Montana Department of Transportation Wetland Mitigation Monitoring Report

SCHRIEBER MEADOWS MITIGATION SITE

Project Overview

MDT Project Number: NH 27 (021) UPN # 1027001

Watershed: Watershed #1 – Kootenai River Basin

Monitoring Year: 2024

Years Monitored: 14th 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 15-16, 2024

Purpose of the Approved Project:

The site was constructed to provide 17.84 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 depressional wetland cells. The project restored the Coyote Creek channel and added 3,327 linear feet of stream length.

Site Location: The mitigation site includes approximately 60 acres within the 147-acre MDT-owned parcel and a 16-acre easement within the Kootenai National Forest.

Latitude: 48.110423 **Longitude:** –115.41562

County: Lincoln **Nearest Town:** Libby, MT

Map Included: See Figure 1, page 11

Mitigation Site Construction Started: Fall 2007 **Construction Ended:** Fall 2011

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

Activity: Weed Control **Date:** The site was treated on 5/1/2024 for oxeye daisy, orange hawkweed, common mullein, and spotted knapweed.

Specific recommendations for any additional corrective actions: Weed control management efforts will continue in 2025.

Anticipated Wetland Credit Acres: 17.84

Wetland Credit Acres Generated to Date: 28.62

Stream Credits Generated to Date: 35,551

Previous Monitoring Reports: https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx

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

Requirements (from approved mitigation plan or Department of Army (DA) permit conditions)

Performance Standards: A summary of performance standards, associated success criteria, and 2024 achievement status for the Schrieber Meadows site is provided in Table 1.

Table 1. Summary of Performance Standards

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Wetland Characteristics	Meet the three parameter criteria for hydrology, vegetation, and soils as outlined in the 1987 Wetland Delineation Manual and 2010 Mountains, Valleys, Coast Region.	Y	Areas identified as wetland habitat within the mitigation site meet the three parameter criteria.
Wetland Hydrology	Soil saturation present for at least 12.5 percent of the growing season.	Y	Areas identified as wetland habitat within the mitigation site exhibit soil saturation for a minimum 12.5 percent of growing season.
Hydric Soil	Hydric soil conditions present or appear to be forming.	Y	Hydric soil characteristics have developed throughout all constructed wetlands.
	Soil is sufficiently stable to prevent erosion.	Y	In 2024, disturbed soil was stable and did not exhibit signs of erosion.
	Soil is able to support plant cover.	Y	Plant cover is well established across disturbed soils.
Hydrophytic Vegetation	Achieved where combined absolute cover of facultative or wetter species is ≥70 percent	Y	Areas identified as wetland habitat within the mitigation site have approximately 90% hydrophytic vegetation (OBL, FACW, and FAC).
	Montana State-listed noxious weeds do not exceed 5 percent absolute cover.	Y	State-listed noxious weeds are estimated below 5 percent absolute cover within wetland areas.
	Noxious weeds do not exceed 10 percent cover within the riparian buffer areas.	Y	State-listed noxious weeds are estimated between 3 to 5 percent absolute cover within the riparian buffer.
	Creditable buffer areas must have at least 50 percent aerial cover of non-weed species by the end of the monitoring period.	Y	Non-weed vegetation consists of greater than 70 percent cover, by a near-monoculture of reed canary grass, within riparian buffer areas.
	Achieved where combined aerial cover of riparian and stream bank vegetation communities is ≥70 percent.	Y	Riparian and stream bank vegetation communities support greater than 70 percent cover.
	Planted trees and shrubs will be considered successful where 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 2 percent survival was noted in 2024.
Stream Bank Vegetation	Considered successful when banks are vegetated with a majority of deep-rooting riparian plant species having root stability indexes ≥6.	Y	Reed canary grass dominates the stream banks and has a root stability index of 9.
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 deep-rooting riparian and wetland herbaceous species having root stability indexes ≥ 6 and woody plant species.	Y	The majority of stream bank 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 the stream restoration is to allow for 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 stable with no lateral adjustment observed following construction.

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Open Water	It is the intent of the project to provide open water during the spring and early summer within excavated depressions. As the growing season progresses and the groundwater levels recede, it is anticipated that vegetation will 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 floating hydrophytic and rooted emergent vegetation development has been observed. Those depressions in the southern portion of the site support perennial inundation with an established aquatic macrophyte community.
Upland Buffer	Noxious weeds do not exceed 5 percent cover within upland buffer areas.	Y	In 2024, noxious weed cover was less than 5 percent within the upland buffer.
	Any area disturbed within creditable buffer zone must have at least 50 percent aerial cover of non-weed species by end of monitoring period.	Y	Disturbed areas have established greater than 50 percent aerial cover by non-weed species.
Weed Control	Will be based upon annual monitoring of the site to determine weed species and degree of infestation within the site, and control measures based upon the monitoring results will be implemented by MDT to minimize and/or eliminate the intrusion of State Listed Noxious weed species within the site.	Y	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. Weed control efforts took place in May 2024.

Summary Data

A total of 45.83 acres of wetland and aquatic habitat were delineated within the Schrieber Meadows wetland mitigation site in 2024 (Table 2). This includes 32.00 acres of wetland, 0.34 acres of stream channel, 5.81 acres of open water, and 7.68 acres of stream channel buffer (Table 2).

Table 2. Wetland & Aquatic Habitat Acreage Delineated From 2020 Through 2024

Habitat Type	2020 Acreage	2021 Acreage	2022 Acreage	2023 Acreage	2024 Acreage
Wetland	31.44	31.20	33.38	32.56	32.00
Stream Channel	0.34	0.34	0.34	0.34	0.34
Open Water	7.44	6.63	6.47	5.81	5.81
Riparian Stream Buffer	8.30	8.30	7.52	7.13	7.68
Total Wetland & Aquatic Habitat	**47.52**	**46.47**	**47.71**	**45.84**	**45.83**

Wetland Delineation – The original wetland delineations conducted in 2004 and 2005, prior to the project's construction, identified four wetland areas totaling approximately 15.56 acres within the mitigation project area. A total of approximately 3.72 acres of mitigation credit were developed in the original pilot project in 2007, involving 2.38 credit acres of wetland creation, 0.75 credit acres of restoration (rehabilitation) of existing wetlands (1.12 acres), and 0.59 credit acres of upland (2.96 acres) buffer around these wetlands. After the second construction phase was completed, the delineation

conducted in 2012 mapped a total of 31.44 acres of wetland across the site. A total of 32.00 acres of wetland were delineated at the site in 2024 (Table 2; see maps in Appendix A).

The total wetland acreage delineated in 2024 decreased 0.56 acres from 2023. The decrease in wetland acreage occurred mainly in the west-central portion of the site where the wetland boundary is more gradual due to gentle slope angles in this area and a monoculture of reed canarygrass. The revision in acreage is likely the result of drought conditions in the area beginning in 2022. In 2024, MDT requested delineation of wetlands that have not previously been mapped due to wetlands extending outside of the project boundary (Appendix A). These additional wetlands between the Schrieber Meadows and Schrieber Lake project boundaries accounted for 0.86 acres of the 32.00 wetland acres delineated in 2024.

In 2020, the USACE (N. Green, personal communication, May 6, 2020) 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 USACE guidance, open water accounted for 5.81 acres of the mitigation site in 2024. A beaver dam observed at the outlet of Schrieber Lake from 2019 through 2024 is contributing to a shift in wetland development by increasing perennial inundation across the southern two-thirds of the Schrieber Meadows site. Initially, the elevated water table led to an increase in open water. In the following years, native vegetation such as *Carex* spp. has begun establishing in the open water areas.

Vegetation – A total of 163 plant species have been identified at the site from 2010 through 2024 (Appendix B). Seven new species were identified in 2024 within transects and at data point locations. Three upland and five wetland community types (CT) were identified and mapped at the site in 2024 (Figure A-3, Appendix A). Vegetation communities were determined by species composition and dominance. Wetland Type 3 – *Alopecurus* spp. showed the largest community boundary shifts in 2024, with *Alopecurus* species receding and smooth brome (*Bromus inermis*) encroaching into the southwest and southeast edges of the wetland. Upland Type 8 – *Bromus inermis/Alopecurus* spp. and Upland Type 17 – *Bromus inermis* replaced this lost area, continuing trends seen in 2023. The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring form (Appendix B), and community boundaries are shown in Figure A-3 (Appendix A).

The vegetation communities identified on site in 2024 include the following:

- Upland Type 8 – Elymus repens / Pascopyrum smithii
- Upland Type 17 – Bromus inermis
- Upland Type 18 – Bromus inermis / Alopecurus spp.
- Wetland Type 3 – Phalaris arundinacea
- Wetland / Open Water Type 5 – Aquatic Macrophytes / Open Water
- Wetland Type 14 – Agrostis capillaris / Phleum pratense
- Wetland Type 15 – Typha latifolia / Eleocharis palustris
- Wetland Type 16 – Alopecurus spp.

A notable shift in species cover and dominance due to the beaver dam on the adjoining MDT-owned Schrieber Lake property and resulting perennial surface water has been observed within Wetland Type 3 – *Phalaris arundinacea* since 2019. In 2024, inundation levels within Wetland Type 3 were an average of 2-2.5 feet, nearly the same as in 2023. Perennial inundation has continued to increase within this community since 2019, especially around Coyote Creek, the ditch adjacent to Highway 2, and between the excavated depressions. Reed canary grass still dominates, but large patches of the dense monoculture were absent, observed as dead, dying, or floating mats. There was increased cover by

native species, such as *Carex* spp., colonizing the open water areas created after 2019. Extended periods of flooding like those seen at Schrieber Meadows have been shown to reduce nonnative reed canary grass cover, germination, and rhizome production effectively (Jenkins et al. 2008; WRCGM 2009; Waggy 2010), which allows a greater diversity of native vegetation. The planned removal of the relic beaver dam at the outlet of Schrieber Lake to assist downstream water rights holders is expected to decrease surface water elevations between both MDT-owned mitigation sites in 2025.

Vegetation cover was measured along three belt transects (T-1, T-2, and T-3) in 2024 (Figure A-2, Appendix A). Photographs of the transect endpoints are provided in Appendix C. Table 3 summarizes the data for T-1 from 2012 and 2020 through 2024. T-1 is 318 feet long and intersects Wetland Types 3 – *Phalaris arundinacea* and 5 – Aquatic Macrophytes/Open Water. Wetland Type 3 and Wetland/Open Water Type 5 accounted for 56.30 and 43.70 percent of the transect, respectively. Vegetative cover remained similar to 2023 at 45% cover. This transect has not intersected an upland area since 2010.

Table 3. Data Summary for T-1 From 2012 and 2021 through 2024 at the Schrieber Meadows Site

Monitoring Year	2012	2021	2022	2023	2024
Transect Length (feet)	**318**	**318**	**318**	**318**	**318**
Vegetation Community Transitions Along Transect	7	6	5	5	5
Vegetation Communities Along Transect	3	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	1	1	1	1
Total Vegetative Species	32	7	7	12	12
Total Hydrophytic Species	22	7	7	12	12
Total Upland Species	10	0	0	0	0
Estimated % Total Vegetative Cover	75	45	40	45	45
Estimated % Unvegetated	25	55	60	55	55
% Transect Length Comprising Hydrophytic Vegetation Communities	62	34.3	34.3	56.3	56.3
% Transect Length Comprising Upland Vegetation Communities	13	0	0	0	0
% Transect Length Comprising Open Water with Aquatic Macrophytes	25	65.7	65.7	43.7	43.7

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 Type 3 – *Phalaris arundinacea,* Wetland Type 14 – *Agrostis capillaris/Phleum pratense,* Wetland Type 15 – *Typha latifolia/Eleocharis palustris*, Wetland Type 16 – *Alopecurus* spp., and Upland Type 17 – *Bromus inermis*. Hydrophytic vegetation communities comprised 80.6 percent of the transect. Total vegetative cover was estimated at 60 percent, a decrease of 5 percent from 2023.

Table 4. Data Summary for T-2 From 2012 and 2021 through 2024 at the Schrieber Meadows Site

Monitoring Year	2012	2021	2022	2023	2024
Transect Length (feet)	**594**	**594**	**594**	**594**	**594**
Vegetation Community Transitions Along Transect	16	8	8	8	8
Vegetation Communities Along Transect	3	4	4	5	5
Hydrophytic Vegetation Communities Along Transect	3	4	4	4	4
Total Vegetative Species	23	33	33	35	35
Total Hydrophytic Species	17	30	30	30	30
Total Upland Species	9	3	3	5	5
Estimated % Total Vegetative Cover	60	65	65	65	60

Monitoring Year	2012	2021	2022	2023	2024
Transect Length (feet)	**594**	**594**	**594**	**594**	**594**
Estimated % Unvegetated	40	35	35	35	40
% Transect Length Comprising Hydrophytic Vegetation Communities	59	100	100	80.6	80.6
% Transect Length Comprising Upland Vegetation Communities	0	0	0	19.4	19.4
% Transect Length Comprising Open Water with Aquatic Macrophytes	40.9	0	0	0	0
% Transect Length Comprising Mudflat	0	0	0	0	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 Types 3 – *Phalaris arundinacea* and 5 – Aquatic macrophytes/ Open Water. Wetland Type 3 and Wetland/Open Water Type 5 accounted for 79 and 21 percent of the transect, respectively, in 2024.

Table 5. Data Summary for T-3 From 2012 and 2021 through 2024 at the Schrieber Meadows Site

Monitoring Year	2012	2021	2022	2023	2024
Transect Length (feet)	**440**	**440**	**440**	**440**	**440**
Vegetation Community Transitions Along Transect	4	4	4	2	2
Vegetation Communities Along Transect	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	2	1	1	1
Total Vegetative Species	9	9	9	9	9
Total Hydrophytic Species	7	9	9	9	9
Total Upland Species	2	0	0	0	0
Estimated % Total Vegetative Cover	50	50	45	55	55
Estimated % Unvegetated	50	50	55	45	45
% Transect Length Comprising Hydrophytic Vegetation Communities	53	52.5	49.5	79	79
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0
% Transect Length Comprising Open Water with Aquatic Macrophytes	47	47.5	50.5	21	21

Weeds - During the July 2024 monitoring event, 82 occurrences of Priority 2B noxious weed species were mapped at the site, including Canada thistle (*Cirsium arvense*), spotted knapweed (*Centaurea stoebe*) and ox-eye daisy (*Leucanthemum vulgare*). Three occurrences of orange hawkweed (*Hieracium aurantiacum*), a Priority 2A noxious weed in Montana, were also mapped. Noxious weed infestations occurred in patches less than 0.1 acre in size and were present in wetland and upland habitats (Figure A-3, Appendix A). Most noxious weed infestations were found north of the access road. Spotted knapweed was mapped along the highway outside of the project boundary, and at one location inside the southwest project boundary, for the first time in 2024. Canada thistle continues to be the most prominent weed within the site and increased in number of occurrences south of the access road in 2024. Overall, noxious weed cover across the site was estimated to be below five percent in 2024. The Montana Department of Transportation has an ongoing weed-control program, which will continue in 2025.

Plantings - A total of 1,000 speckled alders (*Alnus incana*) and 750 willows (*Salix* spp.) were planted along the newly constructed stream channel and wetland cells in the northern third of the site. In 2024, 37 live plants were observed across the mitigation site, indicating approximately two percent survival.

No willow (*Salix* spp.) plantings were observed during the 2024 monitoring event. The 37 surviving speckled alder plantings appeared stunted and had poor vigor due to aggressive competition from reed canary grass and perennial deepwater conditions. Balsam poplar (*Populus balsamifera*) volunteers were observed growing around the edges of some excavated wetland cells in the project area north of the access road, along with speckled alder and one Bebb's willow (*Salix bebbiana*) volunteer.

Hydrology – During the 2024 investigation approximately 65% of the site was inundated. Open water accounted for 5.81 acres. All excavated wetland cells contained surface water or were saturated to the soil surface. The average surface water depth within the inundated vegetated areas was estimated at 1.5 feet, with a range of depths from 0 to 5 feet, necessitating the use of kayaks in some areas to complete the 2024 monitoring. The surface-water depth at the emergent vegetation and open-water boundary was estimated at two feet, the same as in 2023. The deepest standing water is located within excavated cells south of the access road, within Coyote Creek, and in the former Coyote Creek channel along the east project boundary.

A high groundwater table is the primary water source across the site. The inundation and high surface water elevations observed in the southern two-thirds of the site result from past restoration efforts to plug existing drainage ditches and channels, and the subsidence of histosol soil elevations over time. Wetland acreage north of the access road remained stable in 2024, although it has seen fluctuations in previous years with differences in precipitation. The fluctuations indicate the wetlands in this area are seasonal and rely on precipitation more than those in the southern two-thirds of the site. Precipitation accumulation for this area in 2024 was 11.01 inches from January through July, significantly more than the 7.36 inches reported for the same period in 2023 and more than the historical average of 9.35 inches (NRCS 2024).

The upper portion of the Coyote Creek channel was dry in July 2024, which is expected for an ephemeral stream channel located above its main hydrologic source, a spring just upstream of the site's access road. The spring provides the primary perennial source of hydrology to Coyote Creek downstream of this location.

Soils – Paired soil test pits were excavated at ten locations to evaluate the extent of hydric soil development across the site in 2024 (Appendices A and B). Soil textures within wetland test pits ranged from peat to loamy sand. Hydric soil indicators observed in wetland test pits included histosol, histic epipedon, redox dark surface, depleted below dark surface, hydrogen sulfide, and depleted matrix. Soil textures within upland test pits ranged from sandy loams to silt loams. No hydric soil indicators were observed at upland soil pits.

Photographs – A total of 20 photo points were established in 2011 and 2012. In addition to established photo points, photographs were taken at each surveyed stream cross-section, sampled data points, and vegetation transect endpoints. Photo point locations are illustrated in Figure A-2 (Appendix A) and photo point photographs comparing 2011 and 2024 site conditions are located in Appendix C. Please refer to previous years' Schrieber Meadows Mitigation monitoring reports on the MDT website for all previous annual photographs: (https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx).

Functional Assessment – The 2008 MDT Montana Wetland Assessment Method (MWAM) functional assessment results for 2024 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 high and/or exceptional functions 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. 2024 Montana Wetland Assessment Method Summary for Schrieber Meadows Site

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	2024 Enhancement AA	2024 Creation AA	2024 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	Exc (1.0)	Exc (1.0)	Exc (1.0)
General Fish/Aquatic Habitat	Low (0.2)	Mod (0.6)	NA
Flood Attenuation	Mod (0.5)	Mod (0.5)	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 (0.9)	Mod (0.6)
Sediment/Shoreline Stabilization	High (1.0)	High (1.0)	High (1.0)
Production Export/Food Chain Support	High (0.9)	Exc (1.0)	Exc (1.0)
Groundwater Discharge/Recharge	High (1.0)	High (1.0)	High (1.0)
Uniqueness	Mod (0.4)	Mod (0.4)	Mod (0.4)
Recreation/Education Potential (bonus points)	High (0.2)	High (0.2)	High (0.2)
Actual Points/Possible Points	**8.9/11**	**9.3/11**	**8.2/10**
% of Possible Score Achieved	**81%**	**85%**	**82%**
Overall Category	**I**	**I**	**I**

Wildlife – Ten bird species were identified in 2024. Herptile observations included Columbia spotted frogs (*Rana luteiventris*) within many of the excavated wetland cells. Mammal observations at the site included white-tailed deer (*Odocoileus virginianus*), voles (*Microtus* spp.), and one female moose (*Alces alces*). Unidentified fish species were also observed in 2024.

Stream Monitoring – The survey results for 11 permanent cross-sections established along the constructed Coyote Creek (Figure A-2, Appendix A) are shown in Appendix D. The 2024 data was compared to the previous surveys to assess stream channel stability. Generally, the constructed channel's banks were well-vegetated and exhibited stable conditions. Coyote Creek does not generally experience high-power flows and no major channel morphological changes (i.e. channel migration, aggradation or degradation) have been observed throughout the monitoring years.

The stream channel at XS 1 and XS 2 on upper Coyote Creek has been dry during all monitoring visits since 2012. At all other cross sections water levels have averaged around 2 feet deep across all monitoring years, with the water level in 2024 about 0.25 ft lower than seen in 2023.

Credit Summaries

Stream Credits - Completely restoring sinuosity and stream length to Coyote 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, 2010), riparian and stream credits are added together to calculate the total stream mitigation credits (Table 7). Riparian mitigation credit calculations can be found in Table 3-10 of the 2018 Monitoring Report.

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[(b)]
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].
(b) Lower Coyote Creek was formerly merged Coyote/Schrieber Creek channel in original mitigation plan and was split following implementation of the adjacent Schrieber Lake mitigation project.

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 integrated into the larger Schrieber Meadows mitigation project constructed in 2011. Table 8 provides the credits generated at the Schrieber Meadows site for the approximately 60-acre, full-scale project and incorporates the original pilot Schrieber Meadows mitigation project.

A total of 32.00 acres of wetland habitat were delineated at the Schrieber Meadows site in 2024, including 22.96 acres of creation, 2.25 acres of restoration, and 6.79 acres of enhancement (Table 8). A total of 47.58 acres, including 9.85 acres of upland buffer, -0.08 acres of project impacts, and 5.81 acres of open water, were used to calculate the mitigation credit acres. In accordance with the USACE-approved performance standard for this site, open water areas with submerged and/or floating vegetation will be considered successful and creditable. After applying the USACE-approved ratios to these values, a total of 28.62 mitigation credit acres have been estimated in 2024, which is 11.38 credit acres more than the targeted 17.24 credit acres originally planned for this site.

In 2024, MDT requested that all wetlands occurring within the Schrieber Meadows property be mapped up to the adjacent MDT Schrieber Lake property boundary, as wetlands that had expanded beyond the monitoring boundaries were not being captured by either monitoring site (Appendix A). These additional wetlands between the Schrieber Meadows and Schreiber Lake project boundaries were credited as creation wetlands and accounted for 0.86 acres of the 32.00 wetland acres delineated in 2024. Upland buffer that occurs on MDT property, but outside of the monitoring boundary, accounted for 3.29 acres of the 9.85 acre total.

Table 8. Summary of Wetland Mitigation Credits at the Schrieber Meadows Site from 2013 and 2023-2024

Mitigation Type	Total Proposed Acreage	Ratio	Proposed Credit Acres	2013 Delineated Acreage	2013 Credit Acres	2023 Delineated Acreage	2023 Credit Acres	2024 Delineated Acreage	2024 Credit Acres
Creation – USFS/MDT Property	8.91	1:1	8.91	22.43	22.43	23.44	23.44	22.96	22.96
Restoration on USFS/MDT Property	3.46	1.5:1	2.31	3.46	2.31	2.35	1.57	2.25	1.5
Enhancement of Wetlands Inside Geotechnical Limits Adjacent to US Highway 2 (MDT/USFS)	13.22	3:1	4.41	13.22	4.41	6.77	2.26	6.79	2.26
Upland Buffer[a]	8.50	5:1	1.70	12.39	2.48	6.65	1.33	9.85	1.97
Project Impacts	-0.08	None	–0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
Open Water[b]	N/A	TBD[(b)]	N/A	--	--	5.81	TBD[(b)]	5.81	TBD[(b)]
Total Mitigation Acreage	**34.01**		**17.24**	**51.42**	**31.54**	**44.94**	**28.52**	**47.58**	**28.62**

[a] Acreage includes 50-foot buffer around wetlands within MDT and USFS property and outside of the riparian buffer.
[b] Mitigation ratios and crediting for Open Water are To Be Determined (TBD).

Functional Unit Crediting Summary – The 2024 functional units generated by the Schrieber Meadows site are summarized in Table 9. A total of 245.1 functional units were generated at the Schrieber Meadows site after applying the appropriate mitigation ratios to the 2024 wetland acreage and multiplying that value by the points generated from each the three MWAM assessment areas.

Table 9. Functional Unit Crediting Summary for Schrieber Meadows

Mitigation Type	2024 Delineated Acreage	Ratio	2024 Mitigation Credit Acres	MWAM Actual Points	Functional Units
Creation – USFS/MDT Property	22.96	1:1	22.96	9.3	213.53
Restoration on USFS/MDT Property	2.25	1.5:1	1.50	8.2	12.30
Enhancement of Wetlands Inside Geotechnical Limits Adjacent to US Highway 2 (MDT/USFS)	6.79	3:1	2.26	8.9	20.11
Upland Buffer*	9.85	5:1	1.97	TBD	–
Open Water*	5.81	TBD	TBD	TBD	–
Functional Units (Mitigation Credit Acres × Actual Points)					**245.94**

[*] Mitigation crediting for Open Water and Upland Buffer acreages are To Be Determined (TBD).

Conclusions

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

1. Riparian Buffer Success: Woody and riparian vegetation is established.

   Woody vegetation along the reconstructed stream channels has been slow to develop due to perennial deepwater 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 planting survival is not expected to meet this performance standard.

Maps, Plans, Photos

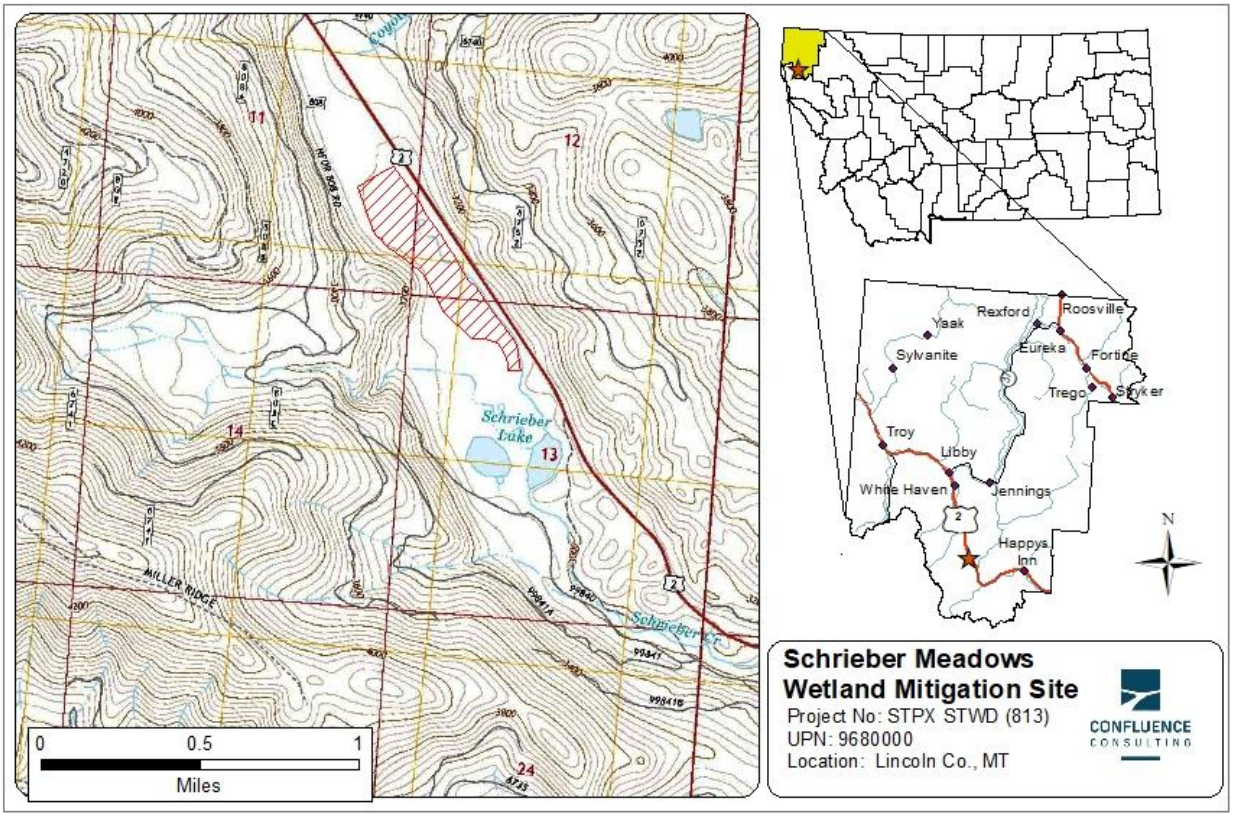


Figure 1. Site Location Map

Project Area Maps/Figures: See Appendix A (Figure A-2 – 2024 Monitoring Activity Locations; Figure A-3 – 2024 Mapped Site Features; Figure A-4 – 2024 Wetland Delineation)

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 the 2012 Schrieber Meadows Wetland Monitoring Report at this website link: **https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx**

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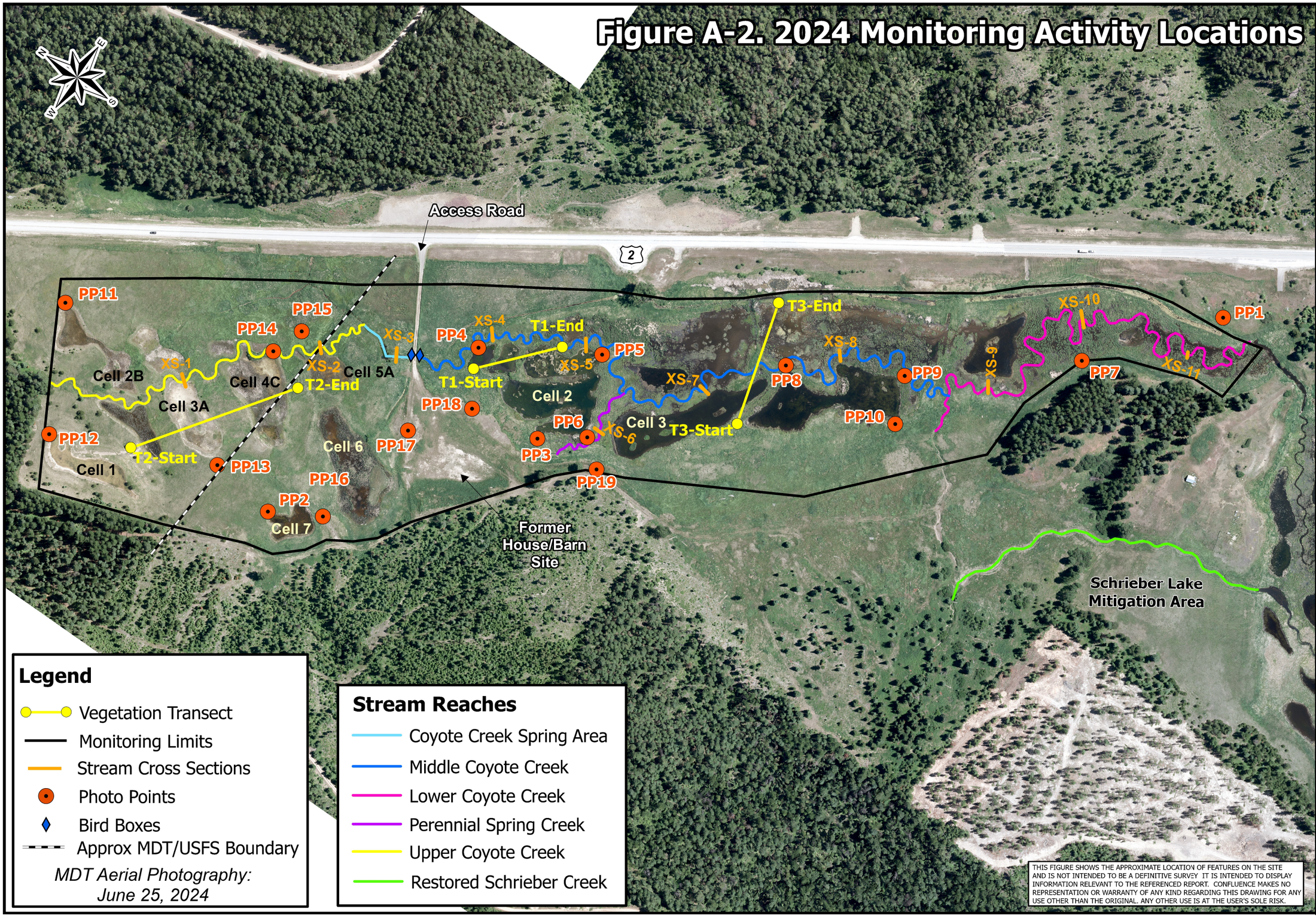
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APPENDIX A
PROJECT AREA MAPS

MDT Wetland Mitigation Monitoring
Schrieber Meadows
Lincoln County, Montana

Figure A-2. 2024 Monitoring Activity Locations



Legend

- Vegetation Transect
- Monitoring Limits
- Stream Cross Sections
- Photo Points
- Bird Boxes
- Approx MDT/USFS Boundary

MDT Aerial Photography: June 25, 2024

Stream Reaches

- Coyote Creek Spring Area
- Middle Coyote Creek
- Lower Coyote Creek
- Perennial Spring Creek
- Upper Coyote Creek
- Restored Schrieber Creek

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

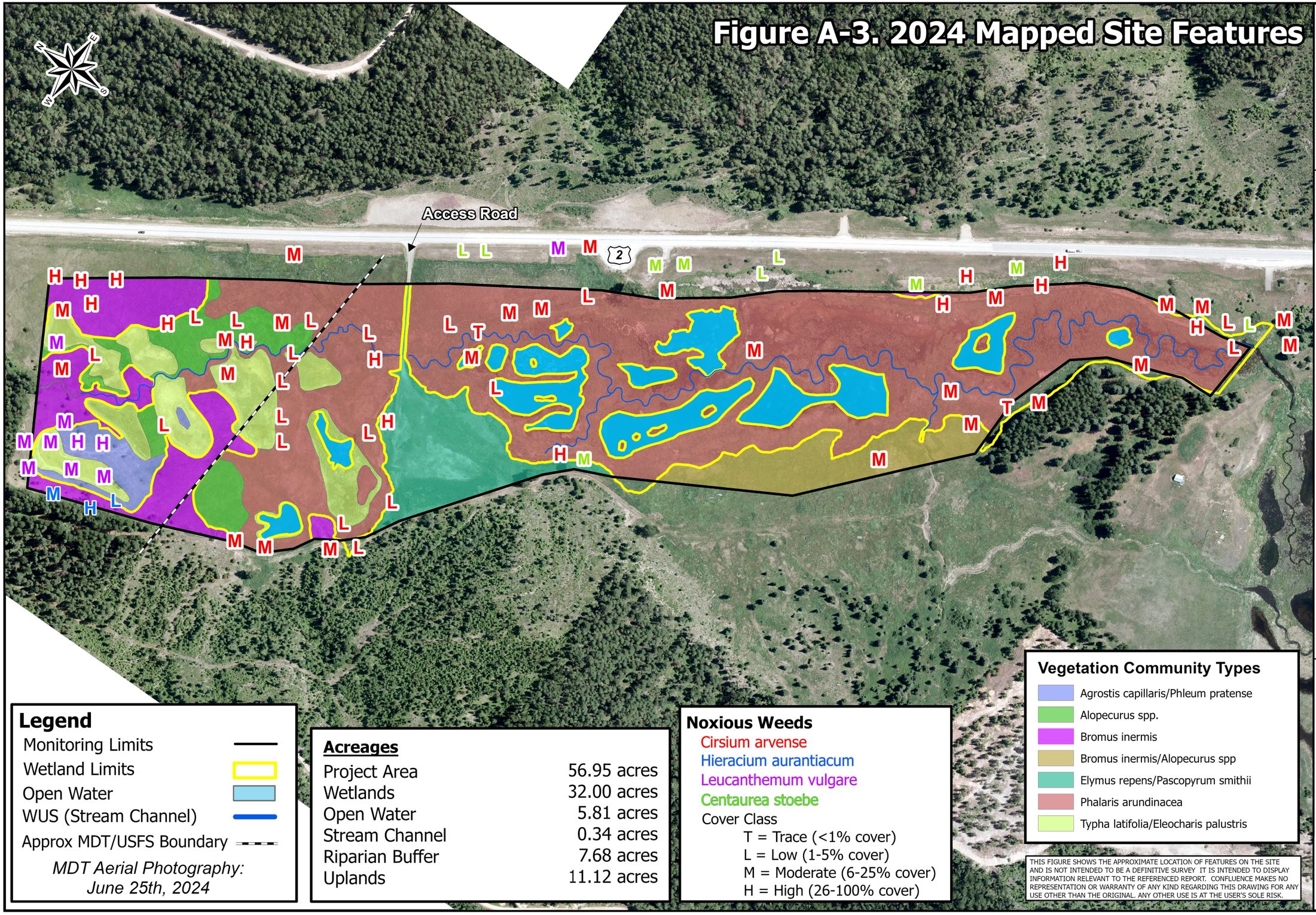
Schrieber Meadows Mitigation Site
2024 Monitoring Activity Locations

0 125 250 500 750 1,000 1,250 Feet

Project: NH 27 (021)
Location: Lincoln Co., Montana
Map Creation Date: October 2024
Project Manager: R McEldowney
Drawn By: B. Pease

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Schrieber Meadows\Schrieber Meadows.aprx

Figure A-3. 2024 Mapped Site Features



Legend

- Monitoring Limits
- Wetland Limits
- Open Water
- WUS (Stream Channel)
- Approx MDT/USFS Boundary

MDT Aerial Photography: June 25th, 2024

Acreages

Project Area	56.95 acres
Wetlands	32.00 acres
Open Water	5.81 acres
Stream Channel	0.34 acres
Riparian Buffer	7.68 acres
Uplands	11.12 acres

Noxious Weeds

- Cirsium arvense
- Hieracium aurantiacum
- Leucanthemum vulgare
- Centaurea stoebe

Cover Class

- T = Trace (<1% cover)
- L = Low (1-5% cover)
- M = Moderate (6-25% cover)
- H = High (26-100% cover)

Vegetation Community Types

- Agrostis capillaris/Phleum pratense
- Alopecurus spp.
- Bromus inermis
- Bromus inermis/Alopecurus spp
- Elymus repens/Pascopyrum smithii
- Phalaris arundinacea
- Typha latifolia/Eleocharis palustris

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY. IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

Schrieber Meadows Mitigation Site

2024 Mapped Site Features

0 150 300 600 900 1,200 Feet

Project: NH 27 (021)

Location: Lincoln Co., Montana

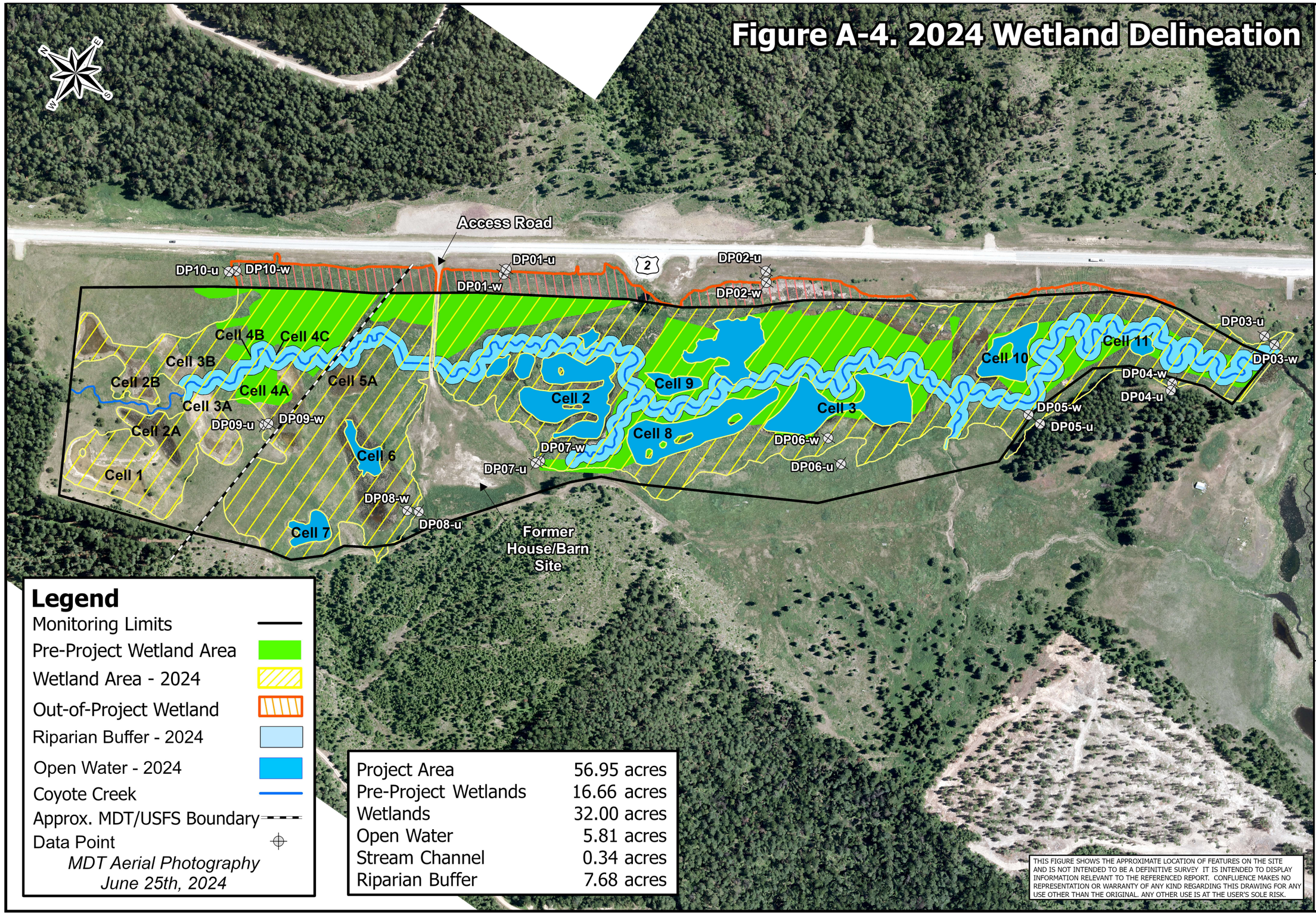
Date Map Created: Oct. 2024

Project Manager: R McEldowney

Drawn By: B Pease

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Schrieber Meadows\Schrieber Meadows.aprx

Figure A-4. 2024 Wetland Delineation



Legend

- Monitoring Limits
- Pre-Project Wetland Area
- Wetland Area - 2024
- Out-of-Project Wetland
- Riparian Buffer - 2024
- Open Water - 2024
- Coyote Creek
- Approx. MDT/USFS Boundary
- Data Point

MDT Aerial Photography
June 25th, 2024

Project Area	56.95 acres
Pre-Project Wetlands	16.66 acres
Wetlands	32.00 acres
Open Water	5.81 acres
Stream Channel	0.34 acres
Riparian Buffer	7.68 acres

THIS FIGURE SHOWS THE APPROXIMATE LOCATION OF FEATURES ON THE SITE AND IS NOT INTENDED TO BE A DEFINITIVE SURVEY IT IS INTENDED TO DISPLAY INFORMATION RELEVANT TO THE REFERENCED REPORT. CONFLUENCE MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING THIS DRAWING FOR ANY USE OTHER THAN THE ORIGINAL. ANY OTHER USE IS AT THE USER'S SOLE RISK.

CONFLUENCE CONSULTING

Schrieber Meadows Mitigation Site
2024 Wetland Delineation

0 150 300 600 900 1,200 Feet

Project: NH 27 (021)
Location: Lincoln Co., Montana
Date Map Created: Oct. 2024
Project Manager: R McEldowney
Drawn By: B Pease

File: X:\Project\MDT Wetland Mitigation 2\ArcGIS Pro\Schrieber Meadows\Schrieber Meadows.aprx

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 7/15/2024

Person(s) conducting the assessment: R. McEldowney, E. Reynaud, R. Baumgarten

Weather: 85 degrees, partly cloudy, clear Location: Highway 2, Swamp Creek East

MDT District: Missoula Milepost: 53.5

Legal Description: T 27N R 30W Section(s) 11, 12, 13

Initial Evaluation Date: 8/29/2010 Monitoring Year: 14 #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

Inundation: ☑ Average Depth: 1.5 **(ft)** Range of Depths: 0-5 **(ft)**

Percent of assessment area under inundation: 65 %

Depth at emergent vegetation-open water boundary: 2 **(ft)**

If assessment area is not inundated then are the soils saturated within 12 inches of surface: Yes

Other evidence of hydrology on the site (ex. – drift lines, erosion, stained vegetation, etc**:**

Surface water, saturation, high water table, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test.

Groundwater Monitoring Wells

Record 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 in 2024 were lower than in 2023 in the southern two thirds of the site, where excavated depressions and surrounding area had water depths ranging from 0.5-2 feet. Cells in the northern third of the site had lower water depths than 2023, with some cells being dry and others with water levels of up to 1 foot.

VEGETATION COMMUNITIES

Site Schrieber Meadows

(Cover Class Codes **0** = < 1%, **1** = 1-5%, **2** = 6-10%, **3** = 11-20%, **4** = 21-50% , **5** = >50%)

Community # 3 **Community Type:** Phalaris arundinacea / **Acres:** 28.86

Species	Cover class	Species	Cover class
Alnus incana	0	Alopecurus arundinaceus	1
Alopecurus pratensis	1	Bare Ground	0
Calamagrostis canadensis	1	Carex athrostachya	1
Carex lasiocarpa	0	Carex nebrascensis	1
Carex stipata	1	Carex utriculata	1
Cirsium arvense	1	Eleocharis palustris	1
Epilobium brachycarpum	0	Epilobium ciliatum	1
Glyceria grandis	0	Juncus tenuis	0
Lemna minor	1	Mimulus guttatus	1
Open Water	3	Persicaria amphibia	1
Phalaris arundinacea	5	Scirpus microcarpus	1

Comments:

Dominant wetland community type observed across the site. Water depths within the CT were 0.5-3 feet south of the access road and 0-1 feet north of the road. In 2024, within the perennially inundated areas where reed canary grass has been observed breaking up into floating mats in the past, more Carex spp. and other wetland obligate species were observed replacing the once dominant reed canary grass. This community shrank 1.22 acres in 2024 on its SW boundary with encroachment of the smooth brome/creeping foxtail CT 18.

Community # 5 **Community Type:** Aquatic macrophytes / Open Water **Acres:** 5.8

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	Epilobium brachycarpum	0
Glyceria grandis	0	Lemna minor	0
Mimulus guttatus	0	Open Water	5
Persicaria amphibia	1	Phalaris arundinacea	1
Sparganium natans	0	Typha latifolia	1

Comments:

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

Community # 8 **Community Type:** Elymus repens / Pascopyrum smithii **Acres:** 3.9

Species	Cover class	Species	Cover class
Achillea millefolium	1	Alopecurus pratensis	1
Bare Ground	4	Bromus briziformis	1
Bromus inermis	1	Bromus tectorum	2
Descurainia pinnata	1	Elymus repens	2
Elymus trachycaulus	2	Fragaria virginiana	0
Medicago lupulina	2	Pascopyrum smithii	2
Sisymbrium altissimum	1	Verbascum thapsus	1

Comments:

Upland community type that runs along the access road that bisects the property. This community appears to have been seeded with a native grass seed mix but also contains some non-native forbs.

Community # 14 **Community Type:** Agrostis capillaris / Phleum pratense **Acres:** 1.23

Species	Cover class	Species	Cover class
Agrostis capillaris	3	Agrostis stolonifera	1
Alopecurus pratensis	1	Bare Ground	1
Bromus inermis	2	Carex athrostachya	1
Cerastium arvense	1	Cirsium arvense	0
Dactylis glomerata	0	Equisetum arvense	0
Equisetum arvense	0	Festuca rubra	1
Hieracium aurantiacum	0	Juncus confusus	1
Juncus tenuis	1	Leucanthemum vulgare	2
Phalaris arundinacea	2	Phleum pratense	2
Picea engelmannii	0	Pinus contorta	0
Pinus ponderosa	0	Populus balsamifera	0
Prunella vulgaris	1	Pseudotsuga menziesii	0
Rosa woodsii	0	Schedonorus pratensis	1
Symphyotrichum spathulatum	0		

Comments:

Wetland community type located in northwest corner of site dominated by common bentgrass, timothy grass, and other non-native grasses and forbs.

Community # 15 **Community Type:** Typha latifolia / Eleocharis palustris **Acres:** 5.41

Species	Cover class	Species	Cover class
Achillea millefolium	0	Agrostis capillaris	1
Alisma triviale	1	Alnus incana	0
Alopecurus arundinaceus	1	Alopecurus pratensis	1
Arnica chamissonis	1	Bare Ground	5
Beckmannia syzigachne	0	Carex aquatilis	1
Carex athrostachya	1	Carex bebbii	0
Carex nebrascensis	0	Carex pellita	1
Carex stipata	1	Carex vesicaria	1
Chara sp.	1	Eleocharis palustris	2
Epilobium ciliatum	1	Glyceria grandis	1
Glyceria striata	1	Juncus bufonius	0
Juncus confusus	1	Juncus nodosus	1
Juncus tenuis	0	Leucanthemum vulgare	1
Mentha arvensis	1	Open Water	3
Persicaria amphibia	1	Phalaris arundinacea	1
Polypogon monspeliensis	0	Populus balsamifera	1
Potamogeton natans	1	Salix bebbiana	0
Scirpus cyperinus	0	Scirpus microcarpus	1
Trifolium pratense	1	Typha latifolia	4
Veronica scutellata	1		

Comments:

Located in excavated depressions northwest of the access road that bisects the property. Surface water depths ranged from 0-1 feet in 2024 and many of the excavated cells were completely dry. Volunteer Populus balsamifera and Alnus incana seedlings were first observed around margins of depressions in 2023. Populus balsamifera cover increased in 2024.

Community # 16 **Community Type:** Alopecurus spp. / **Acres:** 2.77

Species	Cover class	Species	Cover class
Agrostis capillaris	1	Alopecurus arundinaceus	4
Alopecurus pratensis	2	Arnica chamissonis	1
Bromus inermis	1	Carex athrostachya	1
Cirsium arvense	1	Elymus lanceolatus	1
Elymus repens	2	Phalaris arundinacea	1
Poa palustris	1	Potentilla gracilis	1
Senecio hydrophiloides	1	Stellaria longipes	0

Comments:

This is a CT created in 2022 in the northern portion of the project area in areas that were newly classified as wetlands. These areas were formerly CT 9, a similar upland community, but lacked a significant Bromus inermis component. The CT decreased by 0.35 acres in 2024 due to encroachment of smooth brome and wetland boundary changes.

Community # 17 **Community Type:** Bromus inermis / **Acres:** 5.48

Species	Cover class	Species	Cover class
Achillea millefolium	1	Agropyron trachycaulum	2
Agrostis capillaris	2	Alopecurus arundinaceus	2
Alopecurus pratensis	3	Arnica chamissonis	1
Bare Ground	0	Bromus carinatus	1
Bromus inermis	5	Cirsium arvense	1
Dactylis glomerata	1	Elymus repens	1
Mahonia repens	0	Penstemon confertus	1
Phalaris arundinacea	1	Phleum pratense	1
Poa pratensis	1	Senecio hydrophiloides	1
Taraxacum officinale	1		

Comments:

New upland community created in 2023 that largely replaced the Alopecurus spp./Bromus inermis CT. This CT is located in the northern portions of the project area where the area has repeatedly transitioned from wetlands to uplands and back again. It expanded slightly in 2024 where wetlands decreased in acreage on the NE boundary of the site.

Community # 18 **Community Type:** Bromus inermis / Alopecurus spp. **Acres:** 3.08

Species	Cover class	Species	Cover class
Agrostis capillaris	0	Alopecurus arundinaceus	2
Alopecurus pratensis	2	Bromus inermis	3
Carex microptera	1	Cirsium arvense	1
Elymus lanceolatus	2	Elymus repens	1
Phalaris arundinacea	2	Phleum pratense	0
Poa pratensis	2		

Comments:

This community type was created in 2023 to characterize vegetation in the uplands located in the southwest portion of the site which are significantly different than the uplands at the northern portion of the site. Its area increased by 0.94 acres in 2024 with a reduction of wetland boundaries.

Total Vegetation Community Acreage **56.53**

VEGETATION TRANSECTS

Site: Schrieber Meadows Date: 7/15/2024

Transect Number: 1 **Compass Direction from Start:** 112

Interval Data:

Ending Station 18 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Epilobium brachycarpum	1	Persicaria amphibia	1
Phalaris arundinacea	5		

Ending Station 55 Community Type: Aquatic macrophytes / Open Water

Species	Cover class	Species	Cover class
Algae, green	1	Alnus incana	0
Epilobium brachycarpum	2	Lemna minor	0
Mimulus guttatus	0	Open Water	5
Persicaria amphibia	1	Phalaris arundinacea	2

Ending Station 80 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Cirsium arvense	2	Epilobium brachycarpum	1
Mimulus guttatus	1	Open Water	4
Phalaris arundinacea	5		

Ending Station 155 Community Type: Aquatic macrophytes / Open Water

Species	Cover class	Species	Cover class
Algae, brown	1	Aquatic macrophytes	4
Lemna minor	0	Open Water	5
Persicaria amphibia	1		

Ending Station 188 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Alnus incana	1	Carex aquatilis	2
Lemna minor	1	Mimulus guttatus	1
Open Water	4	Persicaria amphibia	1
Phalaris arundinacea	5		

Ending Station 215 Community Type: Aquatic macrophytes / Open Water

Species	Cover class	Species	Cover class
Algae, brown	0	Algae, green	1
Aquatic macrophytes	2	Carex vesicaria	2
Epilobium brachycarpum	1	Lemna minor	1
Mimulus guttatus	1	Open Water	5
Persicaria amphibia	1	Phalaris arundinacea	1

Ending Station 318 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Epilobium brachycarpum	1	Glyceria grandis	1
Open Water	3	Phalaris arundinacea	4
Sparganium natans	1	Typha latifolia	3

Transect Notes:

Open water covered most of the surface area in 2024 as it has in previous years. Water depths were similar to 2023 and ranged from 0.5 to 5 feet.

Transect Number: 2 **Compass Direction from Start:** 100

Interval Data:

Ending Station 35 Community Type: Agrostis capillaris / Phleum pratense

Species	Cover class	Species	Cover class
Agrostis capillaris	3	Antennaria microphylla	0
Bare Ground	5	Bromus inermis	1
Carex microptera	1	Cerastium spp.	1
Equisetum arvense	1	Juncus confusus	0
Juncus tenuis	1	Leucanthemum vulgare	2
Phleum pratense	1	Pinus spp.	1
Prunella vulgaris	1	Schedonorus pratensis	1

Ending Station 105 Community Type: Typha latifolia / Eleocharis palustris

Species	Cover class	Species	Cover class
Agrostis stolonifera	0	Carex nebrascensis	1
Carex pellita	3	Carex vesicaria	1
Eleocharis palustris	1	Glyceria grandis	0
Juncus ensifolius	0	Juncus tenuis	1
Open Water	4	Phalaris arundinacea	1
Scirpus microcarpus	1	Typha latifolia	4

Ending Station 168 Community Type: Alopecurus pratensis /

Species	Cover class	Species	Cover class
Agrostis stolonifera	1	Alopecurus pratensis	2
Arnica chamissonis	1	Bromus inermis	0
Carex microptera	2	Carex nebrascensis	1
Carex vesicaria	4	Cerastium arvense	1
Epilobium ciliatum	1	Equisetum arvense	1
Leucanthemum vulgare	1	Phalaris arundinacea	2
Poa palustris	1	Scirpus microcarpus	1

Ending Station 219 Community Type: Typha latifolia / Eleocharis palustris

Species	Cover class	Species	Cover class
Achillea millefolium	0	Agrostis capillaris	1
Alopecurus pratensis	1	Bare Ground	5
Carex nebrascensis	0	Eleocharis palustris	1
Epilobium ciliatum	1	Gnaphalium palustre	0
Juncus tenuis	2	Leucanthemum vulgare	1
Phalaris arundinacea	1	Polypogon monspeliensis	0
Populus balsamifera	1	Scirpus microcarpus	1
Typha latifolia	3		

Ending Station 250 Community Type: Agrostis capillaris / Phleum pratense

Species	Cover class	Species	Cover class
Agrostis capillaris	1	Alopecurus pratensis	1
Bare Ground	2	Bromus inermis	5
Carex microptera	1	Fragaria virginiana	0
Leucanthemum vulgare	1	Penstemon confertus	1

Ending Station 295 Community Type: Typha latifolia / Eleocharis palustris

Species	Cover class	Species	Cover class
Achillea millefolium	0	Agrostis capillaris	1
Alopecurus arundinaceus	1	Arnica chamissonis	1
Bare Ground	4	Beckmannia syzigachne	0
Carex atherodes	1	Carex nebrascensis	0
Eleocharis palustris	3	Epilobium ciliatum	1
Gnaphalium palustre	0	Juncus tenuis	1
Leucanthemum vulgare	0	Phalaris arundinacea	1
Populus balsamifera	1	Rosa woodsii	1
Typha latifolia	3		

Ending Station 410 Community Type: Bromus inermis /

Species	Cover class	Species	Cover class
Agrostis capillaris	1	Alopecurus pratensis	4
Arnica chamissonis	0	Bare Ground	1
Bromus inermis	4	Carex microptera	1
Cerastium fontanum	0	Equisetum arvense	1
Geum macrophyllum	0	Gnaphalium palustre	0
Leucanthemum vulgare	1	Penstemon confertus	0
Potentilla gracilis	0	Rosa woodsii	0

Ending Station 562 Community Type: Typha latifolia / Eleocharis palustris

Species	Cover class	Species	Cover class
Agrostis capillaris	1	Alisma gramineum	0
Alnus incana	1	Alopecurus pratensis	1
Carex aquatilis	2	Carex nebrascensis	0
Carex pellita	1	Eleocharis palustris	2
Juncus nodosus	1	Open Water	2
Persicaria amphibia	0	Phalaris arundinacea	2
Salix bebbiana	0	Scirpus microcarpus	1
Typha latifolia	5		

Ending Station 594 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Alopecurus pratensis	1	Carex vesicaria	1
Cirsium arvense	1	Epilobium ciliatum	1
Persicaria amphibia	0	Phalaris arundinacea	5
Scirpus microcarpus	1		

Transect Notes:

There were 2-3 feet of water observed in cells in 2024, an increase from 2023 levels. Populus balsamifera volunteer seedlings were observed growing around the margins of CT 15 along transect. The weed ox-eye daisy increased in cover along this transect in 2024, continuing a trend observed since 2022. Bare ground also increased in 2024.

Transect Number: 3 **Compass Direction from Start:** 45

Interval Data:

Ending Station 57 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Epilobium ciliatum	2	Lemna minor	0
Mimulus guttatus	0	Open Water	2
Persicaria amphibia	2	Phalaris arundinacea	5
Sparganium natans	1	Typha latifolia	1

Ending Station 150 Community Type: Aquatic macrophytes / Open Water

Species	Cover class	Species	Cover class
Aquatic macrophytes	3	Lemna minor	0
Open Water	5	Persicaria amphibia	0

Ending Station 440 Community Type: Phalaris arundinacea /

Species	Cover class	Species	Cover class
Algae, brown	1	Carex utriculata	1
Carex vesicaria	3	Eleocharis palustris	1
Epilobium ciliatum	2	Lemna minor	1
Open Water	4	Persicaria amphibia	2
Phalaris arundinacea	4	Sparganium natans	2
Typha latifolia	2		

Transect Notes:

Cattails were observed for the first time in this transect in 2023.

PLANTED WOODY VEGETATION SURVIVAL

Schrieber Meadows

Planting Type	#Planted	#Alive	Notes
Alnus incana	1000	37	Too wet, stunted, poor vigor, out-competed by reed canary grass
Salix sp.	750	0	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 tall reed canary grass. It is thought that the majority of woody plantings have died because of perennial deep water conditions and aggressive competition from reed canary grass. Volunteer balsam poplar (Populus balsamifera) and grey alder (Alnus incana) seedlings were observed around the margins of excavated depressions in the northern third of the site. In addition, volunteer Woods' rose (Rosa woodsii) has been observed within upland areas at the site.

Schrieber Meadows

WILDLIFE

Birds

Were man-made nesting structures installed? Yes

If yes, type of structure: Bird boxes

How many? 2

Are the nesting structures being used? Yes

Do the nesting structures need repairs? No

Nesting Structure Comments:

Species	#Observed	Behavior	Habitat
Red-Winged Blackbird	15		
Great Blue Heron	1		
N. Rough-Winged Swallow	Many		
Northern Flicker	1		
Mallard	6		
Canada Geese	15		
Common Yellow-Throat	1		
Swainson's Thrush	1		
Sora	1		
Sandhill Crane	2		

Bird Comments

A diversity of bird species were observed at the site in 2024.

BEHAVIOR CODES

BP = One of a breeding pair **BD** = Breeding display **F** = Foraging **FO** = Flyover **L** = Loafing **N** = 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
White-tailed Deer	1	No	No	No	Buck
Columbia Spotted Frog	-	No	No	No	Many all over site.
Moose	1	No	No	No	Large female.
Vole	2	No	No	No	

Wildlife Comments:

Many unidentified fish species observed in open water throughout the site.

Schrieber Meadows

PHOTOGRAPHS

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

Photograph Checklist:

☑ One photograph for each of the four cardinal directions surrounding the wetland.

☑ At least one photograph showing upland use surrounding the wetland. If more than one upland exists then take additional photographs.

☑ At least one photograph showing the buffer surrounding the wetland.

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

Photo #	Latitude	Longitude	Bearing	Description
DP01-u	48.113582	-115.41599		Data point images
DP01-w	48.11357	-115.416065		Data point images
DP02-u	48.111715	-115.413741		Data point images
DP02-w	48.111645	-115.413856		Data point images
DP03-u	48.107773	-115.410076		Data point images
DP03-w	48.107652	-115.410081		Data point images
DP04-u	48.108127	-115.411478		Data point images
DP04-w	48.108161	-115.411388		Data point images
DP05-u	48.108865	-115.412975		Data point images
DP05-w	48.109002	-115.412979		Data point images
DP06-u	48.110051	-115.415142		Data point images
DP06-w	48.110294	-115.414976		Data point images
DP07-u	48.112238	-115.417798		Data point images
DP07-w	48.112219	-115.41774		Data point images
DP08-u	48.112788	-115.419336		Data point images
DP08-w	48.112877	-115.419425		Data point images
DP09-u	48.114399	-115.419762		Data point images
DP09-w	48.114377	-115.419712		Data point images
DP10-u	48.115547	-115.418438		Data point images
DP10-w	48.1155	-115.418366		Data point images
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:

Schrieber Meadows

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 lines, vegetation 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

☑ Complete Vegetation Transects

Soils

☑ Assess soils

Wetland Delineations

☑ Delineate wetlands according to applicable USACE protocol (1987 form or Supplement)
☑ Delineate wetland – upland boundary onto aerial photograph.

Wetland Delineation Comments

A total of 45.83 acres of jurisdictional wetland and waters of the US (WOTUS) were delineated at the Schrieber Meadows site in 2024. The total wetland acreage delineated in 2024 was 32.00 acres, which is a decrease of 0.65 acres since 2023. WUS (Open Water) was 5.81 acres in 2024, the same as in 2023.

Functional Assessments

☑ Complete and attach full MDT Montana Wetland Assessment Method field forms.

Functional Assessment Comments:

All 3 Assessment Areas are Category I wetlands.

Maintenance

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

If yes, do they need to be repaired? No

If yes, describe the problems below and indicate if any actions were taken to remedy the problems

Were man-made structures built or installed to impound water or control water flow

into or out of the wetland? No

If yes, are the structures in need of repair?

If yes, describe the problems below.

No structure related maintenance needs were observed in 2024.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP01u

Investigator(s): R Baumgarten Section, Township, Range: S12 T27N R30W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Linear Slope (%): 1

Subregion (LRR): E 43A Lat: 48.113582 Long: -115.41599 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point near road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	50	✔	FACU
2. Festuca idahoensis	15		FACU
3. Lotus corniculatus	10		FAC
4. Lactuca serriola	1		FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	76 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 24

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	66	x 4 =	264
UPL species	0	x 5 =	0
Column Totals:	76 (A)		294 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Vegetation dominated by FACU species and did not meet any hydrophytic vegetation indicators.

SOIL

Sampling Point: DP01u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/3	100					Loam	Gravel throughout.
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** ✔

Remarks:

Gravel throughout profile, unable to dig past 6 inches. No hydric soil indicators observed and soil was very dry.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP01w

Investigator(s): E Reynaud Section, Township, Range: S12 T27N R30W

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

Subregion (LRR): E 43A Lat: 48.113582 Long: -115.41599 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Data point taken outside NE project boundary towards highway.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	100	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP01w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10YR 2/1	100					Peat	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ✔ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

At least 16 inches of organic material and peat texture qualifies soil as a Histosol.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Indicators of wetland hydrology includes geomorphic position and a positive FAC-Neutral test.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP02u

Investigator(s): R Baumgarten Section, Township, Range: S12 T27N R30W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR): E 43A Lat: 48.111715 Long: -115.413741 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point near road, offset from wetland point further than normal due to potential underground power line in area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus balsamifera	2		FAC
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Populus balsamifera	4		FAC
2.			
3.			
4.			
5.			
	4	= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	60	✔	FACU
2. Unidentified forb	5		
3. Bromus carinatus	2		UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	67	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 33

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	6	x 3 =	18
FACU species	60	x 4 =	240
UPL species	2	x 5 =	10
Column Totals:	68 (A)		268 (B)

Prevalence Index = B/A = 3.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Vegetation dominated by FACU species and did not meet any hydrophytic vegetation indicators.

SOIL

Sampling Point: DP02u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 3/2	100					Sandy Loam	Gravelly.
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed. Rocks and gravel throughout profile, unable to dig past 10 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP02w

Investigator(s): E Reynaud Section, Township, Range: S12 T27N R30W

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

Subregion (LRR): E 43A Lat: 48.111645 Long: -115.413856 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Data point taken outside project boundary towards highway.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Alnus incana	10	✔	FACW
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Poa pratensis	25	✔	FAC
2. Carex aquatilis	20	✔	OBL
3. Phalaris arundinacea	20	✔	FACW
4. Carex nebrascensis	15		OBL
5. Agrostis capillaris	15		FAC
6. Geum macrophyllum	5		FAC
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	30	x 2 =	60
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		230 (B)

Prevalence Index = B/A = 2.09

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive dominance test and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP02w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 9	10YR 2/2	100					Clay Loam	
9 - 16	10YR 5/1	100					Sandy Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

A depleted matrix below a dark surface is evidence of hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 7

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Indicators of wetland hydrology includes soil saturation, geomorphic position, and a positive FAC-Neutral test.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. Of Transportation State: Montana Sampling Point: DP03u

Investigator(s): R McEldowney Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 15

Subregion (LRR): E 43A Lat: 48.107773 Long: -115.410076 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point approximately 3 feet above its wetland pair.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Symphoricarpos albus	5	✔	FACU
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	50	✔	FACU
2. Phleum pratense	2		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	52 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 48

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	57 (A)		226 (B)

Prevalence Index = B/A = 3.96

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Data point did not meet any hydrophytic vegetation indicators.

SOIL

Sampling Point: DP03u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 15	10YR 2/1	100					Sandy Loam	Gravelly.
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. Of Transportation State: Montana Sampling Point: DP03w

Investigator(s): R McEldowney Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): E 43A Lat: 48.107652 Long: -115.410081 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

PEM, riverine data point adjacent to lower reach of Coyote Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	90	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		180 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Monoculture of reed canarygrass (Phalaris arundinacea). Evidence of hydrophytic vegetation includes a positive rapid test, dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP03w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 24	10YR 2/1	100					Peat	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ✔ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Histosol. Sapric. Sulfidic odor at 16 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Saturated to surface. Sulfidic odor detected at 16 inches.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP04u

Investigator(s): R Baumgarten Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR): E 43A Lat: 48.108127 Long: -115.411478 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point at SE end of site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	10	✔	FACU
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Pseudotsuga menziesii	5	✔	FACU
2. Symphoricarpos albus	5	✔	FACU
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Nassella viridula	50	✔	UPL
2. Pascopyrum smithii	20	✔	FACU
3. Alopecurus pratensis	5		FAC
4. Phalaris arundinacea	5		FACW
5. Agrostis capillaris	1		FAC
6. Poa palustris	1		FAC
7. Verbascum thapsus	1		FACU
8. Penstemon confertus	1		UPL
9.			
10.			
11.			
	84	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 16

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	7	x 3 =	21
FACU species	41	x 4 =	164
UPL species	51	x 5 =	255
Column Totals:	104 (A)		450 (B)

Prevalence Index = B/A = 4.32

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

No hydrophytic vegetation indicators met.

SOIL

Sampling Point: DP04u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 2/1	100					Loam	
6 - 8	10YR 3/6	100					Silt Loam	
8 - 15	10YR 2/1	100					Sandy Loam	Gravelly.
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP04w

Investigator(s): E Reynaud Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR): E 43A Lat: 48.108161 Long: -115.411388 Datum: NAD 83

Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terraces-Andic Dystrochrepts, glacial outwash terraces, complex NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Data point taken in reed canarygrass monoculture in expanded wetland boundary in the south part of the site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	100	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP04w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 16	10YR 2/1	100					Peat	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ✔ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

At least 16 inches of organic matter qualifies soil as a Histosol.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ✔ No ___ Depth (inches): 15

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 2

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Evidence of wetland hydrology includes soil saturation, geomorphic position, and a positive FAC-Neutral test.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP05u

Investigator(s): E Reynaud Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Linear Slope (%): 3

Subregion (LRR): E 43A Lat: 48.108865 Long: -115.412975 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Data point taken near wooded area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	35	✔	FACU
2.			
3.			
4.			
	35	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Symphoricarpos albus	10	✔	FACU
2. Crataegus douglasii	5	✔	FAC
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft r)			
1. Alopecurus pratensis	60	✔	FAC
2. Poa pratensis	10		FAC
3. Equisetum arvense	5		FAC
4. Phleum pratense	5		FAC
5. Cirsium arvense	2		FAC
6. Nassella viridula	2		UPL
7.			
8.			
9.			
10.			
11.			
	84	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum 16

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	87	x 3 =	261
FACU species	45	x 4 =	180
UPL species	2	x 5 =	10
Column Totals:	134 (A)		451 (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

No hydrophytic vegetation indicators observed.

SOIL

Sampling Point: DP05u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 2/2	100					Loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed. Cobbles at 10 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. Of Transportation State: Montana Sampling Point: DP05w

Investigator(s): R McEldowney Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR): E 43A Lat: 48.109002 Long: -115.412979 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

PEM, riverine wetland west of Coyote Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	95	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		190 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Monoculture of reed canarygrass (Phalaris arundinacea).

SOIL

Sampling Point: DP05w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 3	10YR 2/2	100					Peat	Fibric
3 - 8	10YR 2/2	100					Peat	Hemic
8 - 16	10YR 2/1	100					Peat	Sapric
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ✔ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✔ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Histosol with a sulfidic odor at 8 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ✔ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Histosol with saturation to the surface and a sulfidic odor.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP06u

Investigator(s): R Baumgarten Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Terrace/floodplain Local relief (concave, convex, none): Linear Slope (%): 0

Subregion (LRR): E 43A Lat: 48.110051 Long: -115.415142 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point near the middle of the site on the west side. Although site passes the dominance test for hydrophytic vegetation, it is not representative of the soil and hydrology observed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	50	✔	FACW
2. Alopecurus pratensis	25	✔	FAC
3. Pascopyrum smithii	5		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	25	x 3 =	75
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	80 (A)		195 (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Upland sample point dominated by reed canary grass (Phalaris arundinacea). Upland status determined by hydrology and soils.

SOIL

Sampling Point: DP06u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 15	10YR 2/1	100					Silt Loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Soil is very dry and no hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP06w

Investigator(s): E Reynaud Section, Township, Range: S13 T27N R30W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): E 43A Lat: 48.110294 Long: -115.414976 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Data point taken at the bottom of large gentle toeslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	75	✔	FACW
2. Carex pellita	25	✔	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		175 (B)

Prevalence Index = B/A = 1.75

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP06w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 9	10YR 2/2	100					Silt Loam	
9 - 16	10YR 7/1	100					Loamy Sand	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

The presence of a depleted matrix indicates hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Evidence of wetland hydrology includes geomorphic position and a positive FAC-Neutral test.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP07u

Investigator(s): R Baumgarten Section, Township, Range: S12 T27N R30W

Landform (hillslope, terrace, etc.): Terrace/floodplain Local relief (concave, convex, none): Linear Slope (%): 1

Subregion (LRR): E 43A Lat: 48.112238 Long: -115.417798 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point near the middle of the site along the western project boundary.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	60	✔	FACU
2. Alopecurus pratensis	25	✔	FAC
3. Cirsium arvense	2		FAC
4. Phalaris arundinacea	1		FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	88 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 12

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	27	x 3 =	81
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	88 (A)		323 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

No indicators met for hydrophytic vegetation.

SOIL

Sampling Point: DP07u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 15	10YR 2/2	100					Sandy Loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP07w

Investigator(s): E Reynaud Section, Township, Range: S12 T27N R30W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): E 43A Lat: 48.112219 Long: -115.41774 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Data point taken near western border of site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	95	✔	FACW
2. Cirsium arvense	5		FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		205 (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP07w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 13	10YR 2/1	95	10YR 4/6	5	C	M	Loam	
13 - 16	10YR 6/1	100					Loamy Sand	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Prominent redoximorphic concentrations within the matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 5

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Evidence of wetland hydrology includes soil saturation, geomorphic position, and a positive FAC-Neutral test.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP08u

Investigator(s): R Baumgarten Section, Township, Range: S11 T27N R30W

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 1

Subregion (LRR): E 43A Lat: 48.112788 Long: -115.419336 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point located towards the north west end of the site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Pascopyrum smithii	75	✔	FACU
2. Alopecurus pratensis	5		FAC
3. Phalaris arundinacea	5		FACW
4. Cirsium arvense	1		FAC
5. Prunella vulgaris	1		FACU
6.			
7.			
8.			
9.			
10.			
11.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 13

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	6	x 3 =	18
FACU species	76	x 4 =	304
UPL species	0	x 5 =	0
Column Totals:	87 (A)		332 (B)

Prevalence Index = B/A = 3.81

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

No indicators met for hydrophytic vegetation.

SOIL

Sampling Point: DP08u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 15	10YR 2/2	100					Loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. Of Transportation State: Montana Sampling Point: DP08w

Investigator(s): R McEldowney Section, Township, Range: S11 T27N R30W

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

Subregion (LRR): E 43A Lat: 48.112877 Long: -115.419425 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

PEM, riverine wetland data point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	80	✔	FACW
2. Carex utriculata	5		OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		165 (B)

Prevalence Index = B/A = 1.94

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive rapid test, dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP08w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 2/2	100					Peat	Fibric
2 - 15	10YR 2/1	100					Peat	Sapric
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ✔ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Histic epipedon observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 2

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Located at toe of slope. Saturation observed at 2 inches below ground surface.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP09u

Investigator(s): E Reynaud Section, Township, Range: S11 T27N R30W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Linear Slope (%): 0

Subregion (LRR): E 43A Lat: 48.114399 Long: -115.419762 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Data point taken near NE border of site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Alopecurus pratensis	55	✔	FAC
2. Bromus inermis	25	✔	UPL
3. Agrostis capillaris	10		FAC
4. Cirsium arvense	2		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	92 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 8

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	67	x 3 =	201
FACU species	0	x 4 =	0
UPL species	25	x 5 =	125
Column Totals:	92 (A)		326 (B)

Prevalence Index = B/A = 3.54

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

No evidence of hydrophytic vegetation observed.

SOIL

Sampling Point: DP09u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 3	10YR 5/2	100					Loam	
3 - 14	10YR 2/2	100					Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed. Rocks at 14 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. Of Transportation State: Montana Sampling Point: DP09w

Investigator(s): R McEldowney Section, Township, Range: S11 T27N R30W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR): E 43A Lat: 48.114377 Long: -115.419712 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

PEM. Data point is located on the edge of a constructed wetland basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1. Alnus incana	3		FACW
2. Salix lutea	1		OBL
3.			
4.			
5.			
	4 = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Carex utriculata	25	✔	OBL
2. Agrostis capillaris	15	✔	FAC
3. Equisetum arvense	10		FAC
4. Phalaris arundinacea	10		FACW
5. Alopecurus pratensis	5		FAC
6. Cirsium arvense	3		FAC
7. Trifolium campestre	3		UPL
8. Scirpus microcarpus	2		OBL
9. Fragaria virginiana	1		FACU
10.			
11.			
	74 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 26

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	28	x 1 =	28
FACW species	13	x 2 =	26
FAC species	33	x 3 =	99
FACU species	1	x 4 =	4
UPL species	3	x 5 =	15
Column Totals:	78 (A)		172 (B)

Prevalence Index = B/A = 2.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive dominance test and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP09w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 2	10YR 3/2	100					Silty Clay Loam	
2 - 16	10YR 6/2	98	10YR 5/6	2	C	M	Silt Loam	
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Soil is moist with a depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Two secondary wetland hydrology indicators are present.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. Of Transportation State: Montana Sampling Point: DP10u

Investigator(s): R McEldowney Section, Township, Range: S11 T27N R30W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Linear Slope (%): 1

Subregion (LRR): E 43A Lat: 48.115547 Long: -115.418438 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland data point at north end of the site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Alopecurus pratensis	75	✔	FAC
2. Bromus inermis	10		UPL
3. Cirsium arvense	2		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	87 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 13

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	77	x 3 =	231
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	87 (A)		281 (B)

Prevalence Index = B/A = 3.22

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Data point dominated by creeping meadow foxtail (Alopecurus pratensis), a FAC species, and passes the dominance test. Upland status was determined by soils and hydrology.

SOIL

Sampling Point: DP10u

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 2/2	100					Silt Loam	
-								
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No evidence of wetland hydrology observed.

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

Project/Site: Schrieber Meadows City/County: Lincoln County Sampling Date: 2024-07-16

Applicant/Owner: Montana Dept. of Transportation State: Montana Sampling Point: DP10w

Investigator(s): E Reynaud Section, Township, Range: S11 T27N R30W

Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Linear Slope (%): 0

Subregion (LRR): E 43A Lat: 48.1155 Long: -115.418366 Datum: NAD 83

Soil Map Unit Name: 105 - Aquic Udifluvents, poorly drained NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

Data point taken near NE border of site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Carex pellita	60	✔	OBL
2. Phalaris arundinacea	20	✔	FACW
3. Cirsium arvense	10		FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		130 (B)

Prevalence Index = B/A = 1.44

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL

Sampling Point: DP10w

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	7.5YR 3/1	100					Silty Clay Loam	
6 - 16	10YR 4/1	95	10YR 4/6	5	C	M	Silty Clay Loam	Organic matter.
-								
-								
-								
-								
-								
-								

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Presence of a depleted matrix within the profile indicates hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Vis ble on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Evidence of wetland hydrology includes geomorphic position and a positive FAC-Neutral test.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Schrieber Meadows **2. MDT Project #:** NH 27 (021) **Control #:** 1027001

3. Evaluation Date: 10/30/2024 **4. Evaluator(s):** R. McEldowney **5. Wetlands/Site #(s):** Creation

6. Wetland Location(s): i. Legal: T27N,R30W,11,12,13 **Latitude/Longitude:** 48.112259, -115.416325 : Center of AA

ii. Approx. Stationing or Mileposts:

iii. Watershed: 1

Watershed Name, County: Kootenai, Lincoln

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

1. ___ Wetlands potentially affected by MDT project
2. ___ Mitigation wetlands; pre-construction
3. X Mitigation wetlands; post-construction
4. ___ Other:

8. Wetland size: 22.960 acres (measured)

9. Assessment area (AA): 22.960 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	AB	E	PP	10
D	EM	E	PP	35
S	EM	NA	SI	20
S	EM	NA	PP	35

Abbreviations: *(see manual for definitions)*

HGM Classes: Riverine (**R**), Depressional (**D**), Slope (**S**), Mineral Soil Flats (**MSF**), Organic Soil Flats (**OSF**), Lacustrine Fringe (**LF**);

Cowardin Classes: Rock Bottom (**RB**), Unconsolidated bottom (**UB**), Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

Modifiers: Excavated (**E**), Impounded (**I**), Diked (**D**), Partly Drained (**PD**), Farmed (**F**), Artificial (**A**)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)

COMMON

12. General condition of AA:

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) list)

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

Comments: (types of disturbance, intensity, season, etc.): Highway 2 and USFS roads are adjacent to the AA, land is not cultivated, and low disturbance. Ox-eye daisy continues to increase in cover in the NW portion of the site, continuing a trend observed since 2022.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Cirsium arvense, Leucanthemum vulgare, Hieracium aurantiacum

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes constructed wetland depressions and adjacent wetland habitat that has been created by the plugging of existing ditches and channels, creation of a new stream channel and historic subsidence of the histosol soil elevations. The surrounding land is currently managed in a natural state. USFS land surrounds the majority of the site.

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

Existing # of "Cowardin" Vegetated Classes in AA	**Initial Rating**	**Is current management preventing (passive) existence of additional vegetated classes?**		**Modified Rating**
>= 3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	**M**	NA	NA	NA
1 class, but not a monoculture	M	<-- NO	YES -->	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	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 (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
	Grizzly Bear(D)	Canada Lynx(S) North American Wolverine(S)

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
Functional Points and Rating	1H	.9H	**.8M**	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): USFWS database, MTNHP, MDT observations and reports from FWP, USFWS, and FS on 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 (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
Townsend's big-eared bat (S3)(D) - S2S3 Western toad (S2)(D) - S2S3	Fisher(D) - S2S3	

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] 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 Rating*	1H	.8H	.7M	.6M	.2L	.1L	0L
***S2 and S3 Species:** Functional Points and Rating*	**.9H**	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP. Western toad has been documented breeding on site by MDT and USFS personnel.

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- X observations of abundant wildlife #s or high species diversity (during any period)
- X abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ presence of extremely limiting habitat features not available in the surrounding area
- ___ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
- ___ few or no wildlife observations during peak use periods
- ___ little to no wildlife sign
- ___ sparse adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- ___ observations of scattered wildlife 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

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent 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 these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	**E**	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

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

Evidence of wildlife use (i)	*Wildlife habitat features rating (ii)*			
	Exceptional	High	Moderate	Moderate
Substantial	**1E**	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	.2L	.1L

Comments: Observed waterfowl, wildlife, and wildlife tracks/scat during the 2024 site visit.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could 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 is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark ___ **NA** and proceed to 14E.)

Type of Fishery: Cold Water **(CW)** **X** Warm Water **(WW)** ___ **Use the CW or WW guidelines in the user manual to complete the matrix**

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating)

Duration of surface water in AA	Permanent / Perennial						Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Optimal		Adequate		Poor		Optimal		Adequate		Poor		Optimal		Adequate		Poor	
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.2L
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

Sources used for identifying fish sp. potentially found in AA: Visual observations.

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? ___ If yes, reduce score in i above by 0.1.

*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? ___ If yes, add 0.1 to the adjusted score in **i** or **iia.***

iii. Final Score and Rating: 0.6M **Comments:** Introduced game and non-game fish species have been observed in previous years.

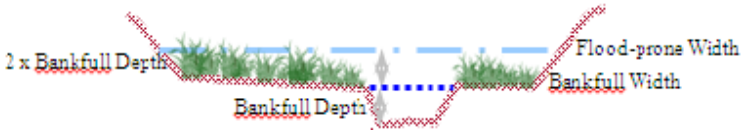
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ___ **NA** and proceed to 14F.)

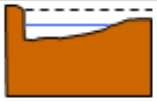
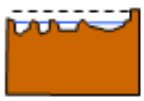
i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% 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

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

35 /	5 =	**7**
Flood-prone width	*Bankfull width*	*Entrenchment ratio (ER)*



Slightly Entrenched ER = >2.2			**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
						

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ **Comments:** Highway adjacent to the site, minimal trees or shrubs present.

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, ___ **NA** and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] 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 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: Extensive areas of perennial inundation greater than 2 feet deep were observed in 2024.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, ___ **NA** and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	>= 70%		< 70%		>= 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	**.9H**	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: AA dominated by >70% reed canarygrass, presence of flooding/ponding, unrestricted outlet flows into Schrieber Lake.

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, ___ **NA** and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

*% Cover of **wetland** streambank or shoreline by species with stability ratings of >=6 (see **Appendix F**).*	*Duration of surface water adjacent to rooted vegetation*		
	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
>= 65%	**1H**	.9H	.7M
35-64%	.7M	.6M	.5M
35%	.3L	.2L	.1L

Comments: Perennial hydrologic regime in estimated 80% of the AA. Species with high stability ratings are established on the perimeters of excavated areas.

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat Rating (14D.iii.)	**General Wildlife Habitat Rating (14C.iii.)**		
	E/H	M	L
E/H	H	H	M
M	**H**	M	M
L	M	M	L
N/A	H	M	L

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

A	Vegetated component >5 acres						Vegetated component 1-5 acres						Vegetated component < 1 acre					
B	High		Moderate		Low		High		Moderate		Low		High		Moderate		Low	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	**1H**	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) **Vegetated Upland Buffer (VUB):** Area with >= 30% plant cover, = 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference? **X** *If yes, add 0.1 to the score in ii above.*

iv. Final Score and Rating: 1.00H **Comments:** High level of biological activity, veg component > 5 ac, perennial, has surface and subsurface outlets.

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below)

i. Discharge Indicators

	The AA is a slope wetland
X	Springs or seeps are known or observed
	Vegetation growing during dormant season/drought
	Wetland occurs at the toe of a natural slope
X	AA permanently flooded during drought periods
	Wetland contains an outlet, but no inlet
X	Shallow water table and the site is saturated to the surface
X	Other: large spring located near the middle of the AA

ii. Recharge Indicators

	Permeable substrate present without underlying impeding layer
	Wetland contains inlet but no outlet
	Stream is a known 'losing' stream; discharge volume decreases
	Other:

iii. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating)

	Duration of saturation at AA Wetlands *FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*			
Criteria	P/P	S/I	T	None
Groundwater Discharge or Recharge	**1H**	.7M	.4M	.1L
Insufficient Data/Information	N/A			

Comments: AA with perennial inundation/saturation to the surface.

14K. Uniqueness:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	**.4M**	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L

Comments: Structural diversity not expected to increase with present perennial water regime and high water depth (2-3ft).

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (circle) **X** (if 'Yes' continue with the evaluation; if 'No' then mark ___ **NA** and proceed to the overall summary and rating page)

ii. Check categories that apply to the AA: **X** Educational/scientific study; **X** Consumptive rec.; **X** Non-consumptive rec.; ___ Other :

iii. Rating:

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	**.2H**	.15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M	.05L

Comments: Known recreation site.

General Site Notes
The northern portion of this AA experiences seasonal surface hydrology and has fluctuated between wetlands and non-wetlands over the years.

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 Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	M	0.80	1	18.37	
B. MT Natural Heritage Program Species Habitat	H	0.90	1	20.66	
C. General Wildlife Habitat	E	1.00	1	22.96	*
D. General Fish Habitat	M	0.60	1	13.78	
E. Flood Attenuation	M	0.50	1	11.48	
F. Short and Long Term Surface Water Storage	H	1.00	1	22.96	*
G. Sediment/Nutrient/Toxicant Removal	H	0.90	1	20.66	
H. Sediment/Shoreline Stabilization	H	1.00	1	22.96	
I. Production Export/Food Chain Support	H	1.00	1	22.96	*
J. Groundwater Discharge/Recharge	H	1.00	1	22.96	*
K. Uniqueness	M	0.40	1	9.18	
L. Recreation/Education Potential (bonus points)	H	0.20	1	4.59	
Totals:		9.30	11.00	213.52	
Percent of Possible Score			85%		

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**
__X__ 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**
__X__ 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**
__X__ 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: I

Summary Comments: Overall a highly productive AA.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Schrieber Meadows **2. MDT Project #:** NH 27 (021) **Control #:** 1027001

3. Evaluation Date: 10/31/2024 **4. Evaluator(s):** R. McEldowney **5. Wetlands/Site #(s):** Enhancement

6. Wetland Location(s): i. Legal: T27N,R30W,11,12,13 **Latitude/Longitude:** 48.111022, -115.41427 : Center of AA

ii. Approx. Stationing or Mileposts:

iii. Watershed: 1

Watershed Name, County: Kootenai, Lincoln

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

1. ___ Wetlands potentially affected by MDT project
2. ___ Mitigation wetlands; pre-construction
3. X Mitigation wetlands; post-construction
4. ___ Other:

8. Wetland size: 6.790 acres (measured)

9. Assessment area (AA): 6.790 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
S	AB	NA	PP	22.00
S	EM	NA	SI	20.00
S	EM	NA	PP	58.00

Abbreviations: *(see manual for definitions)*

HGM Classes: Riverine (**R**), Depressional (**D**), Slope (**S**), Mineral Soil Flats (**MSF**), Organic Soil Flats (**OSF**), Lacustrine Fringe (**LF**);

Cowardin Classes: Rock Bottom (**RB**), Unconsolidated bottom (**UB**), Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

Modifiers: Excavated (**E**), Impounded (**I**), Diked (**D**), Partly Drained (**PD**), Farmed (**F**), Artificial (**A**)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)

COMMON

12. General condition of AA:

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) list)

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

Comments: (types of disturbance, intensity, season, etc.): Highway 2 and USFS roads are adjacent to the AA, land is not cultivated, minimal noxious weeds, and low disturbance.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Cirsium arvense

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes existing wetlands located between stream mitigation area and US Hwy 2. The emergent wetland is dominated by reed canary grass and Alopecurus spp. Restoration efforts and beaver activity south of Schrieber Lake have resulted in increased inundation, resulting in some of the emergent wetland transitioning to aquatic bed. Adjacent land use is forest and the highway.

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

Existing # of "Cowardin" Vegetated Classes in AA	**Initial Rating**	**Is current management preventing (passive) existence of additional vegetated classes?**		**Modified Rating**
>= 3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	**M**	NA	NA	NA
1 class, but not a monoculture	M	<-- NO	YES -->	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Aquatic bed, and emergent wetland dominated primarily by reed canary grass.

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 (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)	Secondary habitat (list species)	Incidental habitat (list species)
	Grizzly Bear(D)	Canada Lynx(S) North American Wolverine(S)

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
Functional Points and Rating	1H	.9H	**.8M**	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): USFWS database, MTNHP, MDT observations and reports of use from FWP, USFS, and USFWS.

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 (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)	Secondary habitat (list species)	Incidental habitat (list species)
Townsend's big-eared bat (S3)(D) - S2S3 Western toad (S2)(D) - S2S3	Fischer (S3)(D) - S2S3	

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] 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 Rating*	1H	.8H	.7M	.6M	.2L	.1L	0L
***S2 and S3 Species:** Functional Points and Rating*	**.9H**	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP report. Western toad has been documented breeding onsite by MDT and USFS personnel.

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- X observations of abundant wildlife #s or high species diversity (during any period)
- X abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ presence of extremely limiting habitat features not available in the surrounding area
- ___ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
- ___ few or no wildlife observations during peak use periods
- ___ little to no wildlife sign
- ___ sparse adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- ___ observations of scattered wildlife 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

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent 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 these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	**E**	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

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

Evidence of wildlife use (i)	*Wildlife habitat features rating (ii)*			
	Exceptional	High	Moderate	Moderate
Substantial	**1E**	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	.2L	.1L

Comments: Substantial wildlife use within the AA; however, US Highway 2 abuts this area and precludes wildlife usage at various times of the day due to traffic.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could 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 is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark ___ **NA** and proceed to 14E.)

Type of Fishery: Cold Water **(CW)** **X** Warm Water **(WW)** ___ **Use the CW or WW guidelines in the user manual to complete the matrix**

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating)

Duration of surface water in AA	Permanent / Perennial						Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Optimal		Adequate		Poor		Optimal		Adequate		Poor		Optimal		Adequate		Poor	
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.2L
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

Sources used for identifying fish sp. potentially found in AA: Visual observations.

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? ___ If yes, reduce score in i above by 0.1.

*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? ___ If yes, add 0.1 to the adjusted score in **i** or **iia.***

iii. Final Score and Rating: 0.2L **Comments:** Minimal fish habitat present, no fish have been observed in AA.

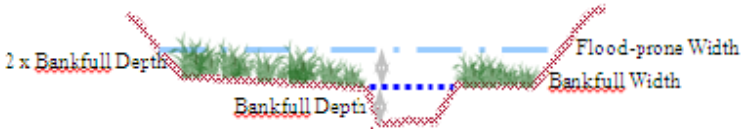
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ___ **NA** and proceed to 14F.)

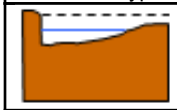
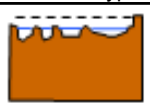
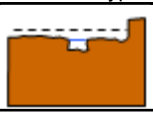
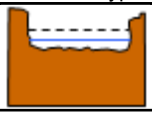
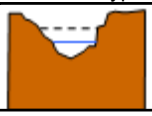
i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% 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

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

35 /	5 =	**7.00**
Flood-prone width	*Bankfull width*	*Entrenchment ratio (ER)*



Slightly Entrenched ER = >2.2			**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
						

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ **Comments:** Unrestricted outlet, minimal trees or shrubs present.

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, ___ **NA** and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] 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 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. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, ___ **NA** and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	>= 70%		< 70%		>= 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	**1H**	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: AA vegetated primarily with reed canarygrass, presence of flooding/ponding, restricted outlet.

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, ___ **NA** and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

*% Cover of **wetland** streambank or shoreline by species with stability ratings of >=6 (see **Appendix F**).*	*Duration of surface water adjacent to rooted vegetation*		
	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
>= 65%	**1H**	.9H	.7M
35-64%	.7M	.6M	.5M
35%	.3L	.2L	.1L

Comments: Open water areas subject to wave action, well vegetated with near monoculture of reed canarygrass.

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat Rating (14D.iii.)	**General Wildlife Habitat Rating (14C.iii.)**		
	E/H	M	L
E/H	H	H	M
M	H	M	M
L	**M**	M	L
N/A	H	M	L

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

A	Vegetated component >5 acres						Vegetated component 1-5 acres						Vegetated component < 1 acre					
B	High		Moderate		Low		High		Moderate		Low		High		Moderate		Low	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	**.8H**	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) **Vegetated Upland Buffer (VUB):** Area with >= 30% plant cover, = 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference? **X** *If yes, add 0.1 to the score in ii above.*

iv. Final Score and Rating: 0.90H **Comments:** Low fish habitat rating, vegetation component >5 ac, moderate biological activity, perennial hydrology with restricted outlet.

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below)

i. Discharge Indicators

___	The AA is a slope wetland
___	Springs or seeps are known or observed
___	Vegetation growing during dormant season/drought
___	Wetland occurs at the toe of a natural slope
___	AA permanently flooded during drought periods
___	Wetland contains an outlet, but no inlet
X	Shallow water table and the site is saturated to the surface
X	Other: Seeps are present at the wetland edge

ii. Recharge Indicators

___	Permeable substrate present without underlying impeding layer
___	Wetland contains inlet but no outlet
___	Stream is a known 'losing' stream; discharge volume decreases
___	Other:

iii. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating)

	Duration of saturation at AA Wetlands *FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*			
Criteria	P/P	S/I	T	None
Groundwater Discharge or Recharge	**1H**	.7M	.4M	.1L
Insufficient Data/Information	N/A			

Comments: AA with shallow water table and perennial surface water (2-3 feet).

14K. Uniqueness:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	**.4M**	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L

Comments: AA with common relative abundance and moderate disturbance due to adjacent road.

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (circle) **X** (if 'Yes' continue with the evaluation; if 'No' then mark ___ **NA** and proceed to the overall summary and rating page)

ii. Check categories that apply to the AA: **X** Educational/scientific study; **X** Consumptive rec.; **X** Non-consumptive rec.; ___ Other :

iii. Rating:

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	**.2H**	.15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M	.05L

Comments: Known recreation site.

General Site Notes
Overall productive AA.

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 Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	M	0.80	1	5.43	*
B. MT Natural Heritage Program Species Habitat	H	0.90	1	6.11	
C. General Wildlife Habitat	E	1.00	1	6.79	
D. General Fish Habitat	L	0.20	1	1.36	
E. Flood Attenuation	M	0.50	1	3.40	
F. Short and Long Term Surface Water Storage	H	1.00	1	6.79	*
G. Sediment/Nutrient/Toxicant Removal	H	1.00	1	6.79	*
H. Sediment/Shoreline Stabilization	H	1.00	1	6.79	
I. Production Export/Food Chain Support	H	0.90	1	6.11	*
J. Groundwater Discharge/Recharge	H	1.00	1	6.79	
K. Uniqueness	M	0.40	1	2.72	
L. Recreation/Education Potential (bonus points)	H	0.20	1	1.36	
Totals:		8.90	11.00	60.44	
Percent of Possible Score			81%		

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**
__X__ 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**
__X__ 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**
__X__ 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: I

Summary Comments: Most of AA is inundated by water. Emergent vegetation has been increasing in recent years.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Schrieber Meadows **2. MDT Project #:** NH 27 (021) **Control #:** 1027001

3. Evaluation Date: 10/31/2024 **4. Evaluator(s):** R. McEldowney **5. Wetlands/Site #(s):** Restoration

6. Wetland Location(s): i. Legal: T27N,R30W,11,12,13 **Latitude/Longitude:** 48.111359, -115.415081 : Center of AA

ii. Approx. Stationing or Mileposts:

iii. Watershed: 1

Watershed Name, County: Kootenai, Lincoln

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

1. ___ Wetlands potentially affected by MDT project
2. ___ Mitigation wetlands; pre-construction
3. X Mitigation wetlands; post-construction
4. ___ Other:

8. Wetland size: 2.250 acres (measured)

9. Assessment area (AA): 2.250 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	AB	E	PP	35.00
D	EM	E	SI	30.00
D	EM	E	PP	35.00

Abbreviations: *(see manual for definitions)*

HGM Classes: Riverine (**R**), Depressional (**D**), Slope (**S**), Mineral Soil Flats (**MSF**), Organic Soil Flats (**OSF**), Lacustrine Fringe (**LF**);

Cowardin Classes: Rock Bottom (**RB**), Unconsolidated bottom (**UB**), Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

Modifiers: Excavated (**E**), Impounded (**I**), Diked (**D**), Partly Drained (**PD**), Farmed (**F**), Artificial (**A**)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)

COMMON

12. General condition of AA:

i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (**ANVS**) list)

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

Comments: (types of disturbance, intensity, season, etc.): Highway 2 and USFS roads are adjacent to the AA, land is not cultivated, minimal noxious weeds, and low disturbance.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Cirsium arvense, Leucanthemum vulgare, isolated Hieracium aurantiacum

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: The AA includes pre-existing wetlands identified within the project area that were modified by excavation to increase the groundwater availability and provide a greater diversity of wetland habitat and hydrophytes.

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

Existing # of "Cowardin" Vegetated Classes in AA	**Initial Rating**	**Is current management preventing (passive) existence of additional vegetated classes?**		**Modified Rating**
>= 3 (or 2 if 1 is forested) classes	H	NA	NA	NA
2 (or 1 if forested) classes	**M**	NA	NA	NA
1 class, but not a monoculture	M	<-- NO	YES -->	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Emergent and aquatic bed classes.

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 (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
	Grizzly Bear(D)	North American Wolverine(S) Canada Lynx(S)

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

Highest Habitat Level	*doc/primary*	*sus/primary*	*doc/secondary*	*sus/secondary*	*doc/incidental*	*sus/incidental*	*None*
Functional Points and Rating	1H	.9H	**.8M**	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): USFWS database, MTNHP, MDT observations

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 (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)	**Secondary habitat (list species)**	**Incidental habitat (list species)**
Townsend's big-eared bat(D) - S2S3 Western toad (S2)(D) - S2S3	Fischer(D) - S2S3	

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] 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 Rating*	1H	.8H	.7M	.6M	.2L	.1L	0L
***S2 and S3 Species:** Functional Points and Rating*	**.9H**	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP report. The western toad has been documented breeding onsite by MDT and USFS personnel.

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):
- X observations of abundant wildlife #s or high species diversity (during any period)
- X abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ presence of extremely limiting habitat features not available in the surrounding area
- ___ interviews with local biologists with knowledge of the AA

Minimal (based on any of the following [check]):
- ___ few or no wildlife observations during peak use periods
- ___ little to no wildlife sign
- ___ sparse adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- ___ observations of scattered wildlife 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

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent 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 these terms])

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	H	M	**E**	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

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

Evidence of wildlife use (i)	*Wildlife habitat features rating (ii)*			
	Exceptional	High	Moderate	Moderate
Substantial	**1E**	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	.2L	.1L

Comments: Good habitat diversity with substantial evidence of wildlife.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could 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 is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark **X NA** and proceed to 14E.)

Type of Fishery: Cold Water **(CW)** ___ Warm Water **(WW)** ___ **Use the CW or WW guidelines in the user manual to complete the matrix**

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating)

Duration of surface water in AA	Permanent / Perennial						Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Optimal		Adequate		Poor		Optimal		Adequate		Poor		Optimal		Adequate		Poor	
Thermal cover optimal / suboptimal	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.2L
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

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? ___ If yes, reduce score in i above by 0.1.

*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? ___ If yes, add 0.1 to the adjusted score in **i** or **iia.***

iii. Final Score and Rating: NA **Comments:** No fish habitat identified within restoration AA

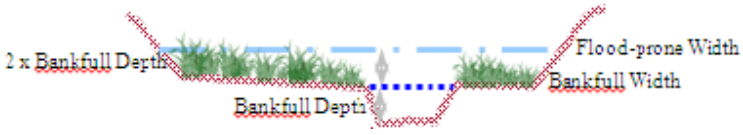
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ___ **NA** and proceed to 14F.)

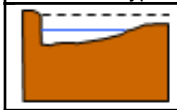
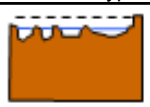
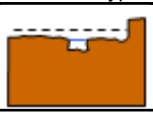
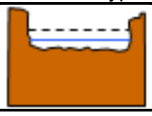
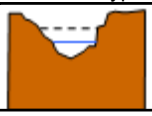
i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	Slightly entrenched - C, D, E stream types			Moderately entrenched – B stream type			Entrenched-A, F, G stream types		
% 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

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

35 /	5 =	**7.00**
Flood-prone width	*Bankfull width*	*Entrenchment ratio (ER)*



Slightly Entrenched ER = >2.2			**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
						

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ **Comments:** All wetland cells subject to flooding from Coyote Creek.

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, ___ **NA** and proceed to 14G.)

i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] 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 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 with evidence of frequent flooding.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, ___ **NA** and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	>= 70%		< 70%		>= 70%		< 70%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains **unrestricted outlet**	.9H	.7M	**.6M**	.4M	.4M	.3L	.2L	.1L

Comments: AA receives periodic overflow from Coyote Creek.

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, ___ **NA** and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

*% Cover of **wetland** streambank or shoreline by species with stability ratings of >=6 (see **Appendix F**).*	*Duration of surface water adjacent to rooted vegetation*		
	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
>= 65%	**1H**	.9H	.7M
35-64%	.7M	.6M	.5M
35%	.3L	.2L	.1L

Comments: Deep rooted vegetation such as reed canary grass surrounds open water.

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat Rating (14D.iii.)	**General Wildlife Habitat Rating (14C.iii.)**		
	E/H	M	L
E/H	H	H	M
M	H	M	M
L	M	M	L
N/A	**H**	M	L

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

A	Vegetated component >5 acres						Vegetated component 1-5 acres						Vegetated component < 1 acre					
B	High		Moderate		Low		High		Moderate		Low		High		Moderate		Low	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	**.9H**	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) **Vegetated Upland Buffer (VUB):** Area with >= 30% plant cover, = 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference? **X** *If yes, add 0.1 to the score in ii above.*

iv. Final Score and Rating: 1.00H **Comments:** No fish habitat, high biological activity, well-vegetated buffer, unrestricted outlet to creek.

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below)

i. Discharge Indicators

	The AA is a slope wetland
	Springs or seeps are known or observed
	Vegetation growing during dormant season/drought
	Wetland occurs at the toe of a natural slope
X	AA permanently flooded during drought periods
	Wetland contains an outlet, but no inlet
X	Shallow water table and the site is saturated to the surface
X	Other: Seeps are present at the wetland edge

ii. Recharge Indicators

	Permeable substrate present without underlying impeding layer
	Wetland contains inlet but no outlet
	Stream is a known 'losing' stream; discharge volume decreases
	Other:

iii. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating)

	Duration of saturation at AA Wetlands *FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*			
Criteria	P/P	S/I	T	None
Groundwater Discharge or Recharge	**1H**	.7M	.4M	.1L
Insufficient Data/Information	N/A			

Comments: Perennial spring located near AA.

14K. Uniqueness:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland **or** plant association listed as "S1" by the MTNHP			AA does not contain previously cited rare types **and** structural diversity (#13) is high **or** contains plant association listed as "S2" by the MTNHP			AA does not contain previously cited rare types or associations **and** structural diversity (#13) is low-moderate		
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	**.4M**	.3L
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L

Comments: Site was moderately disturbed before and after construction but has low disturbance at this time.

14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity)

i. Is the AA a known or potential rec./ed. site: (circle) **X** (if 'Yes' continue with the evaluation; if 'No' then mark ___ **NA** and proceed to the overall summary and rating page)

ii. Check categories that apply to the AA: **X** Educational/scientific study; ___ Consumptive rec.; **X** Non-consumptive rec.; ___ Other :

iii. Rating:

Known or Potential Recreation or Education Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	**.2H**	.15H
Private ownership with general public access (no permission required)	.15H	.1M
Private or public ownership without general public access, or requiring permission for public access	.1M	.05L

Comments: Known recreation site

General Site Notes
Most of AA inundated throughout the year.

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 Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	M	0.80	1	1.80	
B. MT Natural Heritage Program Species Habitat	H	0.90	1	2.03	
C. General Wildlife Habitat	E	1.00	1	2.25	*
D. General Fish Habitat	NA				
E. Flood Attenuation	M	0.50	1	1.13	
F. Short and Long Term Surface Water Storage	H	0.80	1	1.80	
G. Sediment/Nutrient/Toxicant Removal	M	0.60	1	1.35	
H. Sediment/Shoreline Stabilization	H	1.00	1	2.25	*
I. Production Export/Food Chain Support	H	1.00	1	2.25	*
J. Groundwater Discharge/Recharge	H	1.00	1	2.25	*
K. Uniqueness	M	0.40	1	0.90	
L. Recreation/Education Potential (bonus points)	H	0.20	1	0.45	
Totals:		8.20	10.00	18.46	
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**
__X__ 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**
__X__ 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**
__X__ 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: I

Summary Comments: This AA is highly productive, as evidenced by abundant wildlife and vegetative cover.

Scientific Name	Common Name	WMVC Indicator Status[a]
Achillea millefolium	Common Yarrow	FACU
Achnatherum nelsonii	Columbia Needlegrass	UPL
Agastache urticifolia	Nettleleaf Giant Hyssop	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
Agropyron spp.	Wheatgrass	N/A
Agrostis capillaris	Colonial Bentgrass	FAC
Agrostis exarata	Spike Bentgrass	FACW
Agrostis gigantea	Redtop	FAC
Agrostis scabra	Rough Bentgrass	FAC
Agrostis stolonifera	Spreading Bentgrass	FACW
Algae, brown	Algae, brown	N/A
Algae, green	Algae, green	N/A
Alisma gramineum	Narrowleaf Water Plaintain	OBL
Alisma triviale	Northern Water Plantain	OBL
Alnus incana	Speckled Alder	FACW
Alopecurus aequalis	Shortawn Foxtail	OBL
Alopecurus arundinaceus	Creeping Meadow Foxtail	FAC
Alopecurus pratensis	Field Meadow Foxtail	FAC
Amelanchier alnifolia	Saskatoon Serviceberry	FACU
Antennaria microphylla	Littleleaf Pussytoes	UPL
Arctium minus	Lesser Burdock	UPL
Arnica chamissonis	Chamisso Arnica	FACW
Aster sp.	Aster	N/A
Beckmannia syzigachne	American Sloughgrass	OBL
Bromus briziformis	Rattlesnake Brome	UPL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	FAC
Bromus tectorum	Cheatgrass	UPL
Calamagrostis canadensis	Bluejoint	FACW
Carex atherodes	Wheat Sedge	OBL
Carex aquatilis	Leafy Tussock Sedge	OBL
Carex athrostachya	Slenderbeak Sedge	FACW
Carex bebbii	Bebb's Sedge	OBL
Carex lasiocarpa	Woollyfruit Sedge	OBL
Carex microptera	Smallwing Sedge	FACU
Carex nebrascensis	Nebraska Sedge	OBL
Carex pachystachya	Chamisso Sedge	FAC
Carex pellita	Woolly Sedge	OBL

Scientific Name	Common Name	WMVC Indicator Status[a]
Carex scoparia	Broom Sedge	FACW
Carex spp.	Sedge	N/A
Carex stipata	Awlfruit Sedge	OBL
Carex utriculata	Northwest Territory Sedge	OBL
Carex vesicaria	Blister Sedge	OBL
Centaurea stoebe	Spotted Knapweed	UPL
Cerastium arvense	Field Chickweed	FACU
Cerastium fontanum	Common Mouse Ear Chickweed	FACU
Ceratophyllum demersum	Coon's Tail	OBL
Chara spp.	Muskgrass	N/A
Cirsium arvense	Canadian Thistle	FAC
Cirsium vulgare	Bull Thistle	FACU
Collomia linearis	Tiny Trumpet	FACU
Crataegus douglasii	**Black Hawthorn**	**FAC**
Cynoglossum officinale	Houndstongue	FACU
Dactylis glomerata	Orchard Grass	FACU
Deschampsia cespitosa	Tufted Hairgrass	FACW
Descurainia pinnata	Western Tansymustard	UPL
Eleocharis flavescens	Yellow Spike-Rush	OBL
Eleocharis palustris	Common Spike-Rush	OBL
Eleocharis quinqueflora	Few-Flower Spike-Rush	OBL
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FAC
Elymus trachycaulus	Slender Wild Rye	FAC
Epilobium brachycarpum	Tall Annual Willowherb	FAC
Epilobium ciliatum	Fringed Willowherb	FACW
Epilobium sp.	Willowherb	N/A
Equisetum arvense	Field Horsetail	FAC
Equisetum hyemale	Tall Scouring-Rush	FACW
Erysimum cheiranthoides	Worm-Seed Wallflower	FACU
Festuca idahoensis	**Idaho Fescue**	**FACU**
Festuca rubra	Red Fescue	FAC
Fragaria virginiana	Virginia Strawberry	FACU
Galium mexicanum	Mexican Bedstraw	FAC
Galium trifidum	Threepetal Bedstraw	FACW
Geum macrophyllum	Largeleaf Avens	FAC
Glyceria elata	Tall Mannagrass	FACW
Glyceria grandis	American Mannagrass	OBL

Scientific Name	Common Name	WMVC Indicator Status[a]
Glyceria spp.	Mannagrass	N/A
Glyceria striata	Fowl Mannagrass	OBL
Gnaphalium palustre	Western Marsh Cudweed	FACW
Hieracium aurantiacum	Orange Hawkweed	UPL
Hippuris vulgaris	Common Mare's-Tail	OBL
Juncus articulatus	Jointleaf Rush	OBL
Juncus bufonius	Toad Rush	FACW
Juncus confusus	Colorado Rush	FAC
Juncus ensifolius	Swordleaf Rush	FACW
Juncus nodosus	Knotted Rush	OBL
Juncus tenuis	Lesser Poverty Rush	FAC
Lactuca serriola	**Prickly Lettuce**	**FACU**
Lemna minor	Common Duckweed	OBL
Lepidium sp.	Pepperwort	N/A
Leucanthemum vulgare	Ox-Eye Daisy	FACU
Lotus corniculatus	**Bird's Foot Trefoil**	**FAC**
Mahonia repens	Creeping Barberry	UPL
Marsilea vestita	Hairy Waterclover	OBL
Matricaria discoidea	Pineappleweed	FACU
Medicago lupulina	Black Medick	FACU
Mentha arvensis	American Wild Mint	FACW
Mimulus guttatus	Seep Monkeyflower	OBL
Myriophyllum sibiricum	Siberian Watermilfoil	OBL
Nasella viridula	**Green Needlegrass**	**UPL**
Pascopyrum smithii	Western Wheatgrass	FACU
Pedicularis groenlandica	Elephanthead Lousewort	OBL
Penstemon confertus	Yellow Penstemon	UPL
Peritoma serrulata	Rocky Mountain Beeplant	FACU
Persicaria amphibia	Water Smartweed	OBL
Persicaria lapathifolia	Dockleaf Smartweed	FACW
Persicaria maculosa	Spotted Lady's Thumb	FACW
Phalaris arundinacea	Reed Canarygrass	FACW
Phleum pratense	Common Timothy	FACU
Picea engelmannii	Engelmann Spruce	FAC
Pinus contorta	Lodgepole Pine	FAC
Pinus ponderosa	Ponderosa Pine	FACU
Plantago major	Common Plantain	FAC
Poa palustris	Fowl Bluegrass	FAC

Scientific Name	Common Name	WMVC Indicator Status[a]
Poa pratensis	Kentucky Bluegrass	FAC
Poa sp.	Bluegrass	N/A
Polygonum douglasii	Douglas' Knotweed	FACU
Polypogon monspeliensis	Annual Rabbitsfoot Grass	FACW
Populus balsamifera	Balsam Poplar	FAC
Potamogeton foliosus	Leafy Pondweed	OBL
Potamogeton natans	Broadleaf Pondweed	OBL
Potentilla gracilis	Graceful Cinquefoil	FAC
Potentilla norvegica	Norwegian Cinquefoil	FAC
Prunella vulgaris	Common Selfheal	FACU
Pseudotsuga menziesii	Douglas Fir	FACU
Ranunculus aquatilis	White Water 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	Bebb's Willow	FACW
Salix candida	Sageleaf Willow	OBL
Salix drummondiana	Drummond's Willow	FACW
Salix lutea	**Yellow Willow**	**OBL**
Schedonorus pratensis	Meadow Fescue	FACU
Scirpus cyperinus	Woolgrass	OBL
Scirpus microcarpus	Panicled Bulrush	OBL
Senecio hydrophiloides	Tall Groundsel	FACW
Sisymbrium altissimum	Tall Tumblemustard	FACU
Solidago canadensis	Canadian Goldenrod	FACU
Sparganium emersum	European Bur-Reed	OBL
Sparganium natans	Arctic Burr-Reed	OBL
Spiranthes romanzoffiana	Hooded Lady's Tresses	FACW
Stellaria longipes	Longstalk Starwort	FACW
Stuckenia pectinata	Sago Pondweed	OBL
Suaeda calceoliformis	Pursh Seepweed	FACW
Symphoricarpos albus	Common Snowberry	FACU
Symphyotrichum spathulatum	Western Mountain Aster	FAC
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Pennycress	UPL
Trifolium arvense	Rabbitfoot Clover	UPL
Trifolium campestre	**Field Clover**	**UPL**

Scientific Name	Common Name	WMVC Indicator Status[a]
Trifolium hybridum	Alsike Clover	FAC
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FAC
Triglochin maritima	Seaside Arrowgrass	OBL
Typha latifolia	Broadleaf Cattail	OBL
Verbascum thapsus	Common Mullein	FACU
Veronica americana	American Speedwell	OBL
Veronica anagallis-aquatica	Water Speedwell	OBL
Veronica peregrina	Neckweed	OBL
Veronica scutellata	Skullcap Speedwell	OBL
Veronica serpyllifolia	Thymeleaf Speedwell	FAC

[a] 2020 NWPL (USACE 2020)

New species identified in 2024 are **bolded**.

NL indicator changed to UPL for species.

APPENDIX C
PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring
Schrieber Meadows
Lincoln County, Montana

Schrieber Meadows: Photo Point Panorama Photographs



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



Photo Point 1; Location: SW Corner of site; Bearing 270 degrees; Year: 2024



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 2024

Schrieber Meadows: Photo Point Panorama Photographs



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 2024



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 2024

Schrieber Meadows: Photo Point Panorama Photographs



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 2024



Photo Point 7; Location: Lower Coyote Creek; Bearing 0 degrees; Year 2012



Photo Point 7; Location: Lower Coyote Creek; Bearing 0 degrees; Year 2024

Schrieber Meadows: Photo Point Panorama Photographs



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



Photo Point 10; Location: Cell 3; Bearing 0 degrees; Year 2024



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



Photo Point 11; Location: Cell 2B; Bearing 190 degrees; Year 2024

Schrieber Meadows: Photo Point Panorama Photographs



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 2024



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 2024

Schrieber Meadows: Photo Point Panorama Photographs



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 2024



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 2024

Schrieber Meadows: Photo Point Panorama Photographs



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 2024



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 2024

Schrieber Meadows: Photo Point Photographs



Photo Point 2 **Location**: Cell 7 (Created in 2007)
Bearing: 150 degrees **Year**: 2010



Photo Point 2 **Location:** Cell 7 (Created 2007)
Bearing: 150 degrees **Year:** 2024



Photo Point 8 **Location:** Cell 3 (Constructed 2007)
Bearing: 190 degrees **Year**: 2010



Photo Point 8 **Location:** Cell 3 (Constructed 2007)
Bearing: 190 degrees **Year:** 2024



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



Photo Point 9 **Location:** Cell 3
Bearing: 280 degrees **Year:** 2024

Schrieber Meadows: Photo Point Photographs



Photo Point 16 **Location:** Cell 5A
Bearing: 290 degrees **Year:** 2010



Photo Point 16 **Location:** Cell 5A
Bearing: 290 degrees **Year:** 2023



Photo Point 18 **Location:** Cell 3 (Constructed 2007)
Bearing: 90 degrees **Year:** 2012



Photo Point 18 **Location:** Cell 3 (Constructed 2007)
Bearing: 90 degrees **Year:** 2024



Photo Point 19 **Location:** West Boundary
Bearing: 10 degrees **Year:** 2012



Photo Point 19 **Location:** West Boundary
Bearing: 10 degrees **Year:** 2024

Schrieber Meadows: Photo Point Photographs

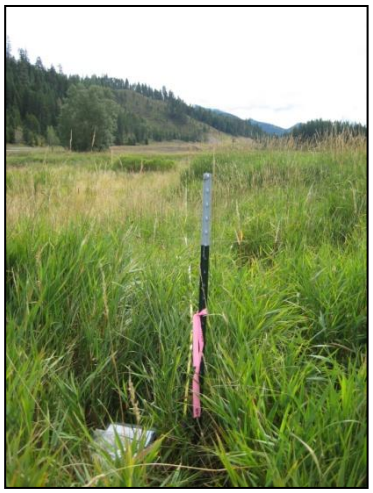


Photo Point 19 **Location:** West Boundary
Bearing: 100 degrees **Year:** 2012



Photo Point 19 **Location:** West Boundary
Bearing: 100 degrees **Year:** 2024

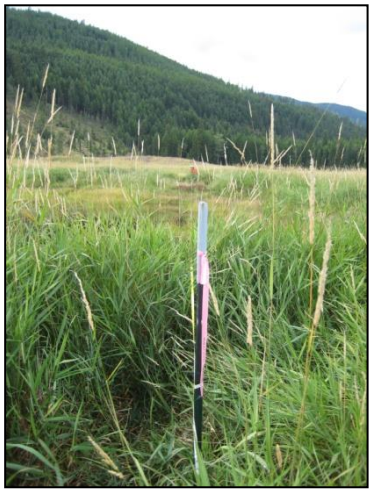
Schrieber Meadows: Vegetation Transect Photographs



Transect 1: Start **Location:** T-1
Bearing: 115 degrees **Year:** 2010



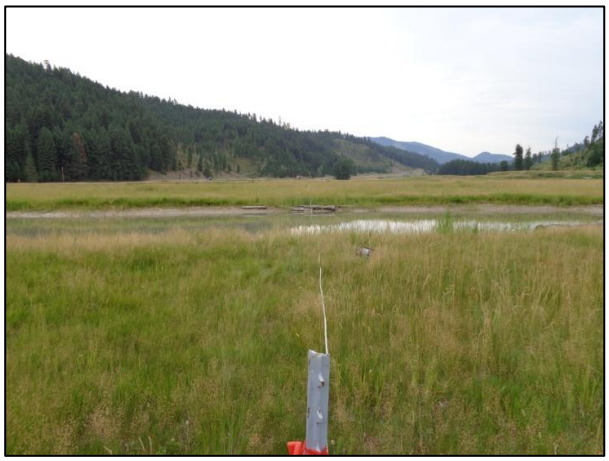
Transect 1: Start **Location:** T-1
Bearing: 115 degrees **Year:** 2024



Transect 1: End **Location:** T-1
Bearing: 295 degrees **Year:** 2010



Transect 1: End **Location:** T-1
Bearing: 295 degrees **Year:** 2024



Transect 2: Start **Location:** T-2
Bearing: 100 degrees **Year:** 2013



Transect 2: Start **Location:** T-2
Bearing: 100 degrees **Year:** 2024

Schrieber Meadows: Vegetation Transect Photographs



Transect 2: End **Location:** T-2
Bearing 280: degrees **Year:** 2013



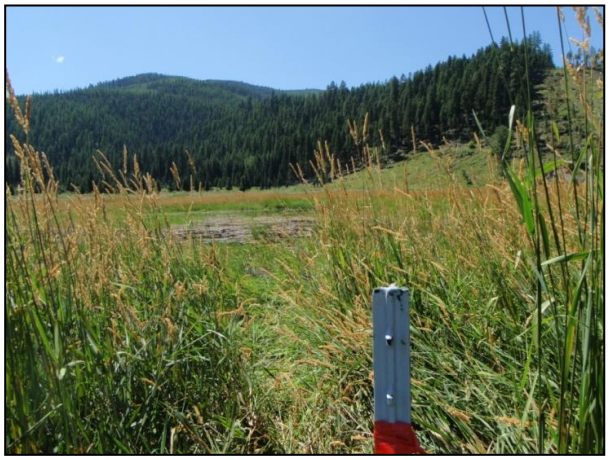
Transect 2: End **Location:** T-2
Bearing 280: degrees **Year:** 2024



Transect 3: Start **Location:** T-3
Bearing: 45 degrees **Year:** 2012



Transect 3: Start **Location:** T-3
Bearing: 45 degrees **Year:** 2024



Transect 3: End **Location:** T-3
Bearing: 225 degrees **Year:** 2012



Transect 3: End **Location:** T-3
Bearing: 225 degrees **Year:** 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP01w **Location:** Veg Com 3
Year: 2024



Data Point: DP01u **Location:** Near Hwy
Year: 2024



Data Point: DP02w **Location:** Veg Com 3
Year: 2024



Data Point: DP02u **Location:** Near Hwy
Year: 2024



Data Point: DP03w **Location:** Veg Com 3
Year: 2024



Data Point: DP03u **Location:** SE of site
Year: 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP04w **Location:** Veg Com 3
Year: 2024



Data Point: DP04u **Location:** SW of site
Year: 2024



Data Point: DP05w **Location:** Veg Com 3
Year: 2024



Data Point: DP05u **Location:** SW of site
Year: 2024



Data Point: DP06w **Location:** Veg Com 3
Year: 2024



Data Point: DP06u **Location:** Veg Com 18
Year: 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP07w **Location:** Veg Com 3
Year: 2024



Data Point: DP07u **Location:** Veg Com 8
Year: 2024



Data Point: DP08w **Location:** Veg Com 3
Year: 2024



Data Point: DP08u **Location:** Veg Com 8
Year: 2024



Data Point: DP09w **Location:** Veg Com 15
Year: 2024



Data Point: DP09u **Location:** Near Hwy
Year: 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP10w **Location:** Veg Com 3
Year: 2024



Data Point: DP10u **Location:** Veg Com 17
Year: 2024

Schrieber Meadows: Cross-Section Photographs



Cross-Section: XS-1 **Location:** Upper Coyote Creek **Bearing:** 280 degrees **Year:** 2012



Cross-Section: XS-1 **Location:** Upper Coyote Creek **Bearing:** 280 degrees **Year:** 2024



Cross-Section: XS-2 **Location:** Upper Coyote Creek **Bearing:** 320 degrees **Year:** 2012



Cross-Section: XS-2 **Location:** Upper Coyote Creek **Bearing:** 320 degrees **Year:** 2024



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:** 2024

Schrieber Meadows: Cross-Section Photographs



Cross-Section: XS-4 **Location:** Middle Coyote Creek **Bearing:** 290 degrees **Year:** 2012



Cross-Section: XS-4 **Location:** Middle Coyote Creek **Bearing:** 290 degrees **Year:** 2024



Cross-Section: XS-5 **Location:** Middle Coyote Creek **Bearing:** 150 degrees **Year:** 2012



Cross-Section: XS-5 **Location:** Middle Coyote Creek **Bearing:** 150 degrees **Year:** 2024



Cross-Section: XS-6 **Location:** Perennial Spring Creek **Bearing:** 90 degrees **Year**: 2012



Cross-Section: XS-6 **Location:** Perennial Spring Creek **Bearing:** 90 degrees **Year:** 2024

Schrieber Meadows: Cross-Section Photographs



Cross-Section: XS-7 **Location:** Middle Coyote Creek **Bearing:** 90 degrees **Year:** 2012



Cross-Section: XS-7 **Location:** Middle Coyote Creek **Bearing:** 220 degrees **Year:** 2024



Cross-Section: XS-8 **Location:** Middle Coyote Creek **Bearing:** 170 degrees **Year:** 2012



Cross-Section: XS-8 **Location:** Middle Coyote Creek **Bearing:** 170 degrees **Year:** 2024



Cross-Section: XS-9 Location: Middle Coyote Crk/ Schrieber Crk **Bearing:** 130 degrees **Year:** 2012



Cross-Section: XS-9 **Location:** Middle Coyote Crk/ Schrieber Crks **Bearing:** 130 degrees **Year:** 2024

Schrieber Meadows: Cross-Section Photographs



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



Cross-Section: XS-10 Location: Middle Coyote Crk/ Schrieber Crks **Bearing:** 270 degrees **Year:** 2024



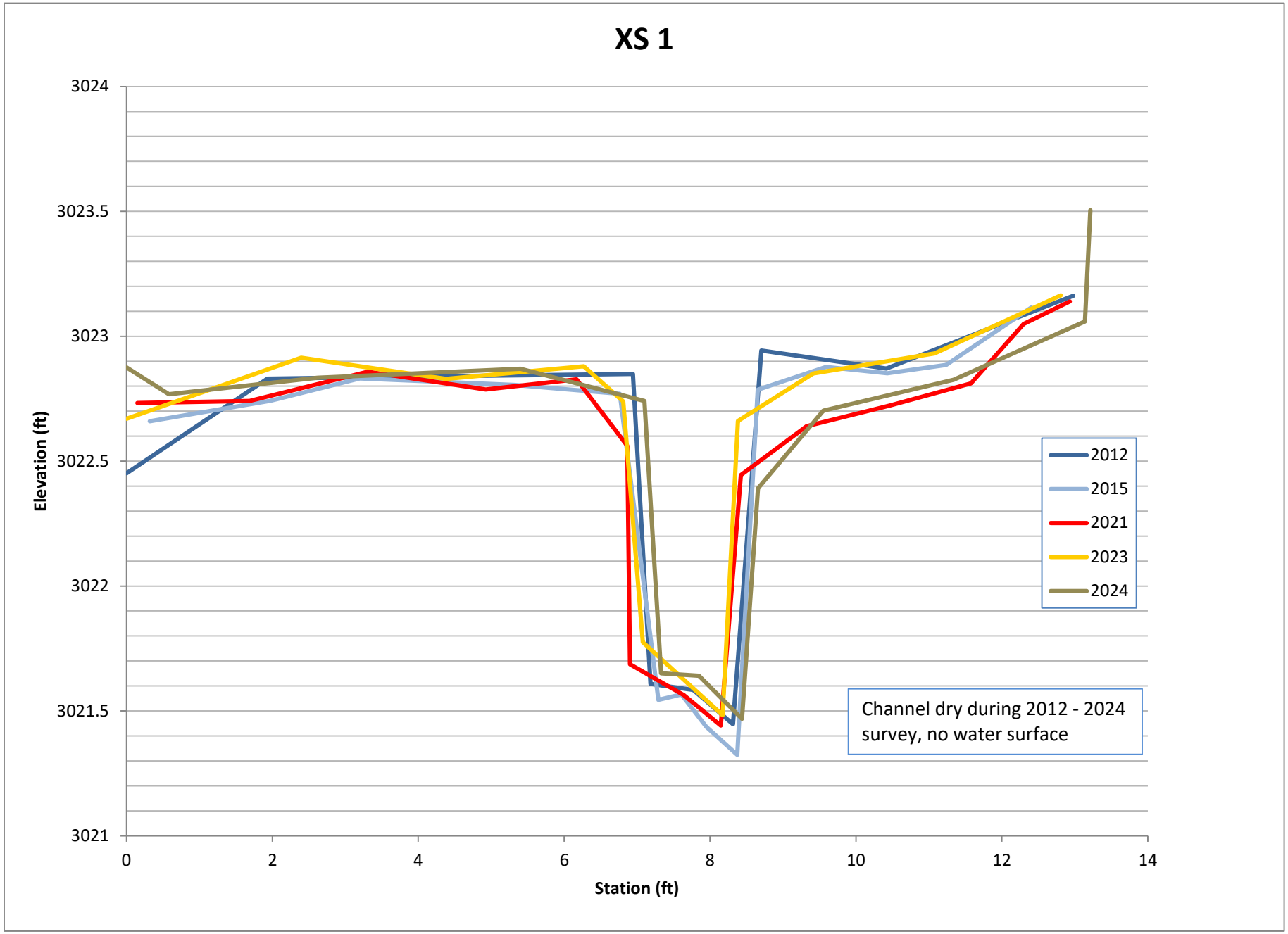
Cross-Section: XS-11 Location: Middle Coyote Crk/ Schrieber Crks **Bearing:** 100 degrees **Year:** 2012

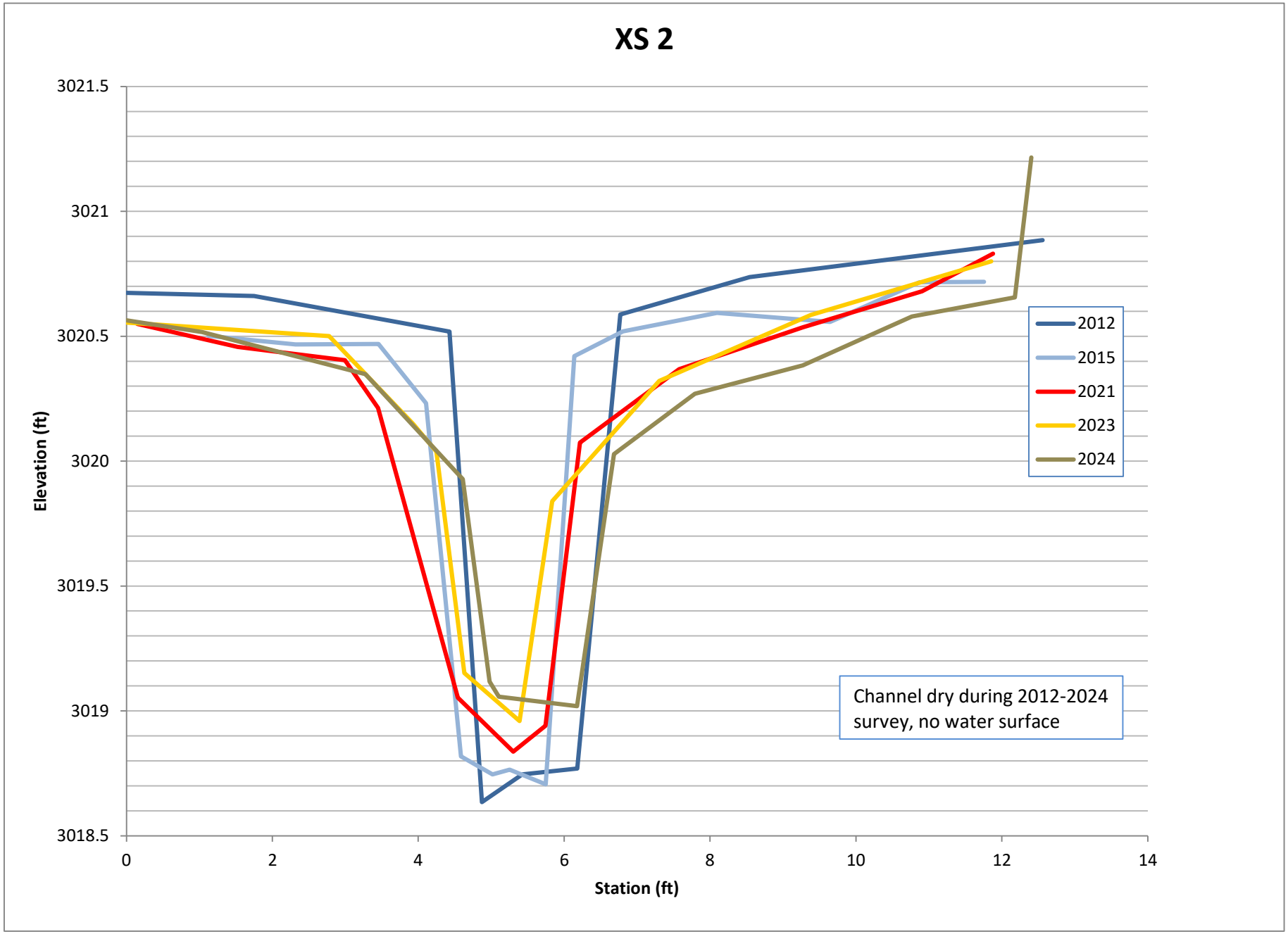


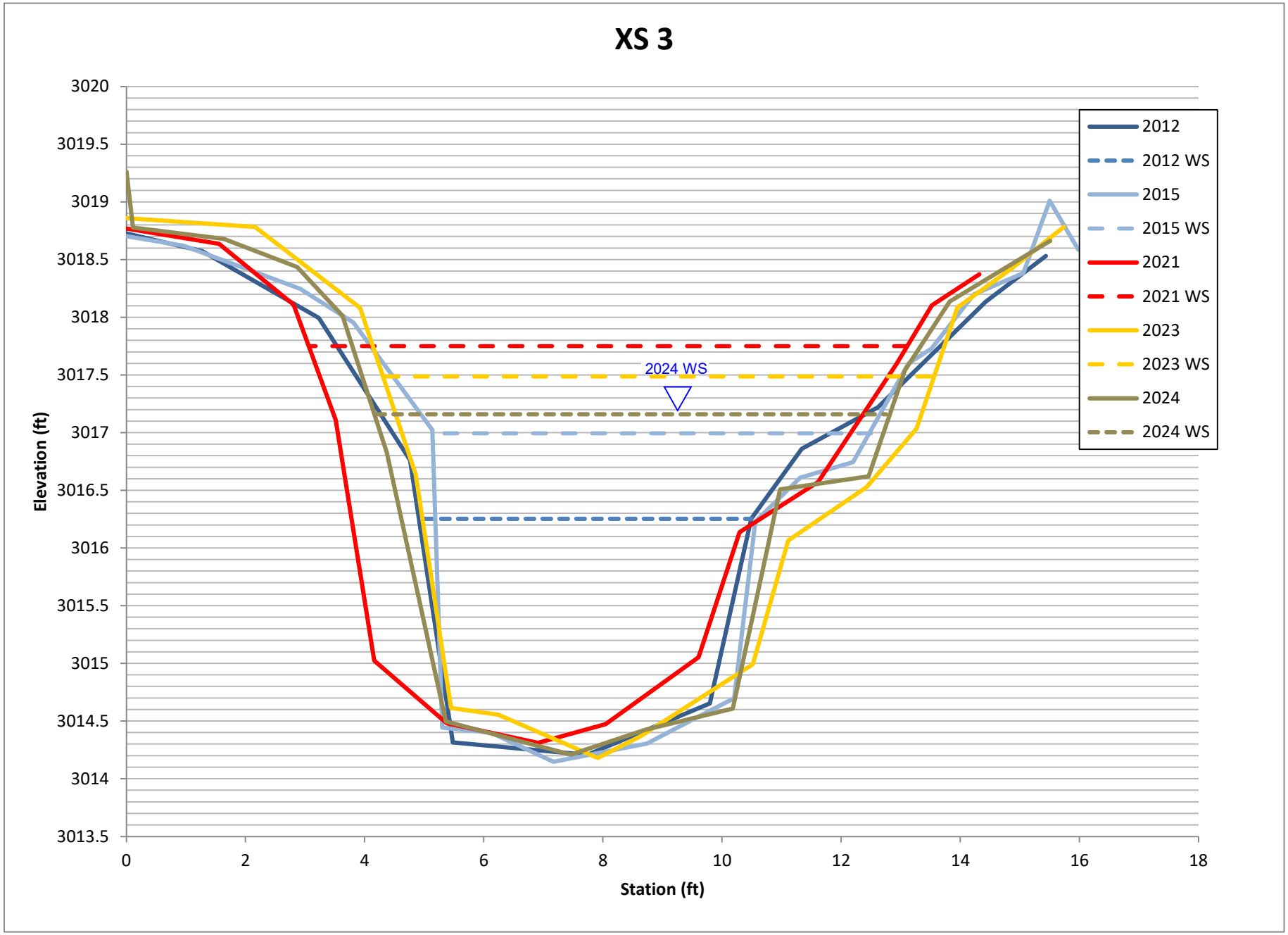
Cross-Section: XS-11 Location: Middle Coyote Crk/ Schrieber Crks **Bearing:** 100 degrees **Year:** 2024

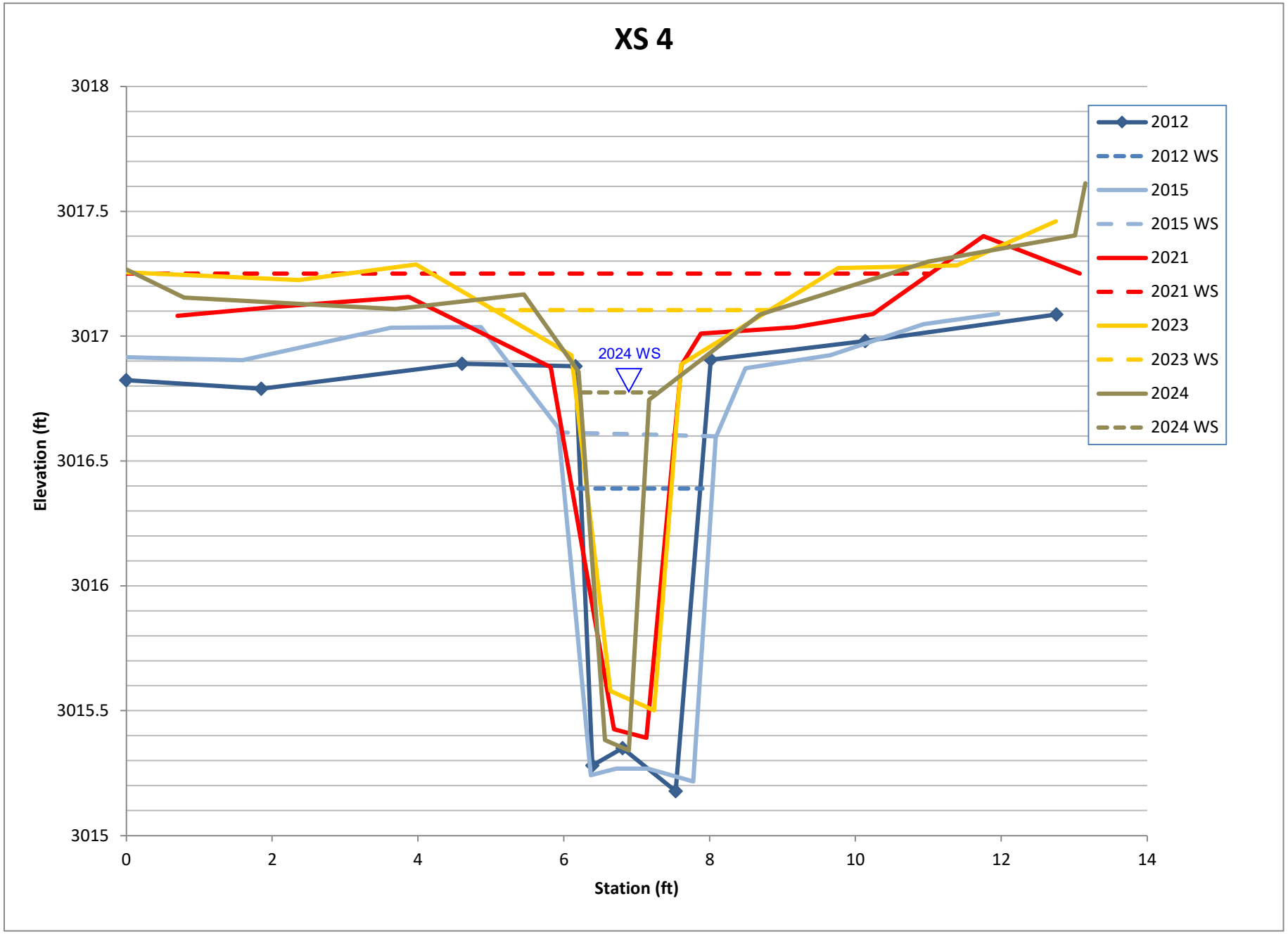
APPENDIX D
STREAM CROSS SECTIONS

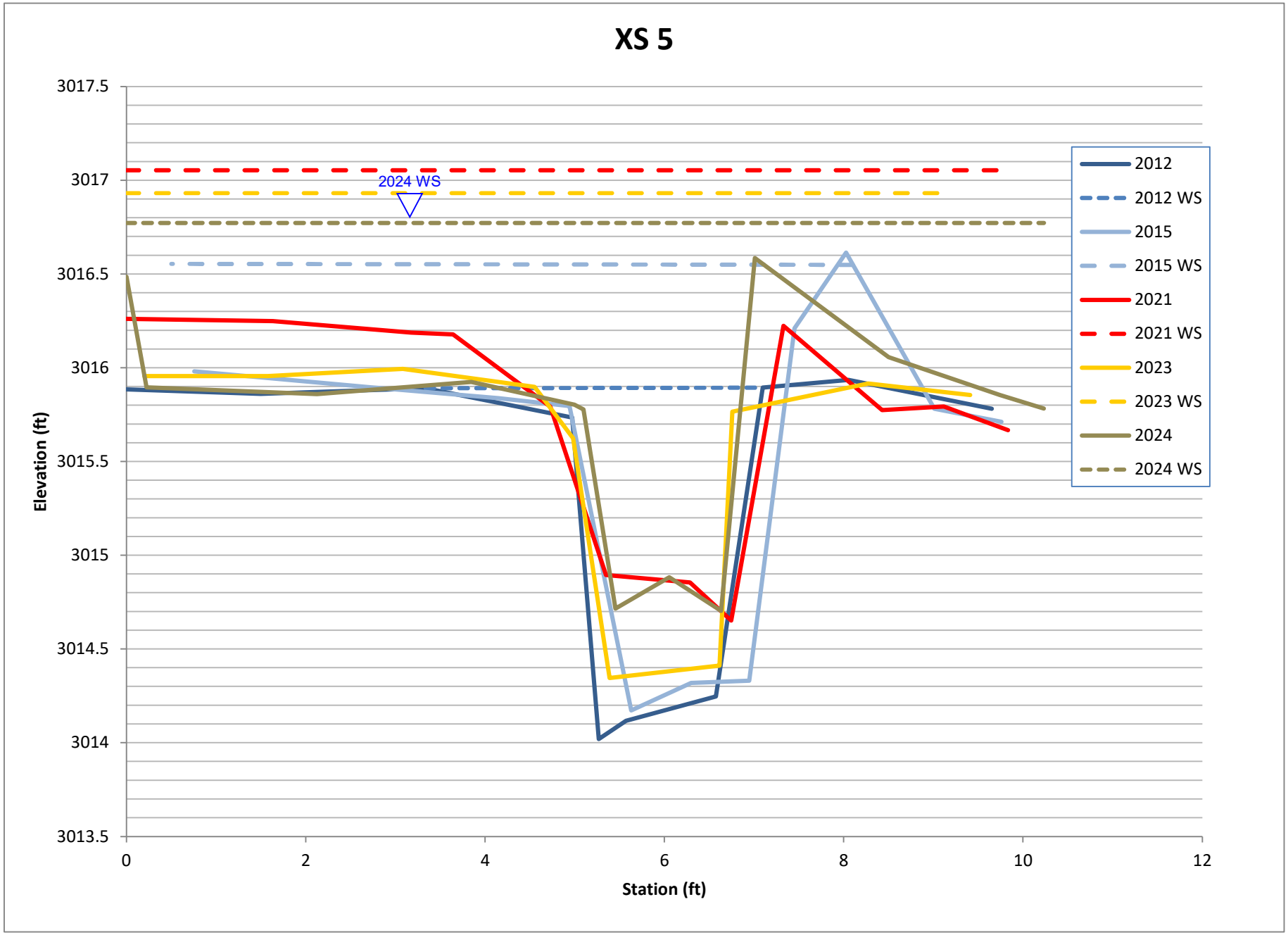
MDT Wetland Mitigation Monitoring
Schrieber Meadows
Lincoln County, Montana

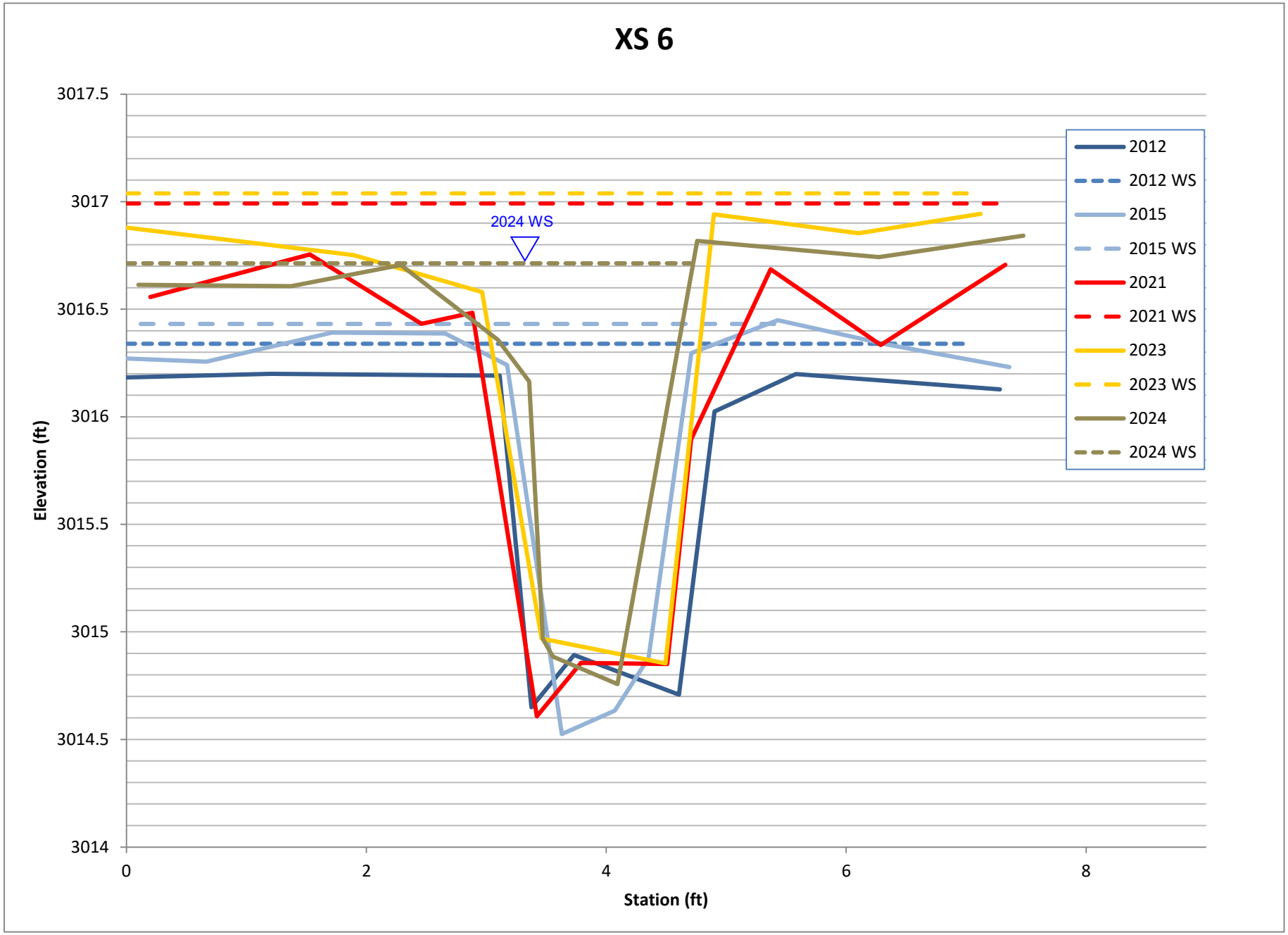

XS 1
3024
3023.5
3023
3022.5
3022
3021.5
3021
Elevation (ft)
0
2
4
6
8
10
12
14
Station (ft)
2012
2015
2021
2023
2024
Channel dry during 2012 - 2024 survey, no water surface

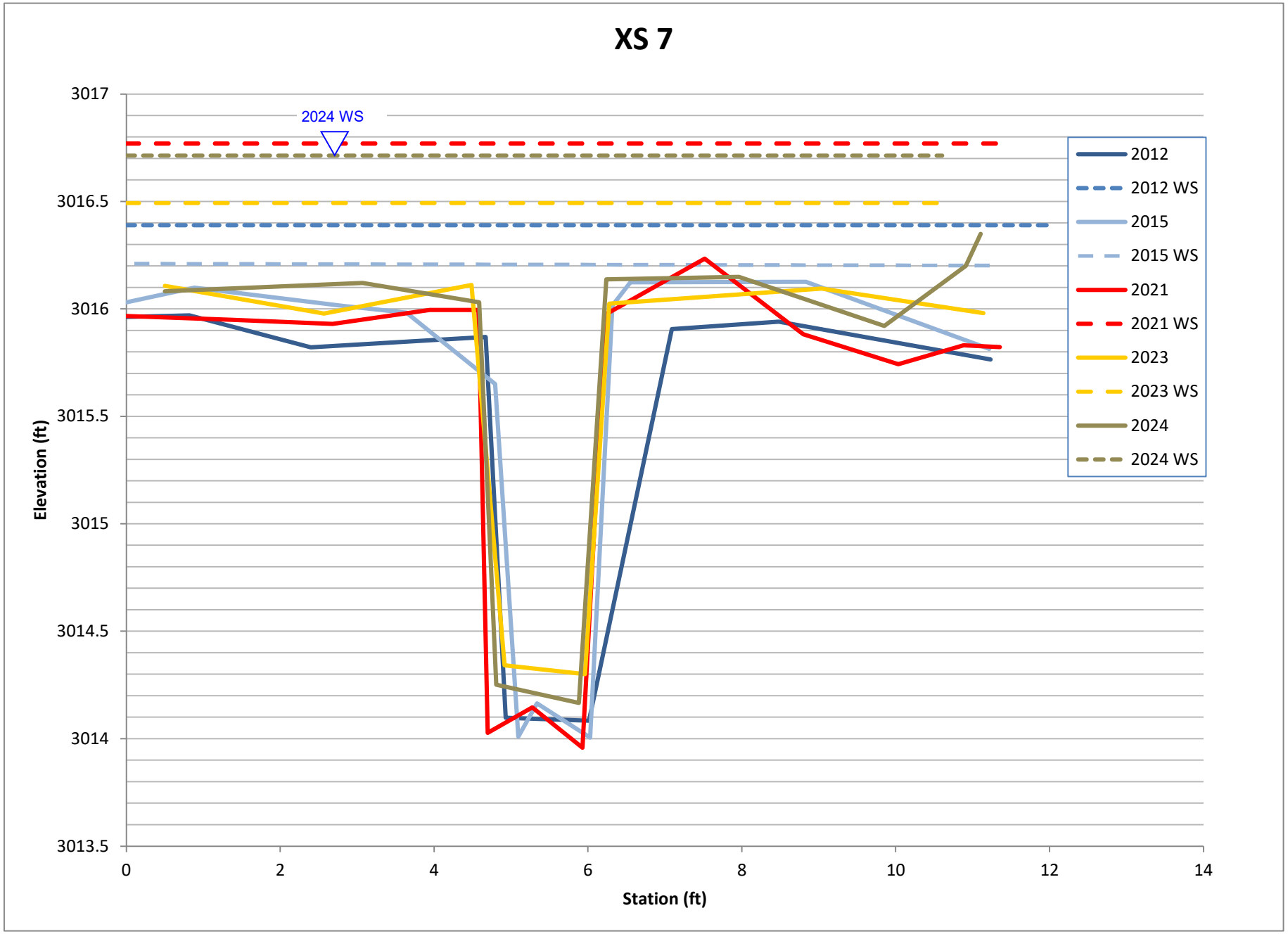

XS 2
3021.5
3021
3020.5
3020
3019.5
3019
3018.5
Elevation (ft)
0
2
4
6
8
10
12
14
Station (ft)
2012
2015
2021
2023
2024
Channel dry during 2012-2024 survey, no water surface

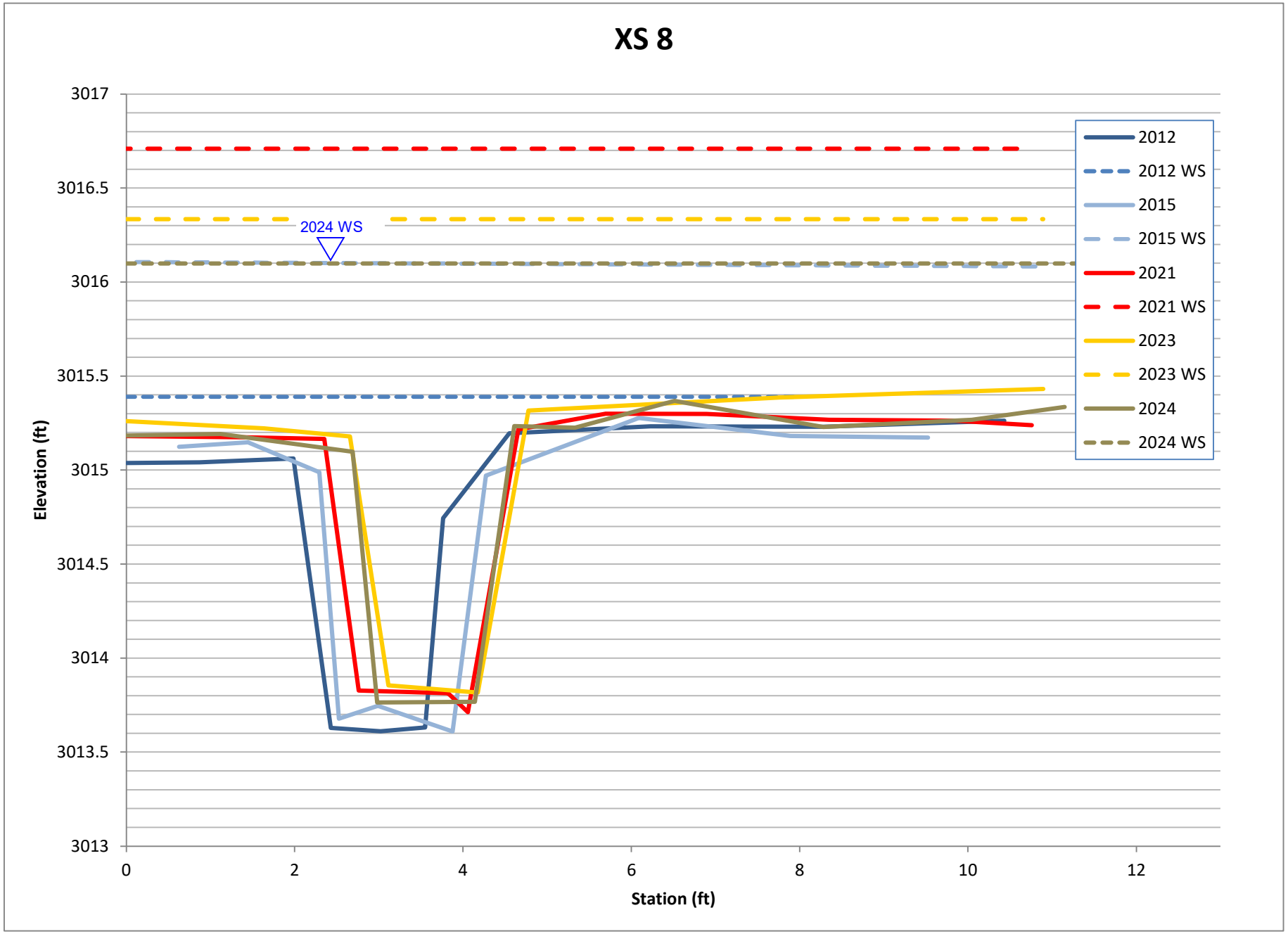

XS 3
Elevation (ft)
Station (ft)
3020
3019.5
3019
3018.5
3018
3017.5
3017
3016.5
3016
3015.5
3015
3014.5
3014
3013.5
0
2
4
6
8
10
12
14
16
18
2024 WS
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS

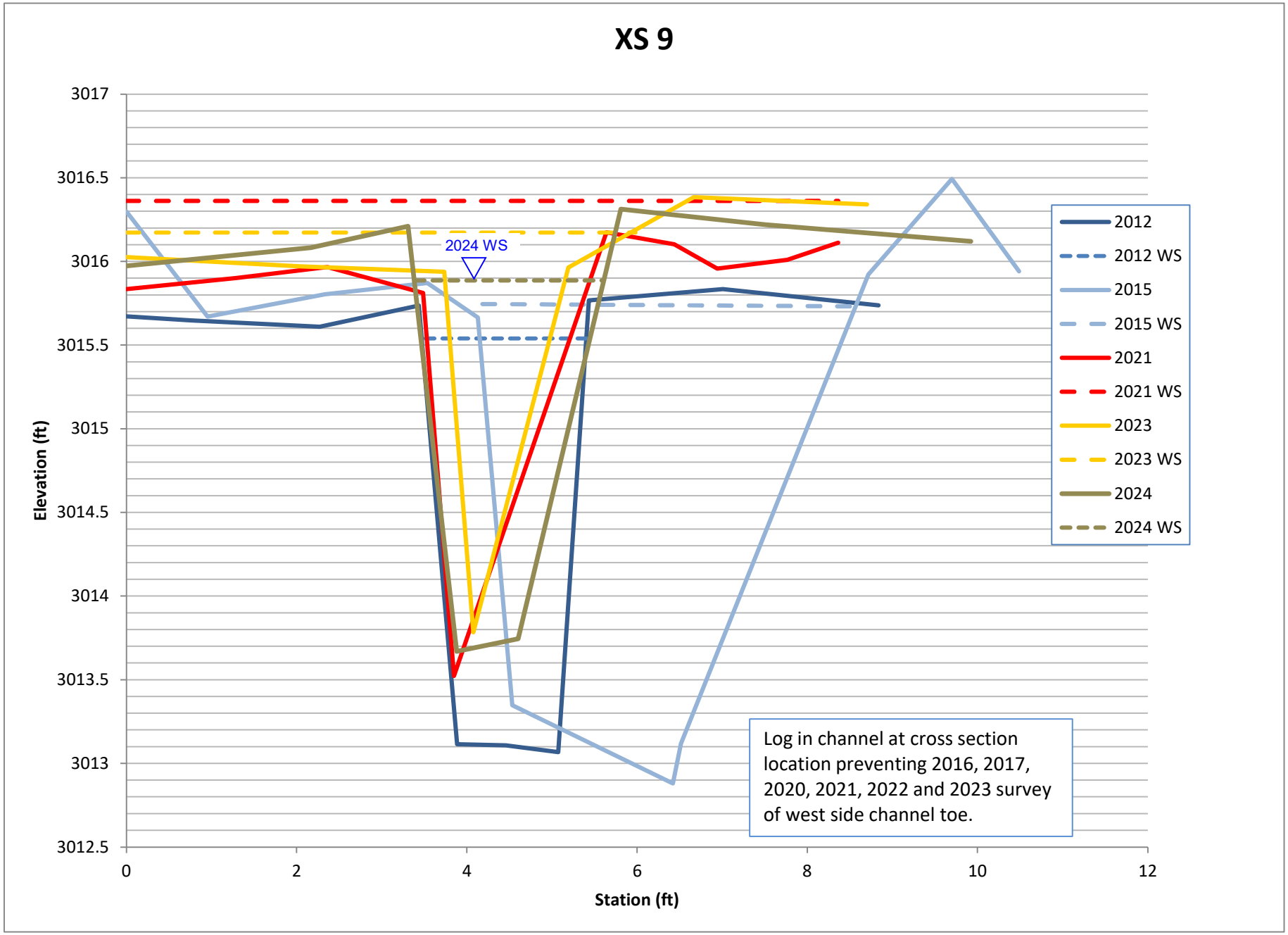

XS 4
3018
3017.5
3017
3016.5
3016
3015.5
3015
Elevation (ft)
0
2
4
6
8
10
12
14
Station (ft)
2024 WS
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS

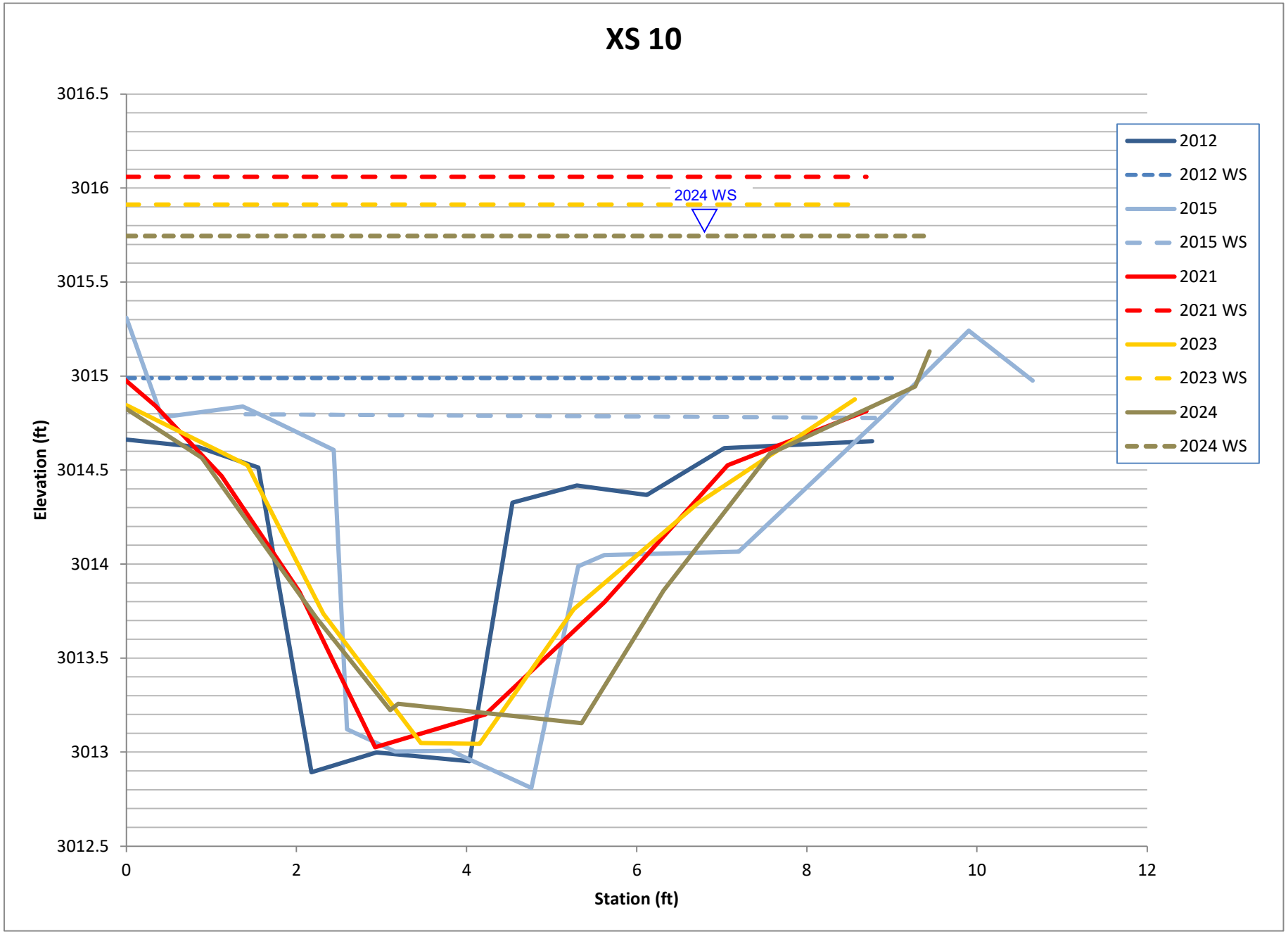

XS 5
3017.5
3017
3016.5
3016
3015.5
3015
3014.5
3014
3013.5
Elevation (ft)
2024 WS
0
2
4
6
8
10
12
Station (ft)
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS

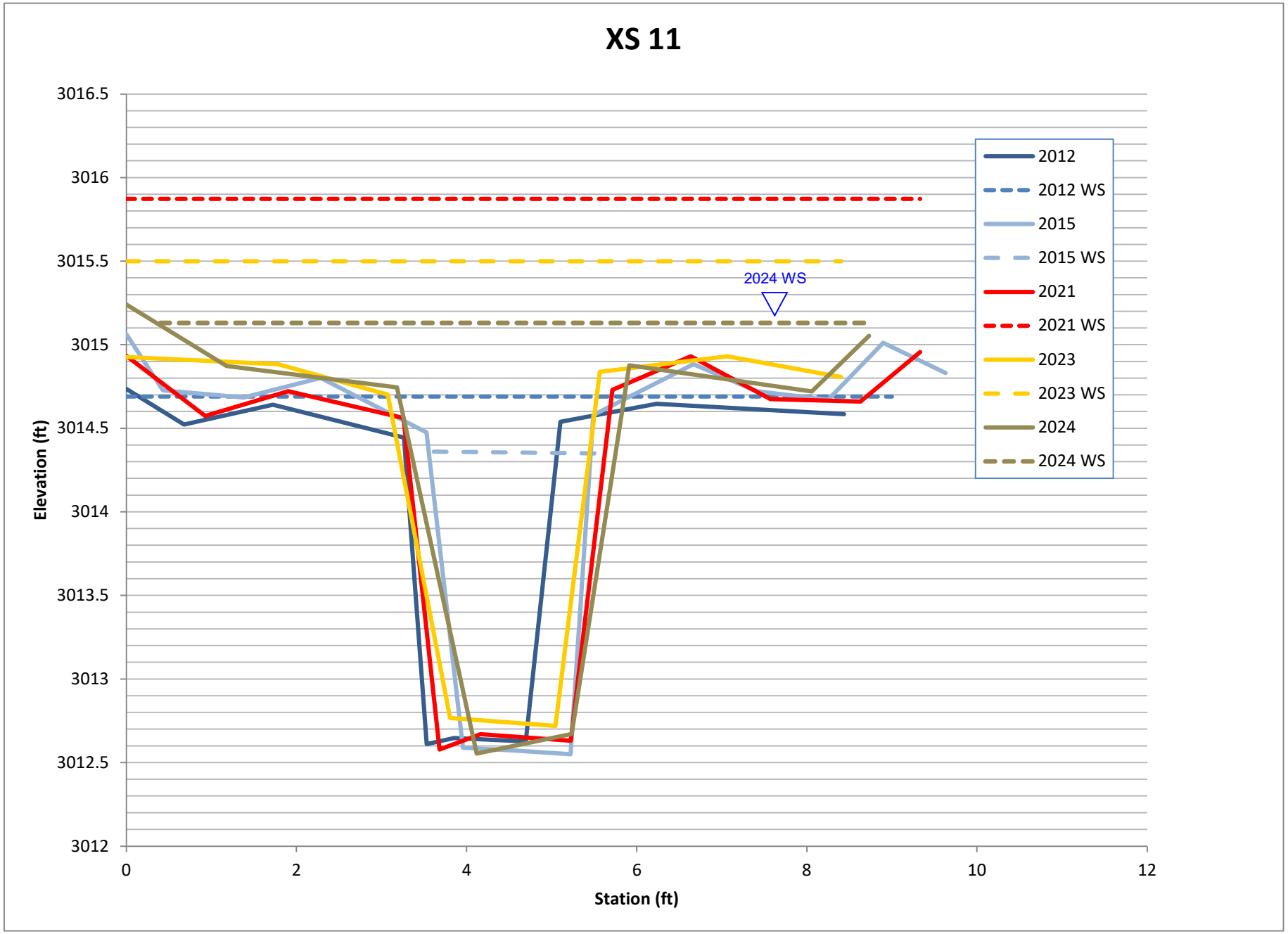

XS 6
3017.5
3017
3016.5
3016
3015.5
3015
3014.5
3014
Elevation (ft)
0
2
4
6
8
Station (ft)
2024 WS
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS


XS 7
2024 WS
3017
3016.5
3016
3015.5
3015
3014.5
3014
3013.5
Elevation (ft)
0
2
4
6
8
10
12
14
Station (ft)
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS


XS 8
3017
3016.5
3016
3015.5
3015
3014.5
3014
3013.5
3013
Elevation (ft)
0
2
4
6
8
10
12
Station (ft)
2024 WS
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS


XS 9
3017
3016.5
3016
3015.5
3015
3014.5
3014
3013.5
3013
3012.5
Elevation (ft)
0
2
4
6
8
10
12
Station (ft)
2024 WS
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS
Log in channel at cross section location preventing 2016, 2017, 2020, 2021, 2022 and 2023 survey of west side channel toe.


XS 10
3016.5
3016
3015.5
3015
3014.5
3014
3013.5
3013
3012.5
Elevation (ft)
0
2
4
6
8
10
12
Station (ft)
2024 WS
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS


XS 11
3016.5
3016
3015.5
3015
3014.5
3014
3013.5
3013
3012.5
3012
Elevation (ft)
0
2
4
6
8
10
12
Station (ft)
2024 WS
2012
2012 WS
2015
2015 WS
2021
2021 WS
2023
2023 WS
2024
2024 WS