

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 Schrieber 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 x 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

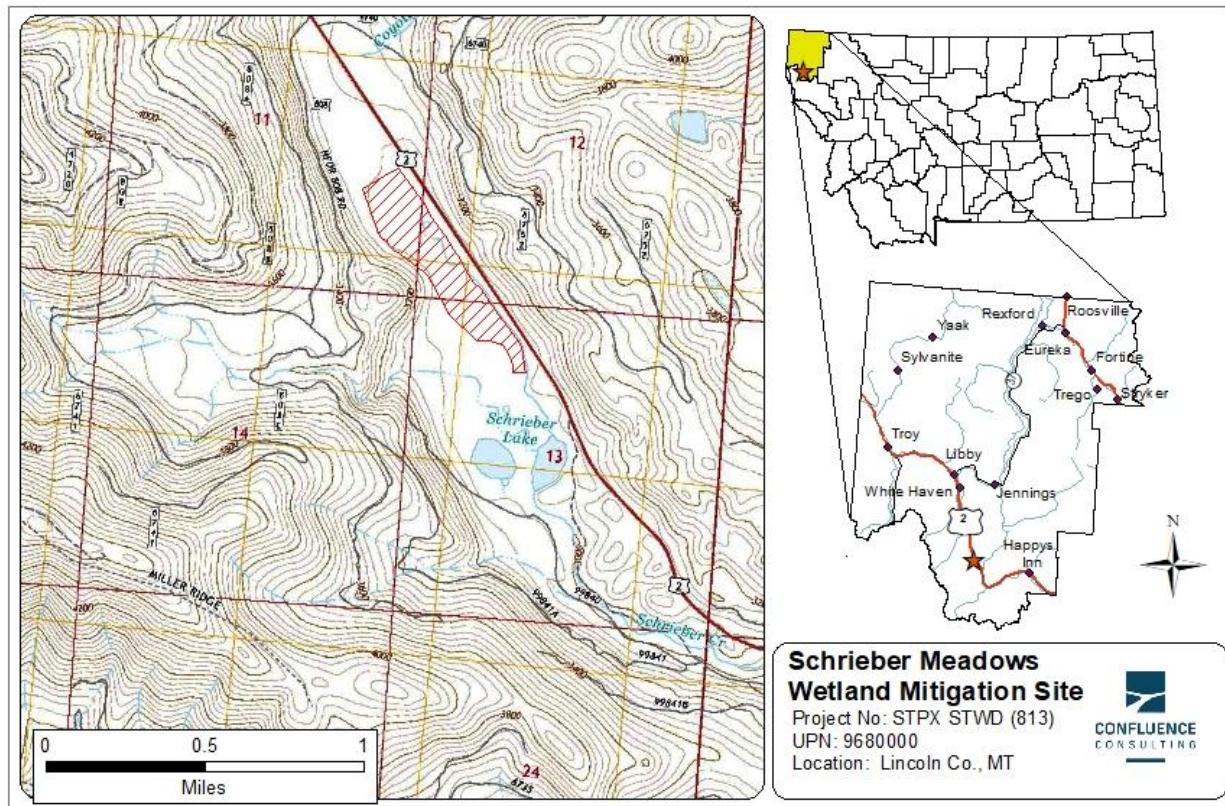


Figure 1. Site Location Map

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>

References

Berglund, J. and R. McEldowney. 2008. *MDT Montana Wetland Assessment Method*, PBS&J Project B43072.00, prepared by Post, Buckley, Schuh, & Jernigan, Helena, MT, for the Montana Department of Transportation, Helena, MT.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers. Washington, DC.

Jenkins, N., A. Yeakley, and E. Stewart. 2008. *First-year responses to managed flooding of lower Columbia River bottomland vegetation dominated by Phalaris arundinacea*. *Wetlands* 28, 1018–1027 (2008). Accessed 10 October 2021 at: <https://doi.org/10.1672/06-145.1>

Lesica, P. 2012. *Manual of Montana Vascular Plants*, Brit Press, Fort Worth, TX.

Montana Natural Heritage Program (MTNHP). 2024. *Montana Species of Concern Report*. Montana Natural Heritage Program. Accessed on 25 September 2024 at <http://mtnhp.org/SpeciesOfConcern/?AorP=p>

Natural Resources Conservation Service (NRCS). 2024. *Climate Data for [Libby Dam (BASE), MT]*. Accessed on 29 October 2024 at <http://agacis.rcc-acis.org/>.

Natural Resources Conservation Service (NRCS). 2024a. *Field Indicators of Hydric Soils in the United States*, Version 9.0. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils. 55 p.

US Army Corps of Engineers (USACE). 2010. *Helena Regulatory Program 2010, Montana Stream Mitigation Procedure*, prepared by the US Army Corps of Engineers, Helena, MT.

U.S. Army Corps of Engineers (USACE). 2010a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, Coasts Region* (Version 2.0), prepared by U.S. Army Corps of Engineers, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS.

U.S. Army Corps of Engineers (USACE). 2020. *National Wetland Plant List (Version 3.2)*, prepared by U.S. Army Corps of Engineers, U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.

U.S. Fish and Wildlife Service (USFWS). 2024. *IPaC Resource List*. Environmental Conservation Online System (ECOS). Project Code: 2024-0148110. Accessed on 25 September 2024 at <https://ecos.fws.gov/ipac/>

Waggy, M.A. 2010. *Phalaris arundinacea*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Accessed on 1 October 2021 at: <https://www.fs.fed.us/database/feis/plants/graminoid/phaaru/all.html>

Wisconsin Reed Canary Grass Management Working Group (WRCGM). 2009. *Reed Canary Grass (Phalaris arundinacea) Management Guide: Recommendations for Landowners and Restoration Professionals*. Wisconsin Department of Natural Resources: PUB-FR-428 2009.

APPENDIX A

PROJECT AREA MAPS

MDT Wetland Mitigation Monitoring
Schrieber Meadows
Lincoln County, Montana

Figure A-2. 2024 Monitoring Activity Locations

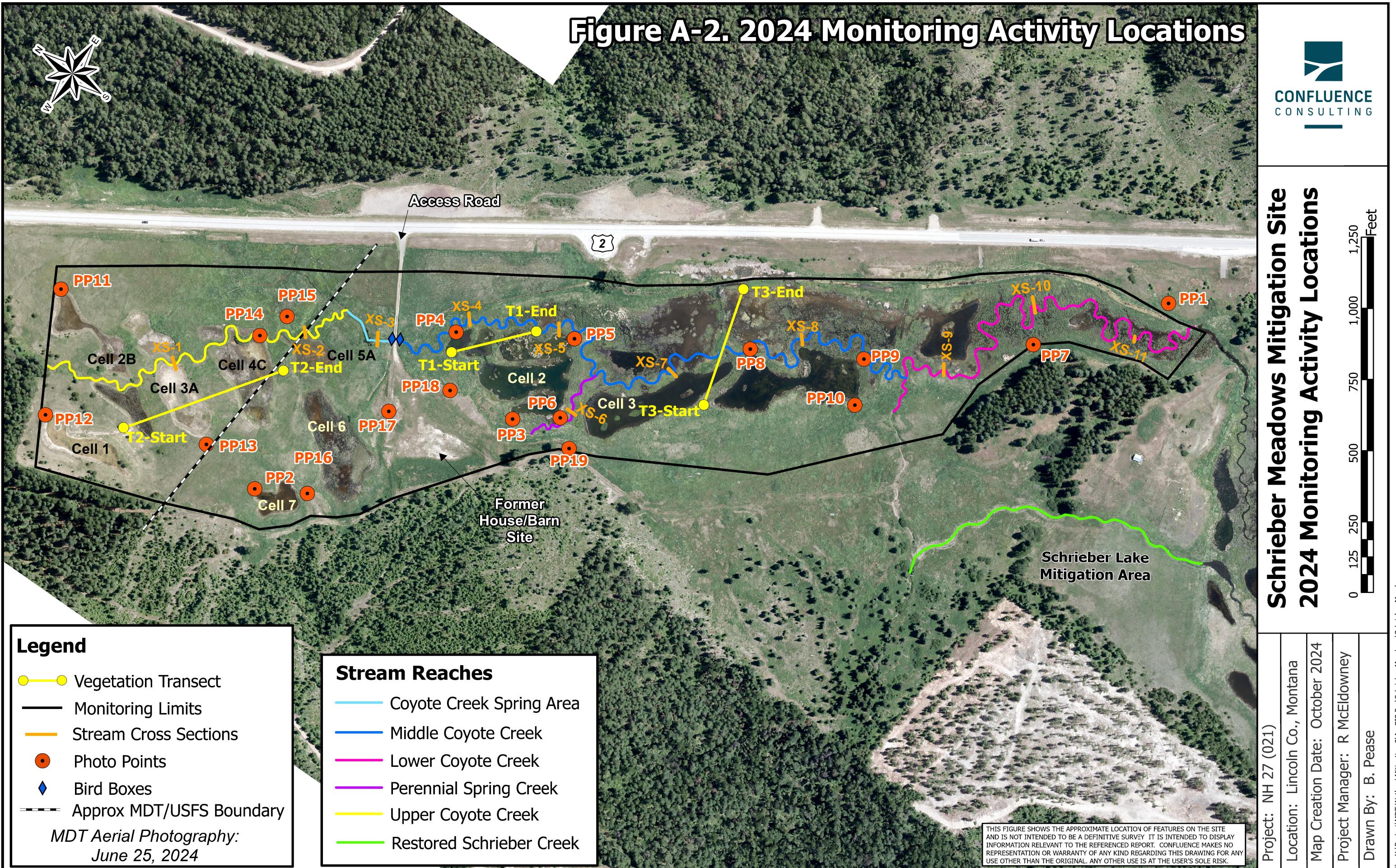


Figure A-3. 2024 Mapped Site Features

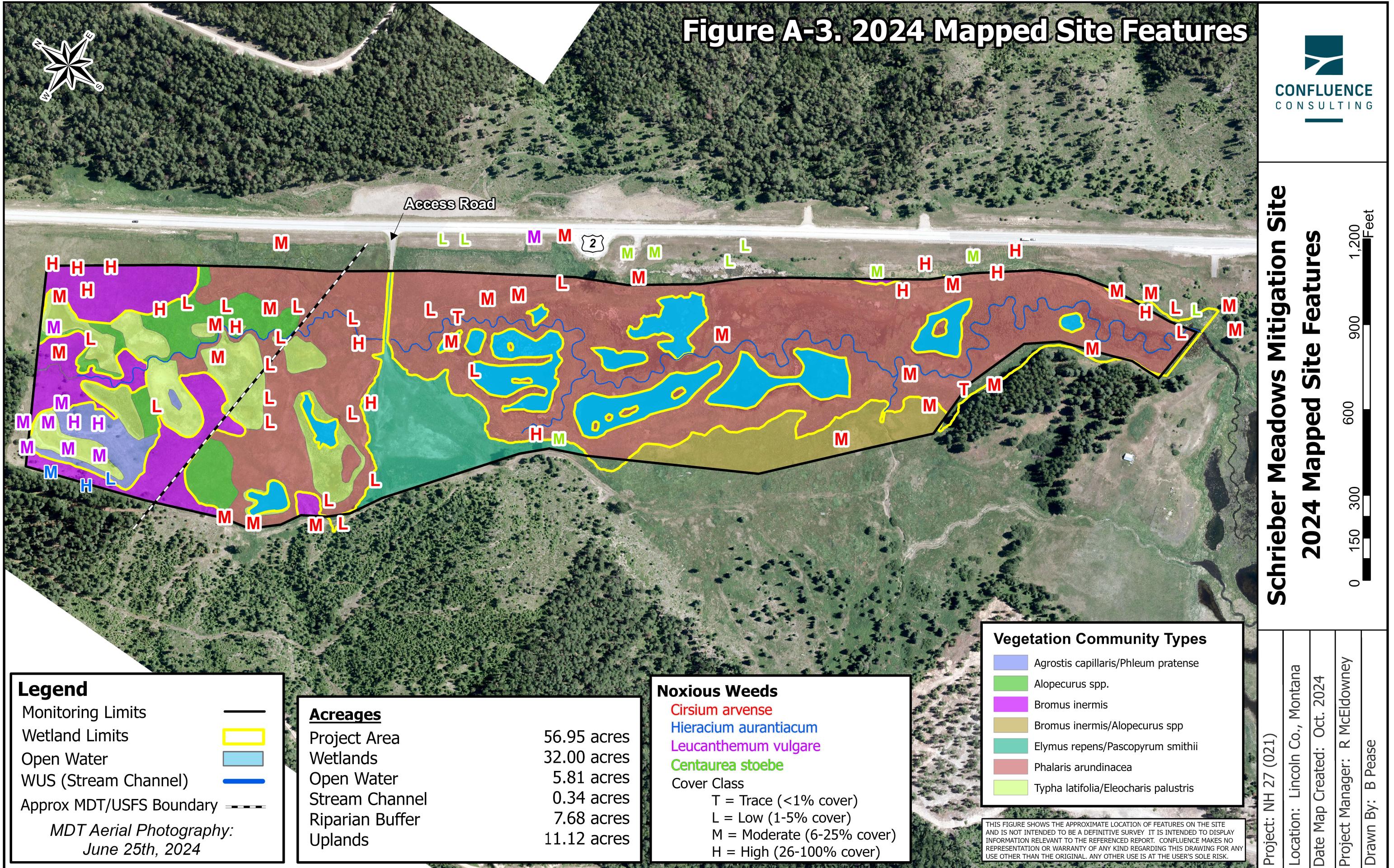
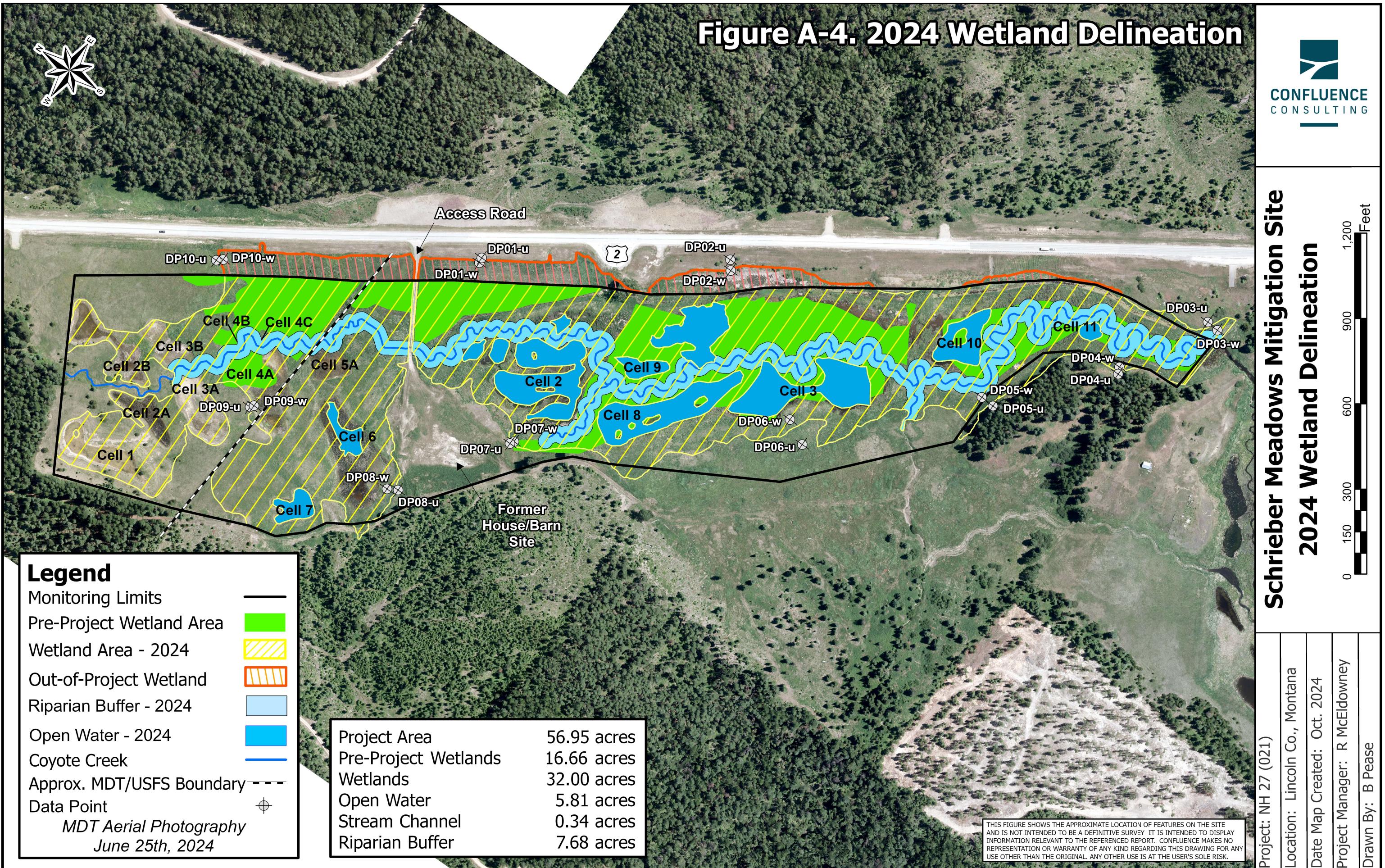


Figure A-4. 2024 Wetland Delineation



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
Symphytum 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 hydrophilooides	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
<i>Alopecurus pratensis</i>	1	<i>Carex vesicaria</i>	1
<i>Cirsium arvense</i>	1	<i>Epilobium ciliatum</i>	1
<i>Persicaria amphibia</i>	0	<i>Phalaris arundinacea</i>	5
<i>Scirpus microcarpus</i>	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
<i>Epilobium ciliatum</i>	2	<i>Lemna minor</i>	0
<i>Mimulus guttatus</i>	0	Open Water	2
<i>Persicaria amphibia</i>	2	Phalaris arundinacea	5
<i>Sparganium natans</i>	1	<i>Typha latifolia</i>	1
Ending Station	150	Community Type:	Aquatic macrophytes / Open Water
Species	Cover class	Species	Cover class
Aquatic macrophytes	3	<i>Lemna minor</i>	0
Open Water	5	<i>Persicaria amphibia</i>	0
Ending Station	440	Community Type:	Phalaris arundinacea /
Species	Cover class	Species	Cover class
Algae, brown	1	<i>Carex utriculata</i>	1
<i>Carex vesicaria</i>	3	<i>Eleocharis palustris</i>	1
<i>Epilobium ciliatum</i>	2	<i>Lemna minor</i>	1
Open Water	4	<i>Persicaria amphibia</i>	2
Phalaris arundinacea	4	<i>Sparganium natans</i>	2
<i>Typha latifolia</i>	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:

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 Eutrocrepts, lacustrine terraces-Andic Dystricrepts, 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 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 _____

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

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

Remarks:

Upland data point near road.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft r</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)			
1. <u>Pascopyrum smithii</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Festuca idahoensis</u>	<u>15</u>	<input type="checkbox"/>	<u>FACU</u>
3. <u>Lotus corniculatus</u>	<u>10</u>	<input type="checkbox"/>	<u>FAC</u>
4. <u>Lactuca serriola</u>	<u>1</u>	<input type="checkbox"/>	<u>FACU</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>76</u>	<u>= Total Cover</u>
<u>Woody Vine Stratum</u> (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>% Bare Ground in Herb Stratum</u> <u>24</u>			
Dominance Test worksheet:			
Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)			
Total Number of Dominant Species Across All Strata: <u>1</u> (B)			
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00</u> (A/B)			
Prevalence Index worksheet:			
<u>Total % Cover of:</u>		<u>Multiply by:</u>	
OBL species	<u>0</u>	<u>x 1 =</u>	<u>0</u>
FACW species	<u>0</u>	<u>x 2 =</u>	<u>0</u>
FAC species	<u>10</u>	<u>x 3 =</u>	<u>30</u>
FACU species	<u>66</u>	<u>x 4 =</u>	<u>264</u>
UPL species	<u>0</u>	<u>x 5 =</u>	<u>0</u>
Column Totals:	<u>76</u>	(A)	<u>294</u> (B)
Prevalence Index = B/A = <u>3.86</u>			
Hydrophytic Vegetation Indicators:			
____ 1 - Rapid Test for Hydrophytic Vegetation			
____ 2 - Dominance Test is >50%			
____ 3 - Prevalence Index is $\leq 3.0^1$			
____ 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 <u> </u> No <u> </u> <input checked="" type="checkbox"/>	

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

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

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

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

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

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

Remarks:

Data point taken outside NE project boundary towards highway.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft r</u>)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1.					Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)		
2.					Total Number of Dominant Species Across All Strata: <u>1</u> (B)		
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)		
4.							
				= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)					Prevalence Index worksheet:		
1.					Total % Cover of:	Multiply by:	
2.					OBL species <u>0</u>	$\times 1 = 0$	
3.					FACW species <u>100</u>	$\times 2 = 200$	
4.					FAC species <u>0</u>	$\times 3 = 0$	
5.					FACU species <u>0</u>	$\times 4 = 0$	
				UPL species <u>0</u>	$\times 5 = 0$		
				Column Totals: <u>100</u> (A)	<u>200</u> (B)		
Herb Stratum (Plot size: <u>5 ft r</u>)				Prevalence Index = B/A = <u>2.00</u>			
1. <u>Phalaris arundinacea</u>	<u>100</u>	<input checked="" type="checkbox"/>	FACW	Hydrophytic Vegetation Indicators:			
2.				<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation			
3.				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%			
4.				<input checked="" type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$			
5.				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
6.				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹			
7.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
8.							
9.							
10.							
11.							
				<u>100</u> = Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?			
1.				Yes <input checked="" type="checkbox"/>			
2.				No <input type="checkbox"/>			
% Bare Ground in Herb Stratum <u>0</u>							

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>) 1. <u>Populus balsamifera</u> <u>2</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ <u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft r</u>) 1. <u>Populus balsamifera</u> <u>4</u> <u>FAC</u> 2. _____ 3. _____ 4. _____ 5. _____ <u>Herb Stratum</u> (Plot size: <u>5 ft r</u>) 1. <u>Pascopyrum smithii</u> <u>60</u> <u>✓</u> <u>FACU</u> 2. <u>Unidentified forb</u> <u>5</u> _____ 3. <u>Bromus carinatus</u> <u>2</u> <u>UPL</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ <u>Woody Vine Stratum</u> (Plot size: <u>_____</u>) 1. _____ 2. _____ % Bare Ground in Herb Stratum <u>33</u> _____ = Total Cover	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>6</u> x 3 = <u>18</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>2</u> x 5 = <u>10</u> Column Totals: <u>68</u> (A) <u>268</u> (B) Prevalence Index = B/A = <u>3.94</u>
Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is >50% _____ 3 - Prevalence Index is $\leq 3.0^1$ _____ 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Depth (inches): _____	

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

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

Remarks:

Data point taken outside project boundary towards highway.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft r</u>)			
1. <u>Alnus incana</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)			
1. <u>Poa pratensis</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
2. <u>Carex aquatilis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
3. <u>Phalaris arundinacea</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
4. <u>Carex nebrascensis</u>	<u>15</u>	_____	<u>OBL</u>
5. <u>Agrostis capillaris</u>	<u>15</u>	_____	<u>FAC</u>
6. <u>Geum macrophyllum</u>	<u>5</u>	_____	<u>FAC</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Woody Vine Stratum</u> (Plot size: _____)		<u>100</u> = Total Cover	
1. _____	_____	_____	_____
2. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>% Bare Ground in Herb Stratum</u> <u>0</u>			
Dominance Test worksheet:			
Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)			
Total Number of Dominant Species Across All Strata: <u>4</u> (B)			
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)			
Prevalence Index worksheet:			
Total % Cover of:		Multiply by:	
OBL species	<u>35</u>	x 1 =	<u>35</u>
FACW species	<u>30</u>	x 2 =	<u>60</u>
FAC species	<u>45</u>	x 3 =	<u>135</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>110</u>	(A)	<u>230</u> (B)
Prevalence Index = B/A = <u>2.09</u>			
Hydrophytic Vegetation Indicators:			
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation			
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%			
<input checked="" type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$			
<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹			
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____			

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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? Yes No _____ Depth (inches): 7
(includes capillary fringe)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 climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

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.

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

Hydrophytic Vegetation Present? Yes No ↵

Hydrophytic Vegetation Present? Yes No
 Hydric Soil Present? Yes No
 Wetland Hydrology Present? Yes No Is the Sampled Area
within a Wetland? 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	Dominance Test worksheet:		
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)		
2.					Total Number of Dominant Species Across All Strata: 2 (B)		
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)		
4.							
		= Total Cover					
Sapling/Shrub Stratum (Plot size: 15 ft r)					Prevalence Index worksheet:		
1.	<u>Symporicarpos albus</u>	5	✓	FACU	Total % Cover of:	Multiply by:	
2.					OBL species 0	x 1 = 0	
3.					FACW species 0	x 2 = 0	
4.					FAC species 2	x 3 = 6	
5.					FACU species 55	x 4 = 220	
		5	= Total Cover			UPL species 0 x 5 = 0	
Herb Stratum (Plot size: 5 ft r)		50	✓	FACU	Column Totals: 57 (A)	226 (B)	
1.	<u>Pascopyrum smithii</u>	50	✓	FACU	Prevalence Index = B/A = 3.96		
2.	<u>Phleum pratense</u>	2		FAC			
3.					Hydrophytic Vegetation Indicators:		
4.					<input type="checkbox"/>	1 - Rapid Test for Hydrophytic Vegetation	
5.					<input type="checkbox"/>	2 - Dominance Test is >50%	
6.					<input type="checkbox"/>	3 - Prevalence Index is $\leq 3.0^1$	
7.					<input type="checkbox"/>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
8.					<input type="checkbox"/>	5 - Wetland Non-Vascular Plants ¹	
9.					<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)	
10.					¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
11.							
		52	= Total Cover				
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present?		
1.					Yes	_____	
2.					No	✓	
		= Total Cover					
% Bare Ground in Herb Stratum		48					

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

Remarks:

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

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)		<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)		
1.					Total Number of Dominant Species Across All Strata: <u>1</u> (B)		
2.					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)		
3.							
4.							
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft r</u>)					Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____		
1.					OBL species <u>0</u> x 1 = <u>0</u>		
2.					FACW species <u>90</u> x 2 = <u>180</u>		
3.					FAC species <u>0</u> x 3 = <u>0</u>		
4.					FACU species <u>0</u> x 4 = <u>0</u>		
5.					UPL species <u>0</u> x 5 = <u>0</u>		
					Column Totals: <u>90</u> (A) <u>180</u> (B)		
					Prevalence Index = B/A = <u>2.00</u>		
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)					Hydrophytic Vegetation Indicators:		
1. <u>Phalaris arundinacea</u>	<u>90</u>	<input checked="" type="checkbox"/>	<u>FACW</u>		✓ 1 - Rapid Test for Hydrophytic Vegetation		
2.					✓ 2 - Dominance Test is >50%		
3.					✓ 3 - Prevalence Index is $\leq 3.0^1$		
4.					4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5.					5 - Wetland Non-Vascular Plants ¹		
6.					Problems Hydrophytic Vegetation ¹ (Explain)		
7.					¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
8.							
9.							
10.							
11.							
<u>Woody Vine Stratum</u> (Plot size: _____)		<u>90</u>		<u>= Total Cover</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____		
1.							
2.							
<u>% Bare Ground in Herb Stratum</u> <u>10</u>				<u>= Total Cover</u>			

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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? Yes No _____ Depth (inches): 0
(includes capillary fringe)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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---------------------------------	---	----------------------	---	----------------------------	---	---------------------------------------	---

Remarks:

Upland data point at SE end of site.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft r</u>)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Pseudotsuga menziesii</u>		10	<input checked="" type="checkbox"/>	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____					Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3. _____					Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.00</u> (A/B)
4. _____					Prevalence Index worksheet:	
		10	= Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)		10			OBL species	<u>0</u> x 1 = <u>0</u>
1. <u>Pseudotsuga menziesii</u>		5	<input checked="" type="checkbox"/>	<u>FACU</u>	FACW species	<u>5</u> x 2 = <u>10</u>
2. <u>Symporicarpos albus</u>		5	<input checked="" type="checkbox"/>	<u>FACU</u>	FAC species	<u>7</u> x 3 = <u>21</u>
3. _____					FACU species	<u>41</u> x 4 = <u>164</u>
4. _____					UPL species	<u>51</u> x 5 = <u>255</u>
5. _____					Column Totals:	<u>104</u> (A) <u>450</u> (B)
		10	= Total Cover		Prevalence Index = B/A = <u>4.32</u>	
Herb Stratum (Plot size: <u>5 ft r</u>)		50	<input checked="" type="checkbox"/>	<u>UPL</u>	Hydrophytic Vegetation Indicators:	
1. <u>Nassella viridula</u>		20	<input checked="" type="checkbox"/>	<u>FACU</u>	1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Pascopyrum smithii</u>		5		<u>FAC</u>	2 - Dominance Test is >50%	
3. <u>Alopecurus pratensis</u>		5		<u>FACW</u>	3 - Prevalence Index is $\leq 3.0^1$	
4. <u>Phalaris arundinacea</u>		1		<u>FAC</u>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Agrostis capillaris</u>		1		<u>FACU</u>	5 - Wetland Non-Vascular Plants ¹	
6. <u>Poa palustris</u>		1		<u>FAC</u>	Problemsatic Hydrophytic Vegetation ¹ (Explain)	
7. <u>Verbascum thapsus</u>		1		<u>FACU</u>		
8. <u>Penstemon confertus</u>		1		<u>UPL</u>		
9. _____					¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. _____						
11. _____						
		84	= Total Cover		Hydrophytic Vegetation Present?	
Woody Vine Stratum (Plot size: <u>_____</u>)					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
1. _____						
2. _____						
% Bare Ground in Herb Stratum <u>16</u>			= Total Cover			

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators 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)**

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

Secondary Indicators (2 or more required)

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

Field Observations:Surface Water Present? Yes No Depth (inches): _____Water Table Present? Yes No Depth (inches): _____Saturation Present? 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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	

Remarks:

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: <u>30 ft r</u>)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1.					Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)		
2.					Total Number of Dominant Species Across All Strata: <u>1</u> (B)		
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)		
4.							
				= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)					Prevalence Index worksheet:		
1.					Total % Cover of:	Multiply by:	
2.					OBL species <u>0</u>	$\times 1 = 0$	
3.					FACW species <u>100</u>	$\times 2 = 200$	
4.					FAC species <u>0</u>	$\times 3 = 0$	
5.					FACU species <u>0</u>	$\times 4 = 0$	
					UPL species <u>0</u>	$\times 5 = 0$	
					Column Totals: <u>100</u> (A)	<u>200</u> (B)	
Herb Stratum (Plot size: <u>5 ft r</u>)							
1.	<u>Phalaris arundinacea</u>	<u>100</u>	<input checked="" type="checkbox"/>	FACW	Prevalence Index = B/A = <u>2.00</u>		
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
		<u>100</u>	= Total Cover				
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Indicators:		
1.					<input checked="" type="checkbox"/>	1 - Rapid Test for Hydrophytic Vegetation	
2.					<input checked="" type="checkbox"/>	2 - Dominance Test is >50%	
					<input checked="" type="checkbox"/>	3 - Prevalence Index is $\leq 3.0^1$	
					<input type="checkbox"/>	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
					<input type="checkbox"/>	5 - Wetland Non-Vascular Plants ¹	
					<input type="checkbox"/>	Problematic Hydrophytic Vegetation ¹ (Explain)	
1 ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.							
					Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
% Bare Ground in Herb Stratum <u>0</u>							

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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): 15Saturation Present? Yes No _____ Depth (inches): 2
(includes capillary fringe)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 <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---------------------------------	---	----------------------	---	----------------------------	---	---------------------------------------	---

Remarks:

Data point taken near wooded area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft r</u>)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Pseudotsuga menziesii</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____					Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
3. _____					Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50.00</u> (A/B)
4. _____						
	<u>35</u>	= Total Cover			Prevalence Index worksheet:	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)					Total % Cover of:	Multiply by:
1. <u>Symporicarpos albus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		OBL species	<u>0</u> x 1 = <u>0</u>
2. <u>Crataegus douglasii</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		FACW species	<u>0</u> x 2 = <u>0</u>
3. _____					FAC species	<u>87</u> x 3 = <u>261</u>
4. _____					FACU species	<u>45</u> x 4 = <u>180</u>
5. _____					UPL species	<u>2</u> x 5 = <u>10</u>
	<u>15</u>	= Total Cover			Column Totals:	<u>134</u> (A) <u>451</u> (B)
Herb Stratum (Plot size: <u>5 ft r</u>)						Prevalence Index = B/A = <u>3.36</u>
1. <u>Alopecurus pratensis</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		Hydrophytic Vegetation Indicators:	
2. <u>Poa pratensis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		1 - Rapid Test for Hydrophytic Vegetation	
3. <u>Equisetum arvense</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		2 - Dominance Test is >50%	
4. <u>Phleum pratense</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		3 - Prevalence Index is $\leq 3.0^1$	
5. <u>Cirsium arvense</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. <u>Nassella viridula</u>	<u>2</u>	<input checked="" type="checkbox"/>	<u>UPL</u>		5 - Wetland Non-Vascular Plants ¹	
7. _____					Problemsatic Hydrophytic Vegetation ¹ (Explain)	
8. _____						
9. _____						
10. _____						
11. _____						
	<u>84</u>	= Total Cover				
Woody Vine Stratum (Plot size: <u>_____</u>)						
1. _____						
2. _____						
% Bare Ground in Herb Stratum <u>16</u>						
		= Total Cover				
Hydrophytic Vegetation Present?					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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? 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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	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	Dominance Test worksheet:	
1.	_____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)	
2.	_____	_____	_____	_____	Total Number of Dominant Species Across All Strata: 1 (B)	
3.	_____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)	
4.	_____	_____	_____	_____		
				= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r _____)					Prevalence Index worksheet:	
1.	_____	_____	_____	_____	Total % Cover of:	Multiply by:
2.	_____	_____	_____	_____	OBL species 0	x 1 = 0
3.	_____	_____	_____	_____	FACW species 95	x 2 = 190
4.	_____	_____	_____	_____	FAC species 0	x 3 = 0
5.	_____	_____	_____	_____	FACU species 0	x 4 = 0
				UPL species 0	x 5 = 0	
				Column Totals: 95	(A) 190	(B)
Herb Stratum (Plot size: 5 ft r _____)				Prevalence Index = B/A = 2.00		
1.	Phalaris arundinacea	95	✓	FACW	Hydrophytic Vegetation Indicators:	
2.	_____	_____	_____	_____	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
3.	_____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
4.	_____	_____	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$	
5.	_____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6.	_____	_____	_____	_____	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
7.	_____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
8.	_____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
9.	_____	_____	_____	_____		
10.	_____	_____	_____	_____		
11.	_____	_____	_____	_____		
				95 = Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?		Yes <input checked="" type="checkbox"/> No _____
1.	_____	_____	_____			
2.	_____	_____	_____			
				= Total Cover		
% Bare Ground in Herb Stratum 5						

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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? Yes No _____ Depth (inches): 0
(includes capillary fringe)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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

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: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
	_____	_____	_____	FACW species <u>50</u> x 2 = <u>100</u>
	_____	_____	_____	FAC species <u>25</u> x 3 = <u>75</u>
	_____	_____	_____	FACU species <u>5</u> x 4 = <u>20</u>
	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
	_____	_____	_____	Column Totals: <u>80</u> (A) <u>195</u> (B)
	_____	_____	_____	Prevalence Index = B/A = <u>2.43</u>
Herb Stratum (Plot size: <u>5 ft r</u>)				Hydrophytic Vegetation Indicators:
1. <u>Phalaris arundinacea</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	1 - Rapid Test for Hydrophytic Vegetation
2. <u>Alopecurus pratensis</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	✓ 2 - Dominance Test is >50%
3. <u>Pascopyrum smithii</u>	<u>5</u>	<input type="checkbox"/>	<u>FACU</u>	3 - Prevalence Index is $\leq 3.0^1$
4. _____	_____	_____	_____	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____	Problems Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>80</u>	_____	<u>Total Cover</u>	
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>20</u>				

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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? 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 _____
Hydric Soil Present? Yes No _____
Wetland Hydrology Present? Yes No _____

**Is the Sampled Area
within a Wetland?** Yes No _____

Remarks:

Data point taken at the bottom of large gentle toeslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft r</u>)		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1.					Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2.					Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.00</u> (A/B)	
4.						
				= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)					Prevalence Index worksheet:	
1.					Total % Cover of:	Multiply by:
2.					OBL species <u>25</u>	$\times 1 = 25$
3.					FACW species <u>75</u>	$\times 2 = 150$
4.					FAC species <u>0</u>	$\times 3 = 0$
5.					FACU species <u>0</u>	$\times 4 = 0$
				= Total Cover	UPL species <u>0</u> $\times 5 = 0$	
Herb Stratum (Plot size: <u>5 ft r</u>)					Column Totals: <u>100</u> (A) <u>175</u> (B)	
1. <u>Phalaris arundinacea</u>	<u>75</u>	<input checked="" type="checkbox"/>	FACW	Prevalence Index = B/A = <u>1.75</u>		
2. <u>Carex pellita</u>	<u>25</u>	<input checked="" type="checkbox"/>	OBL			
3.				Hydrophytic Vegetation Indicators:		
4.				<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation		
5.				<input checked="" type="checkbox"/> 2 - Dominance Test is >50%		
6.				<input checked="" type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$		
7.				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
8.				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹		
9.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
10.						
11.						
				= Total Cover	1 ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: <u>_____</u>)					Hydrophytic Vegetation Present?	
1.					Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2.						
				= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>						

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

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	Dominance Test worksheet:	
1. _____	_____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)	
2. _____	_____	_____	_____	_____	Total Number of Dominant Species Across All Strata: 2 (B)	
3. _____	_____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)	
4. _____	_____	_____	_____	_____		
		= Total Cover				
Sapling/Shrub Stratum (Plot size: 15 ft r _____)					Prevalence Index worksheet:	
1. _____	_____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	_____	OBL species 0	x 1 = 0
3. _____	_____	_____	_____	_____	FACW species 1	x 2 = 2
4. _____	_____	_____	_____	_____	FAC species 27	x 3 = 81
5. _____	_____	_____	_____	_____	FACU species 60	x 4 = 240
		= Total Cover			UPL species 0	x 5 = 0
Herb Stratum (Plot size: 5 ft r _____)		60	✓	FACU	Column Totals: 88 (A)	323 (B)
1. <u>Pascopyrum smithii</u>	60	✓	FACU	Prevalence Index = B/A = 3.67		
2. <u>Alopecurus pratensis</u>	25	✓	FAC			
3. <u>Cirsium arvense</u>	2		FAC			
4. <u>Phalaris arundinacea</u>	1		FACW			
5. _____	_____	_____	_____			
6. _____	_____	_____	_____			
7. _____	_____	_____	_____			
8. _____	_____	_____	_____			
9. _____	_____	_____	_____			
10. _____	_____	_____	_____			
11. _____	_____	_____	_____			
		= Total Cover			Hydrophytic Vegetation Indicators:	
Woody Vine Stratum (Plot size: _____)		88	= Total Cover			1 - Rapid Test for Hydrophytic Vegetation
1. _____	_____	_____	_____	_____	2 - Dominance Test is >50%	
2. _____	_____	_____	_____	_____	3 - Prevalence Index is $\leq 3.0^1$	
					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 _____
% Bare Ground in Herb Stratum 12						

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

Remarks:

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	Dominance Test worksheet:	
1. _____	_____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)	
2. _____	_____	_____	_____	_____	Total Number of Dominant Species Across All Strata: 1 (B)	
3. _____	_____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)	
4. _____	_____	_____	_____	_____		
		= Total Cover				
Sapling/Shrub Stratum (Plot size: 15 ft r _____)					Prevalence Index worksheet:	
1. _____	_____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	_____	OBL species 0	x 1 = 0
3. _____	_____	_____	_____	_____	FACW species 95	x 2 = 190
4. _____	_____	_____	_____	_____	FAC species 5	x 3 = 15
5. _____	_____	_____	_____	_____	FACU species 0	x 4 = 0
		= Total Cover			UPL species 0	x 5 = 0
Herb Stratum (Plot size: 5 ft r _____)		95	✓	FACW	Column Totals: 100 (A)	205 (B)
1. <i>Phalaris arundinacea</i>	95	✓	FACW	Prevalence Index = B/A = 2.05		
2. <i>Cirsium arvense</i>	5		FAC			
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:		
4. _____	_____	_____	_____	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation		
5. _____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%		
6. _____	_____	_____	_____	<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹		
7. _____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
8. _____	_____	_____	_____	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹		
9. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
10. _____	_____	_____	_____			
11. _____	_____	_____	_____			
		= Total Cover			1 ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Woody Vine Stratum (Plot size: _____)		100	= Total Cover			
1. _____	_____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	_____	
		= Total Cover			Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
% Bare Ground in Herb Stratum 0						

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: 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 Soils³:

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

³Indicators 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 Visible 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? Yes No _____ Depth (inches): 5
 (includes capillary fringe)

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

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	Dominance Test worksheet:	
1. _____	_____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)	
2. _____	_____	_____	_____	_____	Total Number of Dominant Species Across All Strata: 1 (B)	
3. _____	_____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)	
4. _____	_____	_____	_____	_____		
				= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r _____)				Prevalence Index worksheet:		
1. _____	_____	_____	_____	Total % Cover of:		Multiply by:
2. _____	_____	_____	_____	OBL species 0	x 1 =	0
3. _____	_____	_____	_____	FACW species 5	x 2 =	10
4. _____	_____	_____	_____	FAC species 6	x 3 =	18
5. _____	_____	_____	_____	FACU species 76	x 4 =	304
		_____	_____	UPL species 0	x 5 =	0
		_____	_____	Column Totals: 87	(A)	332 (B)
		_____	_____	Prevalence Index = B/A = 3.81		
Herb Stratum (Plot size: 5 ft r _____)					Hydrophytic Vegetation Indicators:	
1. <u>Pascopyrum smithii</u>	75	✓	FACU	1 - Rapid Test for Hydrophytic Vegetation		
2. <u>Alopecurus pratensis</u>	5	_____	FAC	2 - Dominance Test is >50%		
3. <u>Phalaris arundinacea</u>	5	_____	FACW	3 - Prevalence Index is $\leq 3.0^1$		
4. <u>Cirsium arvense</u>	1	_____	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5. <u>Prunella vulgaris</u>	1	_____	FACU	5 - Wetland Non-Vascular Plants ¹		
6. _____	_____	_____	_____	Problematic Hydrophytic Vegetation ¹ (Explain)		
7. _____	_____	_____	_____			
8. _____	_____	_____	_____			
9. _____	_____	_____	_____			
10. _____	_____	_____	_____			
11. _____	_____	_____	_____			
		87	_____	1 ^{Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.}		
		_____	_____			
Woody Vine Stratum (Plot size: _____)					Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes _____	No _____	
2. _____	_____	_____	_____			
% Bare Ground in Herb Stratum 13		_____	_____			
Remarks:						
No indicators met for hydrophytic vegetation.						

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

Remarks:

PEM, riverine wetland data point.

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>) 1. _____ 2. _____ 3. _____ 4. _____ _____ = Total Cover	Absolute % Cover Dominant Species? Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>80</u> x 2 = <u>160</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>85</u> (A) <u>165</u> (B) Prevalence Index = B/A = <u>1.94</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft r</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover	<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>) 1. <u>Phalaris arundinacea</u> <u>80</u> <input checked="" type="checkbox"/> <u>FACW</u> 2. <u>Carex utriculata</u> <u>5</u> <u>OBL</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>Woody Vine Stratum</u> (Plot size: <u>_____</u>) 1. _____ 2. _____ _____ = Total Cover	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
% Bare Ground in Herb Stratum <u>15</u>		

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

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

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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? Yes No _____ Depth (inches): 2
(includes capillary fringe)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 <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

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	Dominance Test worksheet:		
1.					Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)		
2.					Total Number of Dominant Species Across All Strata: 2 (B)		
3.					Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)		
4.							
				= Total Cover			
Sapling/Shrub Stratum (Plot size: 15 ft r)					Prevalence Index worksheet:		
1.					Total % Cover of:	Multiply by:	
2.					OBL species 0	x 1 = 0	
3.					FACW species 0	x 2 = 0	
4.					FAC species 67	x 3 = 201	
5.					FACU species 0	x 4 = 0	
				= Total Cover	UPL species 25	x 5 = 125	
Herb Stratum (Plot size: 5 ft r)				Column Totals: 92 (A)	326 (B)		
1. <i>Alopecurus pratensis</i>	55	✓	FAC	Prevalence Index = B/A = 3.54			
2. <i>Bromus inermis</i>	25	✓	UPL				
3. <i>Agrostis capillaris</i>	10		FAC	Hydrophytic Vegetation Indicators:			
4. <i>Cirsium arvense</i>	2		FAC	<ul style="list-style-type: none"> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is $\leq 3.0^1$ ___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants¹ ___ Problematic Hydrophytic Vegetation¹ (Explain) 			
5.							
6.							
7.							
8.							
9.							
10.							
11.							
				= Total Cover			
Woody Vine Stratum (Plot size: _____)				92 = Total Cover			
1.					Hydrophytic Vegetation Present?		
2.					Yes	No	✓
% Bare Ground in Herb Stratum 8				= Total Cover			

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Depth (inches): _____	

Remarks:

No hydric soil indicators observed. Rocks at 14 inches.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

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

Remarks:

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

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft r</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft r</u>)			
1. <u>Alnus incana</u>	<u>3</u>	<u>FACW</u>	
2. <u>Salix lutea</u>	<u>1</u>	<u>OBL</u>	
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Herb Stratum</u> (Plot size: <u>5 ft r</u>)			
1. <u>Carex utriculata</u>	<u>25</u>	<u>✓</u>	<u>OBL</u>
2. <u>Agrostis capillaris</u>	<u>15</u>	<u>✓</u>	<u>FAC</u>
3. <u>Equisetum arvense</u>	<u>10</u>	<u>FAC</u>	
4. <u>Phalaris arundinacea</u>	<u>10</u>	<u>FACW</u>	
5. <u>Alopecurus pratensis</u>	<u>5</u>	<u>FAC</u>	
6. <u>Cirsium arvense</u>	<u>3</u>	<u>FAC</u>	
7. <u>Trifolium campestre</u>	<u>3</u>	<u>UPL</u>	
8. <u>Scirpus microcarpus</u>	<u>2</u>	<u>OBL</u>	
9. <u>Fragaria virginiana</u>	<u>1</u>	<u>FACU</u>	
10. _____	_____	_____	_____
11. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>Woody Vine Stratum</u> (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
		<u>= Total Cover</u>	
<u>% Bare Ground in Herb Stratum</u> <u>26</u>			

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 $\leq 3.0^1$
- 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- 5 - Wetland Non-Vascular Plants¹
- Problematic Hydrophytic Vegetation¹ (Explain)

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

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	Dominance Test worksheet:		
1. _____	_____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)		
2. _____	_____	_____	_____	_____	Total Number of Dominant Species Across All Strata: 1 (B)		
3. _____	_____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)		
4. _____	_____	_____	_____	_____			
		= Total Cover					
Sapling/Shrub Stratum (Plot size: 15 ft r _____)					Prevalence Index worksheet:		
1. _____	_____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____		
2. _____	_____	_____	_____	_____	OBL species 0	x 1 = 0	
3. _____	_____	_____	_____	_____	FACW species 0	x 2 = 0	
4. _____	_____	_____	_____	_____	FAC species 77	x 3 = 231	
5. _____	_____	_____	_____	_____	FACU species 0	x 4 = 0	
		= Total Cover			UPL species 10	x 5 = 50	
Herb Stratum (Plot size: 5 ft r _____)		75	✓	FAC	Column Totals: 87 (A)	281 (B)	
1. <i>Alopecurus pratensis</i>	75	✓	FAC	Prevalence Index = B/A = 3.22			
2. <i>Bromus inermis</i>	10		UPL				
3. <i>Cirsium arvense</i>	2		FAC				
4. _____	_____	_____	_____				
5. _____	_____	_____	_____				
6. _____	_____	_____	_____				
7. _____	_____	_____	_____				
8. _____	_____	_____	_____				
9. _____	_____	_____	_____				
10. _____	_____	_____	_____				
11. _____	_____	_____	_____				
		87	= Total Cover			Hydrophytic Vegetation Indicators:	
Woody Vine Stratum (Plot size: _____)					<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
					¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
					Hydrophytic Vegetation Present?		Yes <input type="checkbox"/> No <input type="checkbox"/>
% Bare Ground in Herb Stratum 13							

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 2/2	100					Silt Loam	
-								
-								
-								
-								
-								
-								
-								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- High Water Table (A2) Salt Crust (B11)
- Saturation (A3) Aquatic Invertebrates (B13)
- Water Marks (B1) Hydrogen Sulfide Odor (C1)
- Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3)
- Drift Deposits (B3) Presence of Reduced Iron (C4)
- Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)
- Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A)
- Surface Soil Cracks (B6) Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)

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

Remarks:

Data point taken near NE border of site.

VEGETATION – Use scientific names of plants.

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		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	
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.
-							
-							
-							
-							
-							

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
Depth (inches): _____	

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

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 <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes _____	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <input checked="" type="checkbox"/>	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: Schriber Meadows	2. MDT Project #: NH 27 (021)	Control #: 1027001
3. Evaluation Date: 10/30/2024	4. Evaluator(s): R. McElowney	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. <input type="checkbox"/> Mitigation wetlands; pre-construction 3. <input checked="" type="checkbox"/> Mitigation wetlands; post-construction 4. <input type="checkbox"/> 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 in 14A 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	Fisher(D) - S2S3	
Western toad (S2)(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]):

- observations of abundant wildlife #s or high species diversity (during any period)
- 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 in terms 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				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	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	M	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	L	H	M	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	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%			
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 Schriever 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		
	High	Moderate	Low	High	Moderate	Low	High	Moderate	Low
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes
P/P	1H	.7M	.8H	.5M	.6M	.9H	.7M	.4M	.3L
S/I	.9H	.6M	.7M	.4M	.5M	.8H	.6M	.5M	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.7M	.6M	.4M	.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

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
- Springs or seeps are known or observed
- Vegetation growing during dormant season/drought
- Wetland occurs at the toe of a natural slope
- AA permanently flooded during drought periods
- Wetland contains an outlet, but no inlet
- Shallow water table and the site is saturated to the surface
- Other: 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)

Criteria	Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM			
	P/P	S/I	T	None
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)

<i>Replacement potential</i>	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
<i>Estimated relative abundance (#11)</i>	rare	common	abundant
Low disturbance at AA (#12i)	1H	.9H	.8H
Moderate disturbance at AA (#12i)	.9H	.8H	.7M
High disturbance at AA (#12i)	.8H	.7M	.6M

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) (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: Educational/scientific study; Consumptive rec.; Non-consumptive rec.;
 Other :

iii. Rating:

<i>Known or Potential Recreation or Education Area</i>	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**

Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)

Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**

Score of .9 or 1 functional point for General Wildlife Habitat; **or**

Score of .9 or 1 functional point for General Fish Habitat; **or**

"High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**

Score of .9 functional point for Uniqueness; **or**

Percent of possible score > 65% (round to nearest whole #).

Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)

"Low" rating for Uniqueness; **and**

Vegetated wetland component 1 acre (do not include upland vegetated buffer); **and**

Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: I

Summary Comments: Overall a highly productive AA.

MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name:	Schriber Meadows	2. MDT Project #:	NH 27 (021)	Control #:	1027001
3. Evaluation Date:	10/31/2024	4. Evaluator(s):	R. McElowney	5. Wetlands/Site #(s):	Enhancement
6. Wetland Location(s): i. Legal:		T27N, R30W, 11, 12, 13			
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			8. Wetland size: 6.790 acres (measured)		
2. <input type="checkbox"/> Mitigation wetlands; pre-construction			9. Assessment area (AA): 6.790 acres (measured)		
3. <input checked="" type="checkbox"/> Mitigation wetlands; post-construction					
4. <input type="checkbox"/> Other:					

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 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 Schriber 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 in 14A 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	Fischer (S3)(D) - S2S3	
Western toad (S2)(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]):

- observations of abundant wildlife #s or high species diversity (during any period)
- 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 in terms 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							
	Even				Uneven				Even				Uneven				Even				Even			
Class cover distribution (all vegetated classes)	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	P/P	S/I	T/E	A
Duration of surface water in >=10% of AA	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M	E	H	M	M
Low disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	H	M	L	L	L
Moderate 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	L	L	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	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 ii.

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 <u>wetland</u> 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			
	High		Moderate		Low		High		Moderate		Low	
C	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
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.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

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
- Shallow water table and the site is saturated to the surface
- 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)

Criteria	Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM			
	P/P	S/I	T	None
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)

<i>Replacement potential</i>	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		
<i>Estimated relative abundance (#11)</i>	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) (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: Educational/scientific study; Consumptive rec.; Non-consumptive rec.;
 Other :

iii. Rating:

<i>Known or Potential Recreation or Education Area</i>	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**

Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)

Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**

Score of .9 or 1 functional point for General Wildlife Habitat; **or**

Score of .9 or 1 functional point for General Fish Habitat; **or**

"High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**

Score of .9 functional point for Uniqueness; **or**

Percent of possible score > 65% (round to nearest whole #).

Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)

"Low" rating for Uniqueness; **and**

Vegetated wetland component 1 acre (do not include upland vegetated buffer); **and**

Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: 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: Schriber Meadows	2. MDT Project #: NH 27 (021)	Control #: 1027001
3. Evaluation Date: 10/31/2024	4. Evaluator(s): R. McElowney	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. <input type="checkbox"/> Mitigation wetlands; pre-construction		
3. <input checked="" type="checkbox"/> Mitigation wetlands; post-construction		
4. <input type="checkbox"/> Other:		

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 in 14A 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	Fischer(D) - S2S3	
Western toad (S2)(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]):

- observations of abundant wildlife #s or high species diversity (during any period)
- 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 in terms 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		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
Low disturbance at AA (see #12i)	E	E	E	H	E	E	H	H	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	M	H	M	M	L	H
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	M	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 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 ii.

iii. Final Score and Rating: NA

Comments: No fish habitat identified within restoration AA

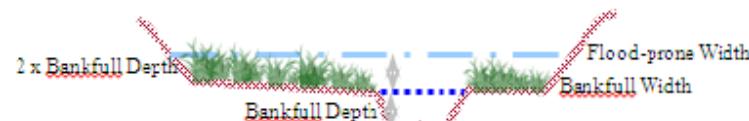
14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark NA and proceed to 14F.)

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 <u>wetland</u> 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	
C	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.8H	.6M
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.7M	.5M
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.6M	.4M

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

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
- AA permanently flooded during drought periods
- Wetland contains an outlet, but no inlet
- Shallow water table and the site is saturated to the surface
- Other: 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)

Criteria	Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM			
	P/P	S/I	T	None
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)

<i>Replacement potential</i>	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		
<i>Estimated relative abundance (#11)</i>	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) (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: Educational/scientific study; Consumptive rec.; Non-consumptive rec.; Other :

iii. Rating:

<i>Known or Potential Recreation or Education Area</i>	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**

Percent of possible score > 80% (round to nearest whole #).

Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV)

Score of 1 functional point for MT Natural Heritage Program Species Habitat; **or**

Score of .9 or 1 functional point for General Wildlife Habitat; **or**

Score of .9 or 1 functional point for General Fish Habitat; **or**

"High" to "Exceptional" ratings for **both** General Wildlife Habitat **and** General Fish/Aquatic Habitat; **or**

Score of .9 functional point for Uniqueness; **or**

Percent of possible score > 65% (round to nearest whole #).

Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)

"Low" rating for Uniqueness; **and**

Vegetated wetland component 1 acre (do not include upland vegetated buffer); **and**

Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: I

Summary Comments: This AA is highly productive, as evidenced by abundant wildlife and vegetative cover.

Schrieber Meadows Wetland Mitigation Site Comprehensive Plant List, 2012-2024

Scientific Name	Common Name	WMVC Indicator Status ^(a)
<i>Achillea millefolium</i>	Common Yarrow	FACU
<i>Achnatherum nelsonii</i>	Columbia Needlegrass	UPL
<i>Agastache urticifolia</i>	Nettleleaf Giant Hyssop	FACU
<i>Agropyron cristatum</i>	Crested Wheatgrass	UPL
<i>Agropyron</i> spp.	Wheatgrass	N/A
<i>Agrostis capillaris</i>	Colonial Bentgrass	FAC
<i>Agrostis exarata</i>	Spike Bentgrass	FACW
<i>Agrostis gigantea</i>	Redtop	FAC
<i>Agrostis scabra</i>	Rough Bentgrass	FAC
<i>Agrostis stolonifera</i>	Spreading Bentgrass	FACW
Algae, brown	Algae, brown	N/A
Algae, green	Algae, green	N/A
<i>Alisma gramineum</i>	Narrowleaf Water Plaintain	OBL
<i>Alisma triviale</i>	Northern Water Plantain	OBL
<i>Alnus incana</i>	Speckled Alder	FACW
<i>Alopecurus aequalis</i>	Shortawn Foxtail	OBL
<i>Alopecurus arundinaceus</i>	Creeping Meadow Foxtail	FAC
<i>Alopecurus pratensis</i>	Field Meadow Foxtail	FAC
<i>Amelanchier alnifolia</i>	Saskatoon Serviceberry	FACU
<i>Antennaria microphylla</i>	Littleleaf Pussytoes	UPL
<i>Arctium minus</i>	Lesser Burdock	UPL
<i>Arnica chamissonis</i>	Chamisso Arnica	FACW
Aster sp.	Aster	N/A
<i>Beckmannia syzigachne</i>	American Sloughgrass	OBL
<i>Bromus briziformis</i>	Rattlesnake Brome	UPL
<i>Bromus carinatus</i>	California Brome	UPL
<i>Bromus inermis</i>	Smooth Brome	FAC
<i>Bromus tectorum</i>	Cheatgrass	UPL
<i>Calamagrostis canadensis</i>	Bluejoint	FACW
<i>Carex atherodes</i>	Wheat Sedge	OBL
<i>Carex aquatilis</i>	Leafy Tussock Sedge	OBL
<i>Carex athrostachya</i>	Slenderbeak Sedge	FACW
<i>Carex bebbii</i>	Bebb's Sedge	OBL
<i>Carex lasiocarpa</i>	Woollyfruit Sedge	OBL
<i>Carex microptera</i>	Smallwing Sedge	FACU
<i>Carex nebrascensis</i>	Nebraska Sedge	OBL
<i>Carex pachystachya</i>	Chamisso Sedge	FAC
<i>Carex pellita</i>	Woolly Sedge	OBL

Schrieber Meadows Wetland Mitigation Site Comprehensive Plant List, 2012-2024

Scientific Name	Common Name	WMVC Indicator Status ^(a)
<i>Carex scoparia</i>	Broom Sedge	FACW
<i>Carex</i> spp.	Sedge	N/A
<i>Carex stipata</i>	Awlfruit Sedge	OBL
<i>Carex utriculata</i>	Northwest Territory Sedge	OBL
<i>Carex vesicaria</i>	Blister Sedge	OBL
<i>Centaurea stoebe</i>	Spotted Knapweed	UPL
<i>Cerastium arvense</i>	Field Chickweed	FACU
<i>Cerastium fontanum</i>	Common Mouse Ear Chickweed	FACU
<i>Ceratophyllum demersum</i>	Coon's Tail	OBL
<i>Chara</i> spp.	Muskgrass	N/A
<i>Cirsium arvense</i>	Canadian Thistle	FAC
<i>Cirsium vulgare</i>	Bull Thistle	FACU
<i>Collomia linearis</i>	Tiny Trumpet	FACU
<i>Crataegus douglasii</i>	Black Hawthorn	FAC
<i>Cynoglossum officinale</i>	Houndstongue	FACU
<i>Dactylis glomerata</i>	Orchard Grass	FACU
<i>Deschampsia cespitosa</i>	Tufted Hairgrass	FACW
<i>Descurainia pinnata</i>	Western Tansymustard	UPL
<i>Eleocharis flavescens</i>	Yellow Spike-Rush	OBL
<i>Eleocharis palustris</i>	Common Spike-Rush	OBL
<i>Eleocharis quinqueflora</i>	Few-Flower Spike-Rush	OBL
<i>Elymus lanceolatus</i>	Streamside Wild Rye	FACU
<i>Elymus repens</i>	Creeping Wild Rye	FAC
<i>Elymus trachycaulus</i>	Slender Wild Rye	FAC
<i>Epilobium brachycarpum</i>	Tall Annual Willowherb	FAC
<i>Epilobium ciliatum</i>	Fringed Willowherb	FACW
<i>Epilobium</i> sp.	Willowherb	N/A
<i>Equisetum arvense</i>	Field Horsetail	FAC
<i>Equisetum hyemale</i>	Tall Scouring-Rush	FACW
<i>Erysimum cheiranthoides</i>	Worm-Seed Wallflower	FACU
<i>Festuca idahoensis</i>	Idaho Fescue	FACU
<i>Festuca rubra</i>	Red Fescue	FAC
<i>Fragaria virginiana</i>	Virginia Strawberry	FACU
<i>Galium mexicanum</i>	Mexican Bedstraw	FAC
<i>Galium trifidum</i>	Threepetal Bedstraw	FACW
<i>Geum macrophyllum</i>	Largeleaf Avens	FAC
<i>Glyceria elata</i>	Tall Mannagrass	FACW
<i>Glyceria grandis</i>	American Mannagrass	OBL

Scientific Name	Common Name	WMVC Indicator Status ^(a)
<i>Glyceria spp.</i>	Mannagrass	N/A
<i>Glyceria striata</i>	Fowl Mannagrass	OBL
<i>Gnaphalium palustre</i>	Western Marsh Cudweed	FACW
<i>Hieracium aurantiacum</i>	Orange Hawkweed	UPL
<i>Hippuris vulgaris</i>	Common Mare's-Tail	OBL
<i>Juncus articulatus</i>	Jointleaf Rush	OBL
<i>Juncus bufonius</i>	Toad Rush	FACW
<i>Juncus confusus</i>	Colorado Rush	FAC
<i>Juncus ensifolius</i>	Swordleaf Rush	FACW
<i>Juncus nodosus</i>	Knotted Rush	OBL
<i>Juncus tenuis</i>	Lesser Poverty Rush	FAC
<i>Lactuca serriola</i>	Prickly Lettuce	FACU
<i>Lemna minor</i>	Common Duckweed	OBL
<i>Lepidium sp.</i>	Pepperwort	N/A
<i>Leucanthemum vulgare</i>	Ox-Eye Daisy	FACU
<i>Lotus corniculatus</i>	Bird's Foot Trefoil	FAC
<i>Mahonia repens</i>	Creeping Barberry	UPL
<i>Marsilea vestita</i>	Hairy Waterclover	OBL
<i>Matricaria discoidea</i>	Pineappleweed	FACU
<i>Medicago lupulina</i>	Black Medick	FACU
<i>Mentha arvensis</i>	American Wild Mint	FACW
<i>Mimulus guttatus</i>	Seep Monkeyflower	OBL
<i>Myriophyllum sibiricum</i>	Siberian Watermilfoil	OBL
<i>Nasella viridula</i>	Green Needlegrass	UPL
<i>Pascopyrum smithii</i>	Western Wheatgrass	FACU
<i>Pedicularis groenlandica</i>	Elephanthead Lousewort	OBL
<i>Penstemon confertus</i>	Yellow Penstemon	UPL
<i>Peritoma serrulata</i>	Rocky Mountain Beepplant	FACU
<i>Persicaria amphibia</i>	Water Smartweed	OBL
<i>Persicaria lapathifolia</i>	Dockleaf Smartweed	FACW
<i>Persicaria maculosa</i>	Spotted Lady's Thumb	FACW
<i>Phalaris arundinacea</i>	Reed Canarygrass	FACW
<i>Phleum pratense</i>	Common Timothy	FACU
<i>Picea engelmannii</i>	Engelmann Spruce	FAC
<i>Pinus contorta</i>	Lodgepole Pine	FAC
<i>Pinus ponderosa</i>	Ponderosa Pine	FACU
<i>Plantago major</i>	Common Plantain	FAC
<i>Poa palustris</i>	Fowl Bluegrass	FAC

Schrieber Meadows Wetland Mitigation Site Comprehensive Plant List, 2012-2024

Scientific Name	Common Name	WMVC Indicator Status ^(a)
<i>Poa pratensis</i>	Kentucky Bluegrass	FAC
<i>Poa</i> sp.	Bluegrass	N/A
<i>Polygonum douglasii</i>	Douglas' Knotweed	FACU
<i>Polypogon monspeliensis</i>	Annual Rabbitsfoot Grass	FACW
<i>Populus balsamifera</i>	Balsam Poplar	FAC
<i>Potamogeton foliosus</i>	Leafy Pondweed	OBL
<i>Potamogeton natans</i>	Broadleaf Pondweed	OBL
<i>Potentilla gracilis</i>	Graceful Cinquefoil	FAC
<i>Potentilla norvegica</i>	Norwegian Cinquefoil	FAC
<i>Prunella vulgaris</i>	Common Selfheal	FACU
<i>Pseudotsuga menziesii</i>	Douglas Fir	FACU
<i>Ranunculus aquatilis</i>	White Water Crowfoot	OBL
<i>Ranunculus sceleratus</i>	Cursed Buttercup	OBL
<i>Rosa woodsii</i>	Woods' Rose	FACU
<i>Rumex acetosella</i>	Common Sheep Sorrel	FACU
<i>Rumex crispus</i>	Curly Dock	FAC
<i>Salix bebbiana</i>	Bebb's Willow	FACW
<i>Salix candida</i>	Sageleaf Willow	OBL
<i>Salix drummondiana</i>	Drummond's Willow	FACW
<i>Salix lutea</i>	Yellow Willow	OBL
<i>Schedonorus pratensis</i>	Meadow Fescue	FACU
<i>Scirpus cyperinus</i>	Woolgrass	OBL
<i>Scirpus microcarpus</i>	Paniced Bulrush	OBL
<i>Senecio hydrophiloides</i>	Tall Groundsel	FACW
<i>Sisymbrium altissimum</i>	Tall Tumblemustard	FACU
<i>Solidago canadensis</i>	Canadian Goldenrod	FACU
<i>Sparganium emersum</i>	European Bur-Reed	OBL
<i>Sparganium natans</i>	Arctic Burr-Reed	OBL
<i>Spiranthes romanzoffiana</i>	Hooded Lady's Tresses	FACW
<i>Stellaria longipes</i>	Longstalk Starwort	FACW
<i>Stuckenia pectinata</i>	Sago Pondweed	OBL
<i>Suaeda calceoliformis</i>	Pursh Seepweed	FACW
<i>Symphoricarpos albus</i>	Common Snowberry	FACU
<i>Symphyotrichum spathulatum</i>	Western Mountain Aster	FAC
<i>Taraxacum officinale</i>	Common Dandelion	FACU
<i>Thlaspi arvense</i>	Field Pennycreas	UPL
<i>Trifolium arvense</i>	Rabbitfoot Clover	UPL
<i>Trifolium campestre</i>	Field Clover	UPL

Schrieber Meadows Wetland Mitigation Site Comprehensive Plant List, 2012-2024

Scientific Name	Common Name	WMVC Indicator Status ^(a)
<i>Trifolium hybridum</i>	Alsike Clover	FAC
<i>Trifolium pratense</i>	Red Clover	FACU
<i>Trifolium repens</i>	White Clover	FAC
<i>Triglochin maritima</i>	Seaside Arrowgrass	OBL
<i>Typha latifolia</i>	Broadleaf Cattail	OBL
<i>Verbascum thapsus</i>	Common Mullein	FACU
<i>Veronica americana</i>	American Speedwell	OBL
<i>Veronica anagallis-aquatica</i>	Water Speedwell	OBL
<i>Veronica peregrina</i>	Neckweed	OBL
<i>Veronica scutellata</i>	Skullcap Speedwell	OBL
<i>Veronica serpyllifolia</i>	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
Bearing: 290 degrees

Location: Cell 5A
Year: 2010



Photo Point 16
Bearing: 290 degrees

Location: Cell 5A
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

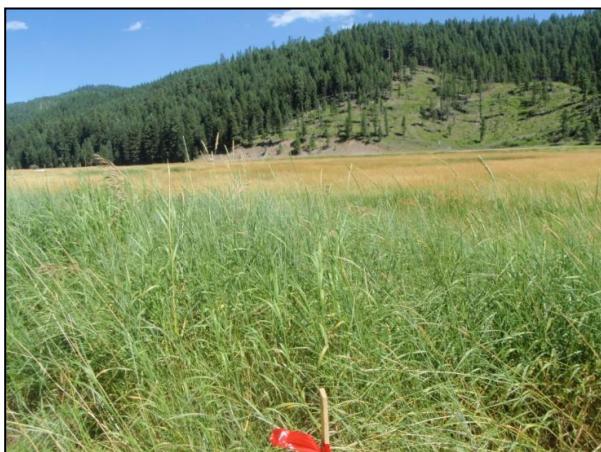


Photo Point 19
Bearing: 10 degrees

Location: West Boundary
Year: 2012

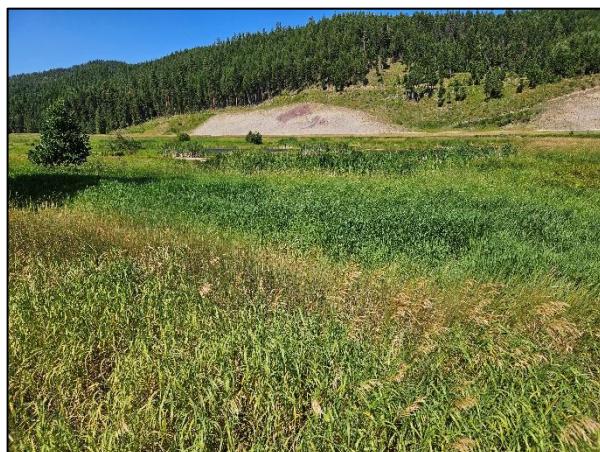


Photo Point 19
Bearing: 10 degrees

Location: West Boundary
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
Bearing: 115 degrees

Location: T-1
Year: 2010



Transect 1: Start
Bearing: 115 degrees

Location: T-1
Year: 2024



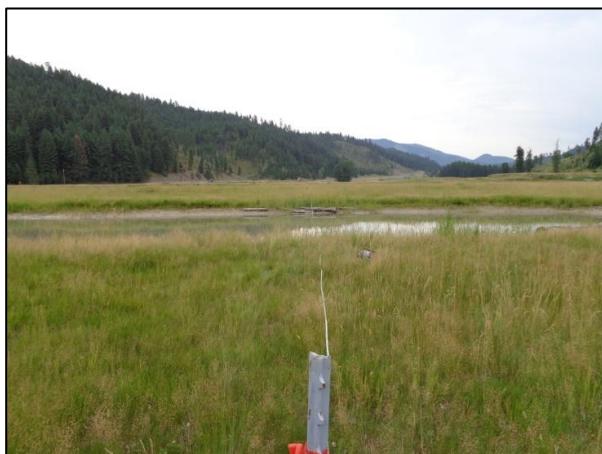
Transect 1: End
Bearing: 295 degrees

Location: T-1
Year: 2010



Transect 1: End
Bearing: 295 degrees

Location: T-1
Year: 2024



Transect 2: Start
Bearing: 100 degrees

Location: T-2
Year: 2013



Transect 2: Start
Bearing: 100 degrees

Location: T-2
Year: 2024

Schrieber Meadows: Vegetation Transect Photographs



Transect 2: End
Bearing 280: degrees

Location: T-2
Year: 2013



Transect 2: End
Bearing 280: degrees

Location: T-2
Year: 2024



Transect 3: Start
Bearing: 45 degrees

Location: T-3
Year: 2012



Transect 3: Start
Bearing: 45 degrees

Location: T-3
Year: 2024



Transect 3: End
Bearing: 225 degrees

Location: T-3
Year: 2012



Transect 3: End
Bearing: 225 degrees

Location: T-3
Year: 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP01w
Year: 2024



Data Point: DP01u
Year: 2024



Data Point: DP02w
Year: 2024



Data Point: DP02u
Year: 2024



Data Point: DP03w
Year: 2024



Data Point: DP03u
Year: 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP04w
Year: 2024



Data Point: DP04u
Year: 2024



Data Point: DP05w
Year: 2024



Data Point: DP05u
Year: 2024



Data Point: DP06w
Year: 2024



Data Point: DP06u
Year: 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP07w
Year: 2024



Data Point: DP07u
Year: 2024



Data Point: DP08w
Year: 2024



Data Point: DP08u
Year: 2024



Data Point: DP09w
Year: 2024



Data Point: DP09u
Year: 2024

Schrieber Meadows: Data Point Photographs



Data Point: DP10w

Year: 2024

Location: Veg Com 3



Data Point: DP10u

Year: 2024

Location: Veg Com 17

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

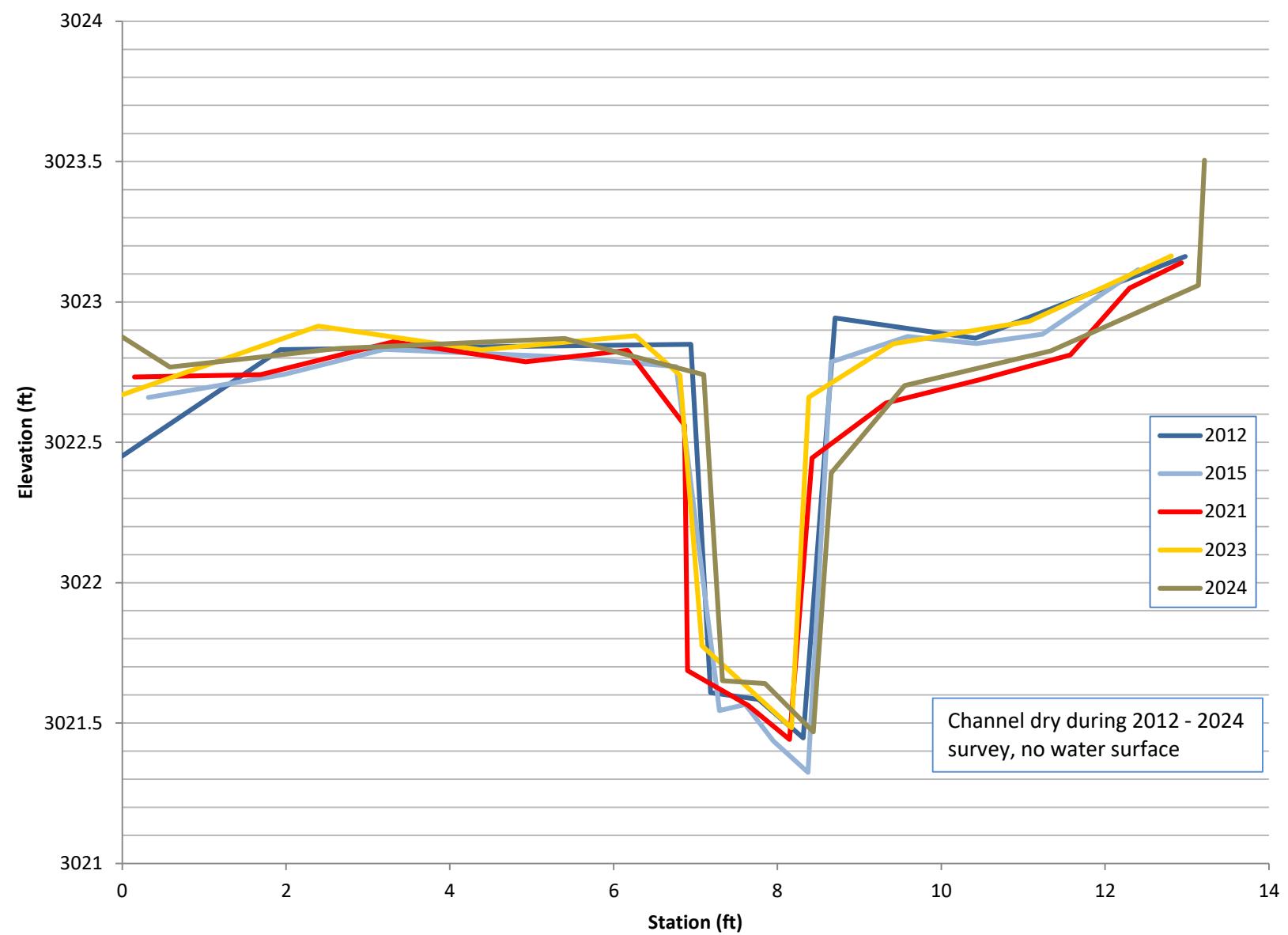
STREAM CROSS SECTIONS

MDT Wetland Mitigation Monitoring

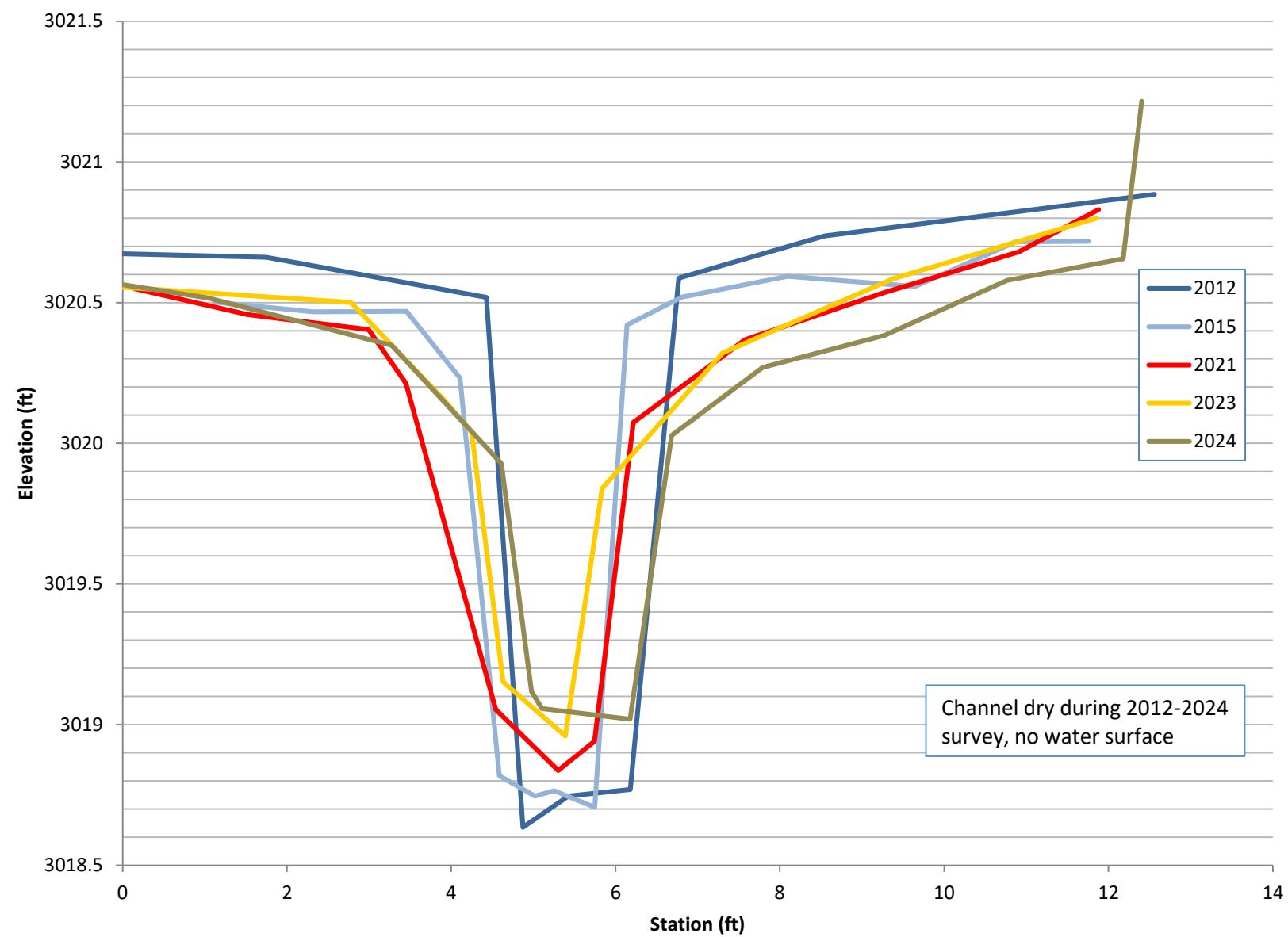
Schrieber Meadows

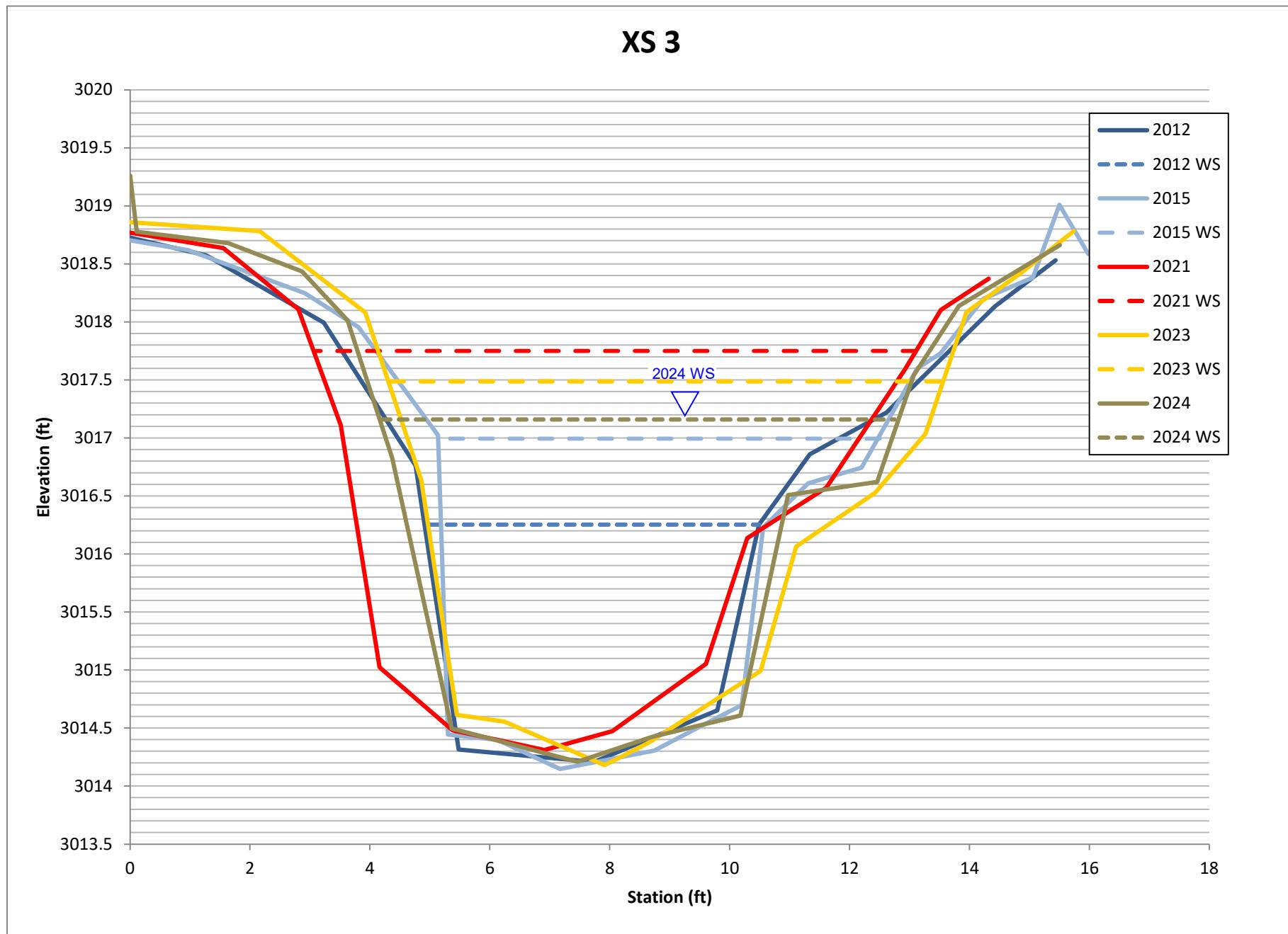
Lincoln County, Montana

XS 1

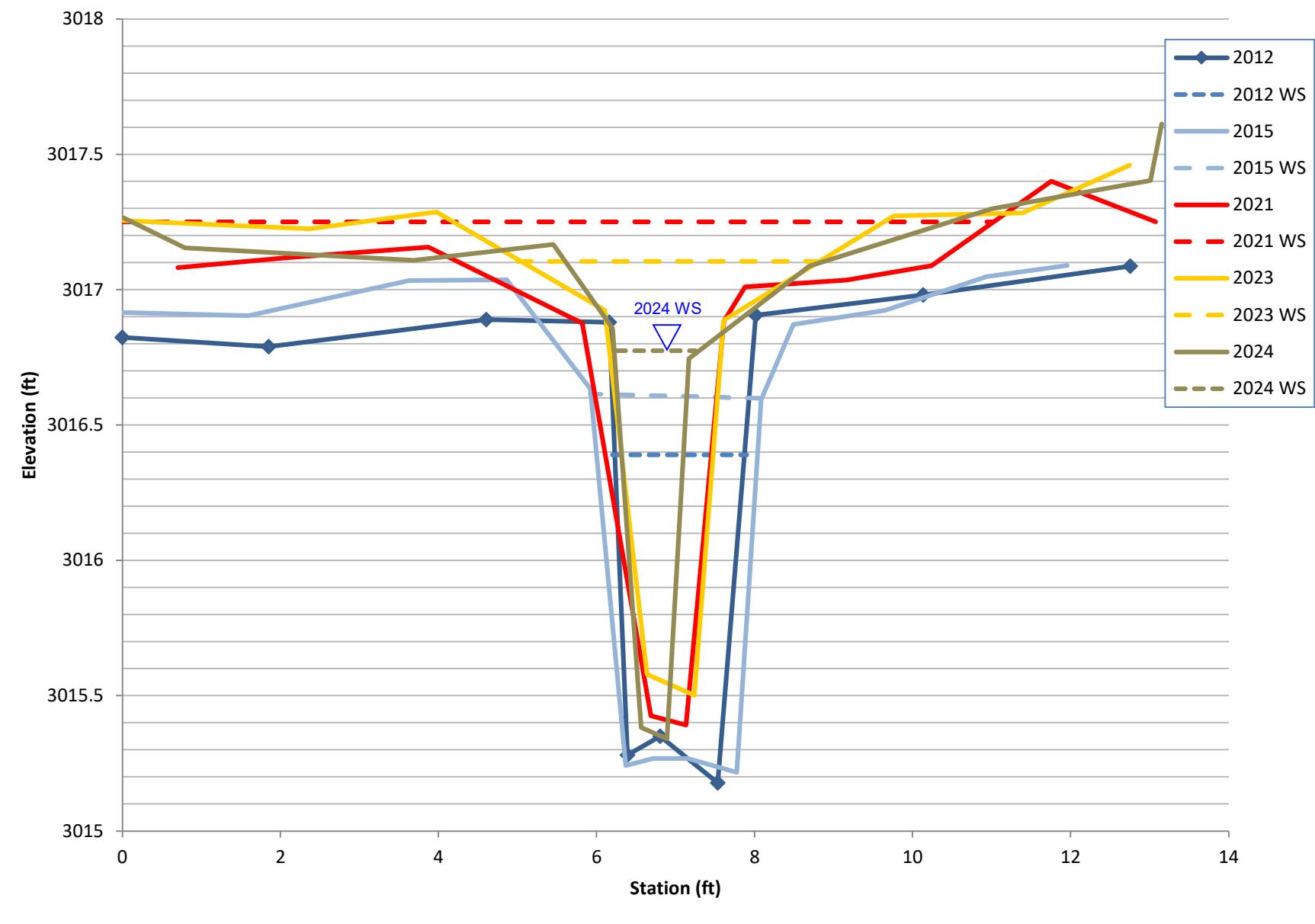


XS 2

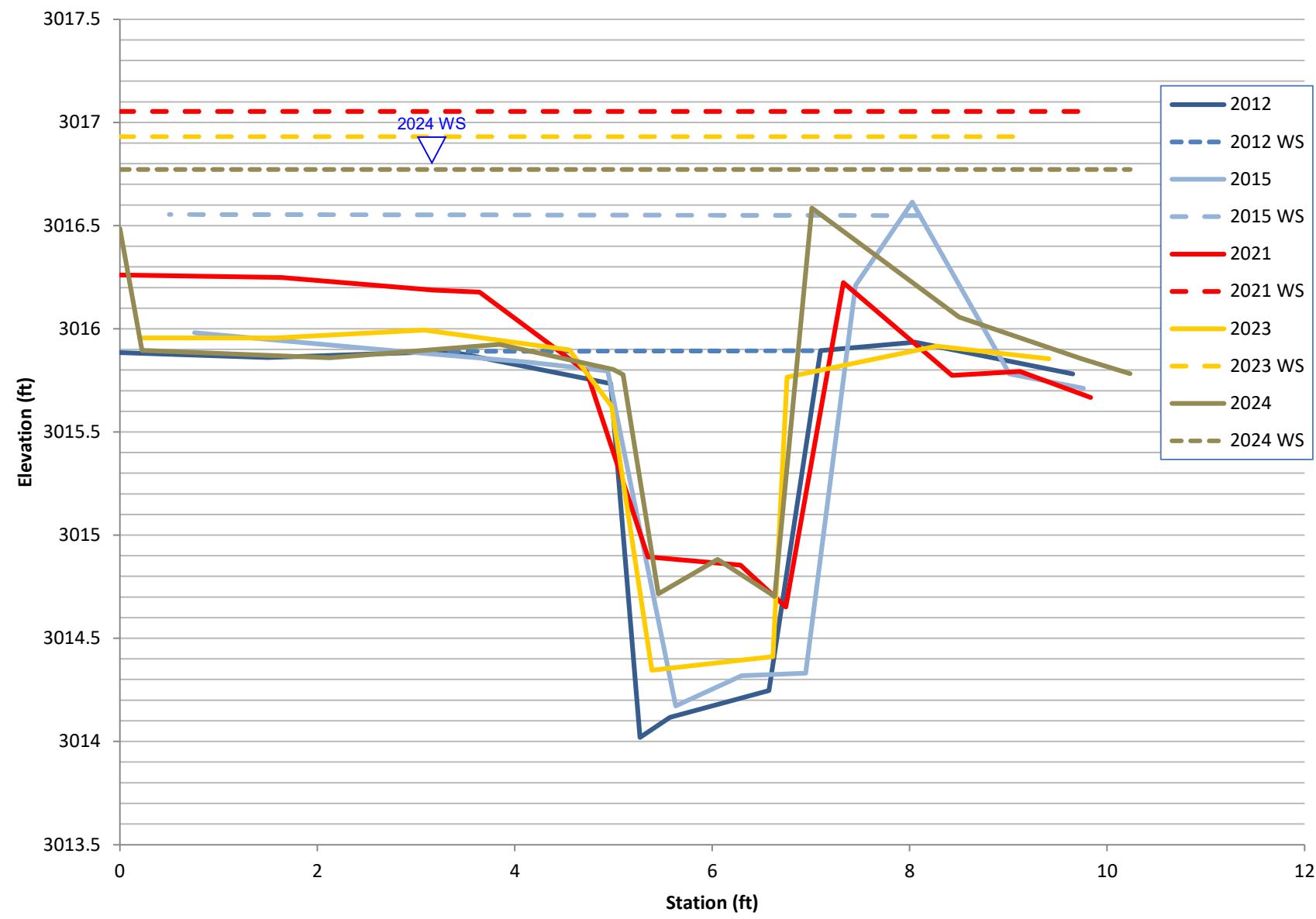




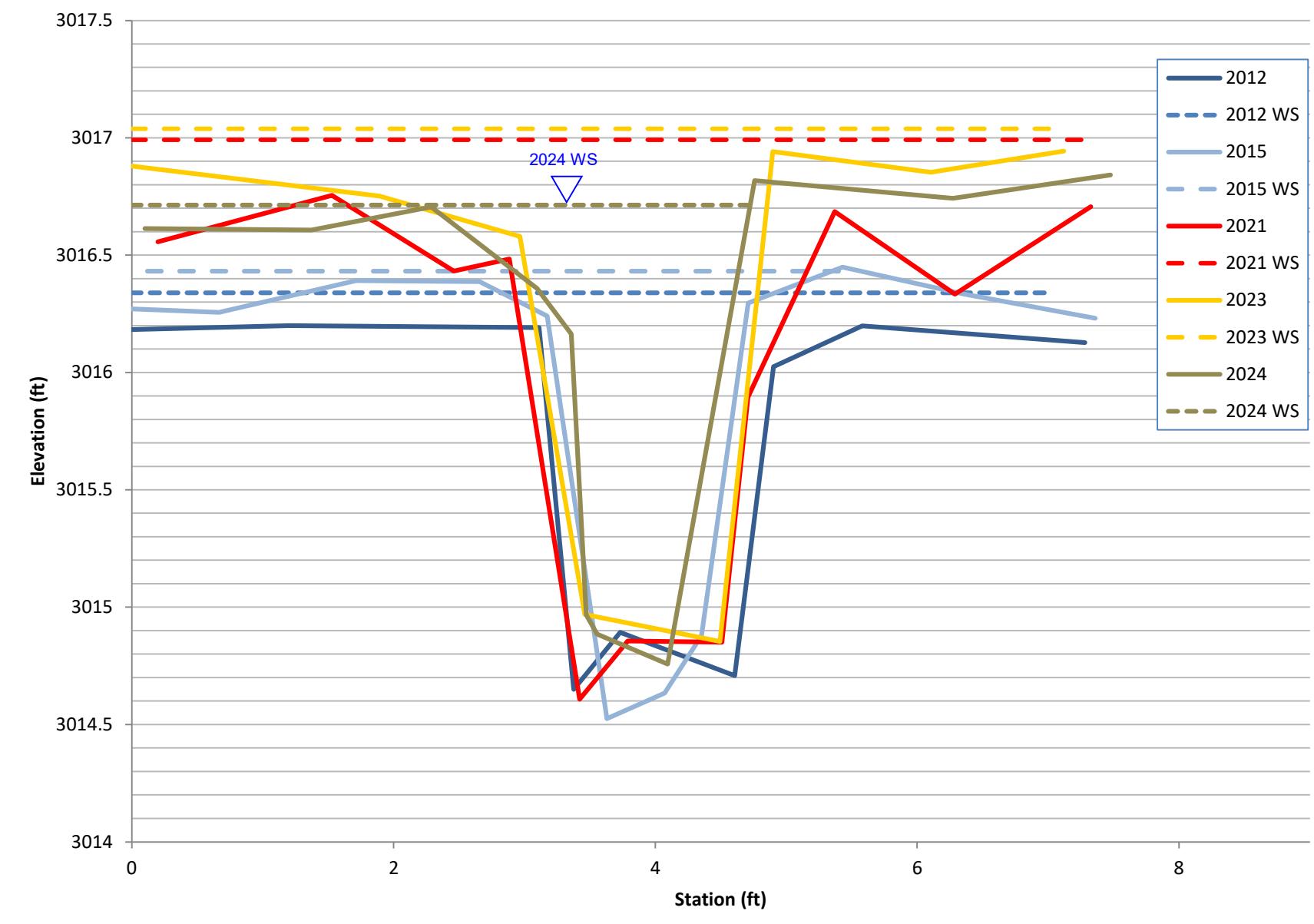
XS 4



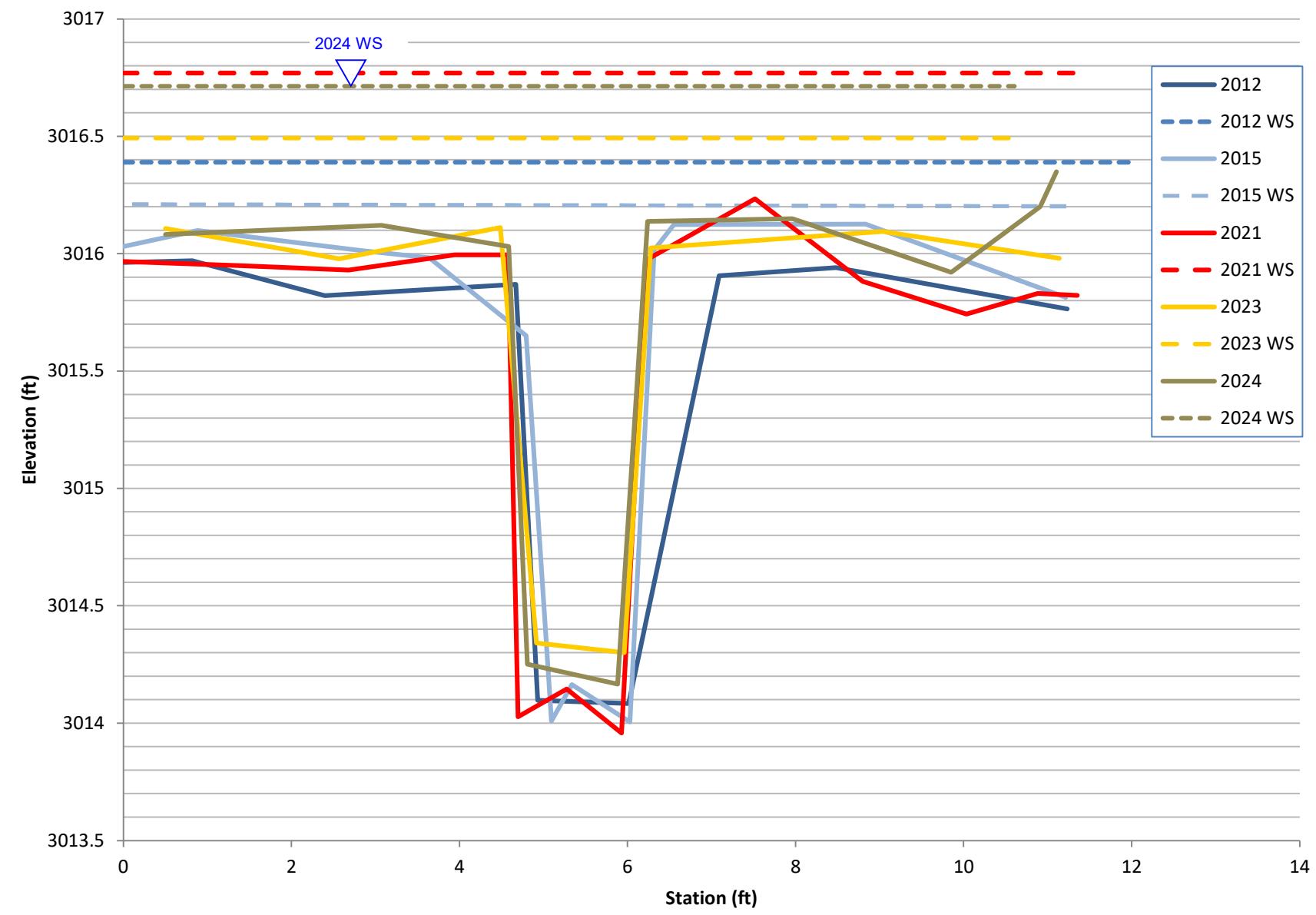
XS 5



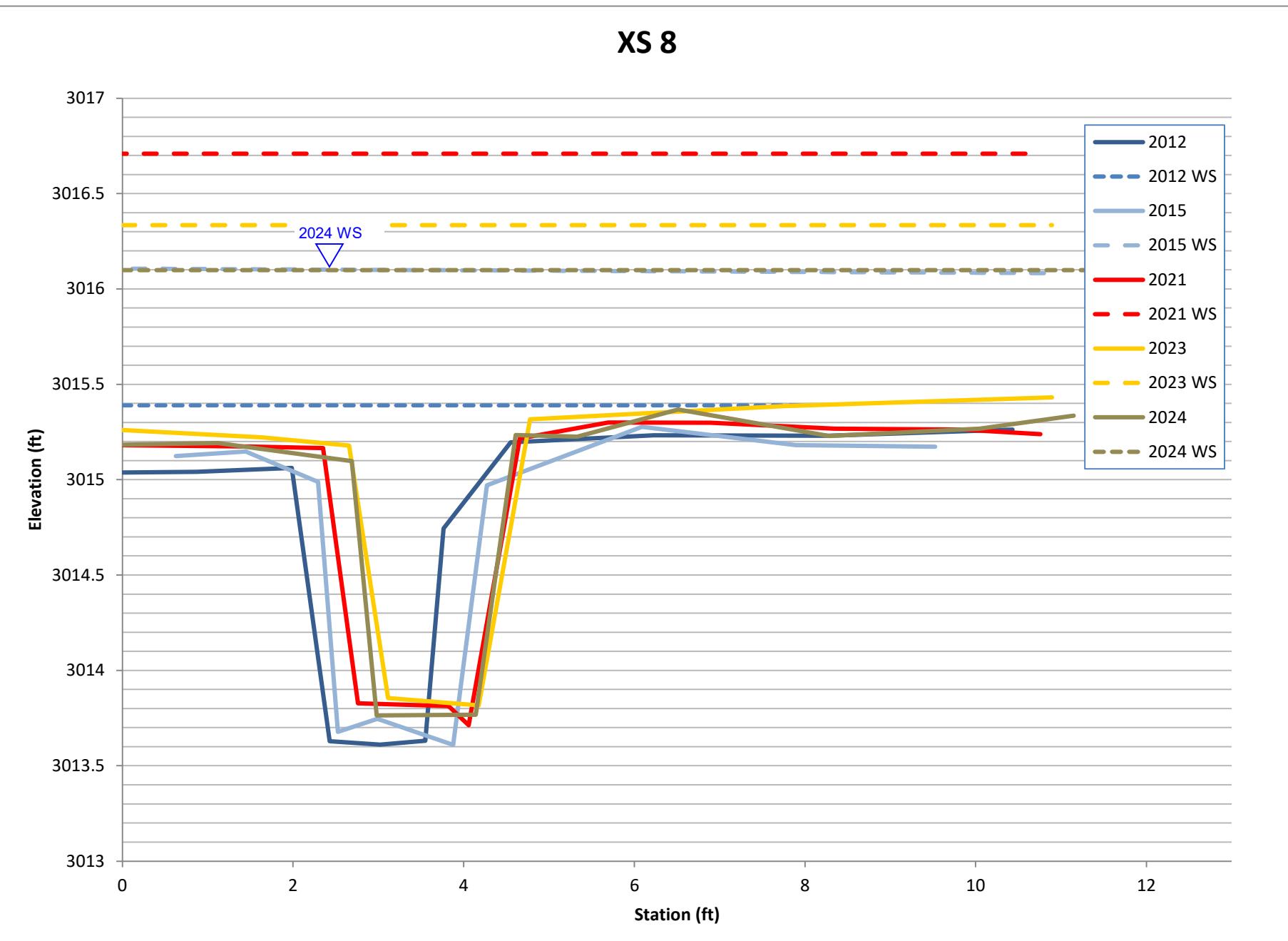
XS 6



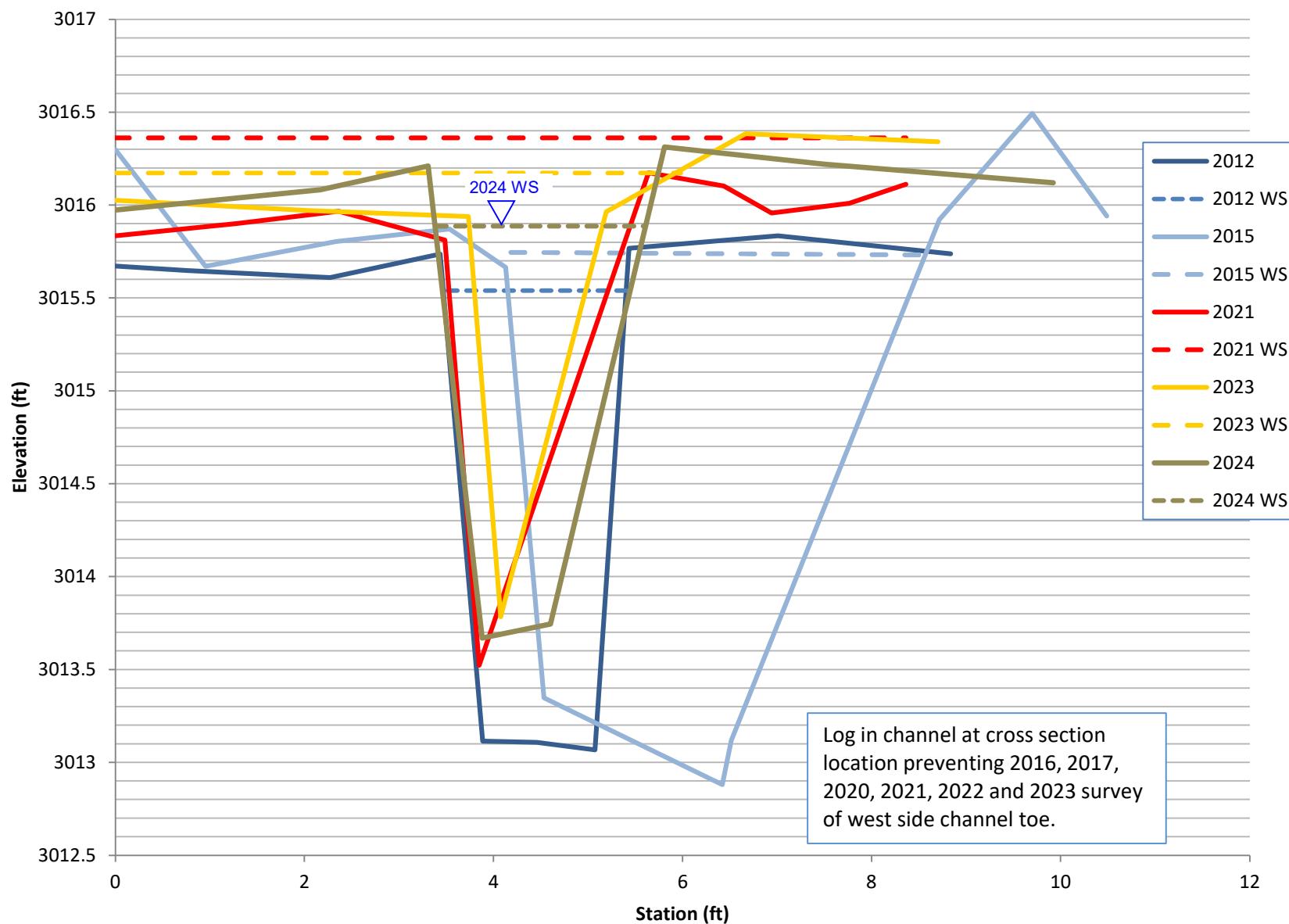
XS 7



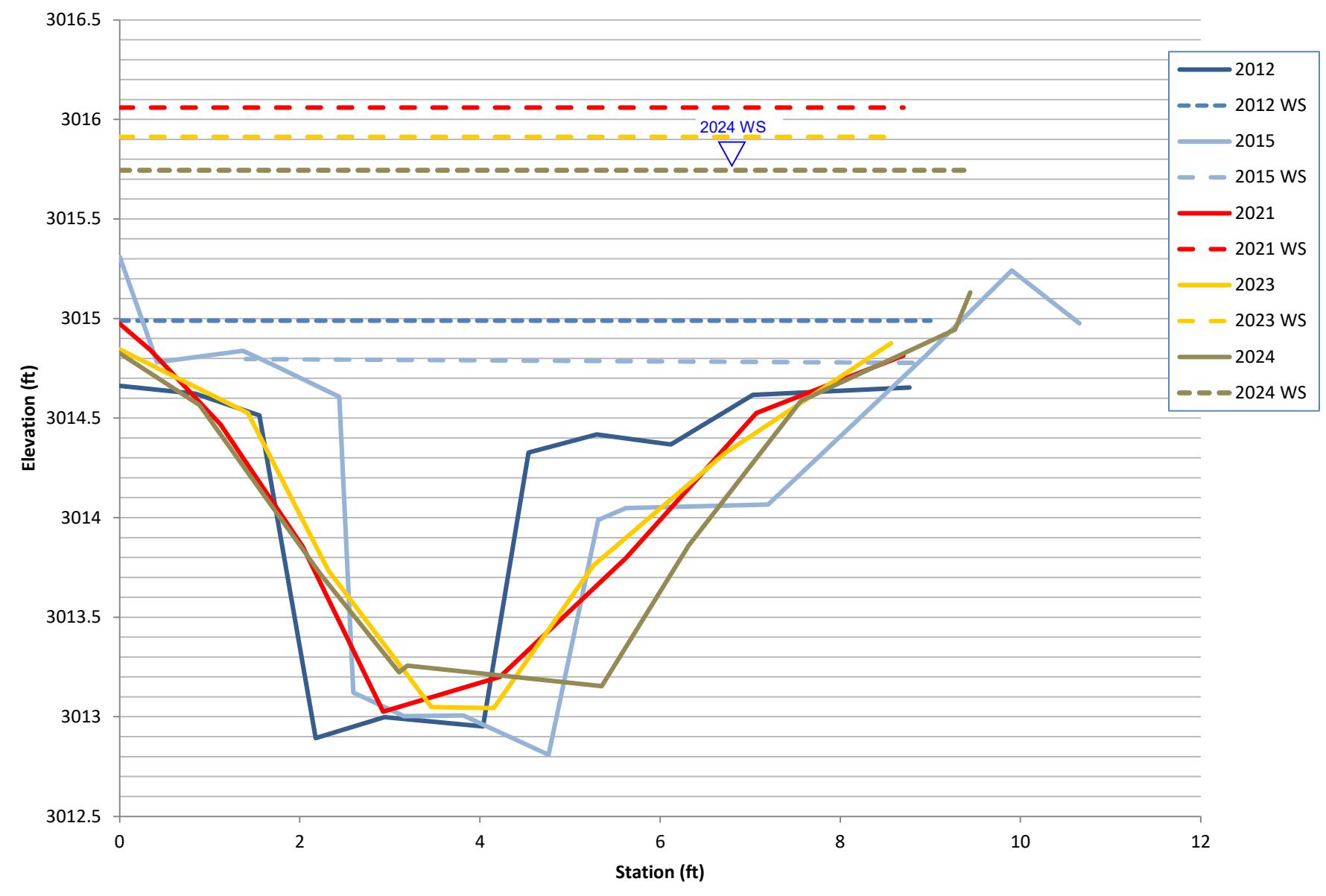
XS 8



XS 9



XS 10



XS 11

