	ii.					
	Predominar	nt Conditions Adjacent to (within	500 feet of) AA			
Conditions within AA	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is ≤15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is ≤30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >30%.			
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is ≤15%.						
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is ≤30%.		moderate disturbance				
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is >30%.						

Comments (types of disturbance, intensity, season, etc.): The wetland mitigation site was constructed in Fall 2012/Spring 2013 with adaptive management features added to the site in spring 2017. Extensive excavation occurred to create depressional areas and spread out water across the site. Decreased disturbance from cultivation, grazing, and construction since 2017 led to moderate disturbance rating in 2019.

- ii. Prominent noxious, aquatic nuisance, and other exotic vegetation species: Spotted knapweed, Canada thistle, houndstongue, hoary alyssum, field bindweed, common tansy
- iii. Provide brief descriptive summary of AA and surrounding land use/habitat: The AA is a historically drained wetland area/meadow that was heavily grazed by cattle. A drainage ditch bisected the property prior to wetland mitigation construction. Existing wetlands were expanded through construction activities with emergent and scrub-shrub wetland communities present. Surrounding land use includes transportation (county road, historic railroad berm), agriculture (hay production and cattle grazing), and the South Fork of the Musselshell River located to the north of the mitigation site.

13. STRUCTURAL DIVERSITY (Based on number of "Cowardin" vegetated classes present [do not include unvegetated classes]; see #10 above.)

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management peristence of additional		Modified Rating
≥3 (or 2 if one is forested) classes		NA	NA	NA
2 (or 1 if forested) classes	mod	NA	NA	NA
1 class, but not a monoculture		←NO	YES→	
1 class, monoculture (1 species comprises ≥90% of total cover)		NA	NA	NA

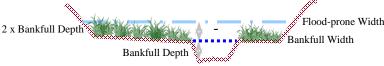
Comments: Emergent and scrub-shrub vegetation classes

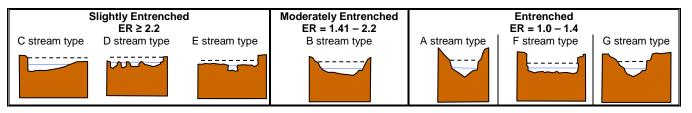
Wetland/Site #(s): Rostad Mitigation Site

14A. HABITAT FOR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED PLANTS OR ANIMALS																			
Primary or critical habitat (list Secondary habitat (list speci	i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.  Primary or critical habitat (list species)																		
T T									and ratin	g.			r						
Highest Habitat Level	Doc/Primar	y Sus/l	Primary	Doc/Se	condary	Sus/Se	econdary	/ Doc	/Incident	al S	us/Incid	lental	None	е					
Functional Point/Rating				_									0L						
Sources for documented use documented occurences.	(e.g. observa	ations, rec	ords): <u>US</u>	FWS list f	or Meag	her Count	ty; no hal	oitat spe	<u>cification</u>	s prese	nt for sp	ecies o	<u>r</u>						
14B. HABITAT FOR PLANTS Do not include species lis			S1, S2,	OR S3 BY	THE MO	ONTANA	NATUR	AL HER	ITAGE P	ROGRA	AM								
i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.  Primary or critical habitat (list species)  Secondary habitat (list species)  Incidental habitat (list species)  No usable habitat    D																			
ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.																			
Highest Habitat Level	Doc/Primar	y Sus/	Primary	Doc/Se	condary	Sus/Se	econdary	/ Doc	/Incident	al S	us/Incid	ental	None	4					
S1 Species Functional Point/Rating S2 and S3 Species																			
Functional Point/Rating	.9H			-															
Sources for documented use (e.g. observations, records): Observations of Downingia laeta in wetland during 2013-2015 site visits; long-billed curlews upland sandpipers, and bobolinks continue to use the site and were observed by MDT staff in the spring of 2019.																			
upland sandpipers, and bobolin	(S continue to	o use the	site and v	vere obse	rved by N	/IDT staff	in the sp	ring of 2	<u>019.</u>										
14C. GENERAL WILDLIFE HA	BITAT RAT	ING																	
i. Evidence of Overall Wildlife	Use in the	AA: Chec	ck substa	ntial, mod	erate, or	low base	d on supp	oorting e	vidence.										
☐ Substantial: Based on any of observations of abundant abundant wildlife sign such presence of extremely limed interview with local biologous	t wildlife #s o ch as scat, tra niting habitat	r high spe acks, nest features n	cies diver structure not availat	es, game t	rails, etc.	,	□ fe\ □ littl □ sp	w or no version of the contract of the contrac	sed on an wildlife ob wildlife sig acent upl vith local	servation In In and foo	ons duri od sourc	ng peal es	¢ use ρε						
<ul> <li>Moderate: Based on any of</li> <li>△ observations of scattered</li> <li>□ common occurrence of w</li> <li>△ adequate adjacent upland</li> <li>□ interview with local biolog</li> </ul>	wildlife grou ildlife sign su d food source	os or indiv ch as sca es	t, tracks,					eriods											
							in matrix	□ interview with local biologist with knowledge of the AA											
			e most ar	nd least pr	ii. Wildlife Habitat Features: Working from top to bottom, check appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent <b>vegetated</b> classes must be within 20% of each other in terms of their														
percent composition of the AA ( S/I = seasonal/intermittent; T/E	see # 1111 Ar	hraviatiar	a far allef			egetatec	l classes	must be	within 20	0% of e	ach oth								
					duration	<b>regetated</b> is are as f	l classes follows: F	must be P/P = pe	within 20 manent/p	0% of e perenni	ach oth								
Structural Diversity (see #13)		ephemera			duration	<b>regetated</b> is are as f	l classes follows: F ther defir	must be P/P = pe	within 20 manent/p these te	0% of e perenni	ach oth	er in ter							
Structural Diversity (see #13) Class Cover Distribution		ephemera	ll; and A = High		duration	<b>regetated</b> is are as f	I classes follows: F ther defin	must be P/P = pe hitions of	within 20 manent/p these te	0% of e perenni rms].	ach oth	er in ter	ms of th						
Structural Diversity (see #13)	= temporary/	ephemera  /en	High	absent [s	duration see man	regetated is are as f ual for fur	I classes follows: Fither defin	must be P/P = pe nitions of Modera	e within 20 rmanent/p these ter te	0% of eperennings.	each othe	er in ter	_ow	neir					
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA	= temporary/	ephemera	High	= absent [s	duration see man	regetated is are as f ual for fur	I classes follows: F ther defir	must be P/P = pe hitions of	e within 20 rmanent/p these ter te	0% of eperennings.	ach oth	er in ter	ms of th						
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA  □ Low Disturbance at AA (see #12i)	= temporary/	ephemera  /en	High	absent [s	duration see manu	regetated is are as f ual for fur	I classes follows: Fither defin	must be P/P = pe nitions of Modera	e within 20 rmanent/p these ter te	o% of eperenning.  ven  T/E	each othe	er in ter	_ow	neir					
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA  □ Low Disturbance at AA (see #12i)  ☑ Moderate Disturbance at AA (see #12i)	= temporary/	ephemera  /en	High	absent [s	A P	regetated s are as t ual for fur	I classes follows: Fither defin	must be P/P = pe nitions of Modera  A P/F	e within 20 rmanent/p these tel te  Une	o% of eperenning.  ven  T/E	ach otheal;  A P/P	□ L □ S/I	ow Even T/E	neir A					
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA  □ Low Disturbance at AA (see #12i)  ☑ Moderate Disturbance	EVP/P S/I	ephemera  /en	High	absent [s	A P	regetated as are as to the same as the same as to the same as t	I classes follows: F ther defin   T/E  T/E	must be P/P = pe nitions of Modera  A P/F	within 20 rmanent/p these te	owen T/E	A P/P	□ L □ S/I	Low Even T/E	A					
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA  □ Low Disturbance at AA (see #12i)  ☑ Moderate Disturbance at AA (see #12i)  □ High Disturbance at AA (see #12i)	P/P S/I	ren	P/P :	Uneven   S/I   T/E	A P	regetated is are as fual for fur	I classes follows: F ther defin   T/E  T/E	must be P/P = pe itions of Modera  A P/P	within 20 rmanent/p these tel  Une S/I  M	owen T/E	A P/P	L S/I	Low Even T/E	<b>A</b>					
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA  □ Low Disturbance at AA (see #12i)  ☑ Moderate Disturbance at AA (see #12i) □ High Disturbance at	P/P S/I	ren	High P/P nd the ma	Uneven S/I T/E atrix below	A P	regetated is are as fual for fur	I classes follows: F ther defin    T/E  T/E  T/E   tional po	must be P/P = pe itions of Modera  A P/P	within 20 rmanent/p these tel  Une S/I  M	owen T/E	A P/P	L S/I	Low Even T/E	<b>A</b>					
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA  □ Low Disturbance at AA (see #12i)  ☑ Moderate Disturbance at AA (see #12i)  □ High Disturbance at AA (see #12i)  □ High Disturbance at AE (see #12i)  iii. Rating: Use the conclusion  Evidence of Wildlife Use (i)	P/P S/I ss from i and	ren	High P/P nd the ma	Uneven   S/I   T/E           atrix below	A P	regetated is are as fual for fur	I classes follows: F ther defin    T/E  T/E  T/E   tional po	must be P/P = pe itions of Modera  A P/P	within 20 rmanent/p these tel  Une S/I  M	ven T/E	A P/P	L S/I	Low Even T/E	<b>A</b>					
Structural Diversity (see #13)  Class Cover Distribution (all vegetated classes)  Duration of Surface Water in ≥ 10% of AA  □ Low Disturbance at AA (see #12i)  ☑ Moderate Disturbance at AA (see #12i) □ High Disturbance at AA (see #12i)  iii. Rating: Use the conclusion  Evidence of Wildlife Use	P/P S/I  s from i and	ren T/E A ii above a	High P/P nd the ma	Uneven S/I T/E atrix below	A P	regetated is are as fual for fur	I classes follows: F ther defin    T/E	must be P/P = pe itions of Modera  A P/P	within 20 rmanent/p these tel te  S/I  M   ating.	ven T/E	A P/P	L S/I	Low Even T/E	<b>A</b>					

Comments: Site appears to be getting use by white-tailed deer and numerous bird species. Active Sandhill Crane nesting observed in wetlands in 2016, 2018, and 2019 (observed by MDT).

	Wetland/Site #(s): Rostad Mitigation Site																		
<b>14D. GENERAL FISH HABITA</b> If the AA is not used by fis entrapped in a canal], the	sh, fish	use is		storab	le due	to ha		onstra	iints, c	or is not	t desire	ed fron	n a ma	anagen	nent pe	erspec	tive [s	uch as	s fish
Assess this function if the precluded by perched cul					existin	g situa	ation is	corr "corr	ectab	le" such	n that t	he AA	could	be us	ed by f	ish [i.e	e., fish	use is	
Type of Fishery:   Col	d Wate	r (CW	) 🗆 '	Warm	Water	(WW	) Use	the C	CW or	WW gu	uideline	es in th	e mar	nual to	comple	te the	matrix	к.	
i. Habitat Quality and Known	/ Susp	ected	Fish S	pecie	s in A	A: Us	e mat	rix to	select	the fur	nctiona	l point	and r	ating.					fi
Duration of Surface Water in AA	☐ P	erman	ent / P	erenn	ial		☐ Seasonal / Intermittent					□ 1	☐ Temporary / Ephemeral						
Aquatic Hiding / Resting / Escape Cover	Opti	Optimal Adequate Poor					Optimal Adequate Poor				imal	Adequate P		Po	□ Poor				
Thermal Cover: optimal / suboptimal	0	S	0	S	0	s	0	S	0	S	0	S	0	S	0	S	0	S	
FWP Tier I fish species																			
FWP Tier II or Native Game fish species								1								-			
FWP Tier III or Introduced Game fish																			
<b>FWP Non-Game Tier IV</b> or <b>No</b> fish species																			
Sources used for identifying f	ish sp	p. pot	entially	/ foun	d in A	A:													•
ii. Modified Rating: NOTE: Mo	odified	score	cannot	excee	ed 1.0	or be	less th	an 0.	1.										
a) Is fish use of the AA significant MDEQ list of waterbodies in need support, <b>or</b> do aquatic nuisance	ed of Ti	MDL d	évelop	ment v	vith İis	ted "P	robabi	le Imp	aired	Uses" i	includir	ng cold	d or w	arm wa	ater fisi	hery o	r aqua	tic life	
b) Does the AA contain a documnative fish or introduced game for											tuary p	ool, u	pwelli	ng area	a; spec	ify in o	comm	ents) f	or
iii. Final Score and Rating: _	Comm	ents:	No per	ennial	ly flow	ing w	ater wi	thin A	A for	fish hat	oitat.								
14E. FLOOD ATTENUATION Applies only to wetlands t If wetlands in AA are not to	hat are	subie	NA (pro ct to flo in-char	odina	via in	-chanı	nel or o	overba eck th	ank flo ne NA	w. box an	d proc	eed to	14F.						
Entrenchment Ratio (ER) Estin Flood-prone width = estimated h																		of the	stream
/ flood prone width / bankfull width	= <u> </u>	renchr	nent ra	tio		2 x F	Bankful	l Dept	th	k Yan	KE VE	Yelve )	<u> </u>	S KA	(Ardre	7		one Wic	lth





i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating

_	tating: Working from top to bottom, doe the m	0010	,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			ne and rating	<u>J</u> .			
	Estimated or Calculated Entrenchment	☐ SIi	ightly Entrei	nched	☐ Mod	erately Entr	enched		Entrenche	d
	(Rosgen 1994, 1996)	C, D	, E stream t	ypes	В	stream typ	е	A, F,	G stream ty	/pes
I	Percent of Flooded Wetland Classified as									
	Forested and/or Scrub/Shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
	AA contains no outlet or restricted outlet									-
	AA contains unrestricted outlet									

ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA? 

☐ YES ☐ NO Comments: No flooding occurs via in-channel or overbank flow.

Wetland/Site #(s): Rostad Mitigation Site

14F.	SHORT AND LONG TERM SURFACE WATER STORAGE NA (proceed to 14G)
	Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow.
	If no wetlands in the AA are subject to flooding or ponding, then check the NA box and proceed to 14G.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see manual for further definitions of these terms].

Estimated Maximum Acre Feet of Water Contained in Wetlands within the AA that are Subject to Periodic Flooding or Ponding		>5 acre fe	eet	□ 1.1	to 5 ac	re feet		≤1 acre t	foot
Duration of Surface Water at Wetlands within the AA	□ P/P	⊠ S/I	□ <b>T/E</b>	□ P/P	□ S/I	□ T/E	□ P/P	□ S/I	□ <b>T/E</b>
Wetlands in AA flood or pond ≥ 5 out of 10 years		.9H							
Wetlands in AA flood or pond < 5 out of 10 years									

Comments: Depressional area and portions of slope wetlands maintain water seasonally/intermittently. Adaptive management in 2017 resulted in an increased score for this function.

#### 

Applies to wetland with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, check the NA box and proceed to 14H.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Sediment, Nutrient, and Toxicant Input Levels within AA	AA receive has potent nutrients, such that a substantia sedimenta toxicants, present.	tial to deliv or compou other funct Illy impaire tion, sourc	er sedime inds at lev ions are n ed. Minor ees of nutr	ents, rels not rients or	Waterbody is need of TMDL causes" relat toxicants or A has potential nutrients, or c functions are sedimentation or signs of eu	developmer ed to sedime AA receives of to deliver hig compounds s substantially n, sources of	nt for "probal nt, nutrients, or surroundin gh levels of s such that oth y impaired. M nutrients or	ole or g land use ediments, er ajor
% Cover of Wetland Vegetation in AA	⊠≥`	70%	□<	70%	□≥7	70%	□<	70%
Evidence of Flooding / Ponding in AA	⊠ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
AA contains no or restricted outlet	1H							
AA contains unrestricted outlet								

Comments: More than 80 percent of the non-open water area is covered with wetland vegetation. A restricted outlet is located on the depressional area as a constructed overflow channel.

#### 14H. SEDIMENT / SHORELINE STABILIZATION NA (proceed to 14I)

Applies only if AA occurs on or within the banks of a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action.

If 14H does not apply, check the NA box and proceed to 14I.

% Cover of Wetland Streambank or Shoreline by Species with Stability	Duration of S	urface Water Adjacent to Roo	ted Vegetation
Ratings of ≥6 (see Appendix F).	☐ Permanent / Perennial	⊠ Seasonal / Intermittent	☐ Temporary / Ephemeral
⊠ ≥ 65%		.9H	
□ 35-64%			

Comments: AA supports open water areas subject to wave action.

#### 14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT

i. Level of Biological Activity: Synthesis of wildlife and fish habitat rates (select).

General Fish Habitat Rating	Genera	l Wildlife Habitat Rati	ing (14Ciji)
(14Diii)	□ E/H	⊠ M	□ L
☐ E/H			
L			
⊠ NA		M	

**ii. Rating:** Working from top to bottom, use the matrix below to select the functional point and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14li); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to the duration of surface water in the AA, where P/P, S/I, and T/E were previously defined, and A = "absent" [see manual for further definitions of these terms].

Α	$\boxtimes$	Vegeta	ited Co	mponent	t >5 ac	res		Vegeta	ated Co	mponent	1-5 ac	res		Veget	tated Co	mponen	t <1 acı	re
В	_ _	ligh	⊠M	oderate		Low		ligh	□ Mc	derate		Low	_ <b>_</b> ⊢	ligh	☐ Mo	derate	L	-ow
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P																		
S/I			.7M															
T/E/A																		

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT (continued)  iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.  Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical mowing or clearing (unless for weed control).  Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? ☑ YES, add 0.1 to score in ii = 0.80 ☐ NO  iv. Final Score and Rating: .8H Comments: Moderate biologial activity: no fish habitat; vegetative component >5 acres with a upland buffer.  14J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators ☐ The AA is a slope wetland. ☐ Springs or seeps are known or observed. ☐ Vegetation growing during dormant season/drought. ☐ Wetland occurs at the toe of a natural slope. ☐ AA permanently flooded during drought periods. ☐ Wetland contains an outlet, but no inlet. ☐ Shallow water table and the site is saturated to the surface. ☐ Other:	Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.    Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical mowing or clearing (unless for weed control).   Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? □ YES, add 0.1 to score in ii = 0.80 □ NO   NO   NO   NO     Vegetated To a average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? □ YES, add 0.1 to score in ii = 0.80 □ NO   NO   NO   NO     Vegetation groups are seen as a score with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.     AB Comments: Modera	iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.    Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical mowing or clearing (unless for weed control).   Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?	iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.    Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical mowing or clearing (unless for weed control).   Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?	iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.    Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical mowing or clearing (unless for weed control).   Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?	iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.    Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical movining or clearing (unless for weed control).   Is there an average ≥ 50-fool wide vegetated upland buffer around ≥ 75% of the AA's perimeter?
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Discharge volume decreases.         ☑ Wetland occurs at the two of a natural slope.       ☐ Other:	Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical mowing or clearing (unless for weed control). Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? ☑ YES, add 0.1 to score in ii = 0.80 ☐ NO iv. Final Score and Rating: .8H Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.         14J. GROUNDWATER DISCHARGE / Check the appropriate indicators in i and ii below.         i. 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Discharge volume decreases.         ☑ Wetland contains an outlet, but no inlet.       ☐ Shallow water table and the site is saturated to the surface.         ☐ Other:       ☐ Duration of Saturation at AA Wetlands FROM GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM         © Criteria       ☐ PrP       ☑ Still ☐ Insufficient Data/Information         ☐ Insufficient Data/Information       ☐ None         Replacement Potential       AA contains fen, bog, warm springs or mature (-80 yr-old) forested wetland OR plant association listed as "St" b	Vegetated Upland Buffer: Area with ≥ 30% plant cover, ≤ 15% noxious weed or ANVS cover, AND that is not subjected to periodic mechanical mowing or clearing (unless for weed control).         Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?       ☑ YES, add 0.1 to score in ii = 0.80  □ NO         iv. Final Score and Rating: .8H Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.         14J. GROUNDWATER DISCHARGE / RECHARGE
mowing or clearing (unless for weed control).  Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?  YES, add 0.1 to score in ii = 0.80  NO  IV. Final Score and Rating: .8H Comments: Moderate biologial activity; no fish habitat; vegetative component >5 acres with a upland buffer.  14J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators	mowing or clearing (unless for weed control).  Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? ☑ YES, add 0.1 to score in ii = 0.80 ☐ NO  IV. Final Score and Rating: _8H Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.  14.J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in 1 and ii below.  i. Discharge Indicators	mowing or clearing (unless for weed control). Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?    YES, add 0.1 to score in ii = 0.80    NO  iv. Final Score and Rating: _8H    Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.  14.J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators	mowing or clearing (unless for weed control). Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?  YES, add 0.1 to score in ii = 0.80  NO  iv. Final Score and Rating: .8H  Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.  14.J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators	mowing or clearing (unless for weed control).  Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?  YES, add 0.1 to score in ii = 0.80  NO  iv. Final Score and Rating: _8H Comments: Moderate biologial activity: no fish habitat: vegetative component >5 acres with a upland buffer.  14J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators	mowing or clearing (unless for weed control). Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter?  YES, add 0.1 to score in ii = 0.80  NO  iv. Final Score and Rating: .8H Comments: Moderate biologial activity; no fish habitat; vegetative component >5 acres with a upland buffer.  14J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators
14.J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Permeable substrate present without underlying impeding layer.   Wetland contains inlet but no outlet.   Wetland contains inlet but no outlet.   Other:   Other:   Other:   Other:     AA permanently flooded during drought periods.   Wetland contains an outlet, but no inlet.   Shallow water table and the site is saturated to the surface.   Other:   With Water That is Recharge Indicators   Wetland contains in let but no outlet.   Other:	AA does not contain previously is high OR  Replacement Potential  Replacement Potential  Replacement Potential  Replacement Potential  I. Discharge Indicators in i and ii below.  i. Discharge Indicators   ii. Recharge Indicators   Permeable substrate present without underlying impeding layer.   Stream is a known 'losing' stream. Discharge volume decreases.   Other:	14J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in 1 and ii below.  i. Discharge Indicators	14J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and if below.  i. Discharge Indicators	14J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in 1 and ii below.  i. Discharge Indicators	14.J. GROUNDWATER DISCHARGE / RECHARGE Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Springs or seeps are known or observed.   Wetland contains inlet but no outlet.   Wetland contains
Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Permeable substrate present without underlying impeding layer.   Wetland contains inlet but no outlet.   Wetland contains inlet but no outlet.   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Other:     AA pentains   Duration of Saturation at AA Wetlands FROM GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM   PIPP   SI   T   None     Insufficient Data/Information   None   None     AA contains fen bog warm   AA does not contain previously.     Discharge Indicators   Permeable substrate present without underlying impeding layer.     Permeable substrate present without underlying impeding layer.     Wetland contains inter but no outlet.     Stream is a known 'losing' stream. Discharge volume decreases.     Other:	Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Springs or seeps are known or observed.   Vegetation growing during dormant season/drought.   Wetland occurs at the toe of a natural slope.   Seeps are present at the wetland edge.   AA permanently flooded during drought periods.   Wetland contains an outlet, but no inlet.   Shallow water table and the site is saturated to the surface.   Other:	Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Permeable substrate present without underlying impeding layer.   Wetland contains inlet but no outlet.   Wetland contains inlet but no outlet.   Wetland contains inlet but no outlet.   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Other:   Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Other:   Other:   Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   O	Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Permeable substrate present without underlying impeding layer.   Wetland contains inlet but no outlet.   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   S	Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Permeable substrate present without underlying impeding layer.   Wetland contains inlet but no outlet.   Wetland contains inlet but no outlet.   Wetland cocurs at the toe of a natural slope.   Other:   Stream is a known 'losing' stream. Discharge volume decreases.   Other:   Other:   Discharge volume decreases.   Other:   Other:   Discharge volume decreases.   Other:	Check the appropriate indicators in i and ii below.  i. Discharge Indicators    The AA is a slope wetland.   Springs or seeps are known or observed.   Wetland contains inlet but no outlet.   Wetland contains inlet but no outlet.   Stream is a known 'losing' stream. Discharge volume decreases.   Other:
The AA is a slope wetland.	☐ The ĀA is a slope wetland.	Permeable substrate present without underlying impeding layer.   Springs or seeps are known or observed.   Wetland contains inlet but no outlet.   Wetland occurs at the toe of a natural slope.   Seeps are present at the wetland edge.   AA permanently flooded during drought periods.   Wetland contains an outlet, but no inlet.   Shallow water table and the site is saturated to the surface.   Other:	The ĀA is a slope wetland.   Permeable substrate present without underlying impeding layer.   Wetland contains inlet but no outlet.   Wetland contains and the wetland edge.   Seeps are present at the wetland edge.   Wetland contains an outlet, but no inlet.   Shallow water table and the site is saturated to the surface.   Other:   WITH WATER THAT IS RECHARGING THE GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM   The Insufficient Data/Information   None   Insufficient Data/Information   None   Seasonal water regime within AA.    14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.   AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "\$2" by the MTNHP   Estimated Relative Abundance (#11)   Rare   Common   Abundant   Rare	Permeable substrate present without underlying impeding layer.   Springs or seeps are known or observed.   Wetland contains inlet but no outlet.   Wetland occurs at the toe of a natural slope.   Seeps are present at the wetland edge.   AA permanently flooded during drought periods.   Wetland contains an outlet, but no inlet.   Shallow water table and the site is saturated to the surface.   Other:	The ĀA is a slope wetland.   Permeable substrate present without underlying impeding layer.   Springs or seeps are known or observed.   Wetland contains inlet but no outlet.   Wetland cocurs at the toe of a natural slope.   Other:   Other:   Other:   Seeps are present at the wetland edge.   AA permanently flooded during drought periods.   Wetland contains an outlet, but no inlet.   Shallow water table and the site is saturated to the surface.   Other:   Shallow water table and the site is saturated to the surface.   Other:   WITH WATER THAT IS RECHARGING THE GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM   PIP
Duration of Saturation at AA Wetlands FROM GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM  Criteria P/P S/I T None  Insufficient Data/Information  Comments: Seasonal water regime within AA.  14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.	Criteria    Duration of Saturation at AA Wetlands FROM GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM   P/P   S/I   T   None   Insufficient Data/Information	Criteria    Duration of Saturation at AA Wetlands FROM GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM   P/P	Criteria    Duration of Saturation at AA Wetlands FROM GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM   P/P	Criteria    Duration of Saturation at AA Wetlands FROM GROUNDWATER DISCHARGE or WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM   P/P	Criteria  Crommon   Adoes not contain previously cited rare types OR associations AND structural diversity (#13) is ilow-moderate diversity (#13) is low-moderate diversity (#13) is low-moderate  Common   Abundant   Rare   Common   Abundant   Rare   Common   Abundant   Rare   Common   Abundant   Common
Criteria    P/P   S/I   T   None   Groundwater Discharge or Recharge     .7M         Insufficient Data/Information         Comments: Seasonal water regime within AA.  14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.	Criteria    P/P   S/I   T   None	Criteria    P/P   S/I   T   None	Criteria    P/P   S/I   T   None   Groundwater Discharge or Recharge     .7M         Insufficient Data/Information   Seasonal water regime within AA.  14K. UNIQUENESS    Replacement Potential   Replacement Potential   Rate   Common   Abundant   Common   Common   Abundant   Common   C	Criteria    P/P   S/I   T   None	Criteria
Criteria P/P S/I T None  Groundwater Discharge or Recharge7M Insufficient Data/Information  Comments: Seasonal water regime within AA.  14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fee bog warm AA does not contain previously	Criteria    P/P   S/I   T   None     Groundwater Discharge or Recharge     .7M       Insufficient Data/Information       Insufficient Data/Information       Comments: Seasonal water regime within AA.    14K. UNIQUENESS     Rating: Working from top to bottom, use the matrix below to select the functional point and rating.     AA contains fen, bog, warm   springs or mature (>80 yr-old)   forested wetland OR plant   association listed as "S1" by the MTNHP   AA does not contain previously cited rare types AND structural diversity (#13) is high OR   contains plant association   diversity (#13) is low-moderated     AA does not contain previously   cited rare types AND structural diversity (#13) is high OR   contains plant association   diversity (#13) is low-moderated	Criteria	Criteria	Criteria	Criteria
	Seasonal water Discharge or Recharge     .7M         Insufficient Data/Information       Insufficient Data/	Seasonal water regime within AA.	Seasonal water Discharge or Recharge     .7M           Insufficient Data/Information     .7M         Insufficient Data/Information	Seasonal water regime within AA.   Seasonal water regime within AA.      AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP	Seasonal water Discharge or Recharge     .7M             Insufficient Data/Information         Insufficient Data/Information         Comments: Seasonal water regime within AA.  14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.    AA contains fen, bog, warm springs or mature (>80 yr-old) cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S1" by the MTNHP       Estimated Relative Abundance (#11)   Rare   Common   Abundant   Common   Common   Abundant   Common   Com
Insufficient Data/Information  Comments: Seasonal water regime within AA.  14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fee bog warm.  AA does not contain previously	Insufficient Data/Information  Comments: Seasonal water regime within AA.  14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  AA does not contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP  AA does not contain previously cited rare types OR associations AND structural diversity (#13) is low-moderated.	□ Insufficient Data/Information	Insufficient Data/Information	□ Insufficient Data/Information	Insufficient Data/Information
14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fee bog warm.  AA does not contain previously	14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  AA does not contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP  AA does not contain previously cited rare types OR contains plant association listed as "S2" by the MTNHP	I. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.    AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP   Estimated Relative Abundance (#11)   Rare   Common   Abundant   Rare   Common   Common	14K. UNIQUENESS  i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11)	I. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.    AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP   Estimated Relative Abundance (#11)   Rare   Common   Abundant   Rare   Common   Common	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11)  Rare  Common  Abundant  Rare  Common  Contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP  Estimated Relative Abundance (#11)  Rare  Common  Abundant  Rare  Common  Abundant  Rare  Common  Abundant  Rare  Common  Abundant  Rare  Common
i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen bog warm.  AA does not contain previously	Replacement Potential	i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant	i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant	Replacement Potential Sociation listed as "S1" by the MTNHP  Estimated Relative Abundance (#11)  Rare Common Replacement Potential Replacement Potential Sociation listed as "S1" by the MTNHP Replacement Potential Sociation listed as "S1" by the MTNHP Replacement Potential Sociation listed as "S1" by the MTNHP Replacement Potential Sociation listed as "S1" by the MTNHP Replacement Potential Sociation listed as "S2" by the MTNHP Replacement Potential Sociation listed as "S2" by the MTNHP  Replacement Po	Replacement Potential Series with a contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11) Replacement Potential Replacement Potential Series with a contains previously cited rare types OR associations AND structural diversity (#13) is low-moderate diversity (#13) is low-moderate Replacement Potential Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate Series with a contain previously cited rare types OR association associatio
i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen bog warm.  AA does not contain previously	Replacement Potential	i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant	i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant	i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.  AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP  Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant	Replacement Potential Series with a contains fen, bog, warm springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by contains plant association listed as "S2" by the MTNHP  Estimated Relative Abundance (#11) Rare Common Replacement Potential Replacement Potential Series with a contains previously cited rare types OR associations AND structural diversity (#13) is low-moderated diversity
AA contains for hog warm AA does not contain previously	Replacement Potential Springs or mature (>80 yr-old) forested wetland OR plant association listed as "S1" by the MTNHP AA does not contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP AA does not contain previously cited rare types OR associations AND structural diversity (#13) is low-moderate	Replacement Potential Sociation listed as "S1" by the MTNHP Restimated Relative Abundance (#11) Restimated Relative Abundance at AA (#12i) AA does not contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP Restimated Relative Abundance (#11) Restimated Relative Abundance at AA (#12i) AA does not contain previously cited rare types OR contains plant association listed as "S2" by the MTNHP Restimated Relative Abundance (#11) Restimated Relative Abundance (#12i) Restimated Relative Abundance (#11) Restimated Relative Abundance (#12i)	Replacement Potential Replacement Potential Replacement Potential Replacement Potential Replacement Potential Replacement Potential Sociation listed as "S1" by the MTNHP  Estimated Relative Abundance (#11) Low Disturbance at AA (#12i)  AA does not contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP Replacement Potential AA does not contain previously cited rare types OR contains plant association listed as "S2" by the MTNHP Replacement Potential AA does not contain previously cited rare types OR contains plant association listed as "S2" by the MTNHP  AA does not contain previously cited rare types OR contains plant associations AND structural diversity (#13) is low-moderated as "S2" by the MTNHP  Estimated Relative Abundance (#11)  AB does not contain previously cited rare types OR contains plant association listed as "S2" by the MTNHP  Estimated Relative Abundance (#11)  Rare  Common Abundant Rare Common Abundant Rare Common Abundant Rare Common Abundant Rare Common Abundant Rare Common Abundant Rare Common Abundant Rare Common Rare Rare Rare Rare Rare Rare Rare Rare	Replacement Potential Sociation listed as "S1" by the MTNHP Restimated Relative Abundance (#11) Rare Common Replacement Potential AA does not contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP  Estimated Relative Abundance (#11) Rare Common Replacement Potential Replacement Potential AA does not contain previously cited rare types OR contains plant association listed as "S2" by the MTNHP  Estimated Relative Abundance (#11) Rare Common Replacement Potential AA does not contain previously cited rare types OR contains plant associations AND structural diversity (#13) is low-moderated d	Replacement Potential Replacement Potential Replacement Potential Replacement Potential Replacement Potential Replacement Potential Sociation listed as "S1" by the MTNHP Restimated Relative Abundance (#11) Restimated Relative Abundance at AA (#12i) Moderate Disturbance at AA (#12i)  AA does not contain previously cited rare types AND structural diversity (#13) is high OR contains plant association listed as "S2" by the MTNHP Restimated Relative Abundance (#11) Restimated Relative Abundance (#11) Restimated Relative Abundance (#12i) Restimated Relative Abundance at AA (#12i) Restimated Relative Abundance at AA (#12i) Restimated Relative Abundance at AA (#12i) Restimated Relative Abundance (#12i) Restimated
Replacement Potential Forested wetland OR plant association listed as "S1" by Replacement Potential Replacement Potential association listed as "S1" by Replacement Potential Re		□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare ☒ Common □ Abunda				✓ Moderate Disturbance at AA (#12i)             .3L
Estimated Relative Abundance (#11) ☐ Rare ☐ Common ☐ Abundant ☐ Rare ☐ Common ☐ Abundant ☐ Rare ☐ Common ☐ Abundant	Low Disturbance at AA (#12i)				
□ Low Disturbance at AA (#12i)		Moderate disturbance at AA (#12i)3L	Moderate Disturbance at AA (#121)             3L	Moderate disturbance at AA (#12i)5L	Ligh Dieturbanes et AA (#40i)
□ Low Disturbance at AA (#12i)		Ulimb Disturbance at AA (#40:)		Ulinh Disturbance at AA (#40)	High Disturbance at AA (#121)
□ Low Disturbance at AA (#12i)	✓ Moderate Disturbance at AA (#12i)             3L          High Disturbance at AA (#12i)		☐ High Disturbance at AA (#12i)		
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i) 3L High Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested	☐ High Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i) 3L  High Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  Affords 'bonus' points if AA provides a recreational or educational opportunity.	High Disturbance at AA (#12i)   Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  Affords 'bonus' points if AA provides a recreational or educational opportunity.	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  Affords 'bonus' points if AA provides a recreational or educational opportunity.	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  Affords 'bonus' points if AA provides a recreational or educational opportunity.
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i) 3L	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.	High Disturbance at AA (#12i)   Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site?   YES, go to ii. □ NO, check the NA box.	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i) 3L	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page)   Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: □ Educational/Scientific Study □ Consumptive Recreational □ Non-consumptive recreational	High Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page)   Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: □ Educational/Scientific Study □ Consumptive Recreational □ Non-consumptive recreational	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other:  Other:	High Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other:  Other:	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other: Other: Study St
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other: Other: Known or Potential Recreational or Educational Area Known Potential	High Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other:  Other: Known or Potential Recreational or Educational Area  Known Potential	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other:  Other: Known or Potential Recreational or Educational Area  Known Potential
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other: Other: Known or Potential Recreational or Educational Area Public ownership or public easement with general public access (no permission required)	High Disturbance at AA (#12i)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page) Affords 'bonus' points if AA provides a recreational or educational opportunity.  i. Is the AA a known or potential recreational or educational site? YES, go to ii. NO, check the NA box.  ii. Check categories that apply to the AA: Educational/Scientific Study Consumptive Recreational Non-consumptive recreational Other: Other: Known or Potential Recreational or Educational Area Public ownership or public easement with general public access (no permission required)	Comments: PEM and PSS wetlands of this type are common in the area. Structural diversity is not high and there are no bogs, fens, or forested wetlands.  14L. RECREATION / EDUCATION POTENTIAL  NA (proceed to Overall Summary and Rating page)
Festimated Polative Abundance (#11)   Paro   Common   Chundant   Paro   Common   Chundant   Paro   Forman   Chundant					✓ Moderate Disturbance at AA (#12i)
Estimated Relative Abundance (#11)    □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abundant    □ Rare   □ Common    □ Abundant    □ Rare   □ Common    □ Abundant    □ Rare    □ Common    □ Abundant    □ Abundant    □ Rare    □ Common    □ Abunda					✓ Moderate Disturbance at AA (#12i)
Estimated Relative Abundance (#11)   □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abun	Low Disturbance at AA (#12i)	Medarata Distrutumana at AA (#43)	Mederate Disturbance at AA (#43)	Medarata Disturbanca et AA (#43i)	
Estimated Relative Abundance (#11)   □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abundant	Low Disturbance at AA (#12)				✓ Moderate Disturbance at AA (#12i)
I Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □					✓ Moderate Disturbance at AA (#12i)
I Fatimated Polatice Abundance (#44)   - David	Estimated Relative Abundance (#11)      Rare     Common     Abundant     Rare     Common     Abundant     Rare     Common     Abundant				✓ Moderate Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) ∥ 🛘 Rare   🗘 Common   🗀 Abundant 🖟 🗘 Rare   🗘 Common   🗘 Abundant 🖟 Rare   🗘 Common 🖟 Abundant				✓ Moderate Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant				✓ Moderate Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) ∥ 🛘 Rare   🗘 Common   🗀 Abundant 🖟 🗘 Rare   🗘 Common   🗘 Abundant 🖟 Rare   🗘 Common   🗘 Abundart				✓ Moderate Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) ∥ 🛘 Rare   🗘 Common   🗘 Abundant 🖟 Rare   🗘 Common   🗘 Abundant 🖟 Rare   🗷 Common   🗸 Abundart	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) ∥ 🛘 Rare   🗘 Common   🗘 Abundant 🖟 Rare   🗘 Common   🗘 Abundant 🖟 Rare   🗷 Common   🗸 Abundart	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	Fetimated Pelative Abundance (#11) II Parol II Common II Abundant III Parol II Common III Abundant III Parol II Common III Abundant	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	Fotimated Polative Abundance (#11)   F. Daro   F. Common   F. Abundant   F. Ab	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant				✓ Moderate Disturbance at AA (#12i)             .3L
	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare ☒ Common □ Abunda				✓ Moderate Disturbance at AA (#12i)               .3L
Estimated Polative Abundance (#11)   G Poro   G Common   G Abundant   G Poro					✓ Moderate Disturbance at AA (#12i)             .3L
Estimated Relative Abundance (#11)    □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abundant    □ Rare   □ Common    □ Abundant    □ Rare   □ Common    □ Abundant    □ Rare    □ Common    □ Abundant    □ Rare					✓ Moderate Disturbance at AA (#12i)             .3L
Estimated Relative Abundance (#11)   □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abun	Low Disturbance at AA (#12i)				✓ Moderate Disturbance at AA (#12i)             .3L
Estimated Relative Abundance (#11)   □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abun	Low Disturbance at AA (#12i)				✓ Moderate Disturbance at AA (#12i)             .3L
Fstimated Relative Abundance (#11) □□ Rare □□ Common □□ Abundant □□ Rare □□ Common □□ Abundant □□ Rare □□ Common □□ Abunda					✓ Moderate Disturbance at AA (#12i)             .3L
	<sub> </sub> Estimated Relative Abundance (#11) ∥ 🛘 Rare  🗘 Common   🗀 Abundant   🗖 Rare  🗘 Common   🗀 Abundant   🗖 Rare   🗷 Common   🗖 Abundant				✓ Moderate Disturbance at AA (#12i)             .3L
	Fotimeted Poletine Abundance (#44)   F. Dava   F. Camman   F. Abundant   F. Dava   F. Camman   F. Abundant   F. Dava   F. Camman   F. Abundant	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
the MTNHP listed as "S2" by the MTNHP		□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	the MINHP listed as "S2" by the MINHP	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □	Estimated Relative Abundance (#11)	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Common □ Abunda	Estimated Relative Abundance (#11)
	the MINHP listed as "S2" by the MINHP	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □	Estimated Relative Abundance (#11)	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Common □ Abunda	Estimated Relative Abundance (#11)
association listed as "S1" by contains plant association association	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
association listed as "S1" by contains plant association association	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant         □ Rare         □ Common <th>the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun</th> <th>the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab</th>	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
association listed as "S1" by contains plant association association	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
association listed as "S1" by contains plant association association	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
association listed as "S1" by contains plant association association	the MTNHP listed as "S2" by the MTNHP	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)	the MTNHP   listed as "S2" by the MTNHP   diversity (#13) is low-inoderated    Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abun	the MTNHP         listed as "S2" by the MTNHP         diversity (#13) is low-inoderate           Estimated Relative Abundance (#11)         □ Rare □ Common □ Abundant □ Rare □ Common □ Ab
	the MINHP listed as "S2" by the MINHP	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □	Estimated Relative Abundance (#11)	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Common □ Abunda	Estimated Relative Abundance (#11)
	the MINHP listed as "S2" by the MINHP	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □	Estimated Relative Abundance (#11)	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Common □ Abunda	Estimated Relative Abundance (#11)
the MTNHP listed as "S2" by the MTNHP diversity (#13) is low-moderate		Estimated Relative Abundance (#11) ☐ Rare ☐ Common ☐ Abundant ☐ Common ☐ Common ☐ Abundant ☐ Common ☐ Common ☐ Common ☐ Com	Estimated Relative Abundance (#11) ☐ Rare ☐ Common ☐ Abundant ☐ Common ☐ Common ☐ Abundant ☐ Common ☐ Abundant ☐ Common ☐ Abundant ☐ Common ☐ Common ☐ Common ☐ Common ☐ C	Estimated Relative Abundance (#11) ☐ Rare ☐ Common ☐ Abundant ☐ Common ☐ Common ☐ Abundant ☐ Common ☐ Common ☐ Common ☐ Com	Estimated Relative Abundance (#11)         □ Rare         □ Common         □ Abundant           □ Low Disturbance at AA (#12i)
the MINHP listed as "52" by the MINHP		□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	Fotimeted Beletine Abundance (#44)   F. Dani   F. Carrana   F. Abundant   F. Dani   F. Carrana   F. Abundant   F. Dani   F. Carrana   F. Abundant	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)	□ Low Disturbance at AA (#12i)
	Estimated Relative Abundance (#11) ∥ 🛘 Rare   🗘 Common   🗀 Abundant 🖟 🗘 Rare   🗘 Common   🗘 Abundant 🖟 Rare   🗘 Common   🗘 Abundant				✓ Moderate Disturbance at AA (#12i)             .3L
	Estimated Relative Abundance (#11) □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant □ Rare □ Common □ Abundant				✓ Moderate Disturbance at AA (#12i)             .3L
Father at all Balaties   Alice at all and a   (//44)					✓ Moderate Disturbance at AA (#12i)             .3L
Fetimated Relative Abundance (#11) De Pare De Common De Abundant De Pare De Common De Abundant De Pare De Common De Abundant					✓ Moderate Disturbance at AA (#12i)
Estimated Relative Abundance (#11)   □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abundant   □ Rare   □ Common   □ Abundant	Low Disturbance at AA (#12)				✓ Moderate Disturbance at AA (#12i)
Estimated Relative Abundance (#11) ☐ Rare ☐ Common ☐ Abundant ☐ Rare ☐ Common ☐ Common ☐ Abundant ☐ Rare ☐ Common ☐ Common ☐ Abundant ☐ Rare ☐ Common ☐ Com	Low Disturbance at AA (#12i)				✓ Moderate Disturbance at AA (#12i)
	Low Disturbance at AA (#12i)	Maderate Disturbance at AA (#40)	Mederate Dieturbance et AA (#40)	Medarata Disturbance at AA (#43)	
	<b>□ Low Disturbance</b> at AA (#121)	Medevate Disturbance at AA (#43)	Mederate Disturbance at AA (#43)	Moderate Dicturbance at AA (#12i)	
		I Maderate Disturbance at AA (#40)	I Madareta Disturbance at AA (#40)	Moderate Disturbance at AA (#12i)	
	LOW Distribution at AA (#121)				
□ Low Disturbance at AA (#12i)		1	1		
□ Low Disturbance at AA (#12i)			I  ∧  MODERATE DISTURDANCE AT AA (# Z )		
□ Low Disturbance at AA (#12i)			I  ∧		
□ Low Disturbance at AA (#12i)		Moderate disturbance at AA (#121)	MODE   MODE   MARCE		
□ Low Disturbance at AA (#12i)		Moderate disturbance at AA (#12i)3L	Moderate disturbance at AA (#121)               3L	Midderate disturbance at AA (#12i)5L	
□ Low Disturbance at AA (#12i)		inoderate distarbance at AA (#121)	Minderate Distribution at AA (#121)	△ Moderate Distarbance at AA (#121)	
□ Low Disturbance at AA (#12i)					Link Disturbance at AA (#40)
□ Low Disturbance at AA (#12i)		23 model at 0 protein at (1/1/21)		interestate protein parioes act act (in 121)	LUIN Bistonian as at AA (WAO)
□ Low Disturbance at AA (#12i)		inoderate distarbance at AA (#121)	Minderate Distribution at AA (#121)	△ Moderate Distarbance at AA (#121)	
□ Low Disturbance at AA (#12i)					LUIN Bistonian as at AA (WAO)
□ Low Disturbance at AA (#12i)					High Disturbance at $\Delta\Delta$ (#12i)
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i) 3L				High Disturbance at AA (#12i)
□ Low Disturbance at AA (#12i)	Moderate Disturbance at AA (#12i) 3L				

Comments: Currently no recreation/education occurs at the site.

#### Wetland/Site #(s): Rostad Mitigation Site

Function & Value Variables	Rating – Actual Functional Points	Possible Functional Points	Functional Units: Actual Points x Estimated AA Acreage	Indicate the Four Most Prominent Functions with an Asterisk
A. Listed / Proposed T&E Species Habitat	low 0.00	1.00	0	
B. MT Natural Heritage Program Species Habitat	high 0.90	1.00	25.97	*
C. General Wildlife Habitat	mod 0.50	1.00	14.43	
D. General Fish Habitat	NA	NA	0	
E. Flood Attenuation	NA	NA	0	
F. Short and Long Term Surface Water Storage	high 0.90	1.00	25.97	
G. Sediment / Nutrient / Toxicant Removal	high 1.00	1.00	28.86	*
H. Sediment / Shoreline Stabilization	high 0.90	1.00	25.97	*
I. Production Export / Food Chain Support	high 0.80	1.00	23.09	*
J. Groundwater Discharge / Recharge	mod 0.70	1.00	20.20	
K. Uniqueness	low 0.30	1.00	8.66	
L. Recreation / Education Potential (bonus point)	low 0.05		1.44	
Total Points	6.05	9	175.59 Total	Functional Units
Percent of Possibl	e Score 67% (round	to nearest who	e number)	

	Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II)  Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
	<ul> <li>☐ Score of 1 functional point for Uniqueness; or</li> <li>☐ Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or</li> </ul>
	Percent of possible score > 80% (round to nearest whole #).
	The countries possible seed to a countries that the mode of the countries with
	Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)  Score of 1 functional point for MT Natural Heritage Program Species Habitat; or
	Score of 1 functional point for Matural Heritage Program Species Habitat, <b>or</b>
	Score of .9 or 1 functional point for General Fish Habitat; <b>or</b>
	"High" to "Exceptional" ratings for <b>both</b> General Wildlife Habitat <b>and</b> General Fish/Aquatic Habitat; <b>or</b>
	Score of .9 functional point for Uniqueness; <b>or</b>
	Percent of possible score > 65% (round to nearest whole #).
	☐ Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
	Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if not go to Category III)  "Low" rating for Uniqueness; and
	☐ Vegetated <u>wetland</u> component < 1 acre (do <u>not</u> include upland vegetated buffer); <b>and</b>
	Percent of possible score < 35% (round to nearest whole #).
Į	
	OVERALL ANALYSIS AREA (AA) RATING: Check the appropriate category based on the criteria outlined above.
J	The trace Altae i did Altea (AA) Italiito. Check the appropriate category based on the chiefla outlined above.

# APPENDIX C PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring Rostad Ranch Meagher County, Montana

C-1 RSI-2975



Photo Point 1 – Panorama; Location: Northeast Corner; Bearing 200 degrees; Year 2013



Photo Point 1 – Panorama; Location: Northeast Corner; Bearing 200 degrees; Year 2019



Photo Point 2 – Panorama; Location: East Fence Corner; Bearing 125 degrees; Year 2013



Photo Point 2 – Panorama; Location: East Fence Corner; Bearing 125 degrees; Year 2019



Photo Point 3 – Panorama; Location: East Fence Line; Bearing 280 degrees; Year 2013



Photo Point 3 – Panorama; Location: East Fence Line; Bearing 280 degrees; Year 2019



Photo Point 4 – Panorama; Location: SE Fence Corner; Bearing 240 degrees; Year 2013



Photo Point 4 – Panorama; Location: SE Fence Corner; Bearing 240 degrees; Year 2019



Photo Point 5 – Panorama; Location: SW Fence Corner; Bearing 200 degrees; Year 2013



Photo Point 5 – Panorama; Location: SW Fence Corner; Bearing 200 degrees; Year 2019



Photo Point 7 – Panorama; Location: West Fence Corner; Bearing 90 degrees; Year 2013



Photo Point 7 – Panorama; Location: West Fence Corner; Bearing 90 degrees; Year 2019



Photo Point 6 Bearing: 30 degrees

Location: West Fence Line Year: 2013



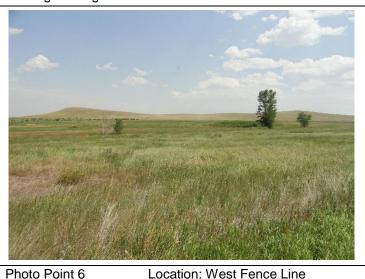
Photo Point 6 Bearing: 30 degrees

Location: West Fence Line Year: 2019



Photo Point 6
Bearing: 100 degrees

Location: West Fence Line Year: 2013



Bearing: 100 degrees

Location: West Fence Line Year: 2019



Photo Point 8 Bearing: 90 degrees

Location: West Central

Year: 2017



Photo Point 8 Bearing: 90 degrees

Location: West Central

Year: 2019



Photo Point 9
Bearing: 240 degrees

Location: East Fence Line Year: 2017



Photo Point 9 Bearing: 240 degrees

Location: East Fence Line Year: 2019



Photo Point 10 Bearing: 80 degrees

Location: West Central Year: 2017



Photo Point 10 Bearing: 80 degrees

Location: West Central Year: 2019

### **Rostad Ranch: Transect Photographs**



Transect 1: Start Bearing: 290 degrees

Location: NE Branch of site Year: 2013



Transect 1: Start Bearing: 290 degrees

Location: NE Branch of site Year: 2019



Transect 1: End Bearing: 110 degrees

Location: NE Branch of site Year: 2013



Transect 1: End Bearing: 110 degrees

Location: NE Branch of site Year: 2019



Transect 2: Start Bearing: 130 degrees

Location: North Central Year: 2013

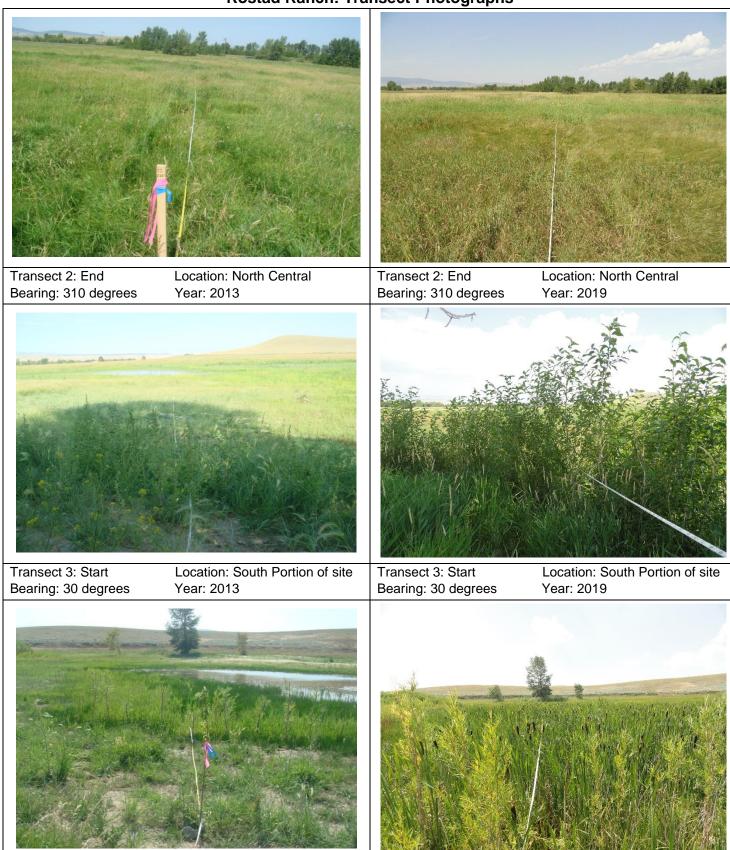




Location: North Central

Year: 2019

### **Rostad Ranch: Transect Photographs**



Transect 3: End

Bearing 30: degrees

Location: South Portion of site

Year: 2019

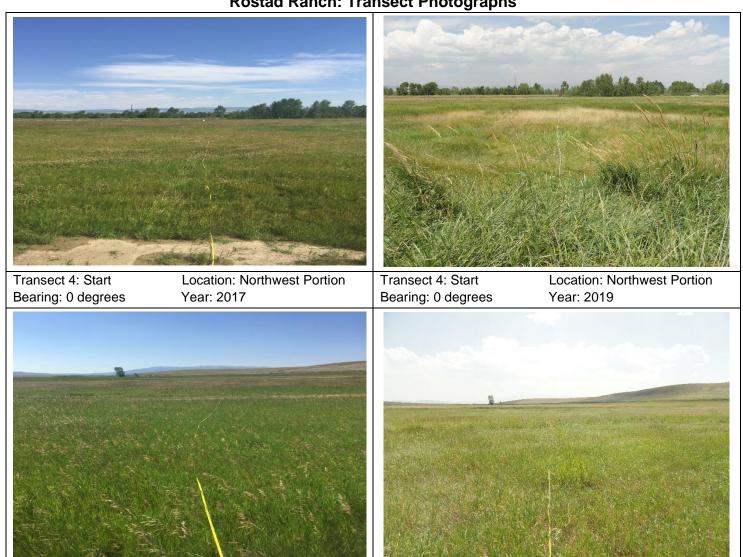
Location: South Portion of site

Year: 2013

Transect 3: End

Bearing 30: degrees

### **Rostad Ranch: Transect Photographs**



Transect 4: End

Bearing: 180 degrees

Location: Northwest Portion

Year: 2019

Location: Northwest Portion

Year: 2017

Transect 4: End

Bearing: 180 degrees



Year: 2019

Year: 2019