Montana Department of Transportation Wetland Mitigation Monitoring Report

SCHRIEBER MEADOWS MITIGATION SITE

Project Overview

Watershed: Watershed #1 – Kootenai River Basin

Monitoring Year: 2020

Years Monitored: 10th year of monitoring

Corps Permit Number: NWO-2004-90280-MTH SPA Authorization Number: MDT-R1-88-2010

Monitoring Conducted By: Confluence Consulting Inc.

Dates Monitoring Was Conducted: July 16, 2020

Purpose of the Approved Project:

The site was constructed to provide 17.25 acres of compensatory wetland mitigation credits and 35,551 stream mitigation credits for wetland and stream impacts associated with the US Highway 2 Swamp Creek – East project and highway impacts associated with future transportation project-related wetland and stream impacts in Watershed #1 – Kootenai River Basin. The project was designed to create new wetlands, restore degraded wetlands, and enhance existing wetlands by restoring natural hydrology in the meadow and constructing a series of shallow excavations. The project restored the Coyote Creek channel and added 3,327 linear feet of stream length.

Site Location: The site is approximately 60 acres in size. Lat/Long below is near the middle of the site.

Latitude: 48.110423 Longitude: -115.41562 County: Lincoln Nearest Town: Libby, MT

Map Included: Yes

Mitigation Site Construction Started: Fall/2007 Construction Ended: Fall/2011 Dates of Any Recent Corrective or Maintenance Activities (since previous report):

Activity: Weed Spraying Date: May 27-28, 2020

Specific recommendations for any additional corrective actions: Weed treatment will continue in 2021. Treatment efforts should focus on the Canada thistle infestations concentrated north of the site's access road.

Anticipated Wetland Credit Acres: 17.24

Wetland Credit Acres Generated to Date: 26.93

Stream Credits Generated to Date: 35,551

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 US Army Corps of Engineers (USACE).

Performance Standards: A summary of performance standards established for the Schrieber Meadows site and whether or not they are meeting the success criteria is provided in Table 1.

Table 1. Summary of Performance Standards

Performance Standards	Success 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 the 2010 Regional Supplement.	Y	Areas that were identified as wetland habitat 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.	Υ	Areas that were identified as wetland habitat within the mitigation site exhibit soil saturation for a minimum 12.5 percent of growing season.
	Hydric soil conditions are present or appear to be forming.	Υ	Hydric soil characteristics have developed throughout all constructed wetlands.
Hydric Soil	Soil is sufficiently stable to prevent erosion.	Υ	In 2020, disturbed soil is stable and does not exhibit signs of erosion.
	Soil is able to support plant cover.	Υ	Plant cover is well established across disturbed soils.
Hydrophytic	Combined absolute cover of facultative or wetter species is 70 percent or greater.	Υ	Areas that were identified as wetland habitat within the mitigation site support a prevalence of hydrophytic vegetation (OBL, FACW, and FAC).
Vegetation	State-listed noxious weeds do not exceed 5 percent absolute cover.	Υ	State-listed noxious weeds are estimated below 5 percent absolute cover within wetland areas.
	Woody and riparian vegetation is established.	N	No woody-dominated communities have formed along the riparian areas associated with Coyote Creek due to unanticipated high groundwater across the site.
	Noxious weeds do not exceed 10 percent cover within the riparian buffer areas.	Υ	State-listed noxious weeds are estimated at 1–3 percent absolute cover within riparian buffer.
Riparian Buffer Success	Creditable buffer areas must have at least 50 percent aerial cover of non-noxious weed species by the end of the monitoring period.	Υ	Non-noxious vegetation consists of nearly 100 percent of the total vegetation cover within the riparian buffer.
Success	Combined aerial cover of riparian and stream bank vegetation communities is 70 percent or greater.	Y	Riparian and stream bank vegetation communities support nearly 100 percent cover.
	Planted trees and shrubs will be considered successful when they exhibit 50 percent survival after 5 years.	N	Following planting installation, unanticipated high groundwater elevations drowned a majority of plantings by the end of the second growing season. Approximately 3 percent survival was noted in 2020. No replanting efforts have been completed.
Channel-Restoration Success	Revegetation along the new Coyote and Schrieber Creek channel corridors will be considered successful when banks are vegetated with a majority of deeprooting riparian and wetland herbaceous and woody plant species.	Y	The majority of streambank vegetation along the constructed Coyote and Schrieber Creek channel corridors is dominated by reed canary grass, which has a stability rating of 9.
	The intent of stream restoration is to allow the stream to naturally migrate within the floodplain and to give it enough room to move and stabilize itself within the site.	Y	The stream has plenty of space within the floodplain for natural migration. The stream currently appears to be stable with no lateral adjustment observed following construction.
Stream Bank Vegetation	Banks are vegetated with a majority of deep-rooting riparian plant species that have root-stability indices of 6 or greater.	Υ	Reed canary grass dominates the stream banks. Reed canary grass has a root-stability index of 9.

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Open Water	The project will provide open water during the spring and early summer within excavated depressions. As the growing season progresses and the groundwater levels recede, vegetation is anticipated to germinate within the majority of the depressions. Open water with submerged and/or floating vegetation will, therefore, be considered successful and creditable.	Y	Excavated depressions within the very northern portion of the site experience seasonal drawdown, and rooted hydrophytic vegetation development has been observed. The lower depressions appear to support perennial inundation with an established aquatic macrophyte community.
	Noxious weeds do not exceed 5 percent cover within upland buffer area.	Υ	In 2020, noxious weed cover was less than 5 percent within the upland buffer.
Upland Buffer	Any area disturbed within the creditable buffer zone must have at least 50 percent aerial cover of nonweed species by the end of the monitoring period.	Y	Disturbed areas have established greater than 50 percent cover by non-weed species.
Weed Control	Weed control will be based on annual site monitoring to determine weed species and the degree of infestation within the site. Control measures based on the monitoring results will be implemented by MDT to minimize and/or eliminate the intrusion of state-listed noxious weed species within the site.	Υ	State-listed noxious weed species across the site have been monitored and mapped during each post-construction monitoring event. MDT administers an ongoing weed-control program. Weeds were sprayed at this site on May 27-28, 2020.

Summary Data

Wetland Delineation — The wetland delineations that were conducted in 2004 and 2005, prior to construction of the project, identified four wetland areas that totaled approximately 15.56 acres within the mitigation project area. The pilot project that was constructed in 2007 resulted in an additional 2.38 acres of wetland habitat developing within the project boundary. After the second construction phase was completed, the delineation conducted in 2012 mapped a total of 47.58 acres of wetlands across the 56.95-acre site. A total of 47.52 acres of jurisdictional wetland and waters of the US (WUS) were delineated at the site in 2020 (Table 2; see maps in Appendix A). The total wetland acreage delineated in 2020, was 39.74 acres, which is a decrease of 7.34 acres since 2019. In 2020, the USACE provided guidance on open water, defining it as "areas of open water of any depth with less than 5% rooted emergent vegetation, no vegetation, submerged non-rooted vegetation, and/or submerged vegetation rooted in the substrate that does not extend above the water surface." In accordance with this recent USACE guidance, open water accounted for 7.44 acres of the mitigation site in 2020 (Table 2). The stream channel represented 0.34 acres in 2020 while uplands accounted for the remaining 9.43 acres of the mitigation site. USACE wetland determination data forms [USACE, 2010a] are provided in Appendix B.

Table 2. Wetland & Waters of the U.S. (WUS) Acreage Delineated in 2019 and 2020 at the Schrieber Meadows Site

Habitat Type	2019 Acreage	2020 Acreage
Wetland ^(a)	47.08	39.74
Stream Channel	0.34	0.34
Open Water	N/A	7.44
Total Wetland & WUS(b)	47.42	47.52

⁽a) Wetland acreage includes approximately 8.30 acres of riparian stream buffer

Vegetation – A total of 136 plant species have been identified at the site from 2010 through 2020 (Appendix B). One new native wetland species, arctic burr-reed (*Sparganium natans*), was observed in 2020. Three upland community types and four wetland community types were identified and mapped at the site in 2020 (Figure A-3, Appendix A). Vegetation communities were identified by species composition and dominance. The following three upland and five wetland vegetation community types were identified in 2020:

- Upland Type 8 Elymus repens/Pascopyrum smithii
- Upland Type 9 *Alopecurus* spp./*Bromus inermis*
- Upland Type 14 Agrostis capillaris/Phleum pratense
- Wetland Type 3 Phalaris arundinacea
- Wetland Type 5 Aquatic Macrophytes/Open Water
- Wetland Type 6 Alopecurus pratensis/Agrostis capillaris
- Wetland Type 15 Typha latifolia/Eleocharis palustris

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 three belt transects (T-1, T-2, and T-3) in 2020 (Figure A-2, Appendix A). Photographs of the transect end points are provided in Appendix C. Table 3 summarizes the data for T-1 from 2010 and 2017 through 2020. T-1 is 318 feet long and intersects community types 3 – Phalaris arundinacea and 5 – Aquatic Macrophytes/Open Water. Hydrophytic vegetation community type 3 accounted for 34.3 percent of the transect in 2020, an increase of 14.5% since 2019. Open water accounted for 65.7 percent of the transect. In 2020, community type 5 – Aquatic Macrophytes/Open Water met the recent USACE definition of open water. This transect has not intersected an upland vegetation community since 2010.

Table 3. Data Summary for T-1 From 2010 and 2017 Through 2020 at the Schrieber Meadows Site

Monitoring Year	2010	2017	2018	2019	2020
Transect Length (feet)	318	318	318	318	318
Vegetation Community Transitions Along Transect	7	6	6	6	6
Vegetation Communities Along Transect	3	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	2	2	2	1
Total Vegetative Species	32	8	8	9	10
Total Hydrophytic Species	22	8	8	9	10
Total Upland Species	10	0	0	0	0

⁽b) Waters of the U.S. (WUS)

Estimated % Total Vegetative Cover	75	75	75	75	45
Estimated % Unvegetated	25	25	25	25	55
% Transect Length Comprising Hydrophytic Vegetation Communities	62	19.8	19.8	19.8	34.3
% Transect Length Comprising Upland Vegetation Communities	13	0	0	0	0
% Transect Length Comprising Open Water With Aquatic Macrophytes	25	80.2	80.2	80.2	65.7

Data collected on T-2 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 4. T-2 is 594 feet long and alternates between wetland community types 3 – *Phalaris arundinacea*, 6 – *Alopecurus pratensis/Agrostis capillaris*, and 14 – *Agrostis capillaris/Phleum pratense*, 15 – *Typha latifolia/Eleocharis palustris*. Hydrophytic vegetation communities comprised 100 percent of the transect during the 2020 survey, an increase of 40% since 2019. A total of 29 species were identified, including 24 hydrophytes and 5 upland species. Community types 5 – Aquatic Macrophytes/Open Water and 13 – *Eleocharis palustris/*Bare Ground were not observed in 2020 and have transitioned along this transect into community type 15. Therefore, Open Water and Mudflat do not represent a percentage of the transect intervals for 2020, as these areas have now shifted into community type 15. The total number of hydrophytic plant species observed along the transect decreased minimally from 2019 to 2020. It is unclear why this occurred number of species decreased in 2020. Annual shifts in species dominance and general presence/absence of species are normal and expected within plant communities. Perhaps the dominant species observed along this transect have outcompeted some of the more infrequently occurring species.

Table 4. Data Summary for T-2 From 2012 and 2017 Through 2020 at the Schrieber Meadows Site

Monitoring Year	2012	2017	2018	2019	2020
Transect Length (feet)	594	594	594	594	594
Vegetation Community Transitions Along Transect	16	15	15	15	8
Vegetation Communities Along Transect	3	4	4	4	4
Hydrophytic Vegetation Communities Along Transect	3	3	3	3	4
Total Vegetative Species	23	35	35	35	29
Total Hydrophytic Species	17	30	30	30	24
Total Upland Species	9	5	5	5	5
Estimated % Total Vegetative Cover	60	70	70	70	65
Estimated % Unvegetated	40	30	30	30	35
% Transect Length Comprising Hydrophytic Vegetation Communities	59.1	58.1	58.1	60	100
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0
% Transect Length Comprising Open Water With Aquatic Macrophytes	40.9	7.7	18.7	23	0
% Transect Length Comprising Mudflat	0	34.2	23.2	17	0

T-3 begins near constructed wetland Cell 8 along the Middle Coyote Creek reach and extends east 440 feet to the edge of the former Coyote Creek channel along the eastern site boundary. The data recorded on T-3 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 5. The transect intervals alternated between wetland community types 3 – *Phalaris arundinacea* and 5 – Aquatic macrophytes/Open Water. Hydrophytic vegetation community type 3 accounted for 53.4 percent of the transect in 2020, an increase of 5.4% since 2019. Open water accounted for 46.6 percent of the transect. In 2020, community type 5 – Aquatic Macrophytes/Open Water met the recent USACE definition of open water. Reed canary grass along T-1 and T-3 has aggressively outcompeted most other plant species and is on average 7 feet tall.

Table 5. Data Summary for T-3 From 2012 and 2017 Through 2020 at the Schrieber Meadows Site

Monitoring Year	2012	2017	2018	2019	2020
Transect Length (feet)	440	440	440	440	440
Vegetation Community Transitions Along Transect	4	4	4	4	4
Vegetation Communities Along Transect	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	2	2	2	1
Total Vegetative Species	9	11	12	13	13
Total Hydrophytic Species	7	7	8	9	13
Total Upland Species	2	4	4	4	0
Estimated % Total Vegetative Cover	50	75	75	75	50
Estimated % Unvegetated	50	25	25	25	50
% Transect Length Comprising Hydrophytic Vegetation Communities	53	46	48	48	53.4
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0
% Transect Length Comprising Open Water With Aquatic Macrophytes	47	54	52	52	46.6

During the June 2020 monitoring, 18 small infestations of Canada thistle (*Cirsium arvense*), a Priority 2B noxious weed in Montana, were identified in areas less than 0.1-acre in size and located in both wetland and upland habitat (Figure A-3, Appendix A). The infestations included trace (< 1 percent), low (1–5 percent), moderate (6–25 percent), and high (>25 percent) cover classes. Three infestations of oxeye daisy (*Leucanthemum vulgare*), also a Priority 2B noxious weed, were observed in the northern part of the project area, in areas less than 0.1-acre in size with infestations ranging from trace to moderate. Annual weed spraying efforts have been very effective in reducing infestation size and cover of noxious weed populations across the site. The Montana Department of Transportation (MDT) has an ongoing weed-control program, which included weed spraying by contractors on May 27-28, 2020, prior to the July 2020 monitoring event.

A total of 1,000 speckled alders (*Alnus incana*) were planted along the newly constructed stream channel and wetland cells in the northern third of the site. Fewer than 50 live plants were observed throughout the mitigation site in 2020, which indicates 5 percent survival. Fewer than ten willows (*Salix* spp.) were observed near the spring north of the access road. A few of the alder trees were resprouting from the roots while the aboveground portions of the plants were dead. The remaining live alders and willows were not thriving in 2020 due to the aggressive competition from reed canary grass and perennial deep-water conditions. The persistence of reed canary grass and a high-water table are expected to continue to inhibit shrub development across the site. The excavated depressions on the USFS parcel may provide a suitable environment for woody plant establishment, although only a few willows were observed in 2020 that had been previously recorded along T-2 and around the edges of excavated wetland cells. The three volunteer willow saplings observed in 2020 along T-2 have not matured to date and are subject to browse from ungulate species using the site.

Hydrology – During the 2020 investigation, the average depth of surface water across the site was estimated at 2.5 feet with a range of depths from 0 to 5 feet. The deepest standing water is located within many of the excavated cells and within the creek channels. Approximately 80 percent of the project area was inundated during the 2020 site visit. The surface-water depth at the emergent vegetation and open-water boundary was estimated at 2.5 feet. The southern two-thirds of the site was inundated and/or saturated as a result of the reconstructed channel of Coyote Creek and abundant surface- and groundwater flowing through the valley. The high groundwater elevations observed on site are a result of restoration efforts to plug existing drain ditches and channels, the subsidence of histosol soil elevations over time, and perhaps the beaver dam located at the outlet of Schrieber Lake to the

south of this site. The northern third of the site was drier, but still exhibited surface water throughout. Every excavated wetland cell contained surface water, with the lowest water levels observed near the northern monitoring boundary. The intermittent Coyote Creek was dry in July 2020 north of Coyote Creek spring, located upstream of the site's access road. This spring appears to provide a perennial source of hydrology to the site. Direct precipitation also contributes to wetland hydrology, but the high groundwater table is the primary hydrologic driver and source of water within this site. Precipitation accumulation for this area in 2020 reported 14.82 inches from January through November, which is much lower than accumulation reported for 2019 (17.16 inches), and lower than the historic accumulation average of 14.96 inches [NRCS, 2020a].

Soils – Soil test pits were excavated at four locations to evaluate the extent of hydric soil development across the site in 2020 (Appendices A and B). Soil textures within wetland test pits ranged from muck (i.e., organic) to sandy clay. Hydric soil indicators were observed in both wetland test pits and included histosol, hydrogen sulfide, and depleted matrix. Soil textures within upland test pits ranged from sandy loam to clay loam. No hydric soil indicators were observed in either of the upland test pits. Additional field observations for the four data points are provided in the wetland determination data forms in Appendix B.

Photographs – Ten photo points were initially established within the three constructed cells that were monitored in 2010. A total of 20 photo points were established in 2012 in response to the increased project area size, including the reestablishment of photo point 7 from its original 2010 location. In addition to established photo points, photographs were taken at each surveyed stream cross section, sampled data points, and vegetation transect endpoints. The locations of these photographs are illustrated on Figure A-2 (Appendix A) and the photographs in Appendix C. Please refer to previous years' monitoring reports for all previous annual photographs (https://www.mdt.mt.gov/publications/brochures/wetland_mitigation.shtml).

Functional Assessment – The 2008 MDT Montana Wetland Assessment Method (MWAM) functional assessment results for 2020 are summarized in Table 6. Three separate Assessment Areas (AAs) were used to evaluate the site: Creation AA, Enhancement AA, and Restoration AA. Completed functional assessment forms for all three AAs are provided in Appendix B. All wetlands within the Schrieber Meadows site rate as Category I wetlands. Functional scores and ratings have remained nearly constant since 2015. All AAs received high or exceptional ratings for many assessment parameters, including Listed/Proposed Threatened & Endangered Species Habitat due to the documentation of grizzly bears on the site in recent years. Other functions rated as high and/or exceptional include General Wildlife Habitat, Short- and Long-Term Surface-Water Storage, Sediment/Nutrient/Toxicant Removal, Sediment/Shoreline Stabilization, Production Export/Food Chain Support, and Groundwater Discharge/Recharge.

Table 6. Montana Wetland Assessment Method Summary for Schrieber Meadows Site

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	2020 Enhancement AA	2020 Creation AA	2020 Restoration AA
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	High (0.8)	High (0.8)	High (0.8)
Montana Natural Heritage Program Species (MTNHP) Habitat	High (0.9)	High (0.9)	High (0.9)
General Wildlife Habitat	High (0.9)	High (0.9)	Exc (1.0)
General Fish/Aquatic Habitat	Low (0.3)	Mod (0.7)	NA
Flood Attenuation	Mod (0.6)	Mod (0.6)	Mod (0.5)
Short- and Long-Term, Surface-Water Storage	High (1.0)	High (1.0)	High (0.8)
Sediment/Nutrient/Toxicant Removal	High (1.0)	High (1.0)	Mod (0.6)

Sediment/Shoreline Stabilization	High (1.0)	High (1.0)	High (1.0)
Production Export/Food Chain Support	Exc (1.0)	Excel (1.0)	Exc (1.0)
Groundwater Discharge/Recharge	High (1.0)	High (1.0)	High (1.0)
Uniqueness	Low (0.3)	Low (0.3)	Mod (0.4)
Recreation/Education Potential (bonus points)	High (0.2)	High (0.2)	High (0.2)
Actual Points/Possible Points	8.9/10	9.4/11	8.2/10
% of Possible Score Achieved	89%	85%	82%
Overall Category	1	I	1
Total Acreage of Assessed Wetlands Within Site Boundaries	13.22	22.54	3.46
Functional Units (acreage × actual points)	117.66	211.88	28.38

Wildlife – Five bird species were identified in 2020. The two bird boxes installed at the site are functional, although neither were in use during the 2020 site visit. In addition to the five bird species, Columbia spotted frogs (*Rana luteiventris*) were also observed within many of the excavated wetland cells (Appendix B). Few moose tracks, two Columbian ground squirrels (*Urocitellus columbianus*), and three white-tailed deer (*Odocoileus virginianus*) were observed across the site.

Stream Monitoring – The survey results for 11 permanent cross sections that were established along the constructed Coyote and Schrieber Creeks (Figure A-2, Appendix A) are shown in Appendix D. The 2020 data was compared to the previous surveys and discussions to assess stream channel stability. In general, the banks of the constructed channels were well-vegetated and exhibited stable conditions. Consequently, no major channel morphological changes have been observed throughout all of the monitoring years.

Credit Summary – Stream Credits

Completely restoring sinuosity and stream length to both Coyote Creek and Schrieber Creek was intended to create a new channel length of approximately 7,756 linear feet, which is an overall increase of 3,327 linear feet from the previously channelized length of 4,429 linear feet. As part of the Montana Stream Mitigation Procedure [USACE, 2010b], riparian and stream credits are added together to calculate the total stream mitigation credits (Table 7).

Table 7. Determination of Stream Mitigation Credits for the Schrieber Meadows Site

Factors	Upper Coyote Creek (USFS)	Coyote Creek Spring Area	Middle Coyote Creek (MDT)	Perennial Spring Channel	Lower Coyote Creek		
Net Improvement	2.50	0.00	2.50	2.50	2.50		
Stream Status	0.05	0.05	0.05	0.05	0.05		
Type of Protection	0.20	0.20	0.20	0.20	0.20		
Mitigation Timing	0.10	0.10	0.10	0.10	0.10		
Comparative Stream Order	0.20	0.20	0.20	0.20	0.20		
Location	0.10	0.10	0.10	0.10	0.10		
Sum of Factors (M)	3.15	0.65	3.15	3.15	3.15		
Linear Feet (L)	1,752	190	3,179	400	2,425		
Total Stream Credits (M × L)	5,519	123	10,014	1,260	7,639		
Total Stream Credits ^(a) = 24,555							

Total Mitigation Credits (Riparian + Stream) = 10,996 + 24,555 = 35,551

(a) Credits were calculated using the Montana Stream Mitigation Procedure [USACE, 2010].

Credit Summary – Wetland Credits

The pilot project, constructed in 2007, generated approximately 3.72 mitigation credit acres, including 2.38 credit acres of wetland creation, 0.75 credit acre for restoration (rehabilitation) of existing wetlands (1.12 acres restored), and 0.59 credit acre of upland buffer (2.96 acres maintained) around the wetlands. The pilot project was engulfed by the larger project constructed by MDT in 2011. Table 8 provides the credits generated at the Schrieber Meadows site for the approximately 57-acre, full-scale project and does not differentiate between the pilot and all-compassing Schrieber Meadows project.

A total of 39.74 acres of wetland habitat were delineated at the Schrieber Meadows site in 2020, including 19.11 acres of creation, 3.46 acres of restoration, 9.34 acres of enhancement, and 8.3 acres of riparian buffer (Table 8). A total of 59.96 acres, including 12.39 acres of upland buffer, -0.08-acre project impacts, and 7.44 acres of open water, were used to calculate the mitigation credited acres. After applying the USACE-approved ratios to these values, a total of 26.93 mitigation credit acres have been estimated in 2020, which is 9.69 credit acres more than the targeted 17.24 credit acres originally planned for this site. The decrease in total mitigation acreage from 2019 to 2020 is the result of the recent change for open water habitat at the request of the USACE.

Table 8. Summary of Wetland Mitigation Credits at the Schrieber Meadows Site from 2013 and 2017 through 2020

Mitigation Type	Total Proposed Acreage	Ratio	Proposed Credit Acres	2013 Delineated Acreage	2013 Credit Acres	2018 Delineated Acreage	2018 Credit Acres	2019 Delineated Acreage	2019 Credit Acres	2020 Delineated Acreage	2020 Credit Acres
Creation – USFS/MDT Property	8.91	1:1	8.91	22.43	22.43	21.90	21.90	21.90	21.90	19.11	19.11
Restoration on USFS/MDT Property	3.46	1.5:1	2.31	3.46	2.31	3.46	2.31	3.46	2.31	3.46	2.31
Enhancement of Wetlands Inside Geotechnical Limits Adjacent to US Highway 2 (MDT/USFS)	13.22	3:1	4.41	13.22	4.41	13.22	4.41	13.22	4.41	9.34	3.11
Riparian Buffer ^(a)		_		8.30	(b)	8.30	(b)	8.30	(b)	8.30	(b)
Upland Buffer	8.50	5:1	1.70	12.39 ^(c)	2.48						
Project Impacts	-0.08	None	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
Open Water	N/A	TBD ^(d)	N/A							7.44	TBD ^(d)
Total Mitigation Acreage	34.01		17.24	59.72	31.54	59.19	31.01	59.19	31.01	59.96	26.93

⁽a) Riparian buffer areas were used to calculate stream and riparian credits.

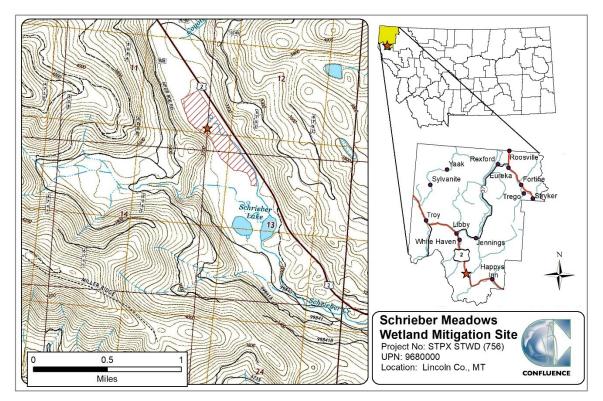
⁽b) Wetland acreages within riparian buffer were subtracted from wetland credit total; riparian buffer does not include upland buffer acreage.

⁽c) Acreage includes 50-foot buffer around wetlands within MDT and USFS property and outside of the riparian buffer.

⁽d) Mitigation ratios and crediting for Open Water are To Be Determined (TBD).

Maps, Plans, Photos

Site Location Map



Project Area Maps/Figures: See Appendix A

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

Photos: See Appendix C

Plans: See Appendix D of 2012 Monitoring Report

https://www.mdt.mt.gov/other/webdata/external/planning/wetlands/2012/schrieber_meadows_final_2012.pdf

Conclusions

Based on the results of the tenth year of monitoring, the mitigation site is continuing to develop into a diverse wetland ecosystem. The site is meeting all performance standards except for the following:

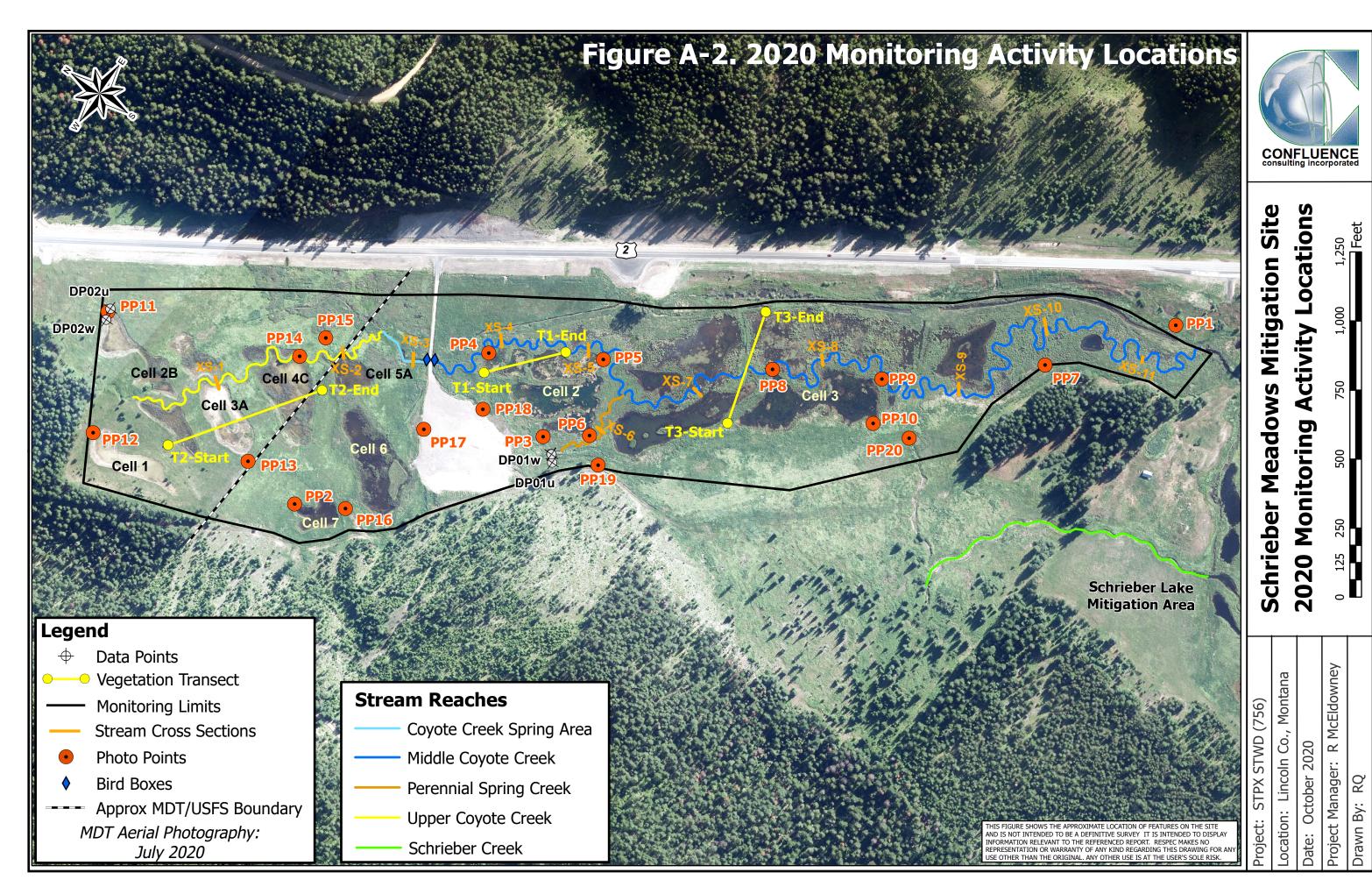
- 1. Riparian Buffer Success: Woody and riparian vegetation is established.
 - a. Woody vegetation along the reconstructed stream channels has been slow to develop due to perennial deep-water conditions and aggressive competition from reed canary grass.
- 2. Planted trees and shrubs will be considered successful when they exhibit 50 percent survival after 5 years.
 - a. Woody plantings survival is not trending toward meeting this performance standard.

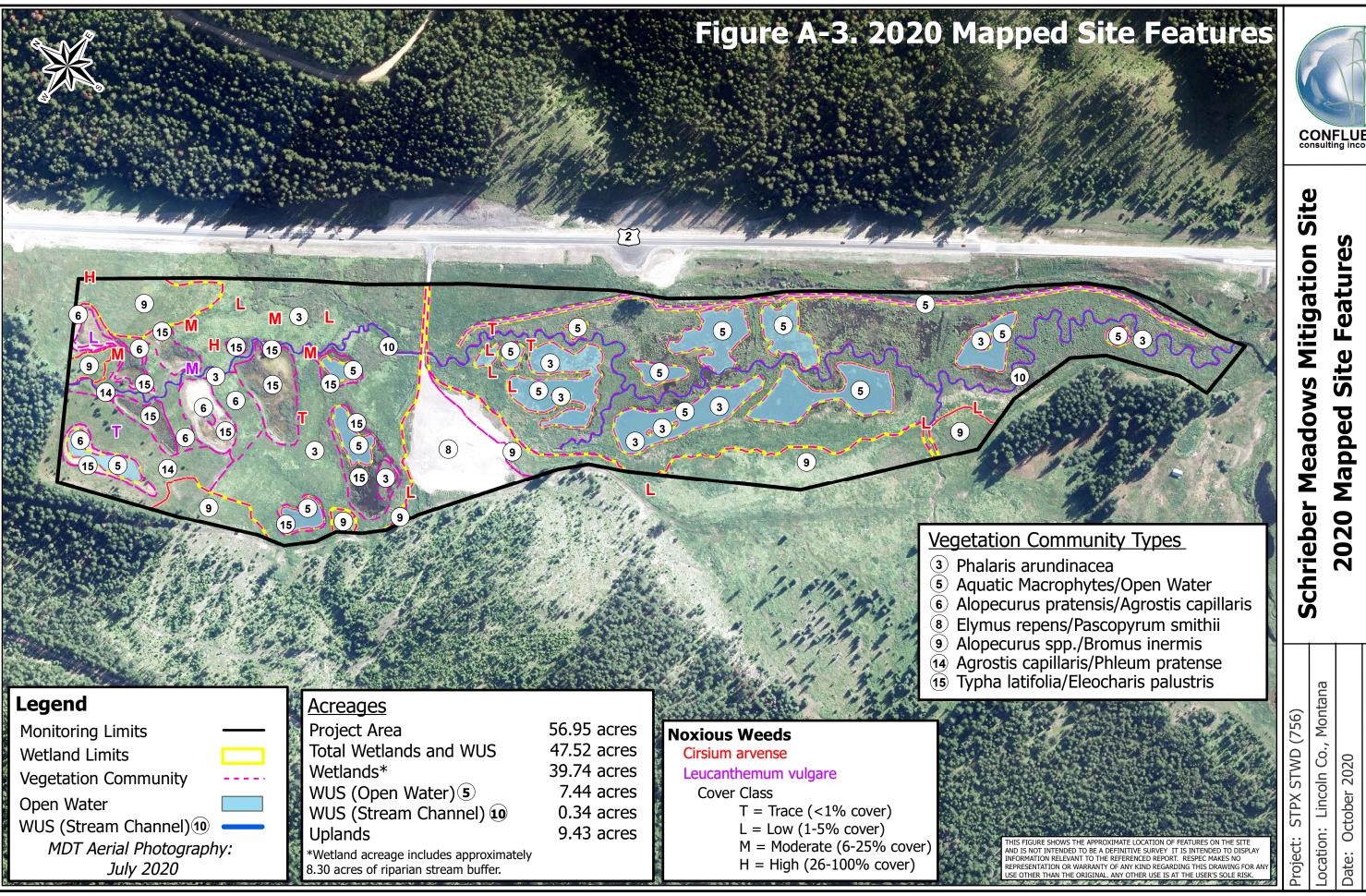
References

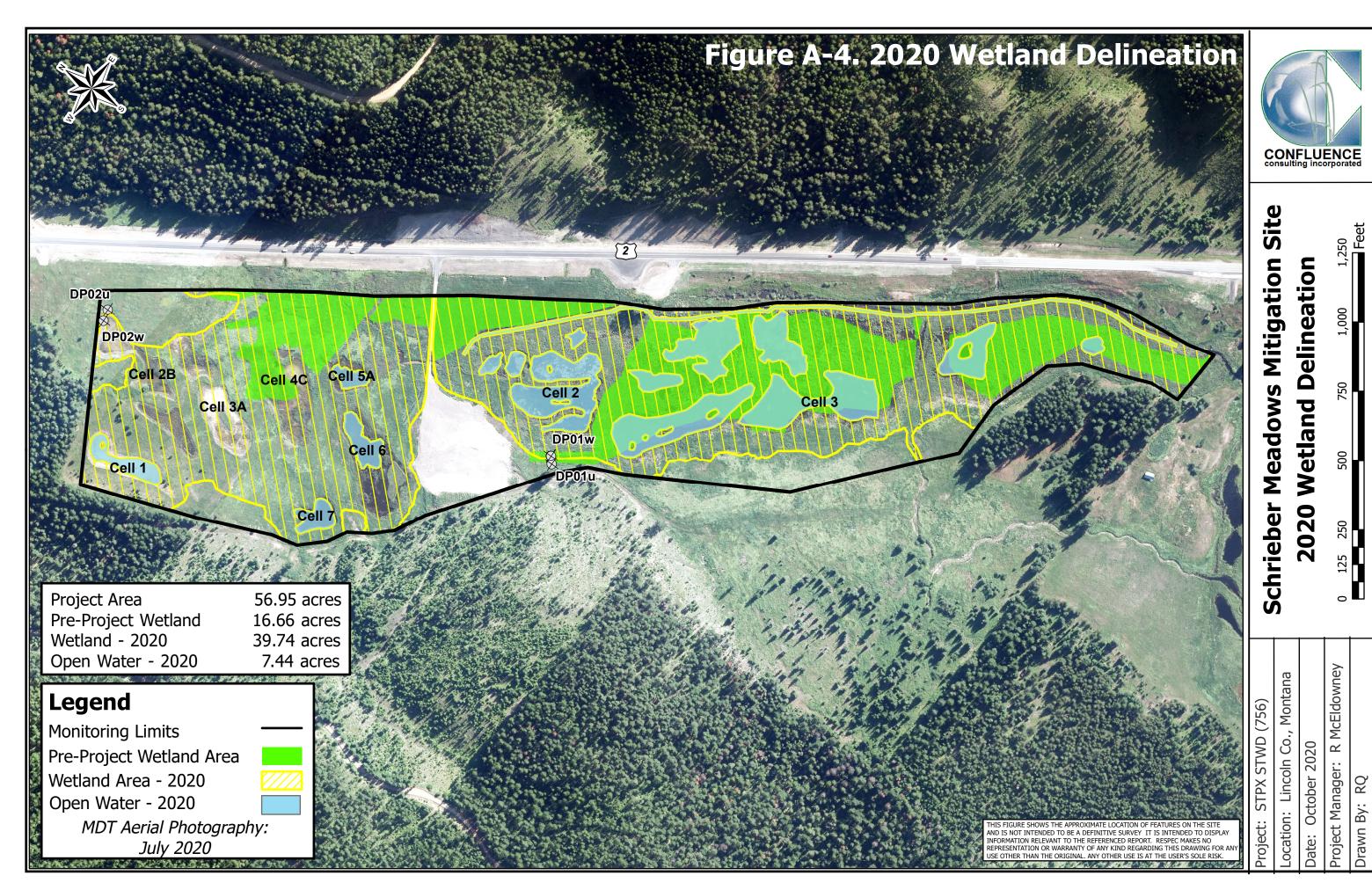
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APPENDIX A PROJECT AREA MAPS

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana







APPENDIX B MONITORING FORMS

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Schrieber Meadows Assessment Date/Time 7/16/2020
Person(s) conducting the assessment: R Quire, S Weyant, B Trudgeon
Weather: 80 degrees, sunny, clear Location: Highway 2, Swamp Creek East
MDT District: MissoulaMilepost: 53.5
Legal Description: T_27N_R30W_Section(s) 11, 12, 13
Initial Evaluation Date: 8/29/2010 Monitoring Year: 10 #Visits in Year: 1
Size of Evaluation Area: 57 (acres)
Land use surrounding wetland:
US Highway 2, US Forest Service, forested watershed
HYDROLOGY
Surface Water Source: Coyote Creek spring, Precipitation, Groundwater
nundation: Average Depth: 1.5 (ft) Range of Depths: 0-5 (ft)
Percent of assessment area under inundation:80 %
Depth at emergent vegetation-open water boundary:2.5 (ft)
f assessment area is not inundated then are the soils saturated within 12 inches of surface: No
Other evidence of hydrology on the site (ex. – drift lines, erosion, stained vegetation, etc <u>:</u>
Surface water, saturation, high water table, hydrogen sulfide odor, iron deposits, geomorphic
position, FAC neutral test, inundation visible on aerials.
Groundwater Monitoring Wells
Record depth of water surface below ground surface, in feet.
Necord depth of water surface below ground surface, in feet.
Additional Activities Checklist:
✓ Map emergent vegetation-open water boundary on aerial photograph.
Observe extent of surface water during each site visit and look for evidence of past surface water
elevations (drift lines, erosion, vegetation staining, etc.)
Use GPS to survey groundwater monitoring well locations, if present.
Hydrology Notes:
Water depths were deeper on average across the site than what was reported in 2019, especially within excavated depressions, Coyote Creek, and southeast of the access road that bisects the property.

VEGETATION COMMUNITIES

Acres: 30.87

Site _Schrieber Meadows

(Cover Class Codes $\mathbf{0} = < 1\%$, $\mathbf{1} = 1.5\%$, $\mathbf{2} = 6.10\%$, $\mathbf{3} = 11.20\%$, $\mathbf{4} = 21.50\%$, $\mathbf{5} = >50\%$)

Community # 3 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Alnus incana	0	Alopecurus arundinaceus	1
Alopecurus pratensis	1	Carex athrostachya	1
Carex stipata	1	Carex utriculata	1
Cirsium arvense	1	Eleocharis palustris	1
Epilobium ciliatum	1	Glyceria grandis	0
Lemna minor	1	Mimulus guttatus	1
Open Water	4	Persicaria amphibia	1
Phalaris arundinacea	5	Scirpus microcarpus	1
0			

Comments:

Dominant wetland community type located across the site. Reed canary grass has outcompeted most other species and was observed at an average height of 7ft tall. Many areas within this CT inundated with an average of 3 feet of standing water. Very difficult to move through.

Community # 5 Community Type: Aquatic macrophytes / Open Water Acres: 7.44

Species	Cover class	Species	Cover class
Algae, brown	2	Algae, green	2
Alnus incana	0	Aquatic macrophytes	2
Carex athrostachya	0	Carex nebrascensis	0
Carex utriculata	0	Chara sp.	2
Eleocharis palustris	0	Glyceria grandis	0
Lemna minor	0	Mimulus guttatus	1
Open Water	5	Persicaria amphibia	1
Phalaris arundinacea	1	Sparganium natans	1
Typha latifolia	1		
_			

Comments:

Areas dominated by 2-3 feet of standing water, less than 5% emergent wetland vegetation, and a diversity of submergent/floating aquatic macrophytes.

Community # 6	Community Type:	Alopecurus pratensis / Agrostis capi	llaris Acres:	<u>1.86</u>
Species	Cover class	Species	Cover class	
Achillea millefolium	1	Agrostis capillaris	4	
Alnus incana	0	Alopecurus arundinaceus	2	
Alopecurus pratensis	4	Bromus inermis	2	
Carex athrostachya	1	Carex lasiocarpa	0	
Carex utriculata	0	Eleocharis palustris	1	
Epilobium ciliatum	1	Juncus tenuis	1	
Leucanthemum vulgare	1	Open Water	1	
Pedicularis groenlandica	1	Phalaris arundinacea	2	
Poa pratensis	1	Rosa woodsii	1	
Salix bebbiana	1	Symphyotrichum spathulatur	m 1	
Comments:				
Wetland CT northwest of	access road that bisect	s the property.		
Community # 8	Community Type:	Elymus repens / Pascopyrum smithi	i Acres:	<u>2.72</u>
Species	Cover class	Species	Cover class	
Alopecurus pratensis	1	Bare Ground	4	
Bromus inermis	1	Elymus repens	3	
Medicago lupulina	2	Pascopyrum smithii	4	
Sisymbrium altissimum	1			
Comments:				
Upland community type th	at runs along the acces	ss road that bisects the property.		
Community # 9	Community Type:	Alopecurus spp. / Bromus inermis	Acres:	<u>6.77</u>
Species	Cover class	Species	Cover class	
Achillea millefolium	1	Agrostis capillaris	1	
Alopecurus arundinaceus	2	Alopecurus pratensis	5	
Arnica chamissonis	1	Bromus inermis	3	
Pascopyrum smithii	1	Poa pratensis	1	
Senecio hydrophiloides	1	Taraxacum officinale	1	
Comments:				
Upland community type lo	cated along the outer e	dges of the project area, primarily alo	ong the W-SW boundary.	

Community #	14	Community Type:	Agrostis capillaris / Phleum pratense	Acres:	2.52
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Species	Cover class	Species	Cover class
Achillea millefolium	1	Agrostis capillaris	4
Agrostis gigantea	1	Alopecurus pratensis	1
Bare Ground	2	Bromus inermis	1
Cirsium arvense	0	Fragaria virginiana	0
ieracium aurantiacum	0	Juncus tenuis	1
eucanthemum vulgare	0	Phleum pratense	3
inus contorta	0	Pinus ponderosa	0
seudotsuga menziesii	0	Rosa woodsii	0
ymphyotrichum spathulatum	0		

Comments:

Wetland community type located in northwest corner of site.

Community # 15 Community Type: Typha latifolia / Eleocharis palustris Acres: 4.48

Species	Cover class	Species	Cover class
Agrostis capillaris	1	Alopecurus arundinaceus	1
Alopecurus pratensis	1	Bare Ground	1
Beckmannia syzigachne	0	Carex athrostachya	1
Carex pellita	1	Carex stipata	1
Chara sp.	1	Eleocharis palustris	3
Epilobium ciliatum	1	Glyceria grandis	1
Glyceria striata	1	Juncus bufonius	0
Juncus tenuis	0	Leucanthemum vulgare	1
Mentha arvensis	1	Open Water	4
Persicaria amphibia	1	Phalaris arundinacea	1
Salix bebbiana	0	Scirpus microcarpus	1
Suaeda calceoliformis	0	Trifolium pratense	1
Typha latifolia	4		

Comments:

New wetland community type in 2020, replaced CT 13 and portions of CT 5 as a result of an increase in Typha latifolia. Located northwest of access road that bisects the property.

Total Vegetation Community Acreage

56.66

(Note: some area within the project bounds may be open water or other non-vegetative ground cover.)

VEGETATION TRANSECTS

Schrieber Meadow	S	Da	te:	7/16/2020
Transect Number: _		_ Compass Di	rection from Start:	<u>112</u> °
Interval Data:				
Ending Station	20	Community Type:	Phalaris arundinacea /	
Species		Cover class	Species	Cover clas
Phalaris arundinacea		5		
Ending Station	55	Community Type:	Aquatic macrophytes / O	pen Water
Species		Cover class	Species	Cover clas
Algae, green		4	Alnus incana	(
Chara sp.		2	Lemna minor	
Mimulus guttatus		1	Open Water	:
Persicaria amphibia		1	Phalaris arundinacea	
Ending Station	80	Community Type:	Phalaris arundinacea /	
Species		Cover class	Species	Cover clas
Cirsium arvense		1	Mimulus guttatus	
Open Water		4	Phalaris arundinacea	
Ending Station	155	Community Type:	Aquatic macrophytes / O	pen Water
Species		Cover class	Species	Cover clas
Algae, green		3	Aquatic macrophytes	
Lemna minor		1	Open Water	
Persicaria amphibia		1		
Ending Station	181	Community Type:	Phalaris arundinacea /	
Species		Cover class	Species	Cover clas
Alnus incana		0	Open Water	
Persicaria amphibia		1	Phalaris arundinacea	
Ending Station	280	Community Type:	Aquatic macrophytes / O	pen Water
Species		Cover class	Species	Cover clas
Algae, brown		2	Algae, green	
Aquatic macrophytes		2	Open Water	;
Persicaria amphibia		1	Phalaris arundinacea	

Ending Station 318 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Glyceria grandis	1	Open Water	2
Phalaris arundinacea	5		

Transect Notes:

More open water observed along transect than observed in 2019. Very difficult to move through. Reed canary grass greater than 7ft tall, water at times greater than 4ft deep, monitoring this transect was hazardous and extreme caution taken by crew. A kayak was necessary for the crew member completing the cross section survey.

Interval Data: 35 Community Type: Agrostis capillaris / Phleum pratense **Ending Station** Cover class **Cover class Species Species** Achillea millefolium 0 4 Agrostis capillaris 2 Bare Ground 3 Agrostis gigantea 0 Bromus inermis 1 Juncus tenuis 1 Leucanthemum vulgare Phleum pratense 105 Community Type: Typha latifolia / Eleocharis palustris **Ending Station Species** Cover class **Species** Cover class Bare Ground 1 Carex pellita 3 Carex stipata 1 Eleocharis palustris 2 Glyceria grandis 1 Juncus bufonius 0 Juncus tenuis 1 Open Water 3 Phalaris arundinacea 1 Scirpus microcarpus 1 Typha latifolia 4 168 **Community Type:** Alopecurus pratensis / Agrostis capillaris **Ending Station Species** Cover class Species Cover class Agrostis capillaris 3 Alnus incana 0 Alopecurus pratensis 3 Bromus inermis 0 Carex lasiocarpa 4 Eleocharis palustris 1 Epilobium ciliatum 0 Juncus tenuis 0 Phalaris arundinacea Salix bebbiana 0 219 Community Type: Typha latifolia / Eleocharis palustris **Ending Station Species** Cover class Cover class **Species** 3 Agrostis capillaris Bare Ground 3 Beckmannia syzigachne 1 Eleocharis palustris Epilobium ciliatum 0 Juncus tenuis 1 2 Open Water Phalaris arundinacea 1 1 4 Trifolium pratense Typha latifolia 250 Community Type: Alopecurus pratensis / Agrostis capillaris **Ending Station Species Species** Cover class Cover class Achillea millefolium 2 Agrostis capillaris 2 3 Bromus inermis 4 Alopecurus pratensis Symphyotrichum spathulatum 0

Compass Direction from Start: ___100 °

Transect Number: 2

Ending Station	295	Community Type:	e: Typha latifolia / Eleocharis palustris	
Species		Cover class	Species	Cover class
Agrostis capillaris		0	Bare Ground	3
Beckmannia syzigachne		0	Eleocharis palustris	3
Epilobium ciliatum		1	Glyceria grandis	1
Juncus tenuis		1	Leucanthemum vulgare	1
Open Water		2	Phalaris arundinacea	1
Salix bebbiana		0	Typha latifolia	3
Ending Station	410	Community Type:	Alopecurus pratensis / Agro	stis capillaris
Species		Cover class	Species	Cover class
Agrostis capillaris		1	Alopecurus pratensis	5
Bromus inermis		3	Leucanthemum vulgare	1
Pedicularis groenlandica		0	Rosa woodsii	1
Ending Station	555	Community Type:	Typha latifolia / Eleocharis բ	palustris
Species		Cover class	Species	Cover class
Alopecurus pratensis		0	Carex athrostachya	0
Carex pellita		1	Chara sp.	1
Eleocharis palustris		3	Juncus tenuis	1
Mentha arvensis		0	Open Water	4
Persicaria amphibia		1	Phalaris arundinacea	1
Scirpus microcarpus		1	Typha latifolia	4
Ending Station	594	Community Type:	Phalaris arundinacea /	
Species		Cover class	Species	Cover class
Alopecurus pratensis		2	Carex athrostachya	0
Carex utriculata		1	Phalaris arundinacea	5
Scirpus microcarpus		1		

Transect Notes:

CT 15, a new community observed in 2020, replaced CT 5 and CT 13 along transect, as more open water and Typha latifolia were observed in 2020.

Transect Number: 3	Co	mpass Dire	ection from Start:	<u>45</u> °
Interval Data:				
Ending Station	60 Commun	ity Type: P	halaris arundinacea /	
Species	Cover cla	ass S	Species	Cover class
Lemna minor			Open Water	1
Persicaria amphibia	1	l F	Phalaris arundinacea	5
Ending Station	137 Commun	ity Type: A	quatic macrophytes / Ope	en Water
Species	Cover cla	ass S	Species	Cover class
Algae, green	1	Α	Aquatic macrophytes	3
Chara sp.	4	ļ L	emna minor	1
Open Water	Ę	5 F	Phalaris arundinacea	1
Sparganium natans	1	l		
Ending Station	288 Commun	ity Type: P	halaris arundinacea /	
Species	Cover cla	ass S	Species	Cover class
Carex utriculata	1	l E	Eleocharis palustris	0
Epilobium ciliatum	1	ı	Glyceria grandis	0
Lemna minor	2	2 C	Open Water	4
Persicaria amphibia	3	3 F	Phalaris arundinacea	5
Ending Station	416 Commun	ity Type: A	quatic macrophytes / Ope	en Water
Species	Cover cla	ass S	Species	Cover class
Algae, brown	3	3 C	Carex nebrascensis	1
Carex utriculata	1	ı c	Chara sp.	2
Lemna minor	2	2 C	Open Water	5
Persicaria amphibia	1	l F	Phalaris arundinacea	1
Typha latifolia	1			
Ending Station	440 Commun	ity Type: P	halaris arundinacea /	
Species	Cover cla	ass S	Species	Cover class
Lemna minor	2	2 0	Open Water	3
Phalaris arundinacea	Ę	5		

Transect Notes:

More open water observed along transect than observed in 2019. Very difficult to move through. Reed canary grass greater than 7ft tall, water at times greater than 4ft deep, monitoring this transect was hazardous and extreme caution taken by crew. A kayak was necessary for the crew member completing the cross section survey.

PLANTED WOODY VEGETATION SURVIVAL

Schrieber Meadows

Planting Type	#Planted	#Alive Notes
Alnus incana	1000	50 obs <50 - too wet and out-competed by reed canary gras
Salix sp.	750	10 too wet and out-competed by reed canary grass

Comments

Planted shrubs are difficult to see at the site due to the dense cover of 7ft tall reed canary grass. It is thought that the majority of woody plantings have died because of perennial deep water conditions and being out competed by reed canary grass.

Schrieber Meadows

WILDLIFE

Birds

Were man-made nesting structures installed? If yes, type of structure: Bird boxes	Yes
How many?2	
Are the nesting structures being used?	No
Do the nesting structures need repairs?	No
Nesting Structure Comments:	

Species	#Observed	Behavior	Habitat
Great Blue Heron	1	FO	
Killdeer	3		
Red-winged Blackbird	5	F, FO, L	
Sparrow sp.	3	FO, L	
Tree Swallow	10	FO, L	
Bird Comments			

BEHAVIOR CODES

 $\mathbf{BP} = \mathbf{One} \ \mathbf{of} \ \mathbf{a} \ \underline{\mathbf{breeding}} \ \mathbf{BD} = \mathbf{Breeding} \ \mathbf{display} \ \mathbf{F} = \mathbf{Foraging} \ \mathbf{FO} = \mathbf{Flyover} \ \mathbf{L} = \mathbf{Loafing} \ \mathbf{N} = \mathbf{Nesting}$

HABITAT CODES

AB = Aquatic bed **SS** = Scrub/Shrub **FO** = Forested **UP** = Upland buffer **I** = Island

WM = Wet meadow MA = Marsh US = Unconsolidated shore MF = Mud Flat OW = Open Water

Mammals and Herptiles

Species	# Observed Tracks Scat	Burrows Comments
<u>-</u>		

Columbia Spotted Frog	20	No	No	No
Ground Squirrel	2	No	No	No
Moose		Yes	No	No
White-tailed Deer	3	No	No	No

Wildlife Comments:

Many small Columbia spotted frogs observed across the site.

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.				
_	and the second s				

At least one photograph showing the buffer surrounding the wetland.

☑ One photograph from each end of the vegetation transect, showing the transect.

Photo #	Latitude	Longitude	Bearing	Description
DP-1U	48.111984	-115.417667		
DP-1W	48.112044	-115.417579		
DP-2U	48.116341	-115.420054		
DP-2W	48.116304	-115.420218		
PP01	48.10804	-115.410172	270	Photo Point 1 (Pano):
PP02	48.113735	-115.420509	150	Photo Point 2:
PP03	48.112183	-115.417503	90	Photo Point 3 (Pano):
PP04	48.113213	-115.416832	180	Photo Point 4 (Pano):
PP05	48.112614	-115.415977	300	Photo Point 5 (Pano):
PP06	48.11904	-115.417023	0	Photo Point 6 (Pano):
PP07	48.108813	-115.411923	0	Photo Point 7 (Pano):
PP08	48.11121	-115.414238	190	Photo Point 8 (Pano):
PP09	48.109997	-115.413765	280	Photo Point 9 (Pano):
PP10	48.109737	-115.414024	0	Photo Point 10 (Pano):
PP11	48.116409	-115.420021	190	Photo Point 11 (Pano):
PP12	48.115673	-115.421562	180	Photo Point 12 (Pano):
PP13	48.11422	-115.420403	280	Photo Point 13 (Pano):
PP14	48.114655	-115.41893	230	Photo Point 14 (Pano):
PP15	48.114323	-115.418449	180	Photo Point 15 (Pano):
PP16	48.113403	-115.420128	70	Photo Point 16 (Pano):
PP17	48.112938	-115.418388	270	Photo Point 17 (Pano):
PP18	48.1129	-115.417618	90	Photo Point 18:
PP19	48.111553	-115.417084	10	Photo Point 19, Photo 1:
PP-19	48.111553	-115.417084	100	Photo Point 19, Photo 2:
PP-20	48.109493	-115.413918	100	Photo Point 20:

T-1 end	48.112663	-115.41642	295	Transect 1 end:
T-1 start	48.115204	-115.417503	115	Transect 1 start:
T-2 end	48.114197	-115.418991	280	Transect 2 end:
T-2 start	48.115204	-115.421013	100	Transect 2 start:
T-3 end	48.111187	-115.413849	225	Transect 3 end:
T-3 start	48.111134	-115.415642	45	Transect 3 start:

Comments:

ADDITIONAL ITEMS CHECKLIST

	Hydrology
▽	Map emergent vegetation/open water boundary on aerial photos. Observe extent of surface water. Look for evidence of past surface water elevations (e.g. drift egetation staining, erosion, etc).
	Photos
	One photo from the wetland toward each of the four cardinal directions One photo showing upland use surrounding the wetland. One photo showing the buffer around the wetland One photo from each end of each vegetation transect, toward the transect
	Vegetation
⊻ Map	vegetation community boundaries
✓ Comp	plete Vegetation Transects
	Soils
✓ Asse	ess soils
	Wetland Delineations
	Delineate wetlands according to applicable USACE protocol (1987 form or
Supplen ☑ D	nent) Delineate wetland – upland boundary onto aerial photograph.
Wetland	Delineation Comments
wetland 2020 a	of 47.52 acres of jurisdictional wetland and waters of the US (WUS) were delineated at the Schrieber Meadows site in 2020. The total d acreage delineated in 2020, was 39.74 acres, which is a decrease of 7.34 acres since 2019. WUS (Open Water) was 7.44 acres in and WUS (Stream Channel) was 0.34 acres. The decrease in total wetland acreage in 2020 is the result of the recent change for open habitat at the request of the USACE.
	Functional Assessments
✓ C forms.	Complete and attach full MDT Montana Wetland Assessment Method field
Function	nal Assessment Comments:
All 3 A	A's Category I wetlands.

If yes, do they need to be reaired?

Were man-made nesting structures installed at this site? Yes

Maintenance

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 waterflow into or out of the wetland? N_0

If yes, are the structures in need of repair

Water level acros	ss the site is very high	and reed canary gra	ass very dense and	over 7ft tall,
making this site h	hazardous and many a	reas nearly inacces	sible for crew to co	nduct monitoring
activities.				

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

Project/Site: Schrieber Meadows	City/County: Lincoln	Sampling Date: 7/16/2020			
Applicant/Owner: MDT State: Montana Sampling Point: DP01u					
Investigator(s): R Quire, S Weyant					
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, cor	nvex, none): undulating Slope (%):10			
Subregion (LRR): LRR E Lat:	48.111984 _L	ong:115.417667			
Soil Map Unit Name: aquic adfluvents, poorly drained		NWI classification:PEM			
Are climatic / hydrologic conditions on the site typical for this time of	f year? Yes 🔽 No 🔲	(If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology significa	ntly disturbed? Are "No	ormal Circumstances" present? Yes 🗹 No 🔲			
Are Vegetation, Soil, or Hydrology naturally					
SUMMARY OF FINDINGS – Attach site map show	ng sampling point loc	ations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes ✓ No ✓ Hydric Soil Present? Yes ✓ No ✓ Wetland Hydrology Present? Yes ✓ No ✓	Is the Sampled Ar				
Remarks: Upland sample point, located upslope of DP01w and wetla	nd houndary				
Opiand sample point, located upslope of DFOTW and wetta	nd boundary.				
VEGETATION - Use scientific names of plants					
The Stratum Platein (00 Feet Rediin) Absolute Dom	iant Indicator	Dominance Test worksheet			
Tree Stratum Plot size (30 Foot Radius) % Cover: Spe		Number of Dominant Species that are OBL, FACW or FAC:			
		Total Number of Dominant Species Across All Strata: 2 (B)			
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC: 100 % (A/B)			
Sapinig/Siriub Stratum Flot size (15 Foot Naulus)		Prevalence Index worksheet			
		Total % Cover of: Multiply by:			
		OBL species 0 X 1 0 FACW species 0 X 2 0			
		FAC species 70 X3 210			
		FACU species 15 X 4 60			
Herbaceous Stratum Plot size (5 Foot Radius)		UPL species 0 X 5 0			
Alopecurus pratensis 25	<u> </u>	Column Totals 85 (A) 270 (B)			
Elymus repens 45	FAC	Prevalence Index = B/A = 3.17647			
Pascopyrum smithii 15	FACU	Hydrophytic Vegetation Indicators			
		1 - Rapid Test for Hydrophytic Vegetation			
		✓ 2 - Dominance Test is >50%			
		3 - Prevalence Index is <= 3.0			
		 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 			
		5 - Wetland Non-Vascular Plants			
		☐ Problematic Hydrophytic Vegetation (Explain)			
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.			
Percent Bare Ground 15		Hydrophytic Vegetation Present? Ves ✓ NO			
Remarks:					
BG/litter=15%. Dominated by non-native, invasive, facultative graminoids, that are opportunistic species occurring approximately 50% of the time in wetlands and 50% in uplands in this MVC region. Data point delineated as upland.					
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SOIL									Sampling Point: DP01u
Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the in	ndicator o	or confir	m the absence	
Depth		Matrix		Redo	x Features				
(inches)	Color	(moist)	%	Color (moist)	%	Type ¹	_Loc ²	Texture	Remarks
0-13	10YR	2/2	100				S	Sandy Loam	Gravelly.
13+								Cobbles	Cobble bottom
10									COSSIO SOLLOIN
								-	
				Reduced Matrix, CS			d Sand G		cation: PL=Pore Lining, M=Matrix.
		: (Applic	able to all	LRRs, unless other		a.)			ors for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A	2)		Sandy Redox (S	•			_	m Muck (A10) d Parent Material (TF2)
Black His		-)		Loamy Mucky N	. ,) (except	MLRA 1	_	y Shallow Dark Surface (TF12)
	n Sulfide ((A4)		Loamy Gleyed					er (Explain in Remarks)
Depleted	Below Da	ark Surfac	e (A11)	Depleted Matrix	(F3)				
	rk Surface	,		Redox Dark Su					ors of hydrophytic vegetation and
	lucky Mine			Depleted Dark		7)			and hydrology must be present,
Restrictive L	leyed Mat			Redox Depress	ions (F8)			unles	ss disturbed or problematic.
	_ayer (ır p	resent):							
Type:	-b \							Usalaia Cail	Present? Yes No _
Depth (inc								Hydric Soil	Present? Tes No
Remarks: No hydric so	nil indicat	ors obse	rved durin	a site visit					
140 Hydrio oc	on maioat	.010 0000	n voa aann	g one viole.					
HYDROLO	GY								
Wetland Hyd	drology In	dicators:							
Primary Indic	ators (min	imum of c	ne required	l; check all that apply	/)			Secor	ndary Indicators (2 or more required)
Surface \	Water (A1))		Water-Stai			ccept	v	Vater-Stained Leaves (B9) (MLRA 1, 2,
<u> </u> High Wa	ter Table ((A2)		MLRA	1, 2, 4A, ar	nd 4B)			4A, and 4B)
Saturatio				Salt Crust					Prainage Patterns (B10)
	arks (B1)			Aquatic Inv					ry-Season Water Table (C2)
	it Deposits			Hydrogen					aturation Visible on Aerial Imagery (C9)
	osits (B3)			Oxidized F	-	_	_		Geomorphic Position (D2)
	t or Crust	(B4)		Presence					Shallow Aquitard (D3)
	osits (B5)	- (DO)		Recent Iro			-		AC-Neutral Test (D5)
Surface :			l(D3	Stunted or		,	I) (LRR A		Raised Ant Mounds (D6) (LRR A)
Inundation			magery (Б <i>1</i> e Surface (Е	. —	nam m Ken	narks)			rost-Heave Hummocks (D7)
Field Observ		u Concav	e Suriace (c						
Surface Wate		2 V	es 🗆 1	No Depth (inc	shoc):				
Water Table				No Depth (inc					
							"	dend Hudueles	y Present? Yes No 🗹
Saturation Pr (includes cap			es <u> </u>	No	mes):		_ vvet	liand Hydrolog	y Present? Yes No
			gauge, mo	nitoring well, aerial p	hotos, pre	vious ins	pections)	, if available:	
Remarks:									
No hydrolog	ic indicat	ors obse	rved durin	g site visit.					

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

Project/Site: Schrieber Meadows	City/County: Lincoln	Sampling Date:7/16/2020
Applicant/Owner: MDT		State: Montana Sampling Point: DP01w
Investigator(s): R Quire, S Weyant	Section, Township, Rang	
Landform (hillslope, terrace, etc.): Floodplain		
Subregion (LRR): LRR E Lat:	48.112044	Long:115.417579
Soil Map Unit Name: aquic adfluvents, poorly drained		NWI classification:PEM
Are climatic / hydrologic conditions on the site typical for this time of year	ır? Yes 🔽 No 🔼	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly of	disturbed? Are "N	ormal Circumstances" present? Yes 🗹 No 🔲
Are Vegetation, Soil, or Hydrology naturally prol	olematic? (If need	ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes No No No No No No No N	Is the Sampled A	
Remarks: PEM depressional wetland located near west-central project be	oundary.	
VEGETATION - Use scientific names of plants		
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant Species?	Indicator Status	Dominance Test worksheet
		Number of Dominant Species that are OBL, FACW or FAC: 1 (A)
		Total Number of Dominant Species Across All Strata: 1 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC: 100 % (A/B)
<u>-upg.vuv</u> ; ist size (io ; cot; iduals)		Prevalence Index worksheet
		Total % Cover of: Multiply by: OBL species 0 X 1 0
		FACW species 60 X 2 120
		FAC species 0 X 3 0
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species 0 X 4 0 0 UPL species 0 X 5 0
Phalaris arundinacea 60	FACW	
		Prevalence Index = B/A = 2 Hydrophytic Vegetation Indicators
		1 - Rapid Test for Hydrophytic Vegetation
		✓ 2 - Dominance Test is >50%
		✓ 3 - Prevalence Index is <= 3.0
		 4 - Morphological Adaptations (Provide supporting data in remarks or on separate
		sheet. 5 - Wetland Non-Vascular Plants
		Problematic Hydrophytic Vegetation (Explain
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
Percent Bare Ground 40		Hydrophytic Vegetation Yes ✓ NO □ Present?
Remarks:	l	
BG/litter/shallow ponded water=40%		
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Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type Loc Texture Remarks 0-16 10 YR 2/2 100	Depth								Sampling Point: DP01w
Color (moist)	•	ription: (Descri	oe to the de	pth needed to docu	ment the ind	licator o	r confirm	the absence	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix, Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Indicators for Problematic Hydric Soil Follows Hydric	(inches)					_ 1			
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion (A2) Histoic Epipedon (A2) Storped Matrix (R3) Loarny Mucky Mineral (F1) Depleted Matrix (F2) Sandy Glegod Matrix (F3) Depleted Matrix (F3) Depleted Dark Surface (F1) Type: Depth (inches): Type: Depth (inches): Depth (inches): Type: Depth (inches): Possarias: Depth (inches): Hydric Soil Present? Yes V No Dark (10YR 2/2), greasy, highly decomposed plant material from 0 to 16 inches indicated the presence of a histosol. Hydrogen sulfide odor also observed during site visit. HYDROLOGY Wettand Hydrology Indicators: Hydric Soil Present? Yes V No Dark (10YR 2/2), greasy, highly decomposed plant material from 0 to 16 inches indicated the presence of a histosol. Hydrogen sulfide odor also observed during site visit. HYDROLOGY Wettand Hydrology Indicators: Water-Stained Leaves (89) (except MLRA 1, 2, 4A, and 4B) Mater Matrix (B1)				Color (moist)		Type'	Loc	<u> </u>	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	0-16	10YR 2/2	100					Muck	Organic-sapric
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)									
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise (Applicable to all LRRs, un									
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Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise (Applicable to all LRRs, un									
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Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise (Applicable to all LRRs, un				-					-
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise noted.) Hidicators (Applicable to all LRRs, unless otherwise (Fig.) Hidicators (Applicable to all LRRs, unless otherwise (Fig.) Charles (Applicable to all LRRs) (Applicable to the present of the problem time wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes	1- 00							. 21	
Histosol (A1)							Sand Gr		
Histic Epipedon (A2)			ilouble to ul			.,			-
Black Histic (A3)	_			=	. ,				
□ Depleted Below Dark Surface (A11) □ Depleted Matrix (F3) □ Thick Dark Surface (A12) □ Redox Dark Surface (F6) □ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type: □ Depth (inches): □ Pepth (inches): □ Pep	:					except	MLRA 1)		,
Thick Dark Surface (A12)	✓ Hydroger	n Sulfide (A4)		Loamy Gleyed	Matrix (F2)	-		Othe	er (Explain in Remarks)
Sandy Mucky Mineral (S1)			ace (A11)						
Sandy Gleyed Matrix (S4)	_			=	(,				
Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes V No Remarks: Hydric Soil Present? Yes No					, ,				
Type:				Redox Deples	510115 (F0)			unies	ss disturbed of problematic.
Remarks: Dark (10YR 2/2), greasy, highly decomposed plant material from 0 to 16 inches indicated the presence of a histosol. Hydrogen sulfide odor also observed during site visit. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Mater-Stained Leaves (B9) (except High Water Table (A2) MLRA 1, 2, 4A, and 4B) Water Marks (B1) Water Marks (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Inon Deposits (B5) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Owetland Hydrology Present? Yes No Depth (includes capillary fringe)									
Remarks: Dark (10YR 2/2), greasy, highly decomposed plant material from 0 to 16 inches indicated the presence of a histosol. Hydrogen sulfide odor also observed during site visit. AyDROLOGY Wetland Hydrology Indicators:								Hydric Soil	Present? Ves V No
Dark (10YR 2/2), greasy, highly decomposed plant material from 0 to 16 inches indicated the presence of a histosol. Hydrogen sulfide odor also observed during site visit. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Mater-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2 Water-Stained Leaves (B9) (multiple of the company of th								,	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) ✓ Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2 of A) ✓ High Water Table (A2) MLRA 1, 2, 4A, and 4B) 4A, and 4B) ✓ Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) ✓ Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Field Observations: Surface Water Present? Yes ✓ No Depth (inches): 0 Wetland Hydrology Present? Yes ✓ No No Depth (inches): 0 Water Table Present? Yes ✓ No Depth (inches): 0 Wetland Hydrology Present? Ye									
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) MIRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Aquatic Invertebrates (B13) Drift Deposits (B2) Algal Mat or Crust (B4) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Water Saturation (A3) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Saturation Visible on Aerial Imagery (C Shallow Aquitard (D3) FAC-Neutral Test (D5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Frost-Heave Hummocks (D7) Water Table Present? Yes No Depth (inches): 2 Water Table Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No No Concludes capillary fringe)									
✓ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 24A, and 4B) ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 24A, and 4B) ☐ Water-Stained Leaves (B9) (MLRA 1, 2, 24A, and 4B) ☐ Water Marks (B10) ☐ Drainage Patterns (B10) ☐ Drain	=								
✓ High Water Table (A2) MLRA 1, 2, 4A, and 4B) 4A, and 4B) ✓ Saturation (A3) □ Salt Crust (B11) □ Drainage Patterns (B10) □ Water Marks (B1) □ Aquatic Invertebrates (B13) □ Dry-Season Water Table (C2) □ Drift Deposits (B2) ✓ Hydrogen Sulfide Odor (C1) □ Saturation Visible on Aerial Imagery (C □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) ✓ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Shallow Aquitard (D3) ✓ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-Neutral Test (D5) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Inches (Inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology Present? Yes ✓ No □ Depth (inches): □ 0 Wetland Hydrology			of one require						· · · · · · · · · · · · · · · · · · ·
✓ Saturation (A3) ☐ Salt Crust (B11) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Drift Deposits (B2) ✓ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ✓ Geomorphic Position (D2) ☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Shallow Aquitard (D3) ☑ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☑ FAC-Neutral Test (D5) ☐ Sturface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ✓ No ☐ Depth (inches): ☐ O Water Table Present? Yes ✓ No ☐ Depth (inches): ☐ O Wetland Hydrology Present? Yes ✓ No ☐ Depth (inches): ☐ O (includes capillary fringe)							cept	W	
Water Marks (B1)		, ,				1 4B)			•
Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Imagery (B7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Ves ☑ No ☐ Depth (inches): ☐ Owidized Rhizospheres along Living Roots (C3) ☑ Geomorphic Position (D2) ☑ Geomorphic Position (D2) ☑ Shallow Aquitard (D3) ☑ FAC-Neutral Test (D5) ☑ Raised Ant Mounds (D6) (LRR A) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7) ☐ Sturface Water Present? Ves ☑ No ☐ Depth (inches): ☐ Owidized Rhizospheres along Living Roots (C3) ☑ Geomorphic Position (D2) ☑ Shallow Aquitard (D3) ☑ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7) ☐ Frost-Heave Hummocks (D7) ☐ Saturation Present? Yes ☑ No ☐ Depth (inches): ☐ Owiginal Material Imagery (Catherial Imagery (Cat						D40)			
□ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) ☑ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Shallow Aquitard (D3) ☑ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) ☑ FAC-Neutral Test (D5) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☑ No □ Depth (inches): □ 0 Saturation Present? Yes ☑ No □ Depth (inches): □ 0 (includes capillary fringe) Wetland Hydrology Present? Yes ☑ No □ Depth (inches): □ 0				_ ·	,	,			
Algal Mat or Crust (B4)						, ,	ivina Poo		
✓ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-Neutral Test (D5) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ✓ No ☐ Depth (inches): ☐ O Saturation Present? Yes ✓ No ☐ Depth (inches): ☐ O (includes capillary fringe) Wetland Hydrology Present? Yes ✓ No ☐ O					•	-	•		
Surface Soil Cracks (B6)		, ,		_		` '			
□ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☑ No □ Depth (inches): ② Water Table Present? Yes ☑ No □ Depth (inches): ① Saturation Present? Yes ☑ No □ Depth (inches): ① Wetland Hydrology Present? Yes ☑ No □ Concludes capillary fringe)									* *
Field Observations: Surface Water Present? Yes No Depth (inches): 2 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Depth (inches): 0			al Imagery (E				, (,		
Surface Water Present? Yes No Depth (inches): 2 Water Table Present? Yes No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Includes capillary fringe)		Vegetated Conc	ave Surface	(B8)					
Water Table Present? Ves No Depth (inches): 0 Saturation Present? Yes No Depth (inches): 0 Wetland Hydrology Present? Yes No Depth (inches): 0	_	ations:							
Saturation Present? Yes V No Depth (inches): 0 Wetland Hydrology Present? Yes No Dincludes capillary fringe)	Sparsely	r Present?	Yes 🔽	No Depth (ir	iches):		_		
(includes capillary fringe)	Sparsely Field Observ		Vac 🛂	No Depth (in	iches):		_		
	Sparsely Field Observ Surface Wate	Present?	1 es <u>v</u>		abac):	0	Wetla	and Hydrolog	y Procent? Voc V
Describe Recorded Data (stream gauge, monitoring well, aenai photos, previous inspections), il available.	Sparsely Field Observ Surface Wate Water Table I				iciies)		_ ******	ilia riyarolog	y Fieselit: Tes <u>v</u> No <u> </u>
	Sparsely Field Observ Surface Wate Water Table I Saturation Pro (includes cap	esent? illary fringe)	Yes 🔽	No Depth (in					y Fresent: Tes NO
Remarks:	Sparsely Field Observ Surface Wate Water Table I Saturation Pro (includes cap	esent? illary fringe)	Yes 🔽	No Depth (in					y Present: Tes No
2in surface water, sulfidic odor, and iron deposits observed at soil pit.	Sparsely Field Observ Surface Wate Water Table I Saturation Pro (includes cap) Describe Rec	esent? illary fringe)	Yes 🔽	No Depth (in					y Present: Tes <u>U</u> No <u>U</u>
	Sparsely Field Observ Surface Water Water Table I Saturation Pro (includes cap) Describe Reco	esent? illary fringe) orded Data (stre	Yes 🔽	No Depth (in	photos, previo	ous insp			y Present? Tes <u>E</u> No <u> </u>
	Sparsely Field Observ Surface Water Water Table I Saturation Pro (includes cap) Describe Reco	esent? illary fringe) orded Data (stre	Yes 🔽	No Depth (in	photos, previo	ous insp			y Present? Tes <u>E</u> No <u>E</u>
	Sparsely Field Observ Surface Water Water Table I Saturation Pro (includes cap) Describe Reco	esent? illary fringe) orded Data (stre	Yes 🔽	No Depth (in	photos, previo	ous insp			y Present? Tes <u>E</u> No <u> </u>

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

Project/Site: Schrieber Meadows	City/C	County: Lincoln	Sampling Date:7/16/2020
Applicant/Owner: MDT	0,, 0		State: Montana Sampling Point: DP02u
Investigator(s): R Quire, S Weyant	Section		
Landform (hillslope, terrace, etc.): Terrace			
Subregion (LRR): LRR E Lat:		48.116341	ong:115.420054 Datum: NAD 83
Soil Map Unit Name: aquic adfluvents, poorly drained			NWI classification: Not Mapped
Are climatic / hydrologic conditions on the site typical for this time of			_
Are Vegetation, Soil, or Hydrology significa	-		
Are Vegetation, Soil, or Hydrology naturally			ded, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map show	ing san	npling point lo	cations, transects, important features, etc
Hydrophytic Vegetation Present? Yes No		la tha Causalad A	
Hydric Soil Present? Yes ☐ No ✔ Wetland Hydrology Present? Yes ☐ No ✔		Is the Sampled A within a Wetland	
Wetland Hydrology Present? Yes No _ ✓ Remarks:			
Upland data point, located just upslope of wetland bounda	ary and D	P02w.	
VEGETATION - Use scientific names of plants			
		ndicator Status	Dominance Test worksheet
	olcs: O	riatus	Number of Dominant Species that are OBL, FACW or FAC: 1 (A)
			Total Number of Dominant Species Across All Strata: 2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)			Percent of Dominant Species That Are OBL, FACW, or FAC: 50 % (A/B)
<u>Supmigration Structure</u>			Prevalence Index worksheet
			Total % Cover of: Multiply by:
			OBL species 0 X 1 0 FACW species 0 X 2 0
			FAC species 30 X3 90
			FACU species 0 X 4 0
Herbaceous Stratum Plot size (5 Foot Radius)			UPL species 50 X 5 250
Alopecurus pratensis 25	FAC	C	Column Totals 80 (A) 340 (B)
Bromus inermis 50			Prevalence Index = B/A = 4.25
Poa pratensis 5] FAC		Hydrophytic Vegetation Indicators
			1 - Rapid Test for Hydrophytic Vegetation
			☐ 2 - Dominance Test is >50%
			3 - Prevalence Index is <= 3.0
			4 - Morphological Adaptations (Provide supporting data in remarks or on separate
			sheet. 5 - Wetland Non-Vascular Plants
			Problematic Hydrophytic Vegetation (Explain
Woody Vine Stratum Plot size (30 Foot Radius)			Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5.
Percent Perc Cround 20			Hydrophytic Vegetation Yes □ NO ✓ Present?
Percent Bare Ground 20 Remarks:			
BG/litter=20%			
US Army Corps of Engineers			Western Mountains, Valleys, and Coasts - Version 2.0
-)			

Profile Description: (Description: Description: Descripti	SOIL											Sa	ampling Point:	DP02u
(inches) Color (moist) % Color (moist) % Type Loc ² Texture Remarks 10/10	Profile Desc	ription: (Describe	to the dep	th neede	d to docur	nent the ir	ndicato	r or conf	irm tl	ne absence			
10-15 10VR 4/2 100 10VR 4/2 99 7.5VR 4/6 1 C M Clay Loam									. 2	_				
10-15 10 VR 4/2 99 7.5 VR 4/6 1 C M Clay Loam Type_					Color	(moist)	%	Type	Loc				Remarks	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. "Location: PL=Pore Lining, M=Matrix, Plydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils* Indicators for Problematic Hydric Soil Present? Indicators for Problematic Hydric Soil Hydric Soil Present? Indicators for Problematic Hydric Soil Hydric Soi	0-10	10YR	4/2	100						Cla	y Loam			
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)	10-15	10YR	4/2	99	7.5YR	4/6	1	С	M	Cla	y Loam			
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)		·			-				-					
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)														
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)				_ ,					_					
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)														
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)														
Hydric Soil Indicators (Applicable to all LRRs, unless otherwise noted.) Histosci (A1)									_					
Histosol (A1)									ted Sand	Grair				
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2)			: (Appli	cable to all				d.)					=	ic Soils³:
Black Histic (A3)	_		0)			-	•							
Hydrogen Sulfide (A4)			.2)		_ :		. ,) (0 × 0 0)	st MI D∧	1)				E12\
Depleted Below Dark Surface (A11)	_	. ,	(A4)						JI WILKA	1)			•	F12)
Sandy Mucky Mineral (S1)				ce (A11)								` '	,	
□ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present):	_				=		` ,							
Restrictive Layer (if present):								7)						
Type:					Red	ox Depress	ions (Fo)				unies	s disturbed	or problematic	<i>.</i> .
Popth (inches):														
Remarks: No hydric soil indicators observed during site visit. YDROLOGY	•• —										Hvdric Soil	Present?	Yes 🗆	No 🗹
No hydric soil indicators observed during site visit. No hydric soil indicators observed during site visit.	Remarks:													
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) MIRA 1, 2, 4A, and 4B) Aquatic Invertebrates (B13) Drif Deposits (B2) MIRD Deposits (B3) MIRD Deposits (B5) MIRD Deposits (B5) MIRD Deposits (B5) MIRD Deposits (B6) MIRD Deposit														
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1, 2, 4, and 4B) Saturation (A3) Saturation (A3) Saturation (A3) Saturation (A3) Saturation (B1) Water Marks (B1) Drift Deposits (B2) Hydrogen Sulfide Odor (C1) Drift Deposits (B3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sunface Soil Cracks (B6) Other (Explain in Remarks) Field Observations: Surface Water Present? Yes No Depth (inches): Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (mLRA 1, 2, 4A, and 4B) AA, and 4B) Drainage Patterns (B10) Dr														
Surface Water (A1)	-	==			ما د مام داد	المصم المحالا ال	۸				C	مام ما المام المام		
High Water Table (A2) Saturation (A3) Salt Crust (B11) Aquatic Invertebrates (B13) Drainage Patterns (B10) Aquatic Invertebrates (B13) Drainage Patterns (B10) Drainage Patterns (C1) Drainage Patterns (C1) Drainage Patterns (C2) Drainage Patterns (C2) Drainage Patterns (C1) Drainage Patterns (C2) Drainage Patterns (C2) Drainage Pat				one require	_			- (DO) (•	,	
Saturation (A3)									except					(MLRA 1, 2,
Water Marks (B1)			(A2)					iu 40)			□ Di		•	
□ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ Saturation Visible on Aerial Imagery (C9) □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Geomorphic Position (D2) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Shallow Aquitard (D3) □ Iron Deposits (B5) □ Recent Iron Reduction in Tilled Soils (C6) □ FAC-Neutral Test (D5) □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRR A) □ Raised Ant Mounds (D6) (LRR A) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ Frost-Heave Hummocks (D7) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ☑ Depth (inches): □ Wetland Hydrology Present? Yes □ No ☑ Depth (inches): □ No ☑ Depth (inches): □ Saturation Present? Yes □ No ☑ Depth (inches): □ No ☑ Depth ($\overline{}$	` '						(B13)				-	/5/ /5/	(2)
Algal Mat or Crust (B4)	Sedimer	nt Deposits	s (B2)			Hydrogen	Sulfide Od	or (C1)			sa	aturation Vi	sible on Aerial	Imagery (C9)
Iron Deposits (B5)	Drift Dep	oosits (B3)								Roots	(C3) G	eomorphic l	Position (D2)	
Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Second Remarks: Wetland Hydrology Present? Yes No Previous inspections), if available: Remarks:								,	,	D 2000000				
Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☐ No ☑ Depth (inches): ☐ Water Table Present? Yes ☐ No ☑ Depth (inches): ☐ Water Table Present? Yes ☐ No ☑ Depth (inches): ☐ Wetland Hydrology Present? Yes ☐ No ☑ Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:														DD 4\
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No ✔ Depth (inches):				Imaganı (P	_				1) (LRR	(A)			, , ,	
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:						Other (LXP	naiii iii i\ci	ilaiks)			'''	OSI-I ICAVE	Hullillocks (D	')
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No V Depth (inches): Wetland Hydrology Present? Yes No V No V Remarks:					,									
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Vescincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Surface Wate	er Present	? `	res 🔲	No	Depth (inc	ches):							
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:	Water Table	Present?	,	res	No	Depth (inc	ches):							
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:				res	No	Depth (ind	ches):		w	etlan	d Hydrology	Present?	Yes	No 🔽
	Describe Red	corded Da	ta (strear	n gauge, m	onitoring v	vell, aerial p	ohotos, pre	vious in	spection	s), if a	available:			
to flydrologic indicators observed duffig site visit. Soil dry.	Remarks:	ic indicat	ore obea	arved duri	na cite vi	eit Soil de	v							
	140 Hydrolog	jio iriuloal	JOUD CIO.	or vou duill	ig site VI	on. Oon ul	у.							

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

ApplicantCovner_MDT Investigator(p; R Quite, S Weyant Section, Township, Range S 11 T 27N R 30W Landform dislatops, terrace, etc.). Sepression Locar relief (conceave, convex, none); conceave Siope (58): 3 Subregion (LRR) LRR E	Project/Site: Schrieber Meadows	City/County: Lincoln	Sampling Date:7/16/2020
Investigatories R Quites Sweyant Section, Township, Range S 11 T 27N R 30W Landform (hillslope, terrace, etc.) Depression Local relat (concave, convex, none) Concave Sicpe (%): 3 Storegion (RR) LRR Lat 48.116304 Long -115.442018 Datum NAD 83 Soli Map Unit Name: equite adfluvents, poorty drained NMI classification, Not Mapped Are climatic / hydrologic conditions on the site bytelat for this time of year? Yes No NMI classification, Not Mapped Are climatic / hydrologic conditions on the site bytelat for this time of year? Yes No NMI classification, Not Mapped Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances' present? Yes No New York (if needed, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophyde upstano Present? Yes No No No No No No No N			
Landform (hilsiope, terrace, etc.) Depression	• •		
Soil Map Unit Name: Adult adfluvents, poorty drained Are climatic / hydrologic conditions on the site byteled for this time of year? Yes \(\t \) No \(\) (If no, explain in Remarks.) Are Vegetation \(\), Soil \(\), or Hydrology \(\) asignificantly disturbed? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Bydrophytic Vegetation Present? Yes \(\) No \(\) Is the Sampled Area within a Wetland? Wetland Hydrology Present? Yes \(\) No \(\) \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) No \		Local relief (concave, co	onvex, none): concave Slope (%):
Soil Map Unit Name: Adult adfluvents, poorty drained Are climatic / hydrologic conditions on the site byteled for this time of year? Yes \(\t \) No \(\) (If no, explain in Remarks.) Are Vegetation \(\), Soil \(\), or Hydrology \(\) asignificantly disturbed? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Are Vegetation \(\), Soil \(\), or Hydrology \(\) asturally problematic? Bydrophytic Vegetation Present? Yes \(\) No \(\) Is the Sampled Area within a Wetland? Wetland Hydrology Present? Yes \(\) No \(\) \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) Wetland Hydrology Present? Yes \(\) No \(\) No \(\) No \	Subregion (LRR): LRR E	Lat: 48.116304	Long:115.420218 Datum: NAD 83
Are vigetation Sol or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes No Are Vegetation Sol or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes No No Are Vegetation Sol or Hydrology naturally problematic? (if needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.	Soil Map Unit Name: aquic adfluvents, poorly drained		
Are Vegetation			
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?	Are Vegetation, Soil, or Hydrology si	gnificantly disturbed? Are "N	Normal Circumstances" present? Yes 🗹 No 🔲
Hydrophytic Vegetation Present? Yes	Are Vegetation, Soil, or Hydrology na	aturally problematic? (If nee	eded, explain any answers in Remarks.)
Hydrocous Stratum Plot size (5 Foot Radius) Beckmannia syzigachne Carex nebrascensis 1 OBL Carex nebrascensis 1 OBL Juncus tenuis 9 Late observation of the stratum 1 OBL Juncus tenuis 9 Late observation of the stratum 1 OBL Juncus tenuis 9 Late observation of the stratum 1 OBL Typha latifolia 35 V OBL Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Is the Sampled Area within a Wetland? Yes ✓ No □ Dominance Test worksheet Number of Dominant Species that are OBL, FACW or FAC. 12 (A) Total Number of Dominant Species that are OBL, FACW or FAC. 12 (B) Percent of Dominant Species that are OBL, FACW or FAC. 100 % (A/B) Prevalence Index worksheet Total % Cover of. Multiply by: OBL species 3 x 2 6 FAC species 3 x 2 7 Column Totals 60 (A) 69 (B) Prevalence Index BIA = 1.15 Hydrophytic Vegetation Indicators ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is < 3.0 □ 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. □ 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. ###################################	SUMMARY OF FINDINGS - Attach site map s	showing sampling point lo	cations, transects, important features, etc.
Remarks: PEM depressional wetland located near the northwest project boundary.	Hydric Soil Present? Yes <u>✓</u> No	Is the Sampled	Area d? Yes ☑ No □
PEM depressional wetland located near the northwest project boundary. VEGETATION - Use scientific names of plants			
Tree Stratum		st project boundary.	
Tree Stratum			
Sapling/Shrub Stratum Plot size (30 Foot Radius) % Cover: Species? Status Sapling/Shrub Stratum Plot size (15 Foot Radius) Sapling/Shrub Stratum Plot size (15 Foot Radius) Percent of Dominant Species Strates: 2 (A) Total Number of Dominant Species Strates: 2 (B) Percent of Dominant Species:	•		
Number of Dominant Species that are OBL, FACW or FAC:			Dominance Test worksheet
Sapling/Shrub Stratum Plot size (15 Foot Radius) Herbaceous Stratum Plot size (5 Foot Radius) Beckmannia syzigachne Carex nebrascensis 1 OBL Eleocharis palustris Juncus tenuis 3 FAC Typha latifolia Typha latifolia Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Species Across All Strata: Pervalence index worksheet Total % Cover of:		·	
That Are OBL, FACW, or FAC:			
Herbaceous Stratum Plot size (5 Foot Radius) Beckmannia syzigachne 3 OBL Carex nebrascensis 1 OBL Eleocharis palustris 15 ✓ OBL Juncus tenuis 3 FACW Phalaris arundinacea 3 FACW Typha latifolia 35 ✓ OBL Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Percent Bare Ground 40 Percent Bare Ground 40 Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.	Sapling/Shrub Stratum Plot size (15 Foot Radius)		
Herbaceous Stratum Plot size (5 Foot Radius) Beckmannia syzigachne 3 OBL Carex nebrascensis 1 OBL Durus tenuis 15 ✓ OBL Juncus tenuis 3 FACW DPL and Indicators Typha latifolia 35 ✓ OBL Typha latifolia 35 ✓ OBL Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Percent Bare Ground 40 Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.			
Herbaceous Stratum Plot size (5 Foot Radius) Beckmannia syzigachne 3 OBL Carex nebrascensis 1 OBL Eleocharis palustris 15 ✓ OBL Juncus tenuis 3 FAC Phalaris arundinacea 3 FAC OBL Typha latifolia 35 ✓ OBL Typha latifolia 35 ✓ OBL Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) FACW Species 3 X 2 6 FAC species 0 X 4 0 OBL Typh species 0 X 5 0 OBL Column Totals 60 (A) 69 (B) Prevalence Index = B/A = 1.15 Hydrophytic Vegetation Indicators ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is <= 3.0			
Herbaceous Stratum Plot size (5 Foot Radius) Beckmannia syzigachne 3			·
Herbaceous Stratum			
Beckmannia syzigachne Carex nebrascensis 1 □ OBL Eleocharis palustris 15 ☑ OBL Juncus tenuis 7 Phalaris arundinacea 1			
Carex nebrascensis Carex nebrascensis	Herbaceous Stratum Plot size (5 Foot Radius)		UPL species 0 X 5 0
Eleocharis palustris Juncus tenuis Juncus tenuis Phalaris arundinacea Typha latifolia 35 ✓ OBL Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation			Column Totals 60 (A) 69 (B)
Juncus tenuis 3 FAC Phalaris arundinacea 3 □ FACW Typha latifolia 35 ✓ OBL Image: Phalaris arundinacea 3 □ FACW Image: Phalaris arundinacea 3 □ FACW Image: Phalaris arundinacea 3 □ FACW Image: Phalaris arundinacea 1 - Rapid Test for Hydrophytic Vegetation Image: Phalaris arundinacea 2 - Dominance Test is >50% Image: Phalaris arundinacea 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. Image: Phalaris arundinacea 5 - Wetland Non-Vascular Plants Image: Phalaris arundinacea Problematic Hydrophytic Vegetation (Explain) Image: Phalaris arundinacea Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Vegetation Present? Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.			Prevalence Index = B/A = 1.15
Phalaris arundinacea 3 □ FACW Typha latifolia 35 ✓ OBL ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is <= 3.0			Hydrophytic Vegetation Indicators
Typha latifolia 35			✓ 1 - Rapid Test for Hydrophytic Vegetation
Woody Vine Stratum			✓ 2 - Dominance Test is >50%
Supporting data in remarks or on separate sheet. □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Yes ✓ NO □ Present? Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.	71		✓ 3 - Prevalence Index is <= 3.0
Woody Vine Stratum Plot size (30 Foot Radius) Percent Bare Ground 40 Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.			supporting data in remarks or on separate
Woody Vine Stratum Plot size (30 Foot Radius) Percent Bare Ground 40 Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point. Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Yes ✓ NO □ Present?			
Woody Vine Stratum Plot size (30 Foot Radius) Percent Bare Ground 40 Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point. Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Yes ✓ NO □ Present?			Problematic Hydrophytic Vegetation (Explain)
Plot size (30 Foot Radius) Present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.			
Percent Bare Ground 40 Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.	Woody Vine Stratum Plot size (30 Foot Radius)		
Remarks: BG/litter/shallow ponded water=40%. Obligate rooted hydryophytic species dominate sample point.	Percent Bare Ground 40		Vegetation Yes ✓ NO
	Remarks:		
US Army Corps of Engineers Western Mountains, Valleys, and Coasts - Version 2.0	BG/litter/shallow ponded water=40%. Obligate roote	d hydryophytic species domina	ite sample point.
	US Army Corps of Engineers		Western Mountains Valleys and Coasts - Version 2.0

SOIL											Sampling Point: DP02w
Profile Descr	ription: (Describe	to the de	oth neede	d to docun	nent the i	ndicato	r or con	firm the	absence	of indicators.)
Depth		Matrix				x Features		. 2	· -		
(inches)		(moist)	%		(moist)	%	Type ¹	Loc ²		exture	Remarks
0-14	10YR	6/2	92	7.5YR	6/8	3	С	М	Sandy	Clay	
0-14	10YR	6/2	92	N	6/0	5	D	М	Sandy	Clay	
			-								
			_								
¹Type: C=Co								ted Sand	d Grains.		cation: PL=Pore Lining, M=Matrix.
Hydric Soil Ir		: (Applic	able to al				ed.)				rs for Problematic Hydric Soils ³ :
Histosol (2)		_	dy Redox (S oped Matrix	-					า Muck (A10) Parent Material (TF2)
Black His		<i>2)</i>		_ :	my Mucky N	. ,) (exce	pt MLRA	A 1)	_	Shallow Dark Surface (TF12)
Hydroger	. ,	(A4)			my Gleyed I			, <u></u>	,	_	er (Explain in Remarks)
Depleted			e (A11)		leted Matrix					2	
Thick Da					ox Dark Su	, ,	7 \				rs of hydrophytic vegetation and
Sandy Mı					leted Dark \$ ox Depress	,	7)				nd hydrology must be present, s disturbed or problematic.
Restrictive L					OX BOPICOO	10110 (1 0)				amoo	o distarbed of problemate.
Туре:											
Depth (incl	hes):								Ну	dric Soil	Present? Yes _ 🔽 No _ 🗌
IYDROLOG											
Wetland Hyd	==			بامموام بام	-11 46 -41	۸				C	adam Indiantana (O an anna anna inad)
Primary Indicate V	•		one require	d; check a			.a (B0) (avaant			ndary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2,
✓ Surface v		-			Water-Stai	пео Leave 1, 2, 4A, а		except		v	4A, and 4B)
Saturation		(^2)			Salt Crust		114 4 D,			□р	rainage Patterns (B10)
Water Ma					Aquatic Inv		s (B13)				ry-Season Water Table (C2)
Sediment		(B2)			Hydrogen :						aturation Visible on Aerial Imagery (C9
Drift Depo	osits (B3)				Oxidized R	Rhizospher	es alon	g Living I	Roots (C	3) 👱 G	eomorphic Position (D2)
Algal Mat		(B4)			Presence of		,	,			hallow Aquitard (D3)
Iron Depo		(50)		<u> </u>	Recent Iro						AC-Neutral Test (D5)
Surface S ✓ Inundatio			lmaaan, (E		Stunted or			D1) (LR F	RA)		aised Ant Mounds (D6) (LRR A)
_			imagery (c e Surface	· —	Other (Exp	nam m Kei	narks)				rost-Heave Hummocks (D7)
Field Observ				(20)							
Surface Wate		? Y	es 🔽	No 🗆	Depth (inc	ches):		3			
Water Table F	Present?		′es 🔽	No	Depth (inc			2			
Saturation Pre	illary fring	e)	es 🔽		Depth (inc						y Present? Yes <u>V</u> No <u> </u>
Describe Rec	orded Da	ıa (strean	ı gauge, m	onitoring \	weii, aerial p	onotos, pre	evious ir	ispection	ıs), it ava	ııaple:	
Remarks:											
	e water p	oresent a	nt soil pit,	high wat	er table at	12in with	in soil	pit after	5 minut	es, soil s	saturated to surface.
	·		, ,	5				•			

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name Sch	rieber Meadows		2. MDT project#	ST	PP STWD (756	6)	Cor	ntrol#	9680000
3. Evaluation Date 7/16				Wetl	and/Site# (s)	Creation			
6. Wetland Location(s):		Trudge DW	eon Sec1 11,12,13	т	R		Sec2		
Approx Stationing or Mile					K		OCCZ		
Watershed 1 - Kooten			ed/County Lincoln)					
7. Evaluating Agency	CCI for MDT								22.54
	COI IOI IVID I				8. Wetland s				22.54
Purpose of Evaluation	offeeted by MDT preject				How assesse		Measur	red e.g.	
	affected by MDT project				9. Assesssm (AA) size (ac				22.54
☐ Mitigation Wetlands:					How assesse	ed:	Measur	ed e.g. l	by GPS
✓ Mitigation Wetlands:	post construction								
Other									
10. Classification of Wet	land and Aquatic Habitats	in AA	\						
HGM Class (Brinson)	Class (Cowardin)		Modifier (Cowardi	n)	Water Re	gime		% of A	A
Depressional	Emergent Wetland		Excavated		Permanent/F	Perennial			35
Depressional	Aquatic Bed		Excavated		Permanent/F	Perennial			10
Slope	Emergent Wetland				Seasonal/Int	ermittent			25
Slope	Emergent Wetland				Permanent/F	Perennial			30
11. Estimated Relative Ab12. General Condition of i. Disturbance: (use matraquatic nuisance vegetation	AA ix below to determine [circle] ap	opropria	ate response – see inst	ructior	ns for Montana-lis	sted noxiou	s weed a	nd	
		Manag	Predo.		conditions adjacent not cultivated, but i				heavily grazed
Conditions	within AA	natura hayed, conver roads	ged in precominantly all state; is not grazed, I, logged, or otherwise rted; does not contain or buildings; and noxious or ANVS cover is <=15%.	mode select subject few r	rnot cultivated, but if erately grazed or ha stively logged; or ha ect to minor clearing oads or buildings; n d or ANVS cover is «	yed or s been ; contains oxious	or logge placement hydrolo building	ed; subject ent, gradin gical altera	to substantial fill g, clearing, or ation; high road or r noxious weed
AA occurs and is managed in predo grazed, hayed, logged, or otherwise roads or occupied buildings; and no <=15%.	e converted; does not contain	lo	w disturbance		low disturba	nce	mod	lerate d	listurbance
AA not cultivated, but may be mode selectively logged; or has been sub placement, or hydrological alteration noxious weed or ANVS cover is <=3	ject to relatively minor clearing, fill n; contains few roads or buildings;		moderate disturbance	me	oderate distu	rbance	hi	igh dist	urbance
AA cultivated or heavily grazed or lost substantial fill placement, grading, of high road or building density; or no >=30%.	clearing, or hydrological alteration;	hig	gh disturbance		high disturba	nce	hi	gh dist	urbance
Comments: (types of distunction AA includes excavated depropersult of higher water table.	essions and adjacent undist	turbed							
ii. Prominent noxious, aqu	atic nuisance, other exoti	ic spec	cies:						
Cirsium arvense and Leuca	nthemum vulgare								
iii. Provide brief descripting AA includes constructed we channels, creation of a new managed in a natural state.	etland depressions and adja- stream channel and subside	cent w	vetland habitat that h	as be					

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Initial Is current management preventing (passive) Modified existence of additional vegetated classes? Existing # of "Cowardin" Vegetated Classes in AA Ratino Rating >= 3 (or 2 if 1 is forested) classes NA NΑ NA Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture М <NO YES> 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA Comments: Emergent and aquatic bed classes are present SECTION PERTAINING to FUNCTIONS VALUES ASSESSMENT 14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals: i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions): Primary or critical habitat (list species) D S \odot D \bigcirc S Secondary habitat (list Species) Grizzly bear D S Incidental habitat (list species) S No usable habitat ii. Rating (use the conclusions from i above and the matrix below to arrive at [check] the functional points and rating) Highest Habitat Level doc/primary sus/primary doc/secondary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS database, MNHP database shows site is within year-round range of grizzly bear, Sources for reports from FWP, USFWS, and FS on use. documented use 14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above) i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions): Primary or critical habitat (list species) D
 S Western toad (S2) D S Secondary habitat (list Species) Incidental habitat (list species) D S S No usable habitat ii. Rating (use the conclusions from i above and the matrix below to arrive at [check] the functional points and rating) Highest Habitat Level doc/primary sus/primary doc/secondary sus/secondary doc/incidental sus/incidental None S1 Species: Functional Points and .7M .6M .2L 0L 1H .8H .1L Rating S2 and S3 Species: Functional Points and .7M .6M .5M .2L .1L 0L .9H Rating

Sources for	MTNHP and documented breeding on site by MDT and USFS personnel.
documented use	

### Minimal (based on any of the following (check):			Subs																				
presence of extremely limiting habitat features not available in the surrounding area sparse adjacent upland food sources interviews with local biologists with knowledge of the AA observations of any of the following [check]): deverate (based on any of the following [check]): observations cattered widtlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA interviews with local b				(]):	[check]	ving [ollowi	the foll	ny of	on an	ased o	<i>Minimal</i> (b						:k]):	g [chec	ollowin	of the f	d on any o	ıbstantial (base
presence of extremely limiting habitat features not available in the surrounding ares interviews with local biologists with knowledge of the AA			ods	use peri	j peak ι	uring	ns du	vations	bsen	life ob	o wildli	few or n		y period	ing an	sity (dur	s diver	specie	or high	llife #s	ant wild	of abunda	observations
interviews with local biologists with knowledge of the AA Interviews with local biologists									sign	llife si	no wildli	little to r		etc.	trails,	s, game	ructure	nest st	tracks,	scat, f	such as	llife sign s	abundant wild
observations of scattered wildlife groups or individuals or relatively few species during peak periods common occurrence of wildlife sign such as scal, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA						ırces	d sour	l food s	pland	ent upl	adjacer	sparse a	rea	unding	surro	ole in the	availab	res not	at featu	j habita	limiting	xtremely	presence of e
observations of scattered wildlife groups or individuals or relatively few species during peak periods ocmmon occurrence of wildlife sign such as scal, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA			e AA	dge of th	nowled	ith kn	sts wit	ologists	al bio	h loca	ws with	interviev					ne AA	lge of t	nowled	s with k	ologists	h local bio	interviews wit
observations of scattered wildlife groups or individuals or relatively few species during peak periods ocmmon occurrence of wildlife sign such as scal, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA																							
common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc. adequate adjacent upland food sources interviews with local biologists with knowledge of the AA):	[check]	owing	the foll	on any of	oderate (based o
adequate adjacent upland food sources interviews with local biologists with knowledge of the AA i. Wildlife habitat features (Working from top to bottom, check appropriate AA attributes in matrix to arrive at rating. Structural diversity is rorm #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their precent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the entry). The composition of the existing attributed the precent control of the existing attributed to the precent control of the existing structural diversity (see												ak periods	luring p	species	y few s	relativel	uals or	individ	oups or	Ilife gro	ed wild	of scatter	observations
interviews with local biologists with knowledge of the AA i. Wildlife habitat features (Working from top to bottom, check appropriate AA attributes in matrix to arrive at rating. Structural diversity is rorm #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = bremanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) This country is a seasonal/													rails, et	s, game	uctures	nest stru	racks,	s scat, t	such as	e sign s	wildlif	urrence of	common occi
i. Wildlife habitat features (Working from top to bottom, check appropriate AA attributes in matrix to arrive at rating. Structural diversity is rorn #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = bermanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) Tricutural High Moderate Low 1988 Cover Instructions (and the prevent of the erms) Noderate Low 1988 Cover Instructions (and the prevent of the expension of th																			ces	d sour	and foc	acent upla	adequate adja
the first terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = sermanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) **Trickural hearty (see High Woderate Low																	ne AA	lge of t	nowled	s with k	ologists	h local bio	interviews wit
the first terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = sermanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) **Trickural hearty (see High Woderate Low		.:4 :			- 04	4:					:	. 44: 4	_4_ ^ ^				4- 1-44		.	\	(:4-4 64.	: \A/:
where in terms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = elemenant/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of the erms]) Directoral High		-			-														-		,		
Error Moderate Low Sinch process High Moderate Low Low Sinch process Sinch p										_		•					•						
Substantial Comments Comment	•	of these	itions	er defir	furthe	s for	tions	tructio	e inst	[see	sent [nd A = ab	neral;	y/ephe	porar	= tem	nt; T/E	rmitte	al/inte	eason	6/I = s	ennial; S	•
Table to the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating with the conclusions from a management perspective [such as fish entrapped in a canal], the conclusions from a management perspective [such as fish entrapped in a canal], the conclusions from a management perspective [such as fish entrapped in a canal], the conclusions from a management perspective [such as fish entrapped in a canal], the conclusions from a management perspective [such as fish entrapped in a canal], the conclusions from a management perspective [such as fish entrapped in a canal], the conclusions from a manageme						-																	
iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of will differ use (i) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of Wildlife habitat features rating (ii) Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating the functional points are functional points and rating the functional points are functional points are functional points are functional points are functional poin			w	Lo							erate	Mode						ıh	Hig				
regetated stasses) Duration of Minimal Characteristics (Assess this function if the AA is used by fish or the existing situation is "correctable" such as for and proceed to the AA is not used by fish, i.e., fish use is precluded by perched culver or other barrier, etc.]. If the AA is not used by fish us storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water																							
Duration of surface water in 2 PIP S/I T/E A			en	Ev				/en	Unev	ι			Even			ven	Une			n	Eve		vegetated
Local disturbance in the AA (see #12)						-	T																
Let the conclusions from I and II above and the matrix below to arrive at [check] the functional points and rating wildlife use (i) Wildlife habitat features rating (ii) Exceptional High Hoderate		Α	T/E	S/I	P/P	Α	. /	T/E	S/I	S	P/P	/E A	S/I	P/P	Α	T/E	S/I	P/P	Α	T/E	S/I	P/P	
istubance at AA				1			+		_				_						\square				
isturbance at AA		M	М	Н	E	М	l N	М	Н		Е	н м	Н	Е	Н	Н	Е	Е	Н	Е	E	E	t AA (see #12i)
ii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of wildlife use (i) Wildlife habitat features rating (ii)				1			١.	M	М	-		M M	u	ш	L		. 1	u		ш	. I		
iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of wildlife use (i) Wildlife habitat features rating (ii) Exceptional High Moderate				IVI				IVI	IVI		"	IVI IVI			. IVI			П	Ľ				see #12i)
iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [check] the functional points and rating Evidence of wildlife use (i) Exceptional		L	L	L	L	L	l L	L	L		М	LL	м	М	L	L	М	М	L	М	М	М	
Wildlife habitat features rating (ii) Exceptional High Moderate Substantial 1E .9H .5M Moderate .9H .7M .5M Minimal .6M .4M .2L Description of the existing situation is "correctable" succould be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water																_				_		-	
Wildlife habitat features rating (ii) Exceptional High Moderate Substantial 1E .9H .5M Moderate .9H .7M .5M Minimal .6M .4M .2L Description of the existing situation is "correctable" succould be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water																							
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Moderate 9H 7M 5M Minimal 6M AM 2L Observed waterfowl and wildlife tracks. Description of the existing situation is "correctable" succepted by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water		g/						_		_										_			
Moderate .9H .7M .5M .5M .5M .6M .4M .2L .2L .2L .2D .3H .3H .5M .5M .4M .2L .3H .5M					е	erate	lode	Мо					High				ional	xcept	Е		•		
Moderate .9H .7M .5M Minimal .6M .4M .2L Observed waterfowl and wildlife tracks. Description of the existing situation is "correctable" succould be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water	Low				1								.9H					1F					Substantial
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Observed waterfowl and wildlife tracks. 4D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such build be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use istorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water	.7M				╁													ΟI					Moderate
AD. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" succould be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water																		.9⊦					
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build be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water	.7M					М	.5N						.7M				_						
build be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water	.7M					М	.5N						.7M			tracks	1	.6N	fowl a	vater	rved	Obser	Minimal
build be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water	.7M					М	.5N						.7M			tracks	1	.6N	fowl a	water	rved	Obser	Minimal
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storable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], the NA here and proceed to 14E.) Cold Water	.7M .3L .1L					M L	.5M						.7M				1 ildlife	.6M					Minimal omments
NA here and proceed to 14E.) Cold Water	.7M .3L .1L					M L	.5M .2L	ting s					.7M .4M		ion if	s funct	ildlife	.6M and w	ng: (/	t Rati	abitat	Fish Ha	Minimal omments 4D. General
,	.7M .3L .1L	h use	sh, fis	ed by f	t use	M L uatio	.5M .2L situa	ting s	If th	c.]. I	r, etc.	er barrie	.4M	l culve	ion if	s functi	ildlife	.6M and w	i ng: (/	t Rati i	abitat	Fish Ha	Minimal omments 4D. General I build be used
Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [check the functional points and rating)	.7M .3L .1L	h use	sh, fis	ed by f	t use	M L uatio	.5M .2L situa	ting s	If th	c.]. I	r, etc.	er barrie	.4M	l culve	ion if	s funct by per	ildlife	.6M and wind Asses	ng: (/	t Rati i fish u	abitat [i.e., t	Fish Ha	Minimal omments 4D. General I ould be used
Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [check the functional points and rating)	.7M .3L .1L	h use	sh, fis	ed by f	t use	M L uatio	.5M .2L situa	ting s	If th	c.]. I	r, etc.	er barrie	.4M	l culve	ion if	s funct by per	ildlife	.6M and wind Asses	ng: (/	t Rati i fish u	abitat [i.e., t	Fish Ha	Minimal omments 4D. General I ould be used
Dumtion of purpos victor	.7M .3L .1L	h use	sh, fis	ed by f ed in a	ot use rappe	M L uatic s no enti	.5M .2L situa A is	ting s ne AA as fis	If th uch	c.]. I e [su	er, etc. ective	er barrie nt perspe	.7M .4M	l culve a mar	ion if ched from	s funct by per sired t	ildlife ss this uded l not de	.6M Asses precluor is r	i ng: (/ ise is ints, (4E.)	t Rati lifish usonstra	abitat [i.e., t tat co	Fish Ha by fish to habit and pro	Minimal omments 4D. General ould be used estorable due NA here
	.7M .3L .1L	h use	sh, fis	ed by f ed in a	ot use rappe	M L uatic s no enti	.5M .2L situa A is	ting s ne AA as fis	If th uch	c.]. I e [su	er, etc. ective	er barrie nt perspe	.7M .4M	l culve a mar	ion if ched from	s funct by per sired t	ildlife ss this uded l not de	.6M Asses precluor is r	i ng: (/ ise is ints, (4E.)	t Rati lifish usonstra	abitat [i.e., t tat co	Fish Ha by fish to habit and pro	Minimal omments D. General buld be used storable due NA here
Aquatic hiding / resting / Optimal Adequate Poor Optimal Adequate Poor Optimal Ad	.7M .3L .1L	h use I], ther	sh, fis cana	ed by f ed in a	ot use rappe	M L uatic s no enti	.5M .2L situa A is	ting some AA as fis	If thuch	c.]. I e[su the fu	er, etc. ective	er barrie nt perspe	.7M .4M	l culve a mar	ion if ched from	s funct by per sired t ter pecies	ildlife ss this uded l not de	Asses	ng: (/ ise is ints, (4E.)	t Rati lifish usonstra	abitat [i.e., t tat co	Fish Ha by fish to habit and pro	Minimal omments D. General of the control of the
Thermal cover optimal/	.7M .3L .1L that the AA is not a check	h use I], ther	sh, fis cana Tem	ed by forced in a	ot use rappe	M L uatic s no enti	.5M .2L situa A is fish e	ting some AA as fis	If thuch	c.]. Interm	er, etc. ective heckt	nt persponding the persponding	.7M .4M	a mar	ion if ched from	s functi by per sired t ter pecies	ildlife ss this uded l not de d Wat	.6M Asses precluor is r Colo	ing: (/ ise is iints, (4E.)	t Rati lifish us onstra I to 14 wn / S	abitat [i.e., t tat co	Fish Haby fish to habit and pro	Minimal omments Duld be used storable due NA here Habitat Qu Duration of surface in AA Aquatic hiding / re
Suboptimal 1E 9H 8H 7M 6M 5M 9H 8H 7M 6M 5M	.7M .3L .1L that the AA is not a check	h use], ther 	sh, fis cana Tem	ed by forced in a	and ra	M L uatic s no enti	.5M .2L situa A is fish e	ting some AA as fis	If thuch	c.]. Intermediate	er, etc. ective heckt onal/li	ner barrie	.7MM .4MM .4MM .4MM .4MM .4MM .4MM .4MM	a mar	ion if ched from in AA	s functi by per sired t ter pecies	1 ildlife ss this ss this state of the state	.6M Assess precluor is r Cold	ing: (/ ise is iints, (4E.) Suspec	t Ration of the second of the	abitat [i.e., tat co oceed	Fish Haby fish to habit and pro ality and e water sting /	Minimal omments D. General buld be used storable due NA here Habitat Qu Duration of surface in AA Aquatic hiding / re escape cover

escape cover	Opt	imal	Adeq	uate	Po	or	Opti	mal	Ade	quate	Po	or	Optii	mal	Adeo	uate	Po	or
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	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.3L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
FWP Tier III or Introduced Game fish	.8H	.7M	.6M	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L

ii. Modified Rating (NOTE: Modified score c a) Is fish use of the AA significantly reduced by current final MDEQ list of waterbodies in need of fishery or aquatic life support, or do aquatic nui yes, reduce score in i above by 0.1: Modified	annot excee a culvert, di of TMDL dev sance plant	ed 1 or be les ke, or other n relopment wit	man-made st th listed "Pro	bable Impa	aired Úses	" includin	g cold or w		ne If	
b) Does the AA contain a documented spawnin comments) for native fish or introduced game fi	_	ner critical ha Y	If yes, a	•	ne adjusted					
iii. Final Score and Rating: .7 M	Commer		velling are e. Pumpkii in open w	nseed ar	nd brook	trout o	bserved			
14E. Flood Attenuation: (Applies only to wel channel or overbank flow, click NA he	lands subject re and proce		via in-chann	el or overb	ank flow.	If wetland	ls in AA ar	e not floode	ed from in-	
i. Rating (working from top to bottom, use the							0			
Estimated or Calculated Entrenchment (Rosge 1994, 1996)	en Slightly	entrenched stream type			ely entrench tream type		Entrench	ned-A, F, G types	stream	
% 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	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9H	.8H	.5М	.7M	.6M	.4M	.3L	.2L	.1L	
Slightly Entrenched ER = >2.2		•	Entrenched				ntrenched R = 1.0 – 1.4			
C stream type D stream type E strea	m type	B strea	am type	As	stream type		F stream typ	e G	stream type	
2 x Bankfull I	Depth W	Bankfull D	Depth		F Bank	lood-proi	ne Width			
2 x Bankfull ☐ Floodprone width ii. Are ≥10 acres of wetland in the AA subject to	5 / Bank width o flooding A	ofull 1 ND are man-	Voges		Bank 5 =	cfull Widt Entrend ratio	chment	7 Tools look	cated	
2 x Bankfull D	5 / Bank width o flooding A Y	ofull n ND are man- N •	made featur	es which m	Bank 5 =	cfull Widt Entrend ratio	chment		cated	
2 x Bankfull D Floodprone width ii. Are ≥10 acres of wetland in the AA subject twithin 0.5 mile downstream of the AA (check)? Comments: Highway adjacent to the s 14F. Short and Long Term Surface Way upland surface flow, or groundwater flow 14G.)	J Bank width o flooding Al Y ite, minim	Afull ND are man- N al trees or ge: (Applies ands in the	made featur shrubs po to wetland AA are sub	resent.	Bank 5 = nay be sign od or poncooding or p	Entrenderation of the control of the	chment damaged b	or in-chann	el flow, pre	eed to
Floodprone width ii. Are ≥10 acres of wetland in the AA subject twithin 0.5 mile downstream of the AA (check)? Comments: Highway adjacent to the selection of the selection of the AB (check)? Highway adjacent to the selection of the AB (check)? If the AB (check)? The AB (J Bank width of flooding Al Y ite, minim	Afull ND are man- N al trees or ge: (Applies ands in the	made featur shrubs p	es which mesent. Is that floor object to floor check] the	Bank 5 = nay be sign od or poncooding or	Entrenderation of the control of the	chment damaged b	or in-chann	nel flow, pree and proce	eed to
Floodprone width ii. Are ≥10 acres of wetland in the AA subject twithin 0.5 mile downstream of the AA (check)? Comments: Highway adjacent to the selection of the selection	J Bank width of flooding Al Y ite, minim	Afull ND are man- N al trees or ge: (Applies ands in the	made featur shrubs p	es which mesent. Is that floor object to floor check] the	Bank 5 = nay be sign od or poncoding or performent; and T	Entrenderation of the control of the	chment damaged b	or in-chann	nel flow, pree and proce	eed to

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre feet		1.	1 to 5 acre feet		≤1 acre foot				
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E		
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9Н	.8Н	.8Н	.6M	.5M	.4M	.3L	.2L		
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L		

Comments:

Extensive areas of perennial inundation greater than 2 feet deep were observed in 2013-2020.

to 14H.)	of surface of															ortoxicar and proced	
i. Rating (w = low])	orking from	top to bot	tom, use	e the n	natrix b	elow to	arrive a	t [check	() the f	unctiona	l points	s and rati	ng [H =	= high,	M = mo	oderate, o	ır L
Sediment, nutrion levels within AA	4	·	to compo not s so	deliver ounds substan urces o	levels of at levels tially imp of nutrien	of sedime such tha paired. M		ents, or nctions a mentatio signs of	are n,	deve nutrients with pot compoun	lopment s, or toxi ential to ds such dimenta	deliver hig that other tion, sourc of eutro	ble caus A receive gh levels function ces of nu	ses" rela ves or s s of sedi ns are su utrients o	ated to surround iments, in ubstantion toxica	ediment, ing land us on utrients, o ally impaire nts, or sign	r :d.
% cover of wetle				≥ 70%			< 70°	<u>%</u>			≥ 70	%			< 70	%	\dashv
			Yes		No .	Yes	3	No		Yes		No		Yes	_	No .	4
AA contains no			1H		8H	.71	1	.5M		.5N	1	.4M		.3L		.2L	_
AA contains un	restricted ou	tl et	.9H		7M	.6N	1	.4M		.4N	1	.3L		.2L		.1L	
Comments:	Wetlands a		o excava	ated c	ells are	100%	vegetate	d with	eed ca	anarygra	iss and	l very mir	nimal C	arex s _l	pp. De _l	oressions	
14H Sediment drainage, or on proceed to 14I. i. Rating (wor % Cover of wetla	the shoreline) king from top	of a stand	ing water	body v	which is	subject	to wave a	action. It	14H do	oes not a	pply, cli rating)		ral or m		le		
shoreline by spec	cies with stability		Perm	anent / [Perennial	Daration		sonal / Int		ì	<u></u>	emporary / E	- - - - - - -	al			
of ≥6 (see Appen ≥ 65%	idix F).		Pellila	1H	_		Sea	.9H	1	L	- 16	.7N	1	aı			
35-64%				_	_			.6N	_			.51	-				
< 35%				.3L	_			.2L				.11					
	ction Export/l		• • •														
General Fis Rating (1			eneral W	Wilding	and fish	habitat	ratings [c	heck])	_								
		F/H	011010111		Habitat		ratings [c	heck])	7								
I = "		E/H H	1		Habitat M		(14C.iii.) L	1									
E/H		E/H H		/ildlife	Habitat			1									
E/H M		Н		/ildlife	Habitat M		(14C.iii.)	1									
		Н		/ildlife	Habitat M H		(14C.iii.) L	1									
ii. Rating (Wo wetland compo subsurface outl	orking from to onent in the A/let; the final these for further d	H H M H p to bottom A; Factor B irree rows p efinitions o	n, use the = level o ertain to of these te	matrix f biolog duratio	Habitat M H M M s below t gical acti	o arrive vivity ratirface wat	(14C.iii.) L M L at [checking from a	the funbove (14AA, whe	l.i.); Fa re P/P,	ctor C =	whether	or not the	AA cor usly defi	ntains a ined, an	surface d A = "a	or	
ii. Rating (Wowetland composubsurface outlingsee instruction	orking from to onent in the A/let; the final the is for further downward of the control of the c	H H M H p to bottom A; Factor B liree rows p efinitions o component >5 a loderate	n, use the = level o ertain to of these teacres	matrix f biolog duratio erms].)	Habitat M H M M below t jical actin of surl	o arrive ivity ratir face wat	(14C.iii.) L A L at [check of from a er in the etated comp	1 the fun bove (14 AA, whe onent 1-5 a	I.i.); Fa re P/P, cres	ctor C = S/I, and	whether T/E are Hi	or not the as previou	e AA cor usly defi ated compo	ntains a ined, an onent <1 a	surface d A = "a	e or absent"	
ii. Rating (Wowetland composubsurface out [see instruction ABHic CYes]	orking from to ment in the A/ let; the final the s for further do Vegetated c	H H M H p to bottom A; Factor B pree rows p efinitions o component >5 a loderate No	n, use the = level o ertain to of these teacres	e matrix of biolog duratio erms].)	Habitat M H M M Selow t Spical action of surf	o arrive vivity ratinface wat	at [check of from a er in the estated composite of the co	I the fun bove (14AA, whe	l.i.); Fare P/P,	ctor C = S/I, and	whether T/E are	vegeta	e AA cor usly defi	onent <1 a	surface ad A = "a	e or absent"	
ii. Rating (Wowetland composubsurface outlesse instruction A B Hic C Yes P/P 1E	orking from to onent in the A/let; the final trust for further divergetated con the state of the	H H M H p to bottom A; Factor B pree rows p efinitions o component >5 a loderate No 1 .5M	n, use the = level o electric to of these teacres Lov Yes .6M	matrix of biolog duration erms].)	Habitat M H M M Selow t jical actin of suri	o arrive vivity ratinface wat	at [check of from a er in the estated comp Mode Yes	the fun bove (14AA, whee	Li.); Fare P/P,	ow No	whether T/E are Hi Yes .8H	Vegeta gh No .6M	e AA cor usly defi ated compo Moder Yes	ntains a ined, an onent <1 a rate No .4M	surface d A = "a acre Yes .3L	e or absent"	
ii. Rating (Wowetland composubsurface outl [see instruction A B Hic C Yes P/P 1E	orking from to onent in the A/let; the final trust for further divergetated con the state of the	H H M H p to bottom A; Factor B iree rows p efinitions o omponent >5 a loderate No 1 .5M	n, use the = level o ertain to of these teacres	e matrix of biolog duratio erms].)	Habitat M H M M Selow t Spical action of surf	o arrive vivity ratinface wat	at [check of from a er in the estated composite of the co	I the fun bove (14AA, whe	l.i.); Fare P/P,	ctor C = S/I, and	whether T/E are	vegeta	e AA cor usly defi	onent <1 a	surface ad A = "a	e or absent"	
ii. Rating (Wowetland composubsurface out [see instruction ABHic CYes]	orking from to onent in the Avilet; the final tis for further of Vegetated control of the state	H H H H H H H H H H H H H H H H H H H	n, use the = level o ertain to of these teacres Low Yes .5M .4M .4M	e matrix f biolog duratio duratio erms].) No .3L .2L	Habitat M H M M Selection of surface and selection of selection of surface and selection of se	o arrive ivity ratir face wat Vegiligh No .6M .5M .4M	at [checking from a er in the etated comp Mode Yes 7.7H 6.6M 6.5M 6.5M 6.5M 6.5M 6.5M 6.5M 6.5M	the fundamental of the fundament		ow No 3L 1L Upland E	whether T/E are Hi Yes .8H .7H .6M	vegeting No .5M .4M .4M .4M	e AA cor usly defi ated compo Moder Yes .6M .5M .4M	ntains a fined, an onent <1 a rate No .4M .3L .2L .30%	surfaced A = "a acre Yes .3L .2L	e or absent"	

i. Discharge Ind The AA is a slope we Springs or seeps are Vegetation growing d Wetland occurs at the Seeps are present at AA permanently flood Wetland contains an Shallow water table a Other: large spring	tland known or obs uring dormant to toe of a natu the wetland e led during dro outlet, but no nd the site is s	t season/dro ral slope dge ught periods inlet saturated to	the surface	Wetl. Stream Other	neable substra and contains am is a known	inlet but no o	rithout under utlet	S rlying impeding ge volume decr	•		
iii. Rating (use the inform	nation from i a		and the table Duration of satu	uration at AA	Wetlands FRC	OM GROUND	VATER DISC	HARGE OR WI	TH WATER		
				THAT IS	RECHARGING	THE GROUN					
<i>Criteria</i> Groundwater Discharge or R	echarge		P/P		S/I		.4M		one 11		
Insufficient Data/Information			1H .7M .4M .1L .1L								
comments: AA with po	erennial inui	ndation/sat	turation to the	e surface.							
14K. Uniqueness: i. Rating (working from to	AA contains or mature wetland or	s fen, bog, v e (>80 yr-old	varm springs d) forested ciation listed	AA does cited rai diversity (k] the function not contain pre types and #13) is high cociation listed the MTNHP	oreviously structural or contains as "S2" by	AA doe	es not contain pare types or as ructural diversi	sociations ty (#13) is		
Estimated relative abundance (#11)	rare	commo	abundant	rare	common	abundant	rare	common	abundant		
Low disturbance at AA	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L		
(#12i) Moderate disturbance at	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L		
AA (#12i) High disturbance at AA (#12i)	.8H	.7H	.6M	.6M	.4M	.3L	.3L	.2L	.1L		
	n Potential: otential rec./e	(affords "bo ed. site: (ch summary an	nus" points if A leck) Y	AA provides	recreation or (if 'Yes' cont	education o	pportunity) e evaluation	; if 'No' then cl	lick NA	b/tree	
iii. Rating (use the matrix	helow to arriv	/e at [check	I the functiona	I noints and	rating)						
Known or Potential Recreation			,	raud	<i>(</i>			Known Po	tential		
Rhown or Potential Recreation Public ownership or public ea			c access (no pe	rmission req	uired)			.2H	.15H		
Private ownership with gener	al public acces	ss (no permi	ssion required)					.15H	.1M		
Private or public ownership v	vithout general	l public acce	ss, or requiring	permission f	or public acce	ss		.1M	.05L		
omments:								•	·		
Known recreation site											
Seneral Site Notes											

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Creation

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	Н	.8	1	18.03	
B. MT Natural Heritage Program Species Habitat	Н	.9	1	20.29	
C. General Wildlife Habitat	Н	.9	1	20.29	✓
D. General Fish Habitat	М	.7	1	15.78	
E. Flood Attenuation	М	.6	1	13.52	
F. Short and Long Term Surface Water Storage	Н	1	1	22.54	✓
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	22.54	
H. Sediment/Shoreline Stabilization	Н	1	1	22.54	
Production Export/Food Chain Support	Е	1	1	22.54	~
J. Groundwater Discharge/Recharge	Н	1	1	22.54	✓
K. Uniqueness	L	.3	1	6.76	
L. Recreation/Education Potential (bonus points)	Н	.2	NA	4.51	
Totals:		9.4	11	211.88	
Percent of Possible Score			85.45 %		

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 Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
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 .9 or 1 functional point for General Wildlife Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or 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; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (check appropriate category based on the criteria outlined above)

|--|

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name	Schrieber Meadows	2. MDT project#	STPI	P STWD (75	6)	Control	9680000		
3. Evaluation Date	7/16/2020 4. Evaluators	R Quire, S Weyant, B 5	Wetlar	nd/Site# (s)	Enhance	ment			
6. Wetland Location(s)		Trudgeon 30W Sec1 11,12,13	т			Sec2			
` '	<i>'</i>		'	R		3602			
Approx Stationing or Matershed 1 - Koo		atershed/County Linco	n						
7. Evaluating Agency	CCI for MDT		8	3. Wetland s	size acres	,	13.22		
Purpose of Evaluatio	on		ı	How assess	ed:	Measured e.	g. by GPS		
_ •	ally affected by MDT project		ç	9. Assesssn	nent area		13.22		
Mitigation Wetland	ds: pre-construction		(AA) size (ac	res)				
	ds: post construction		ŀ	How assess	ed:	Measured e.	g. by GPS		
Other	us. post construction								
10. Classification of V	Wetland and Aquatic Habitats	s in AA							
HGM Class (Brinson)	Class (Cowardin)	Modifier (Coward	lin)	Water Re	gime	% c	f AA		
Slope	Emergent Wetland			Permanent/F	Perennial		60		
Slope	Emergent Wetland			Seasonal/Int	termittent		30		
			structions	for Montana-li	sted noxiou	is weed and			
		Pred Managed in predominantly		nditions adjacent ot cultivated, but	•	<u>'</u>	d or heavily grazed		
Condi	itions within AA	hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is <=15%.	modera selectiv subject few roa	ately grazed or havely logged; or ha to minor clearing ds or buildings; r	ayed or as been g; contains noxious	or logged; sub placement, gra hydrological a	ject to substantial fill ading, clearing, or teration; high road or y; or noxious weed		
grazed, hayed, logged, or othe	predominantly natural state; is not erwise converted; does not contain ind noxious weed or ANVS cover is	low disturbance	low disturbance low disturbance		nce	moderate	e disturbance		
, 55 ,	n subject to relatively minor clearing, fill eration; contains few roads or buildings;	moderate disturbance	mod	derate distu	rbance	high disturbance			
substantial fill placement, grad	d or logged; subject to relatively ling, clearing, or hydrological alteration; or noxious weed or ANVS cover is	high disturbance	h	igh disturba	ance	high d	isturbance		
	disturbance. intensitv. seasor nt road fill between the AA and								
ii. Prominent noxious,	aquatic nuisance, other exot	tic species:							
Cirsium arvense and Le									
	riptive summary of AA and su								
AA includes existing wet meadow foxtail. Restoral construction during sumi	tlands located between stream tion efforts have resulted in inc mer of 2020.	n mitigation area and US Hocreased inundation. Adjace	vy 2. The nt land ι	e wetland is our se is forest a	dominated and the hiç	by reed cana ghway. Highw	arygrass and ay 2 under		

13. **Structural Diversity:** (based on number of "Cowardin" *vegetated* classes present [do not include unvegetated dasses], see #10 above)

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current managemen existence of additiona		Modified Rating
>=3 (or 2 if 1 is forested) classes	Н	NA	NA	NA
2 (or 1 if forested) classes	М	NA	NA	NA
1 dass, but not a monoculture	М	<no< td=""><td>YES></td><td>L</td></no<>	YES>	L
1 class, monoculture (1 species comprises>=90% of total cover)	L	NA	NA	NA

Comments:	Emergent wetland dominated by primarily reed canary grass, with some cover from meadow foxtail and minimal cover from
	Carex spp.

SECTION PERTAINING to FUNCTIONS VALUES ASSESSMENT

i. AA is Documented (D) of rimary or critical habitat (list	·		•	leck one bas	ea on aeminions	contained in ins	tructions):	
econdary habitat (list Specie	es)	● D ○	s	Grizzly bear				
ncidental habitat (list species	s)	(a) D (b)	s					
lo usable habitat		S						
ii. Rating (use the condusion	ns from i al	ove and the m	atrix l	oelow to arrive	e at [check] the fun	ctional points and	rating)	ı
Highest Habitat Level doc	c/primary	sus/primary doc		secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	.9H	Γ	.8H	7M	3L	1L	0L	
		, MNHP databa n FWP, USFS,			ithin year-round rar	nge of grizzly bear	,	

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions):

Primary or critical habitat (list species)	● D ○ S	Western toad (S2)
Secondary habitat (list Species)	□ D □ S	
Incidental habitat (list species)	□ D □ S	
No usable habitat	s s	

ii. Rating (use the conclusions from i above and the matrix below to arrive at [check] the functional points and rating)

ii. Italing (use the conc	iusions nonn a	bove and the n	ia ii ix below to alli v	e at [check] the full	ctional points and	rauriy)	
Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: Functional Points and Rating	1H	8H	.7M	.6M	.2L	1L	_OL_
S2 and S3 Species: Functional Points and Rating	.9Н	7M	6M	.5M	.2L	1L	OL

Sources for documented use

MTNHP and documented breeding on site by MDT and USFS personnel. Great Blue Heron (S3) observed on site.

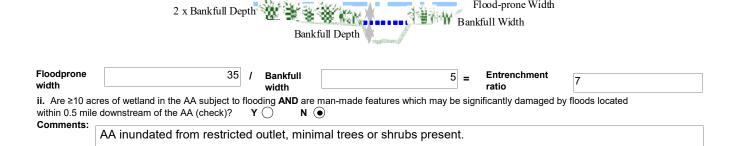
																			Sub	stantia	al		
u bstantial (base	ed on any	y of the	followin	ıg [che	ck]):						Minir	nal (b	ased or	n any of	of the follo	owing [[check]):	_				_
observations				-	•		• •	•		i)	fe	∌w or n	ıo wildlif	ie obser	ervations	during	, peak ι	ıse per	riods				
abundant wil	dlife sign	ı such ə	as scat, '	tracks	, nest st	.ructure	s, gam	e trails	, etc.		lit	tle to r	no wildlii	fe sign									
presence of	extremel	y limitin	ıg habita	at featı	ures not	availab	ગીe in th	ıe surrc	ounding :	area	sr	parse :	adjacen	ıt uplanı	d food so	ources	ŕ						
interviews w	th local b	oiologist	ts with k	(nowle	dge of th	ne AA					in	ıtervie	ws with	local bir	iologists	with kr	nowledç	ge of th	ne AA				
oderate (based	on any c	of the fo	ollowing	[checl	<]):																		
observations	-			-		uals or	relative	ely few	species	during	peak pr	eriods											
common occ	currence	of wildli	ife sign	such e	ıs scat, f	tracks,	nest str	.ructure	s, game	; trails, €	etc.												
adequate ad	jacent ur	and foو	od sour	ces																			
interviews w	ith local t	iologist	ts with k	knowle	dge of t	he AA																	
ii. Wildlife hal from #13. For other in terms permanent/pe terms])	r class c of their	cover to	to be co	onside ipositi	ered evolution of the	venly di the AA	distribu \ (see #	uted, th #10).	he mos Abbrev	st and le	least pr s for su	revale urface	ent veg e water	getateo r duratio	d class ions are	ses mu e as fo	ust be sollows:	within : P/P =	n 20% of =	of each			
Structural diversity (see #13)				Hi	igh						<u>-</u>	Mod	derate					L	Low				
Class cover distribution (all vegetated classes)		Eve	en			Unev	ven			Eve	en			Une	ven	en		E [,]	Even				
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	A	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	A			
Low disturbance at AA (see #12i)	Е	Е	E	н	Е	E	н	н	Е	Н	Н	М	E	Н	M	М	Е	н	М	М			
Moderate disturbance at AA (see #12i)	Н	Н	Н	н	н	н	н	М	Н	Н	М	М	н	М	М	L	н	М	L	L			
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	1	М	М	L	[]	М		L	L	L	L	1	L			
iii. Rating of				ns fro	om i a	nd ii a	above	and f	the ma						k] the s <i>rating</i>		ional	point	s and	rating)			_
1 1 1 14			1	F	Except	ional		L		High		_			Mod	derate	e		4		Low		_
Substantial					1E			4		.91	Н					.8H					.7M	4	
Moderate			1		.9H	_		4		.71	VI					.5M			4		.3L	4	_
Minimal					.6M	4		4		.41	M					.2L					.1L		
4D. General puld be used estorable due	Fish H I by fish	Habita n [i.e.,	at Ration, fish use	ing: (use is aints,	(Asses preclu	ss this uded t	s funct by per esired	ction if	f the A	WAisus entoro	used by	oy fish barrie	h or the	neexis	sting si	ituatio	on is "o	'corre	ectable' fish, fis	e" such sh use	e is not	he AA	_
NA here						d Wat		s in A/	A (user	natrix <u>1</u>	to arri <u>v</u>	e at <u>[</u> c	check <u>t</u>	he fun	ctional	points	and <u>r</u>	ating)	_	_	_	_	_
Habitat Q			-			_				Ē	-					-							Ā
Habitat Qu Duration of surfa in AA				Pe	emanen	t / Pere	nnial_		1	٠ _		Seas	sonal / In	vtermitte	`nt	_			Tem	norary /	/ Epheme	ral	Ŋ
Duration of surfa	ice water		Optima			nt / Pere		Poo	or	Οţ	ptimal	Seas	Sonal / In Adequ			Poor	1	Optir			/ Epheme equate		Poc
Duration of surfa in AA Aquatic hiding / r	resting /		Optima O			\dequate		Poo	oor S	Op O	ptimal S					<u> </u>	;	Optin O))))

	Pei	manent /			Temporary / Ephemeral												
Optimal		Adequate		Poor		Optimal		Adequate		Poor		Opti	mal	al Adequate		Poor	
0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S
1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.3L
.9Н	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
.8Н	.7M	.6М	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L
	O 1E .9H	Optimal O S 1E 9H 8H 8H 8H 8H	Optimal Adeq O S O 1E .9H .8H .9H .8H .7M .8H .7M .6M	Optimal Adequate O S O S 1E .9H .8H .7M .6M .9H .8H .7M .6M .5M	O S O S O 1E	Optimal Adequate Poor O S O S O S 1E .9H .8H .7M .6M .5M .5M .9H .8H .7M .6M .5M .5M .4M	Optimal Adequate Poor Optimal O S O S O 1E .9H .8H .7M .6M .5M .5M .9H .9H .8H .7M .6M .5M .5M .5M .8H .8H .7M .6M .5M .5M .4M .7M	Optimal Adequate Poor Optimal O S O S O S 1E .9H .8H .7M .6M .5M .9H .8H .9H .8H .7M .6M .5M .5M .8H .7M .8H .7M .6M .5M .5M .4M .7M .6M	Optimal Adequate Poor Optimal Adequate O S O S O S O 1E .9H .8H .7M .6M .5M .9H .8H .7M .6M .9H .8H .7M .6M .5M .5M .8H .7M .6M .8H .7M .6M .5M .5M .4M .7M .6M .5M	Optimal Adequate Poor Optimal Adequate O S O S O S O S 1E .9H .8H .7M .6M .5M .9H .8H .7M .6M .9H .8H .7M .6M .5M .5M .8H .7M .6M .5M .8H .7M .6M .5M .5M .4M .7M .6M .5M .4M	Optimal Adequate Poor Optimal Adequate Poor O S	Optimal Adequate Poor Optimal Adequate Poor O S O S O S O S O S 1E .9H .8H .7M .6M .5M .9H .8H .7M .6M .5M .4M .9H .8H .7M .6M .5M .5M .4M .7M .6M .5M .4M .4M .8H .7M .6M .5M .5M .4M .7M .6M .5M .4M .3L	Optimal Adequate Poor Optimal Adequate Poor Optimal O S O	Optimal Adequate Poor Optimal Adequate Poor Optimal O S O	Optimal Adequate Poor Optimal Adequate Poor Optimal Adequate O S<	Optimal Adequate Poor Optimal Adequate Poor Optimal Adequate O S	Optimal Adequate Poor Optimal Adequate Poor Optimal Adequate Poor O S <t< td=""></t<>

Sources used for identifying fish sp. potentially found in AA:
ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1) a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N for the probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N for the probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N for the probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y N for the probable Impaired Uses" including cold or warm water fishery or aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y for the probable Impaired Uses" including cold or warm water fishery or aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? Y for the probable Impaired Uses" including cold or warm water fishery or aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat?
b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc specify in comments) for native fish or introduced game fish? Y N If yes, add 0.1 to the adjusted score in i or iia above: Modifed Rating 3L
iii. Final Score and Rating: 3 L Comments: Minimal fish habitat present, no fish have been observed in AA.
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from inchannel or overbank flow, click NA here and proceed to 14F.)
i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating)
Estimated or Calculated Entrenchment (Rosgen Slightly entrenched - C, D, E Moderately entrenched - B Entrenched-A, F, G stream

1994, 1996) stream types stream type types % of flooded wetland classified as forested 75% 25-75% <25% 75% 25-75% <25% 75% 25-75% <25% and/or scrub/shrub 1H .9H AA contains no outlet or restricted outlet .8H .7M .5M .4M .3L .2L .6M AA contains unrestricted outlet .3L .9H .7M .6M .4M .2L .1L .8H .5M

	Slightly Entrench ER = >2.2	ed	Moderately Entrenched ER = 1.41 – 2.2		Entrenched ER = 1.0 - 1.4	
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type



Flood-prone Width

14F. Short and Long Term Surface Water Storage: (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, dick NA here and proceed to 14G.)

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

diffici delilifions 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 feet		1.	1 to 5 acre feet			≤1 acre foot	
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L

Comments:

AA includes constructed wetland depressions and adjacent wetland habitat that has been created by inundation from restoration efforts. These efforts include plugging of existing ditches and channels and creation of a new stream channel.

14G. Sedime through influx to 14H.)																
i. Rating (wo	orking fro	m top to b	ottom, us	se the r	natrix b	elow to	arrive a	t [chec	k] the f	unctiona	ıl points	s and ra	ting [H	= high,	M = m	oderate, c
Sediment, nutrie levels within AA		xicant input	com	to delive pounds substar	r levels o at levels ntially imp	of sedim such th paired. No ts or to	and use wents, nutrat other following sedingers, or present.	ients, or unctions mentatio	are n,	nutrient with po- compour	lopment s, or toxi tential to ids such	t for "problicants or deliver b that other ation, sou	able can AA rec nigh leve er functi rces of	uses" rel eives or s els of sed ons are s	ated to s surround iments, ubstanti or toxica	d of TMDL sediment, ing land use nutrients, o ially impaire ants, or sign
% cover of wetla Evidence of floo				≥ 70%			< 70				≥ 70	%			< 70	
AA contains no	or restric	ted outlet	Yes 11		8H	.7N	. 1	.5M	1	Yes .5N		.41	1	.3L		.2L
AA contains uni	restricted	outlet	.91	-	7M	.61	-	.4M		.4N	-	.31		.2L	-	.1L
Comments:	AA near	rly 100% v	_						loodin	_						
Comments:	AATICA	11y 100 /0 V	egetated	WILITIE	eu can	arygras	ss, prese	ilice oi	iloodiii	g/portail	ig, 163t	ncted of	utiet.			
14H Sediment/ drainage, or on proceed to 14I.) i. Rating (work	the shore	line of a star	nding wate	er body	which is	subject	to wave	action. I	f 14H d	oes not a	ipply, cli			man-madere and	de	
% Cover of wetlar shoreline by speci	es with stat					Duration	of surface						.			
of ≥6 (see Append	dix F).		Perr	$\overline{}$	Perennial		Sea	nsonal / In		it	16	emporary /	M	eral		
35-64%				1⊦ .7N				.91	-				5M			
< 35%				.71v				.21					1L			
14l. Production i. Level of B	•				and fish	habitat	ratings [check])								
General Fish Rating (14	h Habitat		General \	Vildlife												
E/H		Н	1		н			и								
M		н			М		-	и								
L		M			М			L								
N/A	1	Н			М			L								
ii. Rating (Wo wetland compor subsurface outle [see instructions	nent in the et; the fina s for furthe	AA; Factor al three rows	B = level pertain to of these	of biologo duration	gical acti	vity rati ace wa	ng from a	Dove (14 AA, whe	II.i.); Fa re P/P,	ctor C =	whether	or not the	ne AA c ously de	ontains a	surface	e or
B Hig	h	Moderate Yes No		ow No	H Yes	igh No		erate No		.ow No	Hi Yes			derate No		ow No
P/P 1E	.7H	.8H .5M	.6M	.4M	.9H	.6M	.7H	.4M	.5M	.3L	.8H	.6М	.6M	.4M	.3L	.2L
S/I .9H	.6M	.7H .4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7H	.5M	.5M	.3L	.3L	.2L
T/E/A .8H	.5M	.6M .3L	.4M	.2L	.7H	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L
iii. Modified Rat plant cover, ≤ 15° control). a) Is there an ave to the score in ii Comments:	% noxious erage ≥ 50 above an	weed or AN	IVS cover egetated ng accord	, and th upland b ingly:	at is not ouffer arc	subject ound ≥ 7 d Ratir	ed to peri 75% of th ng .9	odic me e <i>AA ciro</i> H	chanica cumfere	nowing	or cleai	ring (unle	ess for v	weed es, add 0		ed
	outlet		J, 7-9				-,0		9"		J, [-01.		, ;	J,		

i. Discharge Ind The AA is a slope we Springs or seeps are Vegetation growing of Wetland occurs at the Seeps are present at AA permanently flood Wetland contains an Shallow water table at Other:	etland the known or obduring dorma the toe of a na the wetland ded during di outlet, but no	nt season/dro tural slope edge rought periods o inlet	5	Wetl	neable substr and contains am is a knowr	inlet but no o	vithout under utlet	S elying impeding layer ge volume decreases
iii. Rating (use the inform	mation from i			uration at AA	Wetlands FR	OM GROUND	NATER DISC	HARGE OR WITH WAT
Critorio			D/D	THAT IS	RECHARGING	THE GROUN		
<i>Criteria</i> Groundwater Discharge or R	Recharge		P/P 1H		.7M		.4M	None .1L
nsufficient Data/Information	1		, III			NA NA		
4K. Uniqueness: Rating (working from to	op to bottom	, use the mat	trix below to ar		-		nd rating)	
Replacement potential	or matu wetland c	ns fen, bog, v ire (>80 yr-olo or plant assoo "S1" by the M	d) forested ciation listed	cited ra diversity	s not contain re types and (#13) is high ociation listed the MTNHF	structural or contains d as "S2" by	cited ra	es not contain previous re types or associatio uctural diversity (#13) low-moderate
Estimated relative abundance (#11)	rare	commo n	abundant	rare	common	abundant	rare	common abune
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M .3I
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L .2L
High disturbance at AA (#12i)	.8H	.7H	.6M	.6M	.4M	.3L	.3L	.2L .1L
14L. Recreation/Education i. Is the AA a known or p here and proceed to the categori Check categori Other iii. Rating (use the matrix	otential rec to the overal	./ed. site: (ch Il summary ar Iy to the AA:	neck) Y nd rating page Z Education	N ()) nal/scientific	(if 'Yes' con study; <u>✓</u> C	tinue with the	e evaluation	; if 'No' then click on-consumptive rec.;
Known or Potential Recreation								Known Potential
Public ownership or public e					uired)			.2H .15H
Private ownership with gene								.15H .1M
Private or public ownership	without gener	rai public acce	ss, or requiring	permission	or public acce	ess		.1M .05L
omments: Known recreation at site	э.							

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Enhancement

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	Н	.8	1	10.58	V
B. MT Natural Heritage Program Species Habitat	Н	.9	1	11.90	
C. General Wildlife Habitat	Н	.9	1	11.90	
D. General Fish Habitat	L	.3	0	3.97	
E. Flood Attenuation	М	.6	1	7.93	
F. Short and Long Term Surface Water Storage	Н	1	1	13.22	V
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	13.22	✓
H. Sediment/Shoreline Stabilization	Н	1	1	13.22	
Production Export/Food Chain Support	Н	.9	1	11.90	✓
J. Groundwater Discharge/Recharge	Н	1	1	13.22	
K. Uniqueness	L	.3	1	3.97	
L. Recreation/Education Potential (bonus points)	Н	.2	NA	2.64	
Totals:		8.9	10	117.66	
Percent of Possible Score	•		89 %		

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 Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
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 .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or 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; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (check appropriate category based on the criteria outlined above)

I	II	III	IV

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project name Schr	ieber Meadows	2. MDT projec	ct# ST	PP STWD (756	6)	Control#	9680000
3. Evaluation Date 7/16/		R Quire, S Weyant, B	5. Wet	land/Site# (s)	Restoration	on	
6. Wetland Location(s):		Frudgeon DW Sec1 11,12	2.13 T	R		Sec2	
Approx Stationing or Miler				I N			
Watershed 1 - Kootena		-	incoln				
7. Evaluating Agency	CCI for MDT			0 Wetlende	!== =====		2.46
Purpose of Evaluation				8. Wetland s How assesse		Measured e.	3.46
	iffected by MDT project			9. Assesssm		ivicasureu e.	3.46
☐ Mitigation Wetlands: p				(AA) size (acı			3.40
✓ Mitigation Wetlands: p				How assesse	ed:	Measured e.	g. by GPS
Other							
10. Classification of Wetla	and and Aquatic Habitats	in AA					
HGM Class (Brinson)	Class (Cowardin)	Modifier (Cov	wardin)	Water Re		% o	f AA
Depressional	Aquatic Bed	Excavated		Permanent/P	erennial		35
Depressional	Emergent Wetland	Excavated		Seasonal/Inte	ermittent		30
Depressional	Emergent Wetland	Excavated		Permanent/P	erennial		35
11. Estimated Relative Abu	undance Common						
12. General Condition of	AA k below to determine [circle] ap	ppropriate response – se	ee instructio	ns for Montana-lis	sted noxious	s weed and	
		Managad in productionally		conditions adjacent	•	·	d an baarily anamad
Conditions v	within AA	Managed in predominantly natural state; is not grazed hayed, logged, or otherwis converted; does not contain roads or buildings; and not weed or ANVS cover is <=	I, mod sele subj	d not cultivated, but r lerately grazed or hay ctively logged; or hay ect to minor clearing; roads or buildings; no d or ANVS cover is <	yed or s been contains oxious	or logged; subj placement, gra hydrological al	d or heavily grazed ect to substantial fill ding, clearing, or teration; high road or y; or noxious weed is >=30%.
AA occurs and is managed in predor grazed, hayed, logged, or otherwise roads or occupied buildings; and nox <=15%.	converted; does not contain	low disturbance	e	low disturbar	nce	moderate	e disturbance
AA not cultivated, but may be moders selectively logged; or has been subje placement, or hydrological alteration noxious weed or ANVS cover is <=30	ect to relatively minor clearing, fill ; contains few roads or buildings;	moderate disturbance	m	oderate distur	bance	high d	isturbance
AA cultivated or heavily grazed or log substantial fill placement, grading, cl high road or building density; or nox >=30%.	earing, or hydrological alteration;	high disturbance	el _	high disturba	nce	high d	isturbance
Comments: (types of disturble adjacent Creation AA en close to the AA.			cted in 200	07 and 2011. Hiថ្	ghway 2, u	nder constru	ction in 2019, is
ii. Prominent noxious, aqua	atic nuisance, other exoti	c species:					
Cirsium arvense, Leucanthe	-						
iii. Provide brief descriptiv The AA includes pre-existing and provide a greater diversit	wetlands identified within t	he project area that v		ied by excavatio	on to increa	ase the grour	ndwater availability

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 Initial Modified Is current management preventing (passive) existence of additional vegetated classes? Existing # of "Cowardin" Vegetated Classes in AA Ratino Rating >= 3 (or 2 if 1 is forested) classes NA NΑ Н 2 (or 1 if forested) classes NA NΑ NA Μ 1 dass, but not a monoculture М <NO YES> 1 class, monoculture (1 species comprises>=90% of total cover) NA NΑ NA Comments: Emergent and aquatic bed SECTION PERTAINING to FUNCTIONS VALUES ASSESSMENT 14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals: i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions): Primary or critical habitat (list species) D S \odot D \bigcirc S Secondary habitat (list Species) Grizzly bear D S Incidental habitat (list species) S No usable habitat ii. Rating (use the condusions from i above and the matrix below to arrive at [check] the functional points and rating) Highest Habitat Level doc/primary sus/primary doc/secondary sus/secondary doc/incidental sus/incidental None Functional Points and 1H .9H .8H .7M .3L .1L 0L Rating USFWS database, MNHP database shows site is within year-round range of grizzly bear, Sources for reports of use from FWP, USFS, and USFWS. documented use 14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above) i. AA is Documented (D) or Suspected (S) to contain (check one based on definitions contained in instructions): Primary or critical habitat (list species) Western toad (S2) D S Secondary habitat (list Species) Incidental habitat (list species) D S S No usable habitat ii. Rating (use the conclusions from i above and the matrix below to arrive at [check] the functional points and rating) Highest Habitat Level doc/primary sus/primary doc/secondary sus/secondary doc/incidental sus/incidental None S1 Species: Functional Points and .7M .2L 0L 1H .8H .6M .1L Rating S2 and S3 Species: Functional Points and .7M .6M .5M .2L 0L .9H .1L Ratina

rtating							
•							
Sources for	MTI	NHP and docum	ented breeding	g on site by MDT ar	nd USFS personnel		
documented use							

																			Subs	stantia	al	
ubstantial (based	d on any	of the f	followin	ıg [che	:ck]):						Minir	mal (b	ased or	∩ any of	of the follo	owing !	[check]):				
observations of	of abunda	ant wil	dlife #s	or hig	h specie	es diver	rsity (du	ıring ar	ny period	(i	fe	ew or n	ıo wildlif	fe obser	ervations	during	, peak ι	use per	riods			
abundant wild	llife sign ؛	such a	ıs scat, f	tracks	, nest st	ructure	∍s, gam∉	e trails	, etc.		lit	ttle to r	no wildlif	ife sign								
presence of ex	xtremely	limitin _'	g habita	at featı	ures not	. availał	ble in th	ie surro	ounding :	area	S	parse :	adjacen	ıt uplanı	d food so	ources	;					
interviews with	.h local bi	ologist	ts with k	knowle	dge of t	he AA					ir	ntervie	ws with	local bi	iologists	with k	nowled	ge of th	ne AA			
oderate (based o	on any of	the fo	llowing	[check	k]):																	
observations of	of scatter	ed wilr	dlife gro	o squc	r individ	uals or	relative	ly fewاد	species	during r	peak pr	eriods										
] common occu	urrence of	f wildlif	fe sign	such a	as scat, f	tracks,	nest str	ructure	s, game	: trails, e	∍tc.											
adequate adja	acent upla	and for	od sour	ces																		
interviews with	h local bi	ologist	ts with k	knowle	dge of t	he AA																
i. Wildlife habi from #13. For o other in terms o permanent/pere erms])	class co	over to percer	o be co nt com	onside ipositi	ered ev ion of th	venly d the AA	distribut A (see #	uted, th #10).	he most Abbrev	st and le	least pr s for su	revale urface	ent veg e water	getateo r duratio	d class ions are	es mu e as fo	ust be sollows:	within : P/P =	n 20% of =	of each		
Structural diversity (see #13)				Hig	igh							Mode	lerate					L	_ow			
Class cover distribution (all vegetated classes)		Eve	en			Une	even		_	Ever	en	_	_	Une	ven	_		E	Even			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	A		
L ow disturbance at AA (see #12i)	Е	Е	Е	Н	Е	Е	Н	н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М		
Moderate disturbance at AA (see #12i)	н	н	н	н	н	Н	н	М	н	Н	М	М	н	М	М	L	н	М	L	L		
High disturbance at AA (see #12i)	М	м	М	[м	м	L	L	М	м	L	1 1	М		L	[L	L	L	L		
iii. Rating (u Evidence of w					om i aı Except			and t	ihe ma		Vildlife				s rating			point	s and r	rating)) Low	<u> </u>
Substantial					1E			lacktriangleright		.9F						.8H				$\overline{}$.7M	1
Moderate					.9H			十		.7N						.5M				_	.3L	
Minimal			1		.6M	-		十		.4N	_					.2L					.1L	
comments	Good	habi	tat div	/ersit	y with	subs	tantia	l wild	dlife evi	dence	3 .	_										
4D. General F ould be used be estorable due t	by fish to habit	[i.e., itat co	fish us onstra	use is aints,	, preclu	uded l	by per	rched	d culve	ert or o	other b	bar rie	er, etc. ective	:]. If th	the AA n as fis	is no shent	ot used trappe	ed by f ed in a	fish, fis	sh use	e is not	
✓ NA here a	•	1 Kno	wn / S	uspe	cted F	ish Sı	pecies	in AA	\ (usen	1 <u>atrix tι</u>	o arrive	e at [c	heck t	ne fun	Cuonai	points	and r	ating)				
Habitat Qua	ce water	d Knc	own / S		ected F			in AA	A (user	natrix t	o arriv		check th sonal / In			points	and r	ating)	Tem	porary/	/ Ephemera	al
Habitat Qua Duration of surface in AA Aquatic hiding / res escape cover	ce water	d Knc	own / S	Pe	ermanen		ennial	Poo	,		to arrive			ntermitte	ent	Poor	s and r.	ating) Optir			/ Ephemera	ral Po
Habitat Qua Duration of surface in AA Aquatic hiding / res	ce water			Pe	ermanen	nt / Pere	ennial		,			Seaso	sonal / In	ntermitte	ent	Poor	s and ra					

in AA		Per	manent /	Perennia				Se	easonal / I	ntermitten	t			Tem	porary/	Epheme	eral	
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	luate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor
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	1E	.9Н	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.3L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
FWP Tier III or Introduced Game fish	.8H	.7M	.6М	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L

Sources used for identifying fish an instantially for	und in AA:									
Sources used for identifying fish sp. potentially for ii. Modified Rating (NOTE: Modified score car a) Is fish use of the AA significantly reduced by a current final MDEQ list of waterbodies in need of fishery or aquatic life support, or do aquatic nuisa yes, reduce score in i above by 0.1: Modified I	nnot exceed culvert, dik TMDL deve nce plant d	e, or other melopment with	an-made s listed "Pr	structure oi obable Imp	aired Úses'	" including	cold or w	varm water	ne If	
b) Does the AA contain a documented spawning a comments) for native fish or introduced game fish	_	er critical hab		•	he adjusted					
iii. Final Score and Rating: 0 NA	Commen	ts: No fish	habitat i	dentified	within re	storatio	n AA			
14E. Flood Attenuation: (Applies only to wetlan channel or overbank flow, click NA here		t to flooding ved to 14F.)	⁄ia in-chan	nel or over	bank flow. I	lf wetland	s in AA ar	e not floode	d from in-	
i. Rating (working from top to bottom, use the m Estimated or Calculated Entrenchment (Rosgen		v to arrive at entrenched -			points and ely entrench		Entrenc	hed-A, F, G	stream	
1994, 1996)	,	stream types	-, ,		stream type	1	Litation	types	ou oum	
% 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	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L	
Slightly Entrenched		Moderately I	Entronchod				ntrenched			٦
ER = >2.2		ER = 1.4	11 – 2.2			ER	= 1.0 - 1.4			_
C stream type D stream type E stream	type	B strea	m type	A	stream type		stream typ	d G	stream type	1
Floodprone width ii. Are ≥10 acres of wetland in the AA subject to f within 0.5 mile downstream of the AA (check)? Comments: All wetland cells subject to f	/ Bankt width flooding AN Y (Bankfull Do	nade featu	res which i	Bank 5 =	Entreno ratio	h hment	7 by floods loo	ated	
14F. Short and Long Term Surface Water Storage: (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, dick NA here and proceed to 14G.) i. Rating (Working from top to bottom, use the matrix below to arrive at [check] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].) Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic >5 acre feet 1.1 to 5 acre feet										
flooding or ponding Duration of surface water at wetlands within the AA	i	Ī			i	Ī			1	
	P/P	S/I	T/E	P/F	_	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond ≥ 5 out of 10 years	1H	.9H	.8H	.8	н .	6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7	М .	5M	.4M	.3L	.2L	.1L

Comments: AA with evidence of frequent flooding.

i. Rating (working from top to be = low])	ottom, use t	the matrix	below to	arrive at	t [check	k] the fi								
Sediment, nutrient, and toxicant input levels within AA	to d compou not sul	eives or sum eliver levels unds at level bstantially in ces of nutrie eutrop	of sedimes such the paired. N	ents, nutri at other fu Ainor sedir kicants, or	ents, or inctions a mentatio	are n,	devel nutrients with pote compound	opment , or toxi ential to ds such	MDEQ list for "probacants or Adeliver high that other tion, source of eutrop	ble cau A rece ghleve functions sesofn	uses" relatives or solid list of sedions are so	ated to surround ments, ubstanti or toxica	ediment, ing land u nutrients, ally impa	use or ired.
% cover of wetland vegetation in AA Evidence of flooding / ponding in AA		70%		< 70%				≥ 70				< 70		
AA contains no or restricted outlet	Yes 1H	.8H	.7N	. 1	.5M	1	Yes .5M	1	.4M	1	.3L		.2L	1
AA contains unrestricted outlet	.9H	.7M		=++	.4M	1	.4M		.3L		.2L	+	.2L	L
Comments: AA receives period			.61		.4101		.4101		.JL		.ZL		.!L	
14H Sediment/Shoreline Stabilization drainage, or on the shoreline of a stare proceed to 14I.) i. Rating (working from top to bottom	ding water b	ody which is	s subject	to wave a	action. I	f 14H do	oes not ap	ply, cli		ral or n NA hei		le		
% Cover of <u>wetland</u> streambank or shoreline by species with stability ratings			Duration	of surface	water ad	iacent to	rooted veg	etation						
of ≥6 (see Appendix F).	Perman	ent / Perennia	nl .	Seas	sonal / In		t	Te	emporary / E	1	ral	-		
≥ 65%		1H			.91		\dashv		.7N	_		-		
35-64% < 35%		.7M			.6N	1			.51	_				
Vegetation has fille	d in around	.3L dexcavate	d areas		.2L					-				
14l. Production Export/Food Cha	ain Support	d excavate		ratings [c										
14I. Production Export/Food Cha i. Level of Biological Activity (syl	nin Support: athesis of wil	d excavate	h habitat	(14C.iii.)	check])					-				
i. Level of Biological Activity (syll General Fish Habitat Rating (14D.iii.)	nin Support: athesis of wil	d excavate	h habitat		check])									
i. Level of Biological Activity (sylogeneral Fish Habitat Rating (14D.iii.)	nin Support: athesis of wil	d excavate	h habitat	(14C.iii.) L	check])				11					
i. Level of Biological Activity (syl General Fish Habitat Rating (14D.iii.)	nin Support: athesis of wil	d excavate	h habitat	(14C.iii.) L	check])				11					
i. Level of Biological Activity (syn General Fish Habitat Rating (14D.iii.) E/H	nin Support: athesis of wil	d excavate	h habitat	(14C.iii.) L N	check])									
i. Level of Biological Activity (synoments: Level of Biological Activity (synomena Fish Habitat Rating (14D.iii.) E/H	m, use the n B = level of the service of these terri	d excavate Idlife and fis Idlife Habita M H M M M M M M M M M M M	h habitat It Rating to arrive tivity ratin	(14C.iii.) L M L at [checking from al	theck])	actional H.i.); Fa	ictor C = v	vhether	. Factor A or not the as previou	= acrr e AA cc	ontains a fined, an	surface d A = "a	e or	
i. Level of Biological Activity (synoments) General Fish Habitat Rating (14D.iii.) E/H M L N/A i. Rating (Working from top to bottowetland component in the AA; Factor subsurface outlet; the final three rows see instructions for further definitions of the component of the	m, use the n B = level of b pertain to du of these term	d excavate	h habitat It Rating to arrive tivity ratin	(14C.iii.) L M L L at [check and from all ter in the A	theck]) If the function to the function of th	octional ll.i.); Fa	ictor C = v	vhether	. Factor A or not the as previou	= acrr e AA cc	ontains a fined, an	surface d A = "a	e or	
i. Level of Biological Activity (syntaminate in Level of Biologica	m, use the n B = level of the pertain to du of these term acres Low	d excavate	to arrive titivity ratii	(14C.iii.) N N L at [check, ng from al ter in the A setated composed Model	theck]) If the function to the function of th	actional II.i.); Farre P/P,	ctor C = v S/I, and T	vhether /E are _{Hi}	. Factor A or not the as previou	= acr	ontains a fined, an ponent <1 a erate	surface d A = "a	e or absent"	
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B-44

Iniqueness: ### Ad contains fen, bog, warm springs or mature (>80 y-old) forested wetland or plant association listed as "\$2" by the MTNIP interest disturbance at AA	Permenths subtrate present without underlying impeding byer Springs or seeps an known or observed Wegetaling growing duling downant seasonichought Westand occurs at the toer of a netural slope Steps are present at the welfand doge An permanently flooded during drought periods Westand occurs an outlet, but no individual content is left on outlet. Shallow water table and the site is saturated to the surface Other:		scharge/Rech								
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FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Restoration

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	Н	.8	1	2.77	
B. MT Natural Heritage Program Species Habitat	Н	.9	1	3.11	
C. General Wildlife Habitat	Е	1	1	3.46	✓
D. General Fish Habitat	NA	0	0	0.00	
E. Flood Attenuation	М	.5	1	1.73	
F. Short and Long Term Surface Water Storage	Н	.8	1	2.77	
G. Sediment/Nutrient/Toxicant Removal	М	.6	1	2.08	
H. Sediment/Shoreline Stabilization	Н	1	1	3.46	~
Production Export/Food Chain Support	Е	1	1	3.46	>
J. Groundwater Discharge/Recharge	Н	1	1	3.46	✓
K. Uniqueness	М	.4	1	1.38	
L. Recreation/Education Potential (bonus points)	Н	.2	NA	0.69	
Totals:		8.2	10	28.37	
Percent of Possible Score			82 %		

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 Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
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 .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or 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; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: (check appropriate category based on the criteria outlined above)

|--|

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Achillea millefolium	Common Yarrow	FACU
Achnatherum nelsonii	Nelson's Rice Grass	UPL
Agastache urticifolia	Nettle-Leaf Giant-Hyssop	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
<i>Agropyron</i> sp.	Wheatgrass	N/A
Agrostis capillaris	Colonial Bent	FAC
Agrostis gigantea	Black Bent	FAC
Agrostis scabra	Rough Bent	FAC
Agrostis stolonifera	Spreading Bent	FACW
Algae, brown	Algae, brown	N/A
Algae, green	Algae, green	N/A
Alisma triviale	Northern Water-Plantain	OBL
Alnus incana	Speckled Alder	FACW
Alopecurus aequalis	Short-Awn Meadow-Foxtail	OBL
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FAC
Alopecurus pratensis	Field Meadow-Foxtail	FAC
Arctium minus	Lesser Burrdock	UPL
Arnica chamissonis	Leafy Leopardbane	FACW
<i>Aster</i> sp.	Aster	N/A
Beckmannia syzigachne	American Slough Grass	OBL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	FAC
Carex aquatilis	Leafy Tussock Sedge	OBL
Carex athrostachya	Slender-Beak Sedge	FACW
Carex bebbii	Bebb's Sedge	OBL
Carex lasiocarpa	Woolly-Fruit Sedge	OBL
Carex microptera	Small-Wing Sedge	FACU
Carex nebrascensis	Nebraska Sedge	OBL
Carex pachystachya	Thick-Head Sedge	FAC
Carex pellita	Woolly Sedge	OBL
Carex scoparia	Pointed Broom Sedge	FACW
Carex sp.	Sedge	N/A
Carex stipata	Stalk-Grain Sedge	OBL
Carex utriculata	Northwest Territory Sedge	OBL
Centaurea stoebe	Spotted Knapweed	UPL
Cerastium arvense	Field Mouse-Ear Chickweed	FACU
Cerastium fontanum	Common Mouse-Ear Chickweed	FACU
Ceratophyllum demersum	Coon's-Tail	OBL

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Chara sp.	Muskgrass	N/A
Cirsium arvense	Canadian Thistle	FAC
Cirsium vulgare	Bull Thistle	FACU
Collomia linearis	Narrow-Leaf Mountain-Trumpet	FACU
Cynoglossum officinale	Gypsy-Flower	FACU
Deschampsia cespitosa	Tufted Hairgrass	FACW
Eleocharis flavescens	Yellow Spike-Rush	OBL
Eleocharis palustris	Common Spike-Rush	OBL
Eleocharis quinqueflora	Few-Flower Spike-Rush	OBL
Elymus repens	Creeping Wild Rye	FAC
Elymus trachycaulus	Slender Wild Rye	FAC
Epilobium ciliatum	Fringed Willowherb	FACW
<i>Epilobium</i> sp.	Willowherb	N/A
Equisetum arvense	Field Horsetail	FAC
Equisetum hyemale	Tall Scouring-Rush	FACW
Erysimum cheiranthoides	Worm-Seed Wallflower	FACU
<i>Festuca</i> sp.	Fescue	N/A
Fragaria virginiana	Virginia Strawberry	FACU
Galium mexicanum	Mexican Bedstraw	FAC
Galium trifidum	Three-Petal Bedstraw	FACW
Geum macrophyllum	Large-Leaf Avens	FAC
Glyceria elata	Tall Manna Grass	FACW
Glyceria grandis	American Manna Grass	OBL
<i>Glyceria</i> sp.	Manna Grass	N/A
Glyceria striata	Fowl Manna Grass	OBL
Gnaphalium palustre	Western Marsh Cudweed	FACW
Hieracium aurantiacum	Orange Hawkweed	UPL
Hippuris vulgaris	Common Mare's-Tail	OBL
Juncus articulatus	Joint-Leaf Rush	OBL
Juncus bufonius	Toad Rush	FACW
Juncus confusus	Colorado Rush	FAC
Juncus ensifolius	Dagger-Leaf Rush	FACW
Juncus nodosus	Knotted Rush	OBL
Juncus tenuis	Lesser Poverty Rush	FAC
Lemna minor	Common Duckweed	OBL
<i>Lepidium</i> sp.	Pepperwort	N/A
Leucanthemum vulgare	Ox-Eye Daisy	FACU
Marsilea vestita	Hairy Water-Clover	OBL

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Matricaria discoidea	Pineapple-Weed	FACU
Medicago lupulina	Black Medick	FACU
Mentha arvensis	American Wild Mint	FACW
Mimulus guttatus	Seep Monkey-Flower	OBL
Pascopyrum smithii	Western-Wheat Grass	FACU
Pedicularis groenlandica	Bull Elephant-Head	OBL
Peritoma serrulata	Rocky Mountain Bee Plant	FACU
Persicaria amphibia	Water Smartweed	OBL
Persicaria lapathifolia	Dock-Leaf Smartweed	FACW
Persicaria maculosa	Spotted Lady's-Thumb	FACW
Phalaris arundinacea	Reed Canary Grass	FACW
Phleum pratense	Common Timothy	FACU
Pinus contorta	Lodgepole Pine	FAC
Pinus ponderosa	Ponderosa Pine	FACU
Plantago major	Great Plantain	FAC
Poa palustris	Fowl Blue Grass	FAC
Poa pratensis	Kentucky Blue Grass	FAC
<i>Poa</i> sp.	Blue Grass	N/A
Polygonum douglasii	Douglas' Knotweed	FACU
Polypogon monspeliensis	Annual Rabbit's-Foot Grass	FACW
Populus balsamifera	Balsam Poplar	FAC
Potamogeton foliosus	Leafy Pondweed	OBL
Potamogeton natans	Broad-Leaf Pondweed	OBL
Potentilla gracilis	Graceful Cinquefoil	FAC
Potentilla norvegica	Norwegian Cinquefoil	FAC
Prunella vulgaris	Common Selfheal	FACU
Pseudotsuga menziesii	Douglas-Fir	FACU
Ranunculus aquatilis	Whitewater Crowfoot	OBL
Ranunculus sceleratus	Cursed Buttercup	OBL
Rosa woodsii	Woods' Rose	FACU
Rumex acetosella	Common Sheep Sorrel	FACU
Rumex crispus	Curly Dock	FAC
Salix bebbiana	Gray Willow	FACW
Salix candida	Sage Willow	OBL
Salix drummondiana	Drummond's Willow	FACW
Scirpus cyperinus	Cottongrass Bulrush	OBL
Scirpus microcarpus	Red-Tinge Bulrush	OBL
Senecio hydrophiloides	Stout Meadow Ragwort	FACW

Schrieber Meadows Wetland Mitigation Site – 2015 – 2020 Vegetation Species List

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Solidago canadensis	Canadian Goldenrod	FACU
Sparganium emersum	European Burr-Reed	OBL
Sparganium natans	Arctic Burr-Reed	OBL
Spiranthes romanzoffiana	Hooded Ladies'-Tresses	FACW
Stuckenia pectinata	Sago False Pondweed	OBL
Suaeda calceoliformis	Paiuteweed	FACW
Symphoricarpos albus	Common Snowberry	FACU
Symphyotrichum spathulatum	Mountain American-Aster	FAC
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Pennycress	UPL
Trifolium arvense	Rabbit-foot Clover	UPL
Trifolium hybridum	Alsike Clover	FAC
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FAC
Triglochin maritima	Seaside Arrow-Grass	OBL
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Verbascum thapsus	Great Mullein	FACU
Veronica americana	American-Brooklime	OBL
Veronica anagallis-aquatica	Blue Water Speedwell	OBL
Veronica peregrina	Neckweed	OBL
Veronica serpyllifolia	Thyme-Leaf Speedwell	FAC

¹ 2018 NWPL (USACE 2018)

New species identified in 2020 are **bolded**.

APPENDIX C PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana



Photo Point 1 – Panorama; Location: SW Corner of site; Bearing 270 degrees; Year 2012



Photo Point 1 – Panorama; Location: SW Corner of site; Bearing 270 degrees; Year 2020



Photo Point 3; Location: Cell 2 (Constructed in 2007); Bearing 90 degrees; Year 2010



Photo Point 3; Location: Cell 2 (Constructed in 2007); Bearing 90 degrees; Year 2020



Photo Point 4; Location: Cell 2 (Constructed in 2007); Bearing 180 degrees; Year 2010



Photo Point 4; Location: Cell 2 (Constructed in 2007); Bearing 180 degrees; Year 2020



Photo Point 5; Location: Cell 2 (Constructed in 2007); Bearing 300 degrees; Year 2010



Photo Point 5; Location: Cell 2 (Constructed in 2007); Bearing 300 degrees; Year 2020



Photo Point 6; Location: Cell 2 (Constructed in 2007); Bearing 40 degrees; Year 2010



Photo Point 6; Location: Cell 2 (Constructed in 2007); Bearing 40 degrees; Year 2020



Photo Point 7; Location: Lower Reach of merged Coyote/Schrieber Creek; Bearing 0 degrees; Year 2012



Photo Point 7; Location: Lower Reach of merged Coyote/Schrieber Creek; Bearing 0 degrees; Year 2020



Photo Point 10; Location: Cell 3; Bearing 0 degrees; Year 2010



Photo Point 10; Location: Cell 3; Bearing 0 degrees; Year 2020



Photo Point 11; Location: Cell 2B; Bearing 190 degrees; Year 2012



Photo Point 11; Location: Cell 2B; Bearing 190 degrees; Year 2020



Photo Point 12; Location: Cell 1 (Constructed in 2011); Bearing 180 degrees; Year 2012



Photo Point 12; Location: Cell 1 (Constructed in 2011); Bearing 180 degrees; Year 2020



Photo Point 13; Cell 3A (Constructed in 2011); Bearing 280 degrees; Year 2012



Photo Point 13; Cell 3A (Constructed in 2011); Bearing 280 degrees; Year 2020



Photo Point 14; Location: Cell 4C (Constructed in 2011); Bearing 230 degrees; Year 2012



Photo Point 14; Location: Cell 4C (Constructed in 2011); Bearing 230 degrees; Year 2020



Photo Point 15; Location: Cell 5A (Constructed in 2011); Bearing 180 degrees; Year 2012



Photo Point 15; Location: Cell 5A (Constructed in 2011); Bearing 180 degrees; Year 2020



Photo Point 16; Cell 6 (Constructed in 2011); Bearing 70 degrees; Year 2012



Photo Point 16; Cell 6 (Constructed in 2011); Bearing 70 degrees; Year 2020



Photo Point 17; Location: Cell 6 (Constructed in 2011); Bearing 270 degrees; Year 2012



Photo Point 17; Location: Cell 6 (Constructed in 2011); Bearing 270 degrees; Year 2020



Photo Point 2 Location: Cell 7 (Created in 2007)

Bearing: 150 degrees Year: 2010



Photo Point 2 Location: Cell 7 (Created in 2007)

Bearing: 150 degrees Year: 2020



Photo Point 8 Location: Cell 3 (Constructed in 2007)

Bearing: 190 degrees Year: 2010



Photo Point 8 Location: Cell 3 (Constructed in 2007)

Bearing: 190 degrees Year: 2020



Photo Point 9 Location: Cell 3 Bearing: 280 degrees Year: 2010



Photo Point 9 Location: Cell 3 Bearing: 280 degrees Year: 2020

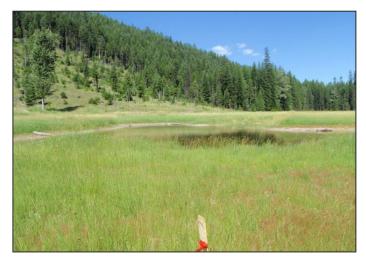


Photo Point 16 Bearing: 290 degrees

Location: Cell 5A Year: 2010



Photo Point 16 Bearing: 290 degrees

Location: Cell 5A Year: 2020



Photo Point 18 Bearing: 90 degrees

Location: Cell 3 (Constructed 2007)
Year: 2012



Bearing: 90 degrees Year: 2020



Photo Point 19 Bearing: 10 degrees

Location: West Boundary **Year:** 2012



Photo Point 19
Bearing: 10 degrees

Location: West Boundary **Year:** 2020



Photo Point 19 Bearing: 100 degrees

Location: West Boundary

Year: 2012



Photo Point 19 Bearing: 100 degrees

Location: West Boundary

Year: 2020



Photo Point 20 Bearing: 100 degrees

Location: Schrieber Creek **Year:** 2012

1 car. 2012



Photo Point 20 Bearing: 100 degrees

Location: Schrieber Creek

rees Year: 2020

Schrieber Meadows: Vegetation Transect Photographs



Transect 1: Start Bearing: 115 degrees

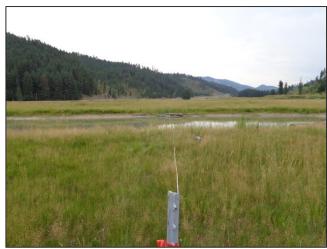






Transect 1: End Bearing: 295 degrees

Location: T-1 Year: 2010



Transect 2: Start Bearing: 100 degrees

Location: T-2 Year: 2013



Transect 1: Start Bearing: 115 degrees

Location: T-1 Year: 2020

Location: T-1



Transect 1: End Bearing: 295 degrees

Year: 2020

Transect 2: Start Bearing: 100 degrees

Location: T-2 Year: 2020

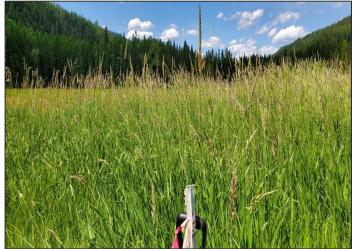
Schrieber Meadows: Vegetation Transect Photographs



Transect 2: End Bearing 280: degrees



Location: T-2 **Year:** 2013



Bearing 280: degrees



Year: 2020



Transect 3: Start Bearing: 45 degrees





Transect 3: Start Bearing: 45 degrees





Transect 3: End Bearing: 225 degrees





Transect 3: End Bearing: 225 degrees

Location: T-3 Year: 2020



Data Point: DP01w Year: 2020

Location: Veg Com 3



Data Point: DP01u

Location: Vg Com 9

Year: 2020



Data Point: DP02w

Year: 2020

Location: Veg Com 3



Data Point: DP02u

Location: Vg Com 9

Year: 2020



Cross-Section: XS-1 Bearing: 280 degrees

Location: Upper Coyote Creek

Year: 2012



Cross-Section: XS-1 Bearing: 280 degrees



Cross-Section: XS-2 Bearing: 320 degrees

Location: Upper Coyote Creek Year: 2012



Cross-Section: XS-2 Bearing: 320 degrees

Location: Upper Coyote Creek Year: 2020



Cross-Section: XS-3 Location: Coyote Creek Spring Area Bearing: 320 degrees Year: 2012



Cross-Section: XS-3 Location: Coyote Creek Spring Area Bearing: 320 degrees Year: 2020



Cross-Section: XS-4 Bearing: 290 degrees

Location: Middle Coyote Creek

Year: 2012



Cross-Section: XS-4 Bearing: 290 degrees



Location: Middle Coyote Creek Year: 2020



Cross-Section: XS-5 Bearing: 150 degrees



Year: 2012



Cross-Section: XS-5 Bearing: 150 degrees





Cross-Section: XS-6 Bearing: 90 degrees

Location: Perennial Spring Creek Year: 2012



Cross-Section: XS-6 Bearing: 90 degrees

Location: Perennial Spring Creek Year: 2020



Cross-Section: XS-7 Bearing: 90 degrees

Location: Middle Coyote Creek **Year:** 2012



Bearing: 220 degrees

Cross-Section: XS-7 Year: 2020

Location: Middle Coyote Creek



Cross-Section: XS-8 Bearing: 170 degrees

Location: Middle Coyote Creek Year: 2012



Cross-Section: XS-8 Location: Middle Coyote Creek Year: 2020 Bearing: 170 degrees



Cross-Section: XS-9 Location: Coyote/Schrieber Creeks Bearing: 130 degrees Year: 2012



Cross-Section: XS-9 Location: Coyote/Schrieber Creeks Bearing: 130 degrees Year: 2020



Cross-Section: XS-10 Location: Coyote/Schrieber Creeks **Bearing:** 140 degrees **Year:** 2012



Cross-Section: XS-10 Location: Coyote/Schrieber Creeks **Bearing:** 270 degrees **Year:** 2020



Cross-Section: XS-11 Location: Coyote/Schrieber Creeks **Bearing:** 100 degrees **Year:** 2012



Cross-Section: XS-11 Location: Coyote/Schrieber Creeks **Bearing:** 100 degrees **Year:** 2020

APPENDIX D Surveyed Stream Cross Sections

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana

