Montana Department of Transportation Wetland Mitigation Monitoring Report

KINDSFATER MITIGATION SITE

Project Overview

Watershed: Watershed #13 – Upper Yellowstone River Basin

Monitoring Year: 2020

Years Monitored: 8th year of monitoring

Corps Permit Number: NWO-2007-00824-MTB

Monitoring Conducted By: Confluence Consulting Inc Dates Monitoring Was Conducted: June 16-17, 2020

Purpose of the Approved Project:

The site is intended to provide 32.7 acres of wetland mitigation credits to assist Montana Department of Transportation (MDT) in meeting compensatory mitigation requirements for proposed construction projects in Watershed #13 – Upper Yellowstone. The objectives of this project included creating, restoring, enhancing, and preserving wetland habitat within the historic Kindsfater gravel pit. Construction included excavating 14 wetland cells to shallow groundwater elevation that range in size from 0.24 to 1.39 acres.

Site Location:

Latitude: 45.693478 Longitude: -108.693517 County: Yellowstone Nearest Town: Laurel, MT

Map Included: Yes

Mitigation Site Construction Started: 2012 Construction Ended: 2012

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

Activity: Weed Spraying **Date:** July 5, 2020

Specific recommendations for additional corrective actions: Weed treatment will continue in 2021. Approximately 14 percent of the woody plantings observed were alive in 2020, which does not meet the 50 percent survival criteria. However, several wetland cells exhibit at least 45 percent cover by volunteer woody species that are expected to continue to expand across the site. Bird boxes were not observed on site in 2020. MDT will assess the need for additional woody plantings and/or installment of bird boxes.

Anticipated Wetland Credit Acres: 32.70

Wetland Credit Acres Generated to Date: 20.03

Previous Monitoring Reports:

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

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

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

Performance Standards: A summary of performance standards established for the Kindsfater site and discussion of achievement status for each criterion is provided in Table 1.

Table 1. Summary of Performance Standards

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Wetland Characteristics	The three parameter criteria for hydrology, vegetation, and soils are met as outlined in the 1987 Wetland Manual and 2010 Regional Supplement.	Υ	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.	Υ	Areas identified as wetland habitat within the mitigation site exhibit soil saturation for a minimum 12.5 percent of the growing season.
	Hydric soil conditions present or appear to be forming.	Υ	The constructed wetland complex exhibits hydric soil development, with redoximorphic features and the presence of other prominent hydric soil indicators observed within many of the excavated depressions.
Hydric Soil	Soil is sufficiently stable to prevent erosion.	Υ	Disturbed soil is stable and does not exhibit signs of erosion.
	Soil is able to support plant cover.	Υ	Plant cover has continued to develop across disturbed soils.
	Achieved when wetlands delineated as hydrophytic using technical guidelines.	Υ	Areas identified as wetland habitat within the mitigation site support a prevalence of hydrophytic vegetation (OBL, FACW, and FAC).
Hydrophytic Vegetation	Noxious weeds do not exceed 5 percent cover.	Υ	Although several noxious weed infestations have been mapped across this site, these infestations are generally located outside of excavated wetlands. Overall, the estimated noxious weed cover within delineated wetlands is less than 5 percent.
	Hydrophytic vegetation success will include achieving a minimum overall vegetation cover of 80 percent in created wetland areas within 5 years following site construction.	Υ	The majority of created wetlands exhibited 80 percent hydrophytic vegetation cover during the 2020 monitoring event. All wetlands that were designed to provide 80 percent vegetative cover are currently achieving that performance standard.
Woody Plants	Plantings will be considered successful where they exceed 50 percent survival after 5 years.	N	Approximately 14 percent of the woody plantings observed were alive in 2020, which does not meet the 50 percent survival criteria. However, several wetland cells exhibit at least 45 percent cover by volunteer woody species that are expected to continue to expand across the site.
Herbaceous Plants	At the conclusion of the monitoring period, ocular coverage of desirable hydrophytic vegetation will be at least 80 percent.	Υ	The majority of created wetlands exhibited at least 80 percent hydrophytic vegetation cover during the 2020 monitoring event. All wetlands that were designed to provide 80 percent hydrophytic vegetative cover are currently achieving that performance standard.
Open-Water Areas	Open water that is established within the designated wetland cells will be considered successful and creditable.	Υ	Open water areas, with less than 5% vegetative cover, were mapped within cells 1 and 2. Shallow ponded water areas, with greater than 5% vegetative cover were also observed on site within cells 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12. Overall water depths ranged from 2 to 10 inches deep. A variety of herbaceous and woody hydrophytic species comprised the areas that were vegetated.
Upland Buffer	Success will be achieved when noxious weeds do not exceed 5 percent cover within the buffer areas on site.	Υ	Noxious weed infestations, including field bindweed, leafy spurge, salt cedar, and Canada thistle, have been identified within the site and do not exceed 5% cover. MDT will continue to implement weed-control measures to maintain this criterion.

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
	Any area disturbed within creditable buffer zones must have at least 50 percent aerial cover of non-weed species by the end of the monitoring period.	Υ	Upland buffers surround wetland areas within the site exhibited greater than 50 percent aerial cover of nonweed species.
Weed Control	Success will be achieved where <5 percent absolute cover of noxious weed species occurs across the site.	Y	The absolute cover of state-listed noxious weed species across the entire site was estimated at less than 5 percent in 2020.
Fencing	Install wildlife-friendly fencing along the easement boundaries.	Y	Wildlife-friendly fencing has been installed around the easement boundaries and is in good condition.
Monitoring	Monitor the site for a minimum of 5 years or longer as determined by the USACE.	Υ	Comprehensive site monitoring has been ongoing for 8 years.

Summary Data

Wetland Delineation — The total wetland acreage delineated in 2020 (including preexisting wetland areas) was 34.7 acres, which is a 1.4-acre increase from the 2019 acreage (33.3 acres). The delineation confirmed 18.4 acres in preservation areas, 8.5 acres in the restoration areas (reestablishment and rehabilitation), 2.9 acres in the enhancement area, and 4.9 acres of created wetland in the excavated cells (Table 2). In 2020, the USACE provided guidance on open water, defining it as "areas of open water of any depth with less than 5% rooted emergent vegetation, no vegetation, submerged non-rooted vegetation, and/or submerged vegetation rooted in the substrate that does not extend above the water surface." In accordance with this recent USACE guidance, open water accounted for 0.4-acre of the mitigation site in 2020 (Table 2). Uplands accounted for the remaining 80.6 acres of the mitigation site. USACE wetland determination data forms [USACE, 2010] are provided in Appendix B.

Table 2. Wetland & Aquatic Habitat Acreage Delineated From 2014 Through 2020 at the Kindsfater Site

Habitat Type	2014 Acreage	2015 Acreage	2016 Acreage	2017 Acreage	2018 Acreage	2019 Acreage	2020 Acreage
Preservation	21.3	21.3	20.3	20.5	17.6	17.4	18.4
Reestablishment (Restoration)	7.9	7.9	7.8	6.8	6.1	7.3	7.4
Rehabilitation (Restoration)	0.9	0.9	0.9	1.0	1.0	1.0	1.1
Enhancement	3.0	3.0	3.4	3.0	3.0	2.9	2.9
Creation	1.8	1.8	2.0	2.2	4.7	4.7	4.9
Open Water							0.4
Total Wetland & Aquatic Habitat	34.9	34.9	34.4	33.4	32.4	33.3	35.1

Vegetation – A total of 144 plant species were identified on the site from 2013 through 2020, including 1 new upland species, sand dropseed (*Sporobolus cryptandrus*) in 2020 (see plant list in Appendix B). Vegetation communities were identified by species composition and dominance. The following vegetation community types were identified in 2020:

• Wetland Type 2 – *Eleocharis palustris/Schoenoplectus* spp.

- Wetland Type 3 Alopecurus arundinaceus/Poa palustris
- Wetland Type 5 *Typha latifolia*
- Wetland Type 8 Populus deltoides
- Wetland Type 9 Salix exigua
- Wetland Type 10 Poa palustris
- Wetland Type 11 Phalaris arundinacea
- Wetland Type 16 *Juncus* spp./*Carex* spp.
- Upland Type 4 Elaeagnus angustifolia
- Upland Type 6 *Elymus trachycaulus/Bromus* spp.
- Upland Type 7 Bromus tectorum/Agropyron cristatum
- Upland Type 12 Alopecurus arundinaceus/Poa pratensis
- Upland Type 14 *Elymus* spp./*Bromus* spp.
- Upland Type 15 Bromus spp./Nassella viridula
- Upland Type 17 Bromus spp./Poa pratensis

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

Vegetation cover was measured along three transects in 2020 (Figure A-2, Appendix A). Details of each transect are provided in the Wetland Mitigation Site Monitoring form (Appendix B). Photographs of the transect end points are provided in Appendix C. Table 3 summarizes the data for T-1. T-1 is 300 feet long and intersected upland community Type 15 and wetland community Types 8 and 9; 53 percent of the transect crossed wetland habitat, which is a 2 percent decrease since 2019. Total vegetative cover along this transect was 85 percent in 2020. The total number of plant species observed along the transect decreased minimally from 2019 to 2020. It is unclear why the number of total species decreased in 2020. Annual shifts in species dominance and general presence/absence of species are normal and expected within plant communities.

Table 3. Data Summary for T-1 From 2016 Through 2020 at the Kindsfater Site

Monitoring Year	2016	2017	2018	2019	2020
Transect Length (feet)	300	300	300	300	300
Vegetation Community Transitions Along Transect	4	4	4	4	4
Vegetation Communities Along Transect	4	4	5	3	3
Hydrophytic Vegetation Communities Along Transect	2	2	2	2	2
Total Vegetative Species	40	38	35	40	36
Total Hydrophytic Species	14	13	12	12	9
Total Upland Species	26	25	23	28	27
Estimated % Total Vegetative Cover	75	75	85	84	85
Estimated % Unvegetated	25	25	15	16	15
% Transect Length Comprising Hydrophytic Vegetation Communities	40.3	40.3	49.3	55	53
% Transect Length Comprising Upland Vegetation Communities	59	59.7	50.7	45	47
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0

Data collected on T-2 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 4. T-2 is 388 feet long and intersects wetland community Types 2 and 3; 100 percent of the transect crossed wetland habitat in 2020, which has remained constant since monitoring began in 2013. Total vegetative cover along this transect was 90 percent in 2020. Hydrophytic plant species observed along the transect decreased from 2019 to 2020. Annual shifts in species dominance and general presence/absence of species are normal and expected within plant communities.

Table 4. Data Summary for T-2 From 2016 Through 2020 at the Kindsfater Site

Monitoring Year	2016	2017	2018	2019	2020
Transect Length (feet)	388	388	388	388	388
Vegetation Community Transitions Along Transect	2	2	2	2	2
Vegetation Communities Along Transect	2	2	2	3	2
Hydrophytic Vegetation Communities Along Transect	2	2	2	2	2
Total Vegetative Species	35	39	26	27	21
Total Hydrophytic Species	18	23	20	20	12
Total Upland Species	17	16	6	7	9
Estimated % Total Vegetative Cover	60	65	75	88	90
Estimated % Unvegetated	40	35	25	12	10
% Transect Length Comprising Hydrophytic Vegetation Communities	100	100	100	100	100
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0

Data collected on T-3 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 5. T-3 is 292 feet long and intersected upland community Type 14 and wetland community Types 3 and 5; 92 percent of the transect crossed wetland habitat in 2020, which is unchanged from 2019. Total vegetative cover along this transect was 90 percent in 2020. Four additional upland species were observed along the upland community Type 14 transect interval between 2019 and 2020.

Table 5. Data Summary for T-3 From 2016 Through 2020 at the Kindsfater Site

Monitoring Year	2016	2017	2018	2019	2020
Transect Length (feet)	292	292	292	292	292
Vegetation Community Transitions Along Transect	1	1	1	2	2
Vegetation Communities Along Transect	2	2	2	3	3
Hydrophytic Vegetation Communities Along Transect	1	1	1	2	2
Total Vegetative Species	28	31	23	24	27
Total Hydrophytic Species	15	19	11	15	14
Total Upland Species	13	12	12	9	13
Estimated % Total Vegetative Cover	70	75	85	88	90
Estimated % Unvegetated	30	25	15	12	10
% Transect Length Comprising Hydrophytic Vegetation Communities	89.7	89.7	91.8	91.8	91.8
% Transect Length Comprising Upland Vegetation Communities	10.3	10.3	8.2	8.2	8.2

% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0

Montana State-Listed Priority 2B noxious weeds identified within the Kindsfater mitigation site in 2020 included spotted knapweed (*Centaurea stoebe*), Canada thistle (*Cirsium arvense*), leafy spurge (*Euphorbia esula*), field bindweed (*Convolvulus arvensis*), salt cedar (*Tamarix chinensis*), and gypsyflower (*Cynoglossum officinale*). Infestation areas, with the exception of isolated occurrences, were mapped in 2020 and are shown on Figure A-3 in Appendix A. MDT has an ongoing weed-control program for their mitigation sites that includes an annual assessment of identified weed populations and application of herbicide treatment for the specific weed species and location. MDT completed noxious weed spraying at the Kindsfater site in July 2020. Performance standards for noxious weeds across the site are currently being met.

A few thousand cuttings and containerized materials were planted in approximately 27 clusters (Figure A-2, Appendix A) around the Kindsfater site. The woody planting zones were generally located around the excavated wetland cells. Each individual cluster was monitored in 2020 with the number of live plants counted and recorded by species. Approximately 14 percent of the observed plantings were alive during the 2020 evaluations, which is a slight increase from 2019 (12 percent), and is likely caused by narrow-leaf willow and eastern cottonwood root sprouts or plant regrowth from the base. Low survival is likely a result of insufficient moisture availability when the plantings were initially planted. A few additional *Juniperus scopulorum*, *Rosa woodsii*, and *Shepherdia argentea* young plants were observed during the June 2020 monitoring. The planted and surviving species are listed on the Wetland Mitigation Site Monitoring form (Appendix B).

Hydrology – The hydrology for the site is supplied from multiple sources, including a shallow seasonal groundwater table, direct precipitation, and surface runoff. During the June 2020 monitoring, all areas that had been defined as wetlands across the site were inundated, saturated, or exhibited signs of periodic saturation within 12 inches (1 foot) of the ground. Shallow surface water was documented in nearly all cells, with the exception of 13 and 14, and ranged in depth from 1-10 inches. Constructed Cells 1 and 2 were identified as open water areas in 2020, surrounded by an emergent wetland fringe. Constructed cells 3, 6, 7, 9, 13, and 14 represented isolated wetland depressions surrounded by upland habitat. The remaining constructed cells were situated within a contiguous wetland mosaic with frequent surface drainages between cells. Shallow groundwater flows through the cells that were constructed along the upper terrace then discharges into the natural slope wetlands to recharge the depressional wetlands along the lower terrace.

Long-term groundwater monitoring conducted by the US Geological Survey (USGS) at the Kindsfater site indicates that groundwater levels steadily declined through 2015, potentially a result of prolonged drought conditions in the region. Groundwater elevations have also been influenced by active gravel mining operations directly north of the site, and to a lesser extent from a large irrigation canal just south of the site. Groundwater levels within the site have steadily increased since 2015, which may be a result of higher-than-average precipitation in the region in 2017 through 2019, a change in irrigation discharge, and/or dewatering practices from the nearby gravel operation. Precipitation accumulation forthis area in 2020 reported 12.81 inches from January through November, which is much lower thanaccumulation reported for 2017 through 2019, and slightly lower than the historic accumulation average of 14.31 inches. Monitoring efforts completed by the USGS in 2020 shows groundwater levels in aportion of site 1.4 to 3.5 feet below the land surface elevation of 3,278 feet from March through October (Table 6) [USGS, 2020].

Table 6, 2020 USGS Groundwater Well Data for the Kindsfater Site

2020 Discrete water-level measurements							
Date	Time Mountain Time	Depth to water level, feet below land surface					
3/30/2020	11:49	1.48					
6/16/2020	10:32	3.53					
8/28/2020	10:30	1.39					
10/7/2020	12:09	2.85					

Soils – The Yellowstone County Soil Survey [NRCS, 2020] indicates that five soil series were mapped within the monitoring area and include the Bew silty clay loam, Shorey gravelly loam, Wanetta clay loam, Larim gravelly loam, and alluvial land (wet). In the 1970's much of the site was excavated for gravel and borrow material, therefore the original soil mapping may not necessarily represent the existing conditions at the site. Soil test pits were excavated at 28 locations across the site (Figure A-2, Appendix A). Soil textures within wetland test pits ranged from loamy sand to silty clay. Hydric soil indicators were observed within every wetland test pit and included black histic, sandy redox, depleted matrix, redox dark surface, loamy gleyed matrix, and hydrogen sulfide. Soil textures within upland test pits ranged from sand to silty clay. No hydric soil indicators were observed in any of the upland test pits. Additional field observations for the 28 data points are provided in the wetland determination data forms in Appendix B.

Photographs – Photographs were taken at photo points 1–12 (PP1 to PP12), transect endpoints, and data points and are provided in Appendix C with comparisons between 2020 and the first year of monitoring. Please refer to previous years' monitoring reports for all previous annual photographs (https://www.mdt.mt.gov/publications/brochures/wetland_mitigation.shtml).

Functional Assessment – The 2020 results of the functional assessments are summarized in the Table 7. A completed Montana Wetland Assessment Method (MWAM) form [Berglund and McEldowney, 2008] for the Kindsfater Site is provided in Appendix B. Overall, the existing and created wetlands rate as Category III wetlands and the site has generated 179.46 Functional Units.

Table 7. Montana Wetland Assessment Method Summary for the Kindsfater Site

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	2020 AA1 (Existing Wetlands)	2020 AA2 (Created Wetlands)
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	Low (0)	Low (0)
Montana Natural Heritage Program Species (MTNHP) Habitat	High (0.9)	High (0.9)
General Wildlife Habitat	Mod (0.5)	Mod (0.7)
General Fish/Aquatic Habitat	N/A	N/A
Flood Attenuation	N/A	N/A
Short- and Long-Term, Surface-Water Storage	High (0.9)	Mod (0.6)
Sediment/Nutrient/Toxicant Removal	High (0.9)	High (1.0)
Sediment/Shoreline Stabilization	NA	NA
Production Export/Food Chain Support	High (0.8)	Mod (0.6)
Groundwater Discharge/Recharge	Mod (0.7)	Mod (0.7)
Uniqueness	Low (0.3)	Low (0.3)
Recreation/Education Potential (bonus points)	High (0.2)	High (0.2)

Actual Points/Possible Points	5.2/8	5.0/8
% of Possible Score Achieved	65%	63%
Overall Category	III	III
Total Acreage of Assessed Wetlands Within Site Boundaries	29.8	4.9
Functional Units (acreage × actual points)	154.96	24.50

Wildlife – Twenty-five bird species were identified in 2020 across the site. The two bluebird (*Sialia* spp.) boxes installed at the site were absent from the site during the 2020 monitoring event. In addition to the bird species, chorus frogs were seen in wetlands across the site, white-tailed and mule deer were observed, and raccoon tracks were noted.

Credit Summary — Table 8 summarizes the current estimated wetland credits based on the USACE-approved credit ratios [USACE, 2005] and the wetland delineation that was completed in June 2020. A total of 34.7 acres of wetland habitat were delineated at the Kindsfater site in 2020, including 4.9 acres of creation, 7.4 acres of reestablishment, 1.1 acre of rehabilitation, 2.9 acres of enhancement, and 18.4 acres of wetland preservation. A total of 42.4 acres, including 7.3 acres of upland buffer and 0.4-acre of open water, were used to calculate the mitigation credited acres. After applying the USACE-approved ratios to these values, a total of 20.0 acres of mitigation credits have been estimated in 2020, which is below the targeted 32.7 acres that were anticipated at this site. Although 2020 represents the eighth year of monitoring, attaining the full target value of 32.7 credit acres may prove difficult without an increase of groundwater or supplemental water into the mitigation area.

Table 8. Wetland Mitigation Credits Estimated for the Kindsfater Ranch Site (2018–2020)

Compensatory Mitigation Type	Mitigation Area Description	Wetland Type ^(a)	Anticipated Mitigation Surface Area (acres)	USACE- Approved Mitigation Ratios	Anticipated Mitigation Credit (acres)	2018 Delineated Acres ^(b)	2018 Mitigation Credit (acres)	2019 Delineated Acres ^(b)	2019 Mitigation Credit (acres)	2020 Delineated Acres ^(b)	2020 Mitigation Credit (acres)
Creation (Establishment)	Wetland Cells 7, 9, 13, & 14	Lacustrine emergent	4.6	1:1	4.6	4.7	4.7	4.7	4.7	4.9	4.9
Restoration (Reestablishment)	Wetland Cells 1–6 and partial Cell 18	Lacustrine emergent and Palustrine emergent, scrub- shrub	14.0	1:1	14.0	6.1	6.1	7.3	7.3	7.4	7.4
Restoration (Rehabilitation)	Areas adjacent to Wetland Cells 1–12	Palustrine emergent, scrub- shrub	9.2	1.5:1	6.1	1.0	0.7	1.0	0.7	1.1	0.7
Enhancement	Wetland Cells 10– 12 & Partial Cell 8	Palustrine emergent, scrub- shrub	3.1	3:1	1.0	3.0	1.0	2.9	0.9	2.9	0.9
Preservation	Existing Wetland Areas	Palustrine emergent, scrub- shrub	21.9	4:1	5.5	17.6	4.4	17.4	4.4	18.4	4.6
Upland Buffer	50-foot-wide upland perimeter	N/A	7.3	5:1	1.5	7.3	1.5	7.3	1.5	7.3	1.5
Open Water	Wetland Cells 1 & 2	Palustrine emergent	N/A	TBD ^(c)	TBD ^(c)	N/A	N/A	N/A	N/A	0.4	TBD ^(c)
	Total		60.1		32.7	39.7	18.4	40.6	19.5	42.4	20.0

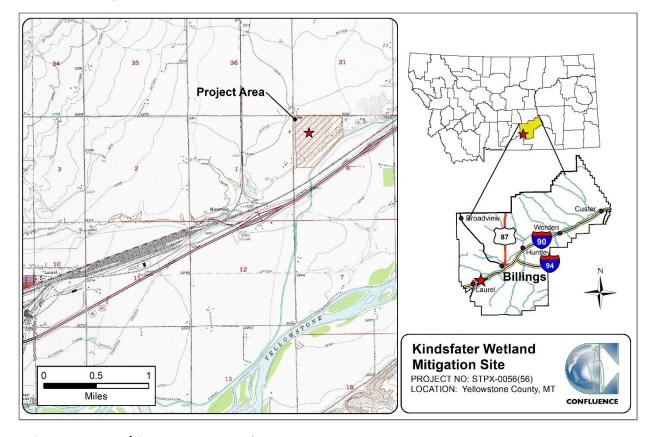
⁽a) [FGDC, 2013]

⁽b) The 2018–2020 credit areas are derived were from a .dgn file provided by MDT.

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

Maps, Plans, Photos

Site Location Map



Project Area Maps/Figures: See Appendix A

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

Photos: See Appendix C

Plans: See Appendix D of 2018 Monitoring Report

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

Conclusions

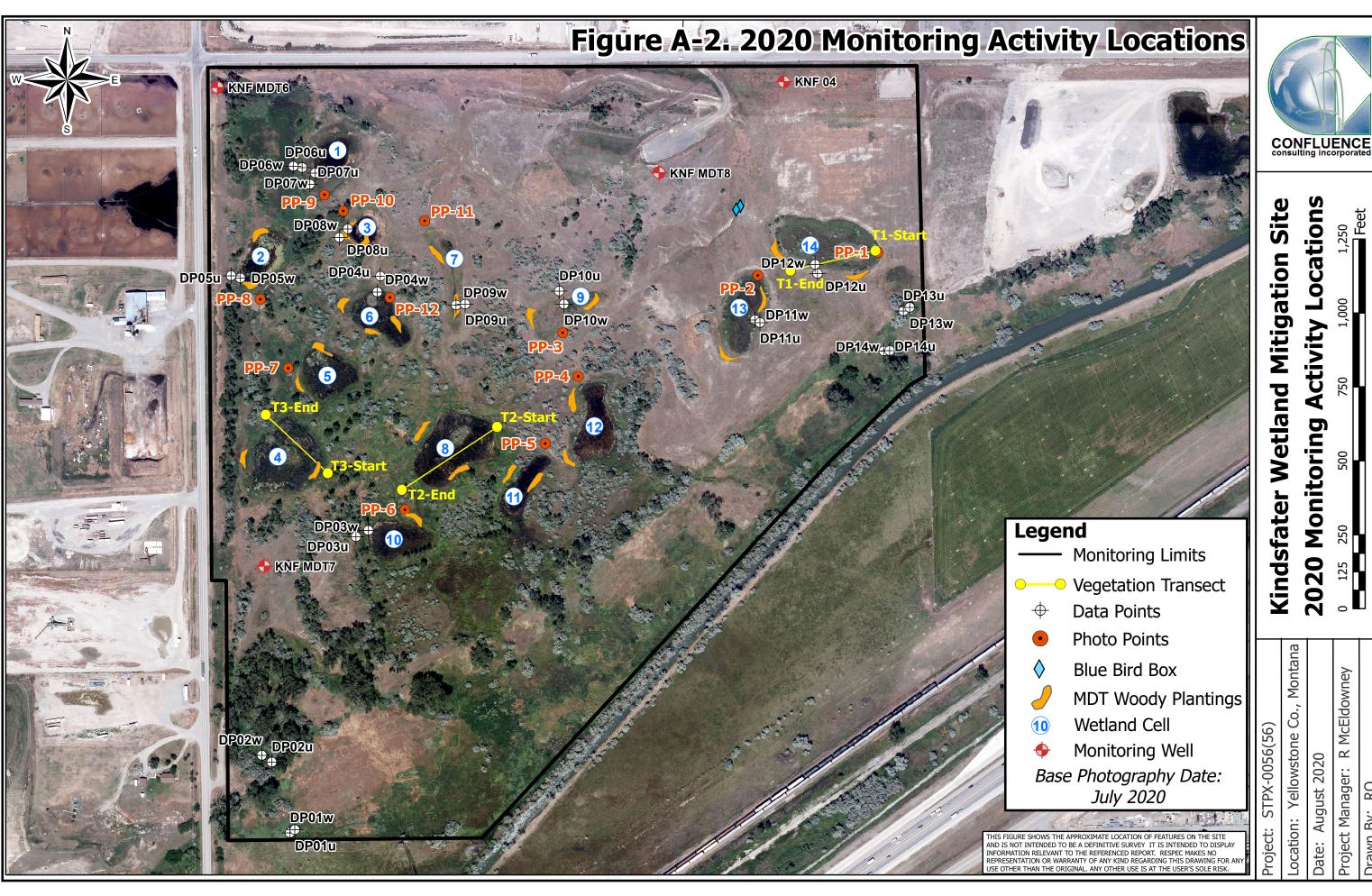
Based on the results of the eighth year of monitoring, the Kindsfater mitigation site is continuing to develop into a diverse wetland ecosystem. The site is meeting all but one of the project's performance standards. Woody planting survival was estimated at 14 percent in 2020 with substantial volunteer woody plant cover noted in several areas. The site is slowly trending positively toward planned wetland credit acreage goals.

References

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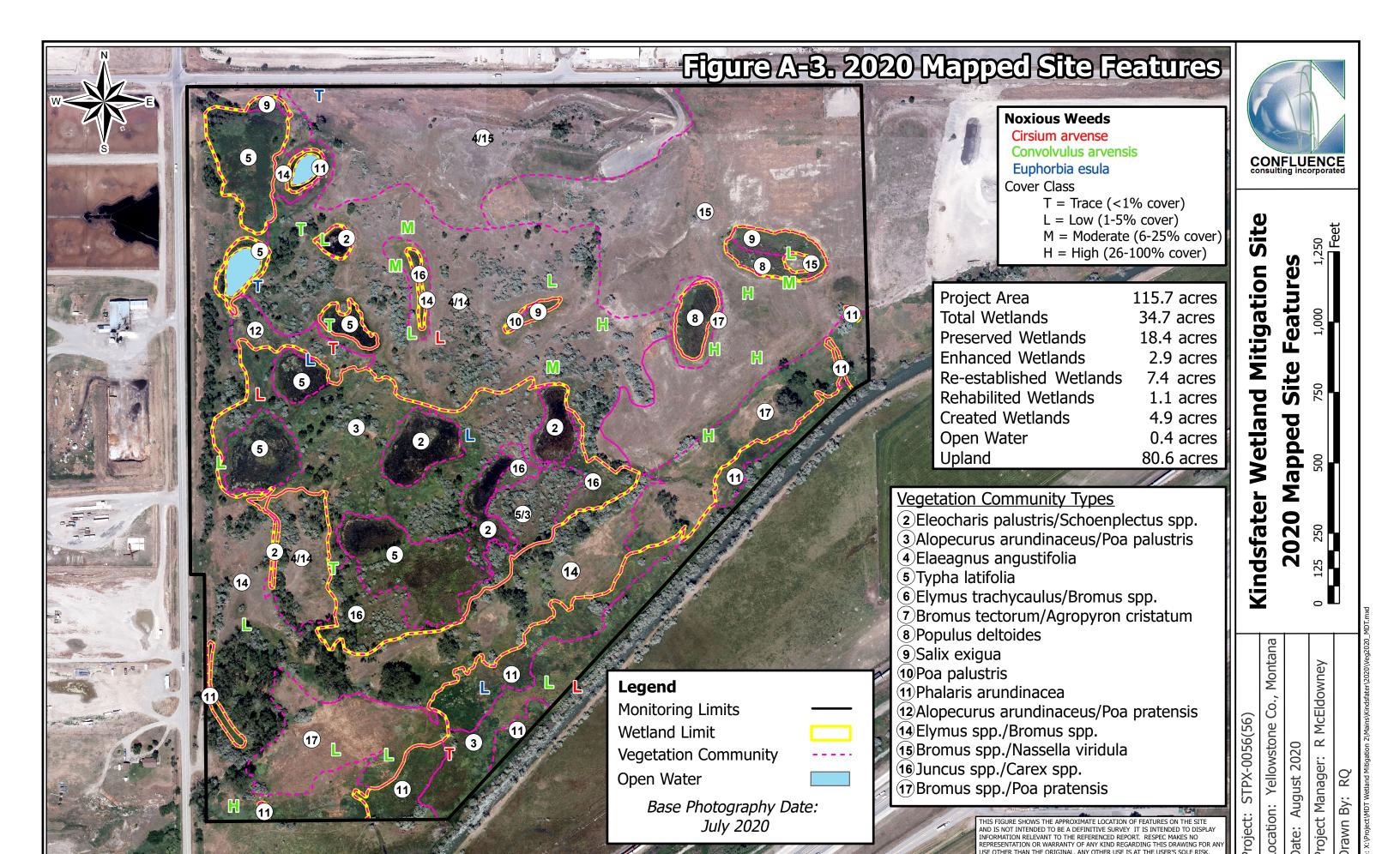
APPENDIX A PROJECT AREA MAPS

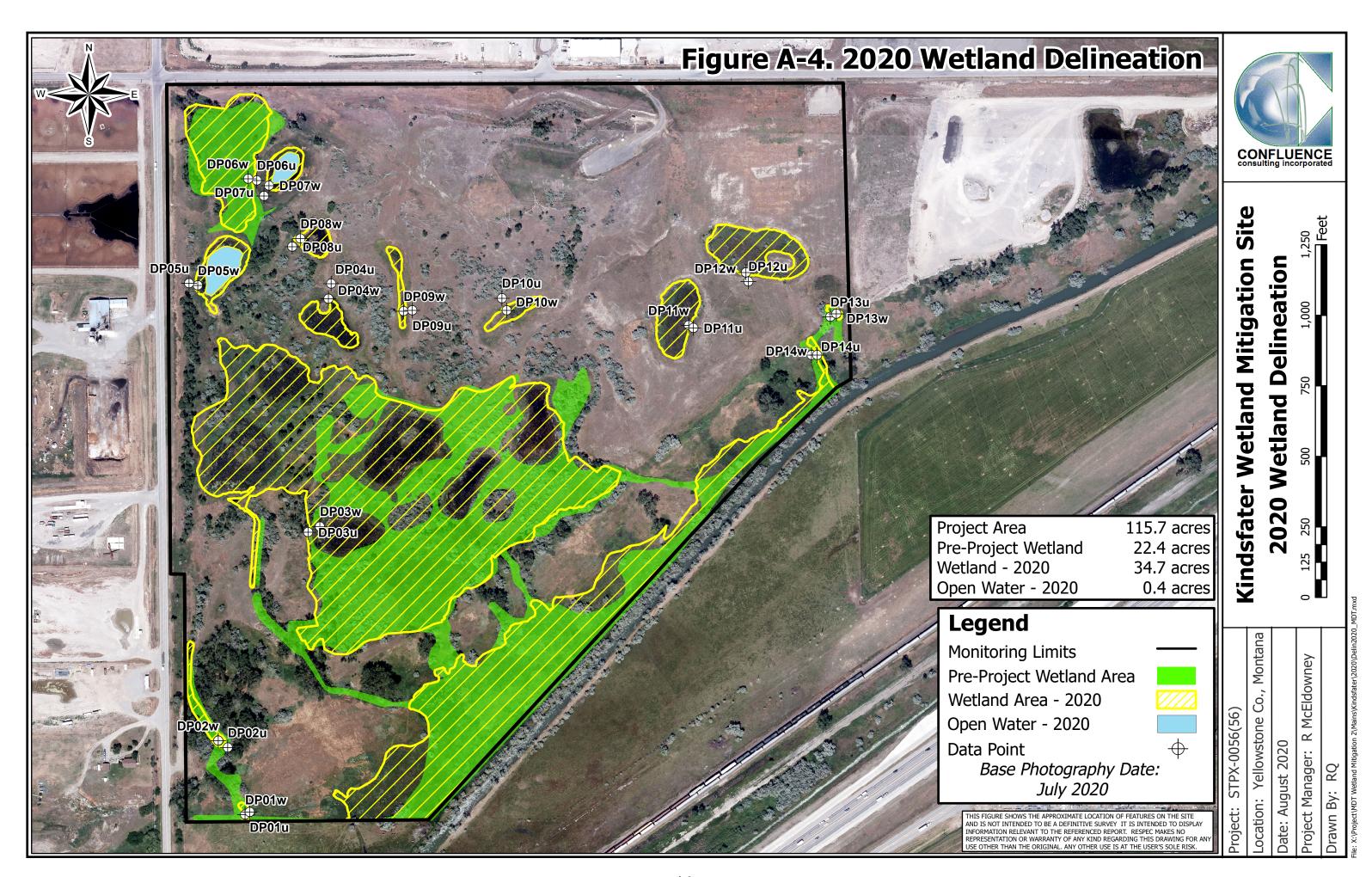
MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana



Activity Locations

2020 Monitoring





APPENDIX B MONITORING FORMS

MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Kindstater Assessment Date/Time 6/16/2020
Person(s) conducting the assessment: R Quire, S Weyant, R Jones
Weather: 63 degrees, overcast/rainy,breezy_Location: Laurel, MT
MDT District: BillingsMilepost: NA
Legal Description: T_2S_R_25E_Section(s)_6
Initial Evaluation Date: 8/22/2013 Monitoring Year: 8 #Visits in Year: 1
Size of Evaluation Area: 115.69 (acres)
Land use surrounding wetland:
Commercial and agriculture including a gravel mining operation to the north and hay fields to the NV
HYDROLOGY
Surface Water Source: Groundwater
Inundation: Average Depth: 0.3 (ft) Range of Depths: 0.1-0.8 (ft)
Percent of assessment area under inundation:10 %
Depth at emergent vegetation-open water boundary:0.3 (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 <u>:</u>
Saturation visible on aerial imagery, shallow ponded water in several of the wetland cells and signs of ponded water also noted in several wetland cells - water marks, geomorphic position and drainage patterns.
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:
There are several wells within this site that are monitored by the USGS and are included on Figure A-2.

VEGETATION COMMUNITIES

Site_Kindsfater

(Cover Class Codes $\mathbf{0} = < 1\%$, $\mathbf{1} = 1-5\%$, $\mathbf{2} = 6-10\%$, $\mathbf{3} = 11-20\%$, $\mathbf{4} = 21-50\%$, $\mathbf{5} = >50\%$)

Community # 2 Community Type: Eleocharis palustris / Schoenoplectus spp. Acres: 1.19

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	2
Carex pellita	2	Eleocharis palustris	2
Juncus balticus	1	Juncus gerardii	1
Open Water	4	Phalaris arundinacea	2
Populus deltoides	1	Salix exigua	2
Salix lutea	1	Schoenoplectus acutus	2
Schoenoplectus pungens	2	Scirpus microcarpus	1
Typha latifolia	1	Veronica anagallis-aquatica	1
Comments:			
PEM wetland community.			

Community # 3 Community Type: Alopecurus arundinaceus / Poa palustris Acres: 12.44

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	4	Bare Ground	1
Bromus tectorum	2	Carex aquatilis	1
Carex nebrascensis	1	Carex utriculata	1
Elaeagnus angustifolia	1	Elymus repens	2
Elymus trachycaulus	2	Lycopus asper	1
Mentha arvensis	0	Pascopyrum smithii	1
Persicaria amphibia	0	Phalaris arundinacea	1
Poa palustris	3	Poa pratensis	3
Populus deltoides	2	Schoenoplectus acutus	1
Schoenoplectus pungens	1	Sonchus arvensis	1
Typha latifolia	0		

Comments:

Existing slightly drier wetland community. Many other species were recorded representing 1 percent or less. Noted young Populus deltoides seedlings along the western boundary and an increase in Poa pratensis along the ditch channel to the south. Juncus spp. (CT 16) and Phalaris arundinacea (CT 11) are replacing some areas previously mapped as CT 3.

Community # 4 Community Type: Elaeagnus angustifolia / Acres: 0

Species	Cover class	Species	Cover class
Bromus tectorum	1	Elaeagnus angustifolia	5
Elaeagnus commutata	1	Elymus repens	1
Elymus trachycaulus	1	Populus angustifolia	1
Populus deltoides	2		
Comments:			

Scrub-shrub and forested community interspersed throughout upland community types 14 and 15. Acreages for 4/14 and 4/15 mixed communities are 19.23 acres and 10.90 acres, respectively. Acreages for community types 4, 14, and 15 were not calculated for each individual community type.

Community # 5 Community Type: Typha latifolia / Acres: 7.44

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Bare Ground	1
Carex aquatilis	1	Carex pellita	1
Carex utriculata	1	Eleocharis palustris	1
uncus balticus	1	Marrubium vulgare	1
pen Water	1	Persicaria amphibia	1
nalaris arundinacea	1	Poa palustris	0
olypogon monspeliensis	1	Populus deltoides	1
alix exigua	1	Salix lutea	1
choenoplectus acutus	3	Schoenoplectus pungens	1
olanum dulcamara	1	Typha latifolia	5

Comments:

Pre-construction existing wetland community but has expanded from 2018 to 2020. This community is also interspersed throughout wetland community Type 3, in a 1.72-acre area, which is not included in the 7.44 acre area provided above.

Community # 8 Community Type: Populus deltoides / Acres: 1.09

Species	Cover class	Species	Cover class
Bare Ground	2	Bromus inermis	0
Carex praegracilis	1	Cirsium arvense	0
Convolvulus arvensis	1	Elaeagnus angustifolia	1
Eleocharis palustris	2	Elymus trachycaulus	1
Juncus balticus	1	Juncus gerardii	1
Medicago lupulina	0	Poa palustris	2
Polypogon monspeliensis	1	Populus deltoides	4
Salix exigua	3	Salix lutea	1
Schoenoplectus pungens	2	Sonchus arvensis	0
comments:			

Natural encroachment of young Populus deltoides seedlings and saplings were the dominant species across several of the depressional wetlands. In 2019 and 2020, a few cells transitioned from a dominance of Populus deltoides to Schoenoplectus spp./Eleocharis palustris or Typha latifolia due to standing water.

Community# 9 Co	mmunity Type:	Salix exigua /	Acres:	0.88
Species	Cover class	Species	Cover class	
Bare Ground	1	Bromus inermis	0	
Cirsium arvense	0	Eleocharis palustris	1	
Elymus trachycaulus	1	Epilobium ciliatum	1	
Juncus balticus	2	Juncus gerardii	1	
Nepeta cataria	0	Poa palustris	2	
Populus deltoides	2	Salix exigua	4	
Salix lutea	1	Schoenoplectus acutus	2	
Schoenoplectus pungens	2	Scirpus microcarpus	1	
Typha latifolia	1			
Comments:				
New community type in 2016	that has continued	expand across portions of the depr	essional wetlands.	
Community # 10 Co	mmunity Type:	Poa palustris /	Acres:	0.06
Species	Cover class	Species	Cover class	
Alopecurus arundinaceus	2	Bromus japonicus	2	
Carex nebrascensis	1	Cirsium arvense	0	
Eleocharis palustris	1	Elymus trachycaulus	2	
Lactuca serriola	0	Phalaris arundinacea	0	
Poa palustris	4	Poa pratensis	2	
Polypogon monspeliensis	0	Salix exigua	1	
Comments:				
In 2020 only observed in cell	9.			
Community # 11 Co	mmunity Type:	Phalaris arundinacea /	Acres:	<u>4.98</u>
Species	Cover class	Species	Cover class	
Alopecurus arundinaceus	2	Elymus repens	1	
Phalaris arundinacea	5			
Comments:				

Noted an increase in this community type in 2018 thru 2020, especially along the lower bench.

Community #	12	Community Type	e:	Alopecurus arundinaceus / Poa pratensis	Acres:	1.18
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Species	Cover class	Species	Cover class
Agropyron cristatum	1	Agrostis stolonifera	1
Alopecurus arundinaceus	4	Bare Ground	1
Bromus inermis	1	Bromus tectorum	2
Carex pellita	0	Cirsium arvense	0
Elaeagnus angustifolia	2	Eleocharis palustris	1
Elymus repens	2	Elymus trachycaulus	2
Juncus balticus	1	Phalaris arundinacea	0
Poa palustris	1	Poa pratensis	3
Populus deltoides	2	Salix lutea	0
Schoenoplectus pungens	0	Typha latifolia	0
Comments:			

A new community type in 2017 located along the western project boundary, previously community type 4/7.

Community # 14 Community Type: Elymus spp. / Bromus spp. Acres: 20.41

Species	Cover class	Species	Cover class
Agropyron cristatum	1	Alopecurus arundinaceus	0
Artemisia frigida	1	Bare Ground	1
Bromus inermis	2	Bromus japonicus	2
Bromus tectorum	3	Convolvulus arvensis	1
Elaeagnus angustifolia	1	Elymus lanceolatus	1
Elymus repens	4	Elymus trachycaulus	1
Melilotus officinalis	0	Pascopyrum smithii	1
Phalaris arundinacea	0	Poa pratensis	1
Schedonorus pratensis	1	Sisymbrium loeselii	1
Stipa viridula	1	Thlaspi arvense	1
Tragopogon dubius	1		

Comments:

A new community type in 2018 that has continued to expand across upland areas at the site in 2020. This community is also interspersed throughout upland community Type 4, in a 19.23-acre area, which is not included in the 20.41 acre area provided above.

Community # 15 Community Type: Bromus spp. / Nassella viridula Acres: 0.13

Species	Cover class	Species	Cover class
Agropyron cristatum	2	Agrostis stolonifera	1
Artemisia dracunculus	2	Artemisia frigida	1
Bare Ground	3	Bromus inermis	2
Bromus japonicus	1	Bromus tectorum	4
Cirsium arvense	0	Convolvulus arvensis	1
Elymus repens	1	Elymus trachycaulus	1
Erodium cicutarium	1	Heterotheca villosa	1
Lactuca serriola	1	Marrubium vulgare	1
Medicago lupulina	1	Medicago sativa	1
Melilotus officinalis	1	Nassella viridula	3
Opuntia polyacantha	0	Poa compressa	1
Poa palustris	1	Poa pratensis	1
Salix exigua	0	Sisymbrium altissimum	1
Sporobolus cryptandrus	1	Taraxacum officinale	1
Tragopogon dubius	1	Verbena bracteata	1
Comments:			

Comments:

A new community type in 2018 noting the increase in Nassella viridula and the reduction of Agropyron cristatum (CT 7). This community is also interspersed throughout upland community Type 4, in a 10.90-acre area, which is not included in the 0.13 acre area provided above.

Community # 16 Community Type: Juncus spp. / Carex spp. 2.88 Acres:

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Carex aquatilis	2
Carex nebrascensis	2	Carex pellita	2
Carex utriculata	1	Eleocharis palustris	1
Juncus balticus	3	Juncus gerardii	1
Juncus torreyi	1	Persicaria amphibia	1
Phalaris arundinacea	2	Typha latifolia	2
Comments:			

A new community type noted in 2018 where Juncus is replacing small areas of declining Community Type 5 or Community Type 2. In 2019 Carex spp. was added as a codominant which was confirmed in 2020.

Community #	17	Community Type:	Bromus sp. / Poa pratensis	Acres:	8.62
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Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	1
Bromus inermis	3	Bromus tectorum	3
Cirsium arvense	1	Convolvulus arvensis	1
Elymus repens	1	Elymus trachycaulus	1
Lactuca serriola	1	Pascopyrum smithii	2
Poa compressa	1	Poa pratensis	3
Comments:			

An upland community type in 2018 along portions of the the lower slope and terrace in the southern portion of the project, formerly community type 6.

Total Vegetation Community Acreage

61.3

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

VEGETATION TRANSECTS

. Kindsfater	Date: 6/		6/16/2020
Transect Number: 1	Compass Di	rection from Start:2	40 °
Interval Data:			
Ending Station	10 Community Type:	Bromus spp. / Nassella virio	dula
Species	Cover class	Species	Cover class
Agropyron cristatum	0	Bare Ground	3
Bromus inermis	2	Bromus tectorum	5
Convolvulus arvensis	0	Melilotus officinalis	0
Nassella viridula	1	Sporobolus cryptandrus	1
Taraxacum officinale	0	Tragopogon dubius	0
Ending Station	60 Community Type:	Salix exigua /	
Species	Cover class	Species	Cover class
Bare Ground	1	Bromus inermis	1
Cirsium arvense	1	Juncus balticus	2
Juncus gerardii	1	Nepeta cataria	0
Poa palustris	1	Populus deltoides	3
Salix exigua	4	Salix lutea	1
Salix sp.	1	Schoenoplectus pungens	2
Ending Station	145 Community Type:	Bromus spp. / Nassella virio	dula
Species	Cover class	Species	Cover class
Agrostis stolonifera	1	Artemisia frigida	1
Bare Ground	3	Bromus inermis	1
Bromus japonicus	2	Bromus tectorum	4
Cirsium arvense	1	Elymus repens	1
Elymus trachycaulus	1	Heterotheca villosa	1
Lactuca serriola	1	Marrubium vulgare	1
Melilotus officinalis	0	Nassella viridula	3
Sisymbrium altissimum	1	Sporobolus cryptandrus	2
Ending Station	255 Community Type:	Populus deltoides /	
Species	Cover class	Species	Cover class
Bare Ground	1	Bromus inermis	1
Cirsium arvense	1	Convolvulus arvensis	1
Elaeagnus angustifolia	1	Elymus trachycaulus	1
Juncus balticus	2	Medicago lupulina	0
Poa palustris	1	Populus deltoides	4
Salix exigua	4	Salix lutea	3
Schoenoplectus pungens	1	Sonchus arvensis	1

Ending Station	300 Community Type:	Bromus spp. / Nassella viridula
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Species	Cover class	Species	Cover class
Agropyron cristatum	0	Bare Ground	3
Bromus inermis	2	Bromus japonicus	4
Bromus tectorum	4	Cirsium arvense	1
Convolvulus arvensis	1	Erodium cicutarium	1
Lactuca serriola	0	Medicago lupulina	0
Nassella viridula	3	Poa compressa	1
Poa palustris	1	Poa pratensis	1
Salix exigua	1	Sporobolus cryptandrus	1
Tragopogon dubius	1		

Transect Notes:

The number of both hydrophytic and upland species observed along the transect has decreased since 2019.

Fransect Number: 2 Compass Direction from Start: 22	225 °
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Interval Data:

Ending Station	20 Community Type	: Alopecurus arundinaceus / F	Poa palustris
Species	Cover class	Species	Cover class
Agrostis stolonifera	1	Alopecurus arundinaceus	4
Bromus inermis	1	Elaeagnus angustifolia	1
Eleocharis palustris	1	Elymus repens	1
Phalaris arundinacea	1	Poa palustris	1
Populus deltoides	0	Salix lutea	0
Schoenoplectus pungens	1		

Ending Station 320 **Community Type:** Eleocharis palustris / Schoenoplectus spp.

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Bare Ground	2
Carex pellita	1	Eleocharis palustris	3
Juncus balticus	1	Juncus gerardii	1
Open Water	4	Salix exigua	2
Salix lutea	2	Schoenoplectus acutus	3
Schoenoplectus pungens	2	Typha latifolia	1
Veronica anagallis-aguatica	1		

Ending Station 388 Community Type: Alopecurus arundinaceus / Poa palustris

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	5	Bare Ground	2
Carex pellita	1	Elaeagnus angustifolia	1
Juncus balticus	1	Phalaris arundinacea	0
Poa palustris	2	Poa pratensis	3
Populus deltoides	1	Schoenoplectus pungens	1
Typha latifolia	1		

Transect Notes:

The number of both hydrophytic and upland species observed along the transect has decreased since 2019.

Transect Number: 3 Compass Direction from Start: 290 °

Interval Data:

Ending Station 45 Community Type: Alopecurus arundinaceus / Poa palustris

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	5	Bare Ground	2
Carex aquatilis	1	Carex nebrascensis	1
Carex utriculata	1	Elaeagnus angustifolia	0
Lycopus asper	1	Persicaria amphibia	1
Phalaris arundinacea	1	Poa palustris	2
Poa pratensis	1	Populus deltoides	1
Schoenoplectus acutus	1	Sonchus arvensis	0
Typha latifolia	1		

Ending Station 268 Community Type: Typha latifolia /

	<u> </u>		
Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Bare Ground	2
Carex aquatilis	2	Carex pellita	1
Carex utriculata	2	Eleocharis palustris	1
Juncus balticus	1	Open Water	2
Persicaria amphibia	1	Phalaris arundinacea	2
Poa palustris	1	Populus deltoides	1
Salix exigua	1	Schoenoplectus acutus	3
Typha latifolia	4		
i ypiia iatiiolia	7		

Ending Station 292 **Community Type:** Elymus spp. / Bromus spp.

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	3	Bare Ground	2
Bromus tectorum	0	Convolvulus arvensis	1
Elaeagnus angustifolia	1	Elymus repens	4
Phalaris arundinacea	2	Poa pratensis	1
Schedonorus pratensis	2	Sisymbrium loeselii	1
Thlaspi arvense	0	Tragopogon dubius	0

Transect Notes:

Noted several dead and dying Russian olive shrubs in wetland cell, likely from prolonged inundation.

PLANTED WOODY VEGETATION SURVIVAL

Kindsfater

Planting Type	#Planted	#Alive Notes
Cornus alba	130	0
Crataegus douglasii	50	0
Juniperus scopulorum	50	4
Populus spp.	140	47
Prunus virginiana	50	0
Rosa woodsii	50	2
Salix spp.	2800	417 Salix exigua best survival
Shepherdia argentea	50	2
TOTAL	3320	472 ~14% survival

Comments

Approximately 27 woody planting areas were mapped by MDT in 2013, generally located around the excavated basins. Locations for the planted vegetation are shown on Figure A-2. During the 2020 monitoring, each individual planting group was monitored and live woody plants were counted by species. Approximately 14% of the planted woody plants were alive in 2020. Salix spp. And Populus spp. Volunteers are filling in around several wetland cells.

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WILDLIFE

Birds

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

Nesting Structure Comments:

The trees with the two bird boxes were noted as fallen over in 2019. During the site visit in 2020, the bird boxes were absent and had not been replaced.

Species	#Observed	Behavior	Habitat
American Robin	1	L	
Brewer's Blackbird			
Cedar Waxwing			
Common Grackle			
Common Yellowthroat			
Eurasian Collared-Dove			
European Starling			
Gray Catbird			
Great Blue Heron	1	FO	
House Finch			
House Wren			
Killdeer	3	FO, L	
Lark Sparrow			
Mallard	15	BP, F, FO, N	
Mourning Dove	5	FO, L	
Red-tailed Hawk	2	FO, L	
Red-winged Blackbird	35	F, FO, L	
Ring-necked Pheasant	4	FO, L	
Rose-breasted Grosbea	k		
Sandhill Crane	6	BP, N	
Say's Phoebe			
Starling	3	FO, L	
Tree Swallow	1	FO, L	B-13

Western Wood-Pewee

Yellow Warbler 4 F, FO

Bird Comments

MDT supplemented bird list during their site visit on 6/16/20.

BEHAVIOR CODES

BP = One of a <u>breeding pair</u> **BD** = <u>Breeding display</u> **F** = <u>Foraging</u> **FO** = <u>Flyover</u> **L** = <u>Loafing</u> **N** = <u>Nesting</u>

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

Chorus Frogs	3	No	No	No
Dead Rodent		No	No	No
Mule Deer	2	No	No	No
Raccoon		Yes	No	No
White-tailed Deer	4	Yes	Yes	No

Wildlife Comments:

This site provides a diversity of habitat features for bird and other wildlife.

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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		
DP01u	45.690002	-108.698106				
DP01w	45.689975	-108.698171				
DP02u	45.690631	-108.698403				
DP02w	45.690697	-108.698532				
DP03u	45.692716	-108.697257				
DP03w	45.692772	-108.697092				
DP04u	45.69513	-108.6969				
DP04w	45.694983	-108.69694				
DP05u	45.695147	-108.698873				
DP05w	45.695125	-108.698751				
DP06u	45.696142	-108.697919				
DP06w	45.696158	-108.698037				
DP07u	45.695988	-108.69782				
DP07w	45.696091	-108.697749				
DP08u	45.695494	-108.697435				
DP08w	45.69557	-108.697323				
DP09u	45.694862	-108.69578				
DP09w	45.694855	-108.695901				
DP10u	45.694973	-108.694535				
DP10w	45.694853	-108.69447				
DP11u	45.694664	-108.691881				
DP11w	45.694689	-108.691946				
DP12u	45.69511	-108.691111				
DP12w	45.695197	-108.691144				
DP13u	45.694757	-108.68998				
DP13w	45.694789	-108.689896				
DP14u	45.694386	-108.690246				
DP14w	45.69439	-108.690168	B-1	6		

PP-1	45.69342	-108.690247	280	Wetland cell 14
PP-10	45.694847	-108.698418	140	Wetland cell 3
PP-11	45.695892	-108.697601	350	Wetland cell 7
PP-12	45.694939	-108.696663	230	Wetland cell 6
PP-2	45.695136	-108.691839	280	Wetland cell 13
PP-3	45.694612	-108.69443	0	Wetland cell 9
PP-4	45.694935	-108.691902	200	Wetland cell 12
PP-5	45.694748	-108.694458	10	Wetland cell 11
PP-6	45.694084	-108.694321	150	Wetland cell 10
PP-7	45.698065	-108.698065	90	Wetland cell 5
PP-8	45.694939	-108.698429	315	Wetland cell 2
PP-9	45.694302	-108.698044	90	Wetland cell 1
T-1-E	45.695072	-108.691437	50	Transect 1 end
T-1-S	45.695357	-108.690285	240	Transect 1 start
T-2-E	45.693184	-208.696573	40	Transect 2 end
T-2-S	45.693763	-108.695288	225	Transect 2 start
T-3-E	45.693317	-108.698486	110	Transect 3 end
T-3-S	45.693317	-108.697517	290	Transect 3 start

Comments:

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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
The total wetland acreage delineated in 2020 (including preexisting wetland areas) was 34.7 acres, which is a 1.4-acre increase from the 2019 acreage (33.3 acres).
Functional Assessments
Complete and attach full MDT Montana Wetland Assessment Method field forms.
Functional Assessment Comments:
Overall the existing and created wetlands rate as Category 3 wetlands.

Yes

Were man-made nesting structures installed at this site?

If yes, do they need to be reaired?

Maintenance

Yes

	ere man-made structures built or installed to but of the wetland? Yes	o impound water or control waterflow into
If ye	es, are the structures in need of repair	Yes
Bird boxe	es need repair.	

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Kindsfater	City/County: Yellowstor	ne s	Sampling Date: 6/16/2020
		State: Montana S	
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Rang	ge: 6 2S	25E
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, co	onvex, none):flat	Slope (%):1
Subregion (LRR): LRR F Lat:	45.690002	Long:108	.698106 Datum: NAD 83
Soil Map Unit Name: Wf: Larim gravelly loam, 0-4 percent slope		NWI classificat	_{ion:} Not Mapped
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes 🔽 No 🧾	(If no, explain in Rer	narks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	lormal Circumstances" pre	esent? Yes 🔽 No 🔲
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If nee	ded, explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	յ sampling point lo	cations, transects,	important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point.	Is the Sampled A	Area d? Yes	No <u> </u>
VEGETATION - Use scientific names of plants			
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant % Cover: Species		Dominance Test works	heet
		Number of Dominant Sp that are OBL, FACW or	
		Total Number of Domina Species Across All Strat	1
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Sp That Are OBL, FACW, o	
		Prevalence Index work	
		Total % Cover of: OBL species	Multiply by: 0 X 1 0
		FACW species 10	0 X 2 20
			0 X 3 0
Herbaceous Stratum Plot size (5 Foot Radius)		·	0 X4 0
Alopecurus arundinaceus 10	FACW		5 X 5 425
Bromus inermis 85 ✓	UPL	Column Totals 95	(A) 445 (B)
		Prevalence Index =	= B/A = 4.68
		Hydrophytic Vegetation	
			or Hydrophytic Vegetation
		2 - Dominance T	
		3 - Prevalence Ir	
			al Adaptations (Provide in remarks or on separate
		5 - Wetland Non-	-Vascular Plants
		Problematic Hyd	rophytic Vegetation (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)			wetland hydrology must be or problematic for #3, 4, 5.
Percent Bare Ground 5		Hydrophytic Vegetation Present?	n Yes □ NO ✓
Remarks:			
Upland grass community.			

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SOIL Sampling Point: DP01u

	Matrix Color (moist)	%	Color (ı		Features %	Type ¹	Loc ²	 Texture	Remarks
(inches) 0-7			COIOI (I	inoisi) _	//	i ype			
	_10YR3/1 _	_ 100_					•	Clay Loam	
7-12	-10YR —4/1 -	- 98-	10YR	- 5/8 -	- 2-	-C —	M	Clay Loam	-
								_	
								_	
								_	
1Typo: C=C	oncentration, D=Deple	otion DM-	·Poducod I	Matrix CS-	·Covered	or Coato	d Sand	Grains ² I	
	Indicators: (Applica						u Sanu		ors for Problematic Hydric Soils ³ :
Histosol			, _] Sandy GI					n Muck (A9) (LRR I, J)
	pipedon (A2)			Sandy Re	-				st Prairie Redox (A16) (LRR F, G, H)
	istic (A3)			Stripped I	Matrix (Se	5)			k Surface (S7) (LRR G)
	en Sulfide (A4)			Loamy M				Higl	n Plains Depressions (F16)
	d Layers (A5) (LRR F)			Loamy G	-				LRR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G, H		_	Depleted	-	-			luced Vertic (F18)
	d Below Dark Surface	(A11)	<u> </u>	Redox Da					Parent Material (TF2)
	ark Surface (A12) Mucky Mineral (S1)		+	Depleted Redox De		. ,			y Shallow Dark Surface (TF12) er (Explain in Remarks)
	Mucky Millerar (31) Mucky Peat or Peat (S	S2) (LRR (; H) 💳	」Redox De]High Plaii			16)		ors of hydrophytic vegetation and
_	ucky Peat or Peat (S3)		-, · · ·/ <u> </u>		A 72 & 7				and hydrology must be present,
	,	, , ,		,			,		ess disturbed or problematic.
Restrictive I	Layer (if present):								
Type:									
Depth (in	ches):							Hydric S	oil Present? Yes 🔲 No 🗹
Remarks: N									
14	o hydric soil indicat	ors obse	rved durir	ng site visi	t.				
	o nydric soli indicat	tors obse	rved durir	ng site visi	t.				
	o nydric soli indicat	ors obse	rved durir	ng site visi	t.			·	
		ors obse	rved durir	ng site visi	t.				
IYDROLO	OGY	ors obse	rved durir	ng site visi	t.				
IYDROLO Wetland Hyd	PGY drology Indicators:							Saga	aday Indicators (minimum of two requires
HYDROLO Wetland Hyd Primary Indic	OGY drology Indicators: cators (minimum of on	ne requirec	l; check all	I that apply)				_	ndary Indicators (minimum of two required
HYDROLO Wetland Hyo Primary Indic	OGY drology Indicators: cators (minimum of on Water (A1)	ne requirec	l; check all	l that apply) Salt Crust (I	311)	(D40)		s	urface Soil Cracks (B6)
HYDROLO Wetland Hyo Primary India Surface High Wa	OGY drology Indicators: cators (minimum of on Water (A1) ater Table (A2)	ne requirec	l; check all	I that apply) Salt Crust (I Aquatic Inve	311) ertebrates	` '		s s	urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8)
HYDROLO Wetland Hyo Primary Indic Surface High Wa	oGY drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3)	ne requirec	l; check all	I that apply) Salt Crust (I Aquatic Inve	311) ertebrates ulfide Odd	or (C1)			urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10)
HYDROLO Wetland Hyd Primary India Surface High Wa Saturatia Water M	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1)	ne requirec	l; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season	311) ertebrates ulfide Odd Water Ta	or (C1) able (C2)			urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) trainage Patterns (B10) oxidized Rhizospheres on Living Roots (C
HYDROLO Wetland Hyd Primary Indic Surface High Wa Saturatic Water M Sedimer	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)	ne requirec	l; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	311) ertebrates ulfide Odo Water Ta izosphere	or (C1) able (C2)			urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) pxidized Rhizospheres on Living Roots (C (where tilled)
HYDROLO Wetland Hyder Primary Indice Surface High Wa Saturatic Water M Sedimer Drift Dep	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	ne requirec	i; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no	311) ertebrates ulfide Odo Water Ta izosphere ot tilled)	or (C1) able (C2) es on Liv	ing Roo		urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8)
HYDROLO Wetland Hyder Primary Indice Surface High Wa Saturation Water M Sedimer Drift Dep Algal Ma	order (Marks (B1)) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ne requirec	l; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no	311) ertebrates ulfide Odd Water Ta izosphere of tilled)	or (C1) able (C2) es on Liv	ing Roo		urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) patterns (C9)
HYDROLO Wetland Hyde Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma	ody Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	ne required	I; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no	311) ertebrates ulfide Odo Water Ta izosphere ot tilled) Reduced	or (C1) able (C2) es on Liv I Iron (C4	ing Roo	ts (C3)	curface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) eaturation Visible on Aerial Imagery (C9) decomorphic Position (D2)
HYDROLO Wetland Hydeliand Hydeliand Inundation Water March Sedimer Algal March Inundation	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial In	ne required	I; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no	311) ertebrates ulfide Odo Water Ta izosphere ot tilled) Reduced	or (C1) able (C2) es on Liv I Iron (C4	ing Roo	ts (C3)	curface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) prayfish Burrows (C8) patternation Visible on Aerial Imagery (C9) presented by the company of the comp
HYDROLO Wetland Hyder Primary Indice Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-S	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial In Stained Leaves (B9)	ne required	I; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no	311) ertebrates ulfide Odo Water Ta izosphere ot tilled) Reduced	or (C1) able (C2) es on Liv I Iron (C4	ing Roo	ts (C3)	curface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) eaturation Visible on Aerial Imagery (C9) decomorphic Position (D2)
HYDROLO Wetland Hyder Primary Indicer Surfacer High Water Manager Sedimer Drift Dep Algal Manager Iron Dep Inundaticer Water-S Field Observ	ody drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial In Stained Leaves (B9) evations:	ne required	i; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Dther (Expla	311) ertebrates ulfide Odd Water Ta izosphere of tilled) Reduced Surface (C	or (C1) able (C2) es on Liv I Iron (C4 c7) narks)	ing Roo	ts (C3)	curface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) prayfish Burrows (C8) patternation Visible on Aerial Imagery (C9) presented by the company of the comp
HYDROLO Wetland Hyden Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Water-S Field Observation	order value of the control of the co	ne required	#; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Other (Expla	311) ertebrates ulfide Odd Water Ta izosphere of tilled) Reduced Surface (Cain in Ren	or (C1) able (C2) es on Liv I Iron (C4 77) narks)	ing Roo	ts (C3)	curface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) prayfish Burrows (C8) patternation Visible on Aerial Imagery (C9) presented by the company of the comp
HYDROLO Wetland Hyder Primary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatia Water-S Field Obser Surface Water Water Table	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial In Stained Leaves (B9) rvations: ter Present? Ye Present?	magery (B7	i; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Other (Expla	311) ertebrates ulfide Odo Water Ta izosphere ot tilled) Reduced Surface (Co ain in Ren	or (C1) able (C2) as on Liv I Iron (C4 77) anarks)	ing Roo	ts (C3)	urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) AC-Neutral Test (D5) rost-Heave Hummocks (D7) (LRR F)
HYDROLO Wetland Hyden Primary India Surface High Wa Saturatia Water M Sedimer Algal Ma Iron Dep Inundatia Water-S Field Obser Surface Water Water Table Saturation P	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial In Stained Leaves (B9) rvations: ter Present? Ye Present?	magery (B7	i; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Other (Expla	311) ertebrates ulfide Odo Water Ta izosphere ot tilled) Reduced Surface (Co ain in Ren	or (C1) able (C2) as on Liv I Iron (C4 77) anarks)	ing Roo	ts (C3)	curface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) prayfish Burrows (C8) patternation Visible on Aerial Imagery (C9) presented by the company of the comp
HYDROLO Wetland Hyden Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatia Water-S Field Obser Surface Water Water Table Saturation Pe (includes cap	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial Instained Leaves (B9) rvations: ter Present? Present? Ye present? Ye	magery (B7	I; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Other (Expla Depth (inch Depth (inch	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Gurface (C ain in Ren nes): nes):	or (C1) able (C2) es on Liv I Iron (C4 77) narks)	ing Roo	s S S S S S S S S S S S S S S S S S S S	urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) AC-Neutral Test (D5) rost-Heave Hummocks (D7) (LRR F)
HYDROLO Wetland Hyden Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatia Water-S Field Obsert Surface Water Water Table Saturation Pe (includes cap	or Versent? Parology Indicators: Cators (minimum of on Water (A1) Alert Table (A2) On (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial Interpretations: Alert Present? Year Present?	magery (B7	I; check all	I that apply) Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Other (Expla Depth (inch Depth (inch	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Gurface (C ain in Ren nes): nes):	or (C1) able (C2) es on Liv I Iron (C4 77) narks)	ing Roo	s S S S S S S S S S S S S S S S S S S S	urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) AC-Neutral Test (D5) rost-Heave Hummocks (D7) (LRR F)
HYDROLO Wetland Hyder Primary Indice Surface High Water Mand Sedimer Sedimer Algal Mandatice Inundatice Water-S Field Obsert Surface Water Water Table Saturation Profit Concludes caped to the concept of the concept	or Versent? Parology Indicators: Cators (minimum of on Water (A1) Alert Table (A2) On (A3) Marks (B1) Int Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial Interpretations: Alert Present? Year Present?	magery (B7	i; check all	I that apply) Salt Crust (I Aquatic Inve- Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Dther (Explain Depth (inch Depth (inch-	311) ertebrates ulfide Odd Water Ta izosphere of tilled) Reduced Gurface (Cain in Ren nes): nes):	or (C1) able (C2) es on Liv I Iron (C4 77) narks)	ing Roo	s S S S S S S S S S S S S S S S S S S S	urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) AC-Neutral Test (D5) rost-Heave Hummocks (D7) (LRR F)
IYDROLO Wetland Hyder Primary Indice Surface High Water Mand Sedimer Sedimer Algal Mandatice Iron Depender Water-S Field Obsert Surface Water Water Table Saturation Perion Cludes caped the second control of the second c	drology Indicators: cators (minimum of on Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial In Stained Leaves (B9) rvations: ter Present? Present? Ye Present? Ye pillary fringe) corded Data (stream of	magery (B7	i; check all	I that apply) Salt Crust (I Aquatic Inve- Hydrogen S Dry-Season Dxidized Rh (where no Presence of Thin Muck S Dther (Explain Depth (inch Depth (inch-	311) ertebrates ulfide Odd Water Ta izosphere of tilled) Reduced Gurface (Cain in Ren nes): nes):	or (C1) able (C2) es on Liv I Iron (C4 77) narks)	ing Roo	s S S S S S S S S S S S S S S S S S S S	urface Soil Cracks (B6) parsely Vegetated Concave Surface (B8) prainage Patterns (B10) exidized Rhizospheres on Living Roots (C (where tilled) erayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) ecomorphic Position (D2) AC-Neutral Test (D5) rost-Heave Hummocks (D7) (LRR F)

Project/Site: Kindsfater	City/County: Yellowston	е	Sampling [oate:6	3/16/2020
Investigator(s): R Quire, S Robbins, R Jones					
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, co	nvex, none): cond	cave	_ Slope (°	%):3
Subregion (LRR): LRR F Lat:	45.689975	_ong:	-108.698171	Datum: 1	VAD 83
Subregion (LRR): LRR F Lat: Soil Map Unit Name: Wf: Larim gravelly loam, 0-4 percent slope		NWI cl	assification: Not N	1apped	
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes 🔽 No 🔼	(If no, explai	n in Remarks.)		
Are Vegetation, Soil, or Hydrology significantly				es 🔽	No 🔲
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If need	ded, explain any a	inswers in Remark	(s.)	
SUMMARY OF FINDINGS - Attach site map showing					ıres, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: PEM depressional wetland.	Is the Sampled A		No		
VEGETATION - Use scientific names of plants					
Tree Stratum Plot size (30 Foot Radius) % Cover Species		Dominance Tes	t worksheet		
Iree Stratum Piot size (30 Poot Radius) % Cover: Species	? Status	Number of Domithat are OBL, FA		1 ((A)
		Total Number of Species Across		1 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Domi That Are OBL, F		100.0 %	% (A/B)
		Prevalence Index Total % Co OBL species FACW species FAC species	0 X 1 90 X 2	Multiply 0	0
		FACU species		0	
Herbaceous Stratum Plot size (5 Foot Radius) Phalaris arundinacea 90 ✓	FACW	UPL species		0	
Phalaris arundinacea 90	TACW	Column Totals	90 (A)	180	0 (B)
		Prevalence	Index = B/A =		2.00
		✓ 1 - Rapid ✓ 2 - Domi ✓ 3 - Preva	getation Indicator Test for Hydroph nance Test is >50 alence Index is <= hological Adaptation ng data in remarks and Non-Vascular is	ytic Veget % 3.0 ons (Provi	ide parate
Woody Vine Stratum Plot size (30 Foot Radius)		ndicators of hydri	c sil and wetland h sturbed or problen	nydrology i	must be
Percent Bare Ground 10		Hydrophytic Ve Present?	getation Yes	✓ NC) [
Remarks: BG/litter=10%	,				

0-12	_10YR3/1	98_ 1	0YR	_6/8	2_	_C _	PL.	Silty	y Clay Loam _
1T. max. C=C	oncentration, D=De	nletien DM-	Daduasa	I Matrix CG			- ———		rains. ² Location: PL=Pore Lining, M=Matrix.
	Indicators: (Appli						eu San	u Gia	Indicators for Problematic Hydric Soils ³ :
Histosol				_	Gleyed Ma				1 cm Muck (A9) (LRR I, J)
=	pipedon (A2)		Ī		Redox (S5)				Coast Prairie Redox (A16) (LRR F, G, H)
Black Hi			Ī		d Matrix (S	,			Dark Surface (S7) (LRR G)
_	n Sulfide (A4)		Ļ		Mucky Min				High Plains Depressions (F16)
	Layers (A5) (LRR		<u> </u>		Gleyed Ma				(LRR H outside of MLRA 72 & 73)
	ick (A9) (LRR F, G, d Below Dark Surfa		 [•	= '	d Matrix (F Dark Surfa				☐ Reduced Vertic (F18) ☐ Red Parent Material (TF2)
	ark Surface (A12)	00 (/ (/ / /			d Dark Su		7)		☐ Very Shallow Dark Surface (TF12)
=	lucky Mineral (S1)		Ī		Depression	•	,		Other (Explain in Remarks)
	lucky Peat or Peat		i, H) _	High Pla	ains Depre	ssions (l	F16)		³ Indicators of hydrophytic vegetation and
5 cm Mu	icky Peat or Peat (S	3) (LRR F)		(ML	RA 72 & 7	3 of LRI	R H)		wetland hydrology must be present,
Doctrictive I	_ayer (if present):								unless disturbed or problematic.
Type:	ches):								Hydric Soil Present? Yes No
									Tryunc 3011 Fresent: Tes NO
Nomano. Pr	ominent redoxim	orpnic cond	entratio	ons comm	on along	pore iin	iings.		
HYDROLO	GY								
Wetland Hyd	drology Indicators	:							
Primary Indic	ators (minimum of	one required	; check a	ıll that appl	y)				Secondary Indicators (minimum of two required)
Surface	Water (A1)			Salt Crust	(B11)				Surface Soil Cracks (B6)
	ter Table (A2)			Aquatic In					Sparsely Vegetated Concave Surface (B8)
Saturation	` '			Hydrogen		` '			Drainage Patterns (B10)
_	arks (B1)			Dry-Seaso		,	•		Oxidized Rhizospheres on Living Roots (C3)
	nt Deposits (B2)		✓	Oxidized F	· ·	es on Li	ving Ro	ots (· · · _ ·
	oosits (B3)				not tilled)	d Iron (C	٠٨١		Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
	it or Crust (B4) osits (B5)			Presence Thin Muck			,+)		✓ Geomorphic Position (D2)
	on Visible on Aerial	Imagery (B7	, 	Other (Exp	,	•			FAC-Neutral Test (D5)
	tained Leaves (B9)	9, (/			,			Frost-Heave Hummocks (D7) (LRR F)
Field Observ	vations:								
Surface Water	er Present?	Yes <u>□</u> N	10 🔼	Depth (in	ches):				
Water Table	Present?			Depth (in					
Saturation Pr	resent?			Depth (in			v	Vetla	and Hydrology Present? Yes No
(includes cap									
Describe Red	corded Data (strear	n gauge, mo	nitoring v	veii, aerial	pnotos, pre	evious in	spectio	ns), r	ır avallaple:
Down - wh									
kemarks:So	il very moist.								

Project/Site: Kindsfater		c	City/Co	ounty: Yellowsto	one	Sampling D	ate:6/^	16/202
Applicant/Owner: MDT					State: Monta		oint: DP02	<u>'u</u>
Investigator(s): R Quire, S Robbins, R Jones		8	Sectio	n, Township, Rar	nge:6	2S	25E	
Landform (hillslope, terrace, etc.): Terrace			Local	relief (concave, c	convex, none): rollin	g	Slope (%)):
Subregion (LRR): LRR F		Lat:		45.690631	1 _{Lona} :	-108.698403	Datum: NA	AD 83
Soil Map Unit Name: Wf: Larim gravelly loam,	0-4 percer	nt slope			NWI cla	ssification: Not M	lapped	
Are climatic / hydrologic conditions on the site type	nical for this	time of yea	ar2 V4	as 🗸 No	(If no, explain	in Remarks)		
Are Vegetation, Soil, or Hydrolog								N
Are Vegetation, Soil, or Hydrolog	y sig	inincantily c	JISLUIT	ded? Ale i	Normal Circumstant	es present? Tes	s <u> </u>	NO
SUMMARY OF FINDINGS – Attach s								es eti
Hydrophytic Vegetation Present? Yes _ Hydric Soil Present? Yes _ Wetland Hydrology Present? Yes _ Remarks: Upland sample point in SW corne	No No No	<u> </u>		Is the Sampled				
VEGETATION - Use scientific names	^ h = = !	Damaiana	Inc	dicator	Dominance Test	t workshoot		
Tree Stratum Plot size (30 Foot Radius)	% Cover:	Species?	St	atus	Number of Domir			
Populus deltoides	5	✓	FA	AC_	that are OBL, FA	CW or FAC:	1 (A))
					Total Number of Species Across A		3 (B))
Sapling/Shrub Stratum Plot size (15 For	ot Podius)				Percent of Domir That Are OBL, FA		33.3 %	(A/B)
Sapling/Shrub Stratum Plot size (15 For Elaeagnus angustifolia	5	V	FAC	CU	Prevalence Inde	x worksheet		
					Total % Co		Multiply I	by:
					OBL species		0	
					FACW species FAC species	10 X2 5 X3	20	
					FACU species	90 X4	15 360	
Herbaceous Stratum Plot size (5 Foo					UPL species	0 X5	0	
Alopecurus arundinaceus	5		FAC		Column Totals		205	
Elymus repens	15		FAC			105 (A)	395	(B)
Phalaris arundinacea	5		FAC		Prevalence	Index = B/A =	3	3.76
Poa compressa Poa pratensis	10 60	<u> </u>	FAC FAC			getation Indicator		
roa praterisis	00	V	FAC	.0		Test for Hydrophy	-	tion
					2 - Domin	ance Test is >50%	%	
					☐ 3 - Preval	ence Index is <= 3	3.0	
						ological Adaptatio g data in remarks		
						nd Non-Vascular F	Plants	
					☐ Problema	tic Hydrophytic Ve	egetation (E	Explain)
Woody Vine Stratum Plot size (30 Foo	ot Radius)				Indicators of hydric present, unless dis			
					Hydrophytic Veg			✓
Percent Bare Ground 10 Remarks:					r resent!			
Upland grass community.								

SOIL Sampling Point: DP02u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Color (moist) Loc² Color (moist) Texture (inches) 0-07 _10YR __3/1 100 Sandy Clay Loam _ 07-10 - - 100--10YR -4/2 Sand 10+ Gravel bottom. ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Coast Prairie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) High Plains Depressions (F16) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR F) (LRR H outside of MLRA 72 & 73) 1 cm Muck (A9) (**LRR F, G, H**) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Depth (inches): Remarks: No hydric soil indicators observed during site visit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Saturation (A3) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes ____ No ___ Depth (inches): ___ Water Table Present? Wetland Hydrology Present? Yes ____ No Yes ____ No ____ Depth (inches): _____ Saturation Present? (includes capillary fringe)

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

Remarks: No hydrologic indicators observed during site visit.

Project/Site: Kindsfater	City/County: Yellowstor	ne	Sampling Date:	6/16/2020
Investigator(s): R Quire, S Robbins, R Jones			25E	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, co	onvex, none): Concave		
Subregion (LRR): LRR F Lat:				
Soil Map Unit Name: Lg: Larim gravelly loam, 15-35 percent slop	ie	NWI classifica	ation: Not Mappe	ed D
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🔽 No 🧾	(If no, explain in Re	emarks.)	
Are Vegetation, Soil, or Hydrology significantly				No
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If nee	ded, explain any answer	rs in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing	յ sampling point lo	cations, transects,	, important fe	atures, etc
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: PEM depressional wetland in SW corner of site.	is the Sampled A	Area d? Yes <u>✓</u>	No	-
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant % Cover: Species		Dominance Test work	ksheet	
% cover. Species	. Glada	Number of Dominant S that are OBL, FACW o	Species or FAC:	2 (A)
		Total Number of Domin Species Across All Stra		2 _(B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant S That Are OBL, FACW,		.0 % (A/B)
,		Prevalence Index wor		10.1.1
		Total % Cover of OBL species	0 X 1	ultiply by:
		FACW species	80 X2	160
		FAC species		0
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species UPL species	0 X4 0 X5	0
Alopecurus arundinaceus 20 ✓	FACW			0
Phalaris arundinacea 60	FACW	Column Totals 8	30 (A)	160 (B)
		Prevalence Index	: = B/A =	2.00
		Hydrophytic Vegetation		
		✓ 1 - Rapid Test t✓ 2 - Dominance		egetation
		✓ 3 - Prevalence		
			cal Adaptations (P a in remarks or on	
		☐ 5 - Wetland No	on-Vascular Plants	;
		☐ Problematic Hy	/drophytic Vegetat	tion (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil ar present, unless disturbe		
Percent Bare Ground 20		Hydrophytic Vegetation Present?	on Yes 🗸	NO \square
Remarks:				
BG/litter=20%				

SOIL Sampling Point: DP02w

(inches)	Matrix Color (moist)	%	Color (moist)	ox Features % Type ¹ Lo	c ² Texture	Remarks
0-04					Clay Loam	Nomano
				10 C DI		Cabble
-04-8	-101R —5/2	90—	7.5YR -5/8	10C —PL,	Sandy Clay	-Cobbly.
8+					Cobbles	Cobble bottom
				S=Covered or Coated Sar		cation: PL=Pore Lining, M=Matrix.
	Indicators: (Applic	able to all				for Problematic Hydric Soils ³ :
Histosol				Gleyed Matrix (S4)		Muck (A9) (LRR I, J)
	pipedon (A2)			Redox (S5)		Prairie Redox (A16) (LRR F, G, H)
	listic (A3) en Sulfide (A4)			d Matrix (S6) Mucky Mineral (F1)		surface (S7) (LRR G) lains Depressions (F16)
_	d Layers (A5) (LRR I	F)		Gleyed Matrix (F2)		R H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G, I			ed Matrix (F3)		ed Vertic (F18)
	d Below Dark Surfac			Dark Surface (F6)		arent Material (TF2)
	ark Surface (A12)	,		ed Dark Surface (F7)		hallow Dark Surface (TF12)
Sandy N	Mucky Mineral (S1)		Redox	Depressions (F8)	Other	(Explain in Remarks)
_	Mucky Peat or Peat (—	ains Depressions (F16)	³ Indicators	of hydrophytic vegetation and
5 cm Mi	ucky Peat or Peat (S	3) (LRR F)) (ML	RA 72 & 73 of LRR H)		d hydrology must be present,
Dantaintina	I (:f				unless	disturbed or problematic.
	Layer (if present):					
Type:	ahaa):				Hydric Soil	Present? Yes Vo No
Depth (in						Present? Fes No
Remarks: P	rominent redoximo	orphic cor	ncentrations comm	on within the depleted	matrix.	
IYDROLO)GY					
	DGY rdrology Indicators:					
Wetland Hy			d; check all that app	ly)		ary Indicators (minimum of two required
Wetland Hy	drology Indicators:	one require	•	•	<u>Seconda</u>	ary Indicators (minimum of two required face Soil Cracks (B6)
Wetland Hy Primary Indi	drology Indicators: cators (minimum of c	one require	Salt Crust	•	Seconda Suri	•
Wetland Hy Primary Indi	rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2)	one require	Salt Crust Aquatic In	(B11)	Seconda	ace Soil Cracks (B6)
Wetland Hy Primary Indi Surface High Wa Saturati	rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2)	one require	Salt Crust Aquatic In Hydrogen	(B11) vertebrates (B13)	Seconda Suri Suri Spa	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8)
Wetland Hy Primary Indi Surface High Wa Saturati Water M	rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3)	one require	Salt Crust Aquatic In Hydrogen Dry-Seaso	(B11) vertebrates (B13) Sulfide Odor (C1)	Seconda Suri Spa Dra Dra	ace Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime	rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1)	one require	Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized I	(B11) vertebrates (B13) Sulfide Odor (C1) on Water Table (C2)	Seconda Suri Spa Dra Dra Oxio	ace Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De	rdrology Indicators: cators (minimum of control water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2)	one require	Salt Crust Aquatic In Hydrogen Dry-Seasc Cwhere	(B11) vertebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Re	Seconda Suri Spa Dra Dra Dots (C3) (w	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Car rhere tilled)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma	rdrology Indicators: cators (minimum of control water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3)	one require	Salt Crust Aquatic In Hydrogen Dry-Seaso V Oxidized I (where	(B11) Ivertebrates (B13) Sulfide Odor (C1) Ivertebrates (B2) Ivertebrates (C2)	<u>Seconda</u> Surl Spa Dra Oxic cots (C3) (w Cra Satc	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma	rdrology Indicators: cators (minimum of control of the Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4)	one require	Salt Crust Aquatic In Hydrogen Dry-Seaso V Oxidized I (where Presence Thin Muck	(B11) vertebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Re not tilled) of Reduced Iron (C4)	<u>Seconda</u> Suri Spa Dra Oxio coots (C3) (w Cra; Satu Seconda	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Carhere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep	rdrology Indicators: cators (minimum of control of two cators) Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	one require	Salt Crust Aquatic In Hydrogen Dry-Seaso V Oxidized I (where Presence Thin Muck	(B11) overtebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Re not tilled) of Reduced Iron (C4) c Surface (C7)	Seconda	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep	rdrology Indicators: cators (minimum of context) Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I Stained Leaves (B9)	one require	Salt Crust Aquatic In Hydrogen Dry-Seasc V Oxidized I (where Presence Thin Muck 37) Other (Ex	(B11) overtebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Re not tilled) of Reduced Iron (C4) c Surface (C7)	Seconda	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep Inundati Water-S	rdrology Indicators: cators (minimum of context) Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Instance Leaves (B9) rvations:	one require	Salt Crust Aquatic In Hydrogen Dry-Seasc V Oxidized I (where Presence Thin Muck 37) Other (Ex	(B11) overtebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Re not tilled) of Reduced Iron (C4) c Surface (C7)	Seconda	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep Inundati Water-S Field Obser	rdrology Indicators: cators (minimum of control of the Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Instance Leaves (B9) rvations: ter Present?	Imagery (E	Salt Crust Aquatic In Hydrogen Dry-Sease V Oxidized I (where Presence Thin Muck 37) Other (Ex	(B11) Ivertebrates (B13) Sulfide Odor (C1) Ivertebrates (B13) Sulfide Odor (C1) Ivertebrates (C2) Rhizospheres on Living Remot tilled) Ivertebrates (C4) Ivertebrates (C4) Ivertebrates (C7) Ive	Seconda	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron Dep Inundati Water-S Field Obser Surface Water Table Saturation P	rdrology Indicators: cators (minimum of content of the Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Instance Leaves (B9) rvations: ter Present? Present? Y	Imagery (E	Salt Crust Aquatic In Hydrogen Dry-Sease V Oxidized I (where Presence Thin Muck Thin Muck Other (Ex	wertebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Renot tilled) of Reduced Iron (C4) c Surface (C7) plain in Remarks)	Seconda Suri Spa Spa Dra Oxio Cra Satu Satu Spa Fros	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca	rdrology Indicators: cators (minimum of content of the Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Instance Leaves (B9) rvations: ter Present? Present? Present? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent?	Imagery (E	Salt Crust Aquatic In Hydrogen Dry-Sease V Oxidized I (where Presence Thin Muck 37) Other (Ex	wertebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Renot tilled) of Reduced Iron (C4) c Surface (C7) plain in Remarks)	Seconda Surfa Spa Spa Dra Oxio Cra Satt Fros	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Primary India Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca	rdrology Indicators: cators (minimum of content of the Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Instance Leaves (B9) rvations: ter Present? Present? Present? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent?	Imagery (E	Salt Crust Aquatic In Hydrogen Dry-Sease V Oxidized I (where Presence Thin Muck 37) Other (Ex	wertebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Renot tilled) of Reduced Iron (C4) c Surface (C7) plain in Remarks)	Seconda Surfa Spa Spa Dra Oxio Cra Satt Fros	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma Iron De Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca Describe Re	rdrology Indicators: cators (minimum of content of the Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Instance Leaves (B9) rvations: ter Present? Present? Present? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent? Yeresent?	Imagery (E	Salt Crust Aquatic In Hydrogen Dry-Sease V Oxidized I (where Presence Thin Muck 37) Other (Ex	wertebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Renot tilled) of Reduced Iron (C4) c Surface (C7) plain in Remarks)	Seconda Surfa Spa Spa Dra Oxio Cra Satt Fros	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Algal Ma Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re	rdrology Indicators: cators (minimum of content of the Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Instance Leaves (B9) rvations: ter Present? Present? Present? Present? Present? Y pillary fringe)	Imagery (E	Salt Crust Aquatic In Hydrogen Dry-Sease V Oxidized I (where Presence Thin Muck 37) Other (Ex	wertebrates (B13) Sulfide Odor (C1) on Water Table (C2) Rhizospheres on Living Renot tilled) of Reduced Iron (C4) c Surface (C7) plain in Remarks)	Seconda Surfa Spa Spa Dra Oxio Cra Satt Fros	race Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (Cithere tilled) rfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)

Project/Site: Kindsfater	City/County: Yello	wstone	Sampling Da	ate:6/17/2020
		State: Moi		
Investigator(s): R Quire, S Robbins, R Jones				
Landform (hillslope, terrace, etc.): Terrace				
Subregion (LRR): LRR F	45.69	2716 Long:	-108.697257	Datum: NAD 83
Subregion (LRR): LRR F Lat: Lat: Soil Map Unit Name: LI: Wanetta clay loam, 0-1 percent slope		NWI	classification: Not M	apped
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes 🗹 🖊	No (If no, expl	ain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantl	y disturbed?	Are "Normal Circumsta	ances" present? Yes	s_ No
Are Vegetation, Soil, or Hydrology naturally p	oblematic?	(If needed, explain any	answers in Remark	s.)
SUMMARY OF FINDINGS - Attach site map showin	g sampling poi	nt locations, tran	ısects, importar	nt features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point in the west-central portion of sample point.	-	pled Area etland? Ye	es 🗌 No 🔽	<u> </u>
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (30 Foot Radius) Absolute Domiar % Cover: Specie		Dominance To	est worksheet	
Populus deltoides 5	FAC		minant Species FACW or FAC:	1 (A)
		Total Number Species Acros		3 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)			minant Species FACW, or FAC:	33.3 % (A/B)
		Total % of OBL species FACW species FAC species	5 0 X2 5 X3	Multiply by: 0 0 15
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species UPL species		80
Bromus tectorum 40 🔽	UPL			200
Elymus repens 20 🔽	FACU	Column Totals	65 (A)	
		Prevalenc	ce Index = B/A =	4.54
		1 - Rap 2 - Dor 3 - Pre 4 - More support sheet. 5 - Wet	/egetation Indicator oid Test for Hydrophy minance Test is >50% valence Index is <= 3 rphological Adaptatio ting data in remarks tland Non-Vascular F matic Hydrophytic Ve	vic Vegetation % 3.0 ons (Provide or on separate
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hyd	dric sil and wetland hy disturbed or problem	ydrology must be
Percent Bare Ground 40		Hydrophytic \ Present?	/egetation Yes	□ NO ✓
Remarks: BG/litter=40%				

SOIL Sampling Point: DP03u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Color (moist) Loc² Color (moist) Type Texture (inches) 0-03 _10YR __3/2 100 Sandy Clay Loam _ Loamy Sand - - 100--0.3 - 1.2-10YR -4/3 12+ Cobbles Cobble bottom. ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Coast Prairie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) High Plains Depressions (F16) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) \perp 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Depth (inches): Remarks: Very cobbly soils. No hydric soil indicators observed during time of site visit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Saturation (A3) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes ____ No ___ Depth (inches): ___ Water Table Present? Wetland Hydrology Present? Yes No Yes ____ No ____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrologic indicators observed during site visit.

Project/Site: Kindsfater		City/C	County: Yell	owstone)		Sampling D	ate: _	6/1	7/2020
					State: Mo					
Investigator(s): R Quire, S Robbins, R Jones										
Landform (hillslope, terrace, etc.): Depression		Loca	al relief (cond	cave, con	vex, none): Co	oncave		Slop	e (%):	2
Subregion (LRR): LRR F	Lat:		45.69	92772 L	ong:	-1	08.697092	Datun	n: NA	D 83
Subregion (LRR): LRR F Soil Map Unit Name: LI: Wanetta clay loam, 0-1 percent s	lope			_	NW	l classifi	cation: Not M	lappe	d	
Are climatic / hydrologic conditions on the site typical for this til	me of ye	ear? Y	Yes <u></u> ✓	No	(If no, exp	olain in F	Remarks.)			
Are Vegetation, Soil, or Hydrology sign								s <u> </u>	N	o
Are Vegetation, Soil, or Hydrology natu	urally pro	oblem	atic?	(If need	ed, explain ar	ny answe	ers in Remark	(s.)		
SUMMARY OF FINDINGS - Attach site map sh									ature	s, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: PEM depressional wetland in the west-central					ea Y	es	<u> </u>			
VEGETATION - Use scientific names of plants										
<u>Tree Stratum</u> Plot size (30 Foot Radius) Absolute % Cover:	Domiani Species		ndicator Status		Dominance [·]	Test wo	rksheet			
, a cover.	opecies): U	otatus		Number of Doth			2	4 (A)	
					Total Number Species Acro			4	4 (B)	
Sapling/Shrub Stratum Plot size (15 Foot Radius)					Percent of Do That Are OBL			100.0	0 % (A/B)
Salix exigua 1	✓	FA	ACW		Prevalence I					
						Cover		Mul	ltiply b	<u>y:</u>
					OBL species FACW specie		55 X 1 21 X 2		55 42	-
					FAC species		0 X3		0	
Hawkeen and Streeture Plot pize / F. Foot Podius					FACU specie		5 X4		20	
Herbaceous Stratum Plot size (5 Foot Radius) Alopecurus arundinaceus 20	V	FA	CW		UPL species		0 X5		0	
Carex pellita 20	V	ОВ			Column Total	s	81 (A)		117	(B)
Elymus repens 5		FA			Prevalen	ce Inde	x = B/A =		1.	44
Typha latifolia 35	✓	ОВ	L		Hydrophytic	Vegetat	ion Indicato	rs		
					✓ 1 - Ra	apid Tes	for Hydrophy	ytic Ve	egetatio	on
					✓ 2 - Do	minance	e Test is >50°	%		
					✓ 3 - Pr	evalence	e Index is <=	3.0		
							ical Adaptatio			
					suppo sheet	-	ta in remarks	or on	separa	ate
					☐ 5 - We	etland N	on-Vascular f	Plants		
							ydrophytic Ve			(nlain)
Woody Vine Stratum Plot size (30 Foot Radius)					dicators of hy	dric sil a	and wetland h	ydrolo	gy mu	st be
Persont Perso Cround 20					Hydrophytic Present?		ion		NO	
Percent Bare Ground 20 Remarks:										
BG/litter=20%										

SOIL Sampling Point: DP03w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Loc² Color (moist) Color (moist) Texture Remarks (inches) 0-15 _10YR __2/2 100 _Cobbles throughout. Clay Loam ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) ✓ Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (**LRR F, G, H**) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Depth (inches): Remarks: Hydrogen sulfide odor observed in soil pit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) ✓ High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) ✓ Saturation (A3) ✓ Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) ✓ Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Water Table Present? Wetland Hydrology Present? Yes ____ No Yes _ No _ Depth (inches): ____ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: High water table observed in soil pit at 10in after 10 min.

Project/Site: Kindsfater		_ City/C	County: Yellowstor	ne	Sampling [Date:6/1	17/2020
Applicant/Owner: MDT							
Investigator(s): R Quire, S Robbins, R							
Landform (hillslope, terrace, etc.): Terrace							ı: 5
Subregion (LRR): LRR F	Lat:	_	45.69513	Long:	-108.6969	Datum: NA	\D 83
Subregion (LRR): LRR F Soil Map Unit Name: Bm: Bew silty clay	loam, 0-1 percent slop	е		NWI c	lassification: Not N	/lapped	
Are climatic / hydrologic conditions on the	site typical for this time of	year? \	∕es <u> </u>	(If no, expla	in in Remarks.)		
Are Vegetation, Soil, or Hy	drology significan	tly distui	bed? Are "N	lormal Circumstar	nces" present? Ye	es 🔽 N	10 🔲
Are Vegetation, Soil, or Hy	drology naturally	problem	atic? (If nee	ded, explain any	answers in Remar	ks.)	
SUMMARY OF FINDINGS – Atta							etc.
		- - -	Is the Sampled A		No_	<u> </u>	
VEGETATION - Use scientific n							
Tree Stratum Plot size (30 Foot Rad	dius) Absolute Domia % Cover: Speci		ndicator Status	Dominance Te	st worksheet		
	70 COVEL. Opeol	63 : C	natus	Number of Dom that are OBL, F		0 (A)	
				Total Number of Species Across		3 (B)	
Sapling/Shrub Stratum Plot size (1	5 Foot Radius)			Percent of Dom That Are OBL, F		0.0 %	(A/B)
Elaeagnus angustifolia	5	FA	vCU	Prevalence Ind			
				Total % C		Multiply b	эу:
				OBL species FACW species		10	
				FAC species		0	
Harris and Christian Diet size (/	- Foot Dadius)			FACU species		160	
Herbaceous Stratum Plot size (§ Agrostis stolonifera	Foot Radius)	FA	C.W	UPL species	25 X 5	125	
Bromus inermis	10	UP		Column Totals	70 (A)	295	(B)
Bromus tectorum	15	UP			Index = B/A =		.21
Poa compressa	5 🗌	FA	CU		egetation Indicate		
Poa pratensis	30 🗸	FA	CU		d Test for Hydroph		ion
					inance Test is >50		
				3 - Prev	alence Index is <=	3.0	
					hological Adaptati ng data in remarks		
					and Non-Vascular	Dianta	
Woody Vine Stratum Plot size (3	30 Foot Radius)			□ Problem	atic Hydrophytic V	egetation (E	xplain)
Tiot 5/26 (C	o rocradius,				ic sil and wetland l isturbed or probler		
Percent Bare Ground 35				Hydrophytic Ve Present?	egetation Yes	s 🗌 NO	✓
Remarks:							
BG/litter=35%							

SOIL Sampling Point: DP04u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Loc² Color (moist) Color (moist) Texture (inches) Remarks 0-04 _10YR __5/2 100 Sandy Clay 98-10YR -3/6-04 - 12-10YR -3/1 Sandy Clay 12+ Rock bottom. rock ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Coast Prairie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) Loamy Gleyed Matrix (F2) \perp 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Depth (inches): Remarks: While a redox dark surface indicator was observed at this upland sample point, the data point lacked any indication of hydrology in the wettest part of the year and the plant community was dominated by upland species. The redox features observed in the lower horizon are considered relict. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aguatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes ____ No ___ Depth (inches): ___ Water Table Present? Wetland Hydrology Present? Yes ____ No Yes ____ No ___ Depth (inches): ____ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrologic indicators observed during site visit. Soil dry.

Project/Site: Kindsfater		City/County: Yell	owstone	Sampling Date	6/17/2020
Applicant/Owner: MDT			State: Montana	a Sampling Point	DP04w
Investigator(s): R Quire, S Robbins, R Jones					
Landform (hillslope, terrace, etc.): Depression		Local relief (cond	cave. convex. none); concav	re s	lope (%):
			94983 Long:		
Soil Map Unit Name: Bm: Bew silty clay loam	. 0-1 percent slope		NIM/L class	ification: Not Map	ped
Are climatic / hydrologic conditions on the site ty					
					. \Box
Are Vegetation, Soil, or Hydrolog Are Vegetation, Soil, or Hydrolog	gy significanti	y disturbed?	Are "Normal Circumstances	r present? Yes	<u>- No - </u>
SUMMARY OF FINDINGS - Attach s					faaturae atc
			mit locations, transec	ts, important i	eatures, etc.
	No U	is the San	npled Area		
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	✓ No □ ✓ No □	within a V	Vetland? Yes	<u> </u>	_
Remarks: PEM depressional wetland in NV		-			
PEW depressional wetland in NV	v portion of site.				
VEGETATION - Use scientific name	s of plants				
<u>Tree Stratum</u> Plot size (30 Foot Radius)	Absolute Domiai		Dominance Test w	orksheet	
Ties Stratum 1 lot 5/25 (50 1 oot radius)	% Cover: Specie	s? Status	Number of Dominal that are OBL, FACV		2 _(A)
			Total Number of Do Species Across All		3 _(B)
Continue Charles District /45 5	at Dadius)		Percent of Dominar That Are OBL, FAC		6.7 % (A/B)
Sapling/Shrub Stratum Plot size (15 Fo	oot Radius)		Prevalence Index	worksheet	
			Total % Cove	r of:	Multiply by:
			OBL species	35 X 1	35
			FACW species	10 X2 0 X3	20
			FAC species FACU species	10 X4	40
Herbaceous Stratum Plot size (5 Fo			UPL species	0 X 5	0
Alopecurus arundinaceus	10	FACW	Column Totals		05 (P)
Carex nebrascensis	5	OBL	Column Totals	55 (A)	95 (B)
Carex pellita	5	OBL	Prevalence Inc	dex = B/A =	1.73
Elymus repens Schoenoplectus acutus	10 🗸	FACU OBL	Hydrophytic Veget		
Schoenoplectus acutus Schoenoplectus pungens	3 🗆	OBL		est for Hydrophytic	Vegetation
Typha latifolia	20	OBL	✓ 2 - Dominar	nce Test is >50%	
Veronica anagallis-aquatica	1 🗆	OBL	✓ 3 - Prevaler	nce Index is <= 3.0	
				ogical Adaptations data in remarks or o	
				Non-Vascular Plan	ato.
Woody Vine Stratum Plot size (30 Fc	not Radius)			Hydrophytic Veget	ation (Explain)
Woody vine otratum	oct reading)		Indicators of hydric si present, unless distu		
Percent Bare Ground 45			Hydrophytic Veget Present?	tation Yes	NO 🗆
Remarks:			•		
BG/shallow ponded water/litter=45%					

SOIL Sampling Point: DP04w

(inches)	Color (moist)	<u> </u>	Redox Features Color (moist) % Type	e ¹ Loc ²	Texture	Remarks
0-01	_10YR3/2		Color (moist) 76 Typ		Silt Loam	Nemans
		100				-
-01-05	-N —2.5/0	100—		— Sand	y Clay Loam	-Gleyed.
05-08	⁻ 10YR 3/1	70 ⁻ N		M Sand	y Clay Loam	Gleyed redox features.
	_					
	_					
			leduced Matrix, CS=Covered or Co	oated Sand Gra		ation: PL=Pore Lining, M=Matrix.
		licable to all Li	RRs, unless otherwise noted.)	4)		for Problematic Hydric Soils ³ :
Histoso	Epipedon (A2)		☐ Sandy Gleyed Matrix (S☐ Sandy Redox (S5)	4)		uck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H)
	Histic (A3)		Stripped Matrix (S6)		_	urface (S7) (LRR G)
	gen Sulfide (A4)		Loamy Mucky Mineral (I	F1)		ains Depressions (F16)
	ed Layers (A5) (LR I	R F)	Loamy Gleyed Matrix (F			R H outside of MLRA 72 & 73)
1 cm M	luck (A9) (LRR F, C	9, H)	Depleted Matrix (F3)		Reduce	d Vertic (F18)
	ed Below Dark Surf	ace (A11)	Redox Dark Surface (F6	•		rent Material (TF2)
	Dark Surface (A12)		Depleted Dark Surface			nallow Dark Surface (TF12)
	Mucky Mineral (S1		Redox Depressions (F8			Explain in Remarks)
	Mucky Peat or Peat lucky Peat or Peat		H) High Plains Depressions (MLRA 72 & 73 of L			of hydrophytic vegetation and hydrology must be present,
J CITI W	lucky real of real	(33) (LKK F)	(WILKA 12 & 13 OI L	-KK II)		disturbed or problematic.
Restrictive	Layer (if present)):				'
Туре:						_
Depth (ii	nches):				Hydric Soil I	Present? Yes 🔽 No 🔲
Remarks: [oamy gleyed ma	trix observed.				
	, , ,					
HYDROL (OGY					
		rs:				
Wetland Hy	ydrology Indicator		check all that apply)		Seconda	y Indicators (minimum of two required
Wetland Hy	ydrology Indicator licators (minimum o	of one required;				•
Wetland Hy Primary Ind Surface	ydrology Indicator	of one required;		3)	Surfa	y Indicators (minimum of two required ice Soil Cracks (B6) sely Vegetated Concave Surface (B8)
Wetland Hy Primary Ind Surface High W	ydrology Indicator licators (minimum o e Water (A1) /ater Table (A2)	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13	•	Surfa	ce Soil Cracks (B6)
Wetland Hy Primary Ind V Surface V High W Saturat	ydrology Indicator licators (minimum o e Water (A1) /ater Table (A2)	of one required;	Salt Crust (B11)	1)	Surfa	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8)
Wetland Hy Primary Ind V Surface V High W Saturat Water I	ydrology Indicator licators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1)	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C	1) C2)	Surfa Spar Drair Oxidi	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime	ydrology Indicator licators (minimum o e Water (A1) /ater Table (A2) tion (A3)	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C	1) C2)	Surfa Surfa Spar Drair Oxidi C3) (wl	nce Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) zed Rhizospheres on Living Roots (C
Wetland Hy Primary Ind ✓ Surface ✓ High W ✓ Saturat	ydrology Indicator licators (minimum o e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (Oxidized Rhizospheres on	, 1) C2) Living Roots (Surfa Surfa Spar Drair Oxidi C3) (wI	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) age Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	ydrology Indicator licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (Oxidized Rhizospheres on (where not tilled)	, 1) C2) Living Roots (Surfa Surfa Spar Drair Oxidi C3) (wl	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	ydrology Indicator licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (Ci Dry-Season Water Table (i Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron	1) C2) Living Roots ((C4)	Surfa Spar Drair C3) (wl) C3) Satul	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9)
Wetland Hy Primary Ind ✓ Surface ✓ High W ✓ Saturat	ydrology Indicator licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7)	1) C2) Living Roots ((C4)	Surfa Spar Drair C3) (wl C3) (wl Satul V Geor	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2)
Wetland Hy Primary Ind ✓ Surface ✓ High W ✓ Saturat	ydrology Indicator licators (minimum of e Water (A1) l/ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeric Stained Leaves (B9	of one required; al Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks	1) C2) Living Roots ((C4)	Surfa Spar Drair C3) (wl C3) (wl Satul V Geor	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Algal W Iron De Inundar Water-S	ydrology Indicator licators (minimum of e Water (A1) l/ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeric Stained Leaves (B9	of one required;	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (Ci Dry-Season Water Table (i Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks	11) C2) Living Roots ((C4)	Surfa Spar Drair C3) (wl C3) (wl Satul V Geor	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5)
Wetland Hy Primary Ind ✓ Surface ✓ High W ✓ Saturat Water I Sedime Drift De Algal W Iron De Inundar Water-s	ydrology Indicator licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeric Stained Leaves (B5) eter Present?	of one required; al Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (C Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks	1) C2) Living Roots ((C4)	Surfa Spar Drair C3) (wl C3) (wl Satul V Geor	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5)
Wetland Hy Primary Ind V Surface V High W Saturat Water I Sedime Drift De Algal M Iron De Inundar Water-S Field Obse Surface Water Table Saturation F	ydrology Indicator licators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeria Stained Leaves (B5) ervations: ater Present? Present?	al Imagery (B7) Yes Ves No	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches): Depth (inches):	1) C2) Living Roots ((C4))	Surfa Spar Spar Condition Can Satur Satur Frost	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) nage Patterns (B10) zed Rhizospheres on Living Roots (Cinere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5)
Primary Ind Surface High W Saturat Sedime Drift De Algal W Iron De Inundar Water-S Field Obse Surface Wa Water Table Saturation I	ydrology Indicator licators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeria Stained Leaves (B5) ervations: ater Present? e Present? Present? apillary fringe)	al Imagery (B7) Yes Yes No Yes No	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches): Depth (inches):	1) C2) Living Roots ((C4)) 4 1 0 Wetla	Surfa Spar Spar Condition Can Satur Secon Frost	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10) zed Rhizospheres on Living Roots (Cinere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5) -Heave Hummocks (D7) (LRR F)
Wetland Hy Primary Ind ✓ Surface ✓ High W ✓ Saturat ☐ Water I ☐ Sedime ☐ Drift De ☐ Algal W ☐ Iron De ☐ Inunda: ☐ Water-3 Field Obse Surface Water Table Saturation I (includes ca	ydrology Indicator licators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeria Stained Leaves (B5) ervations: ater Present? e Present? Present? apillary fringe)	al Imagery (B7) Yes Yes No Yes No	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C Dry-Season Water Table (Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches): Depth (inches):	1) C2) Living Roots ((C4)) 4 1 0 Wetla	Surfa Spar Spar Condition Can Satur Secon Frost	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5) -Heave Hummocks (D7) (LRR F)
Wetland Hy Primary Ind V Surface V High W Saturat Sedime Drift De Algal W Iron De Inundar Water-S Field Obse Surface Wa Water Table Saturation F (includes ca	ydrology Indicator licators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeria Stained Leaves (B5) ervations: ater Present? e Present? Present? apillary fringe)	al Imagery (B7) Yes Yes No Yes No Yes Man gauge, mon	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C) Dry-Season Water Table (C) Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches): Depth (inches): Depth (inches):	1) C2) Living Roots ((C4)) 4 1 0 Wetla	Surfa Spar Spar Condition Can Satur Secon Frost	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10) zed Rhizospheres on Living Roots (C3 nere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5) -Heave Hummocks (D7) (LRR F)
Wetland Hy Primary Ind ✓ Surface ✓ High W ✓ Saturat	ydrology Indicator licators (minimum of e Water (A1) l/ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aeric Stained Leaves (B5) ervations: ater Present? e Present? Present? apillary fringe) ecorded Data (strea	al Imagery (B7) Yes Yes No Yes No Yes Man gauge, mon	Salt Crust (B11) Aquatic Invertebrates (B13 Hydrogen Sulfide Odor (C) Dry-Season Water Table (C) Oxidized Rhizospheres on (where not tilled) Presence of Reduced Iron Thin Muck Surface (C7) Other (Explain in Remarks Depth (inches): Depth (inches): Depth (inches):	1) C2) Living Roots ((C4)) 4 1 0 Wetla	Surfa Spar Spar Condition Can Satur Secon Frost	ice Soil Cracks (B6) sely Vegetated Concave Surface (B8) lage Patterns (B10) zed Rhizospheres on Living Roots (Cinere tilled) fish Burrows (C8) ration Visible on Aerial Imagery (C9) morphic Position (D2) Neutral Test (D5) -Heave Hummocks (D7) (LRR F)

Project/Site: Kindsfater	City/County: Yellowstor	ne	Sampling Date:	6/17/2020
Investigator(s): R Quire, S Robbins, R Jones			25E	
Landform (hillslope, terrace, etc.): Toeslope	Local relief (concave, co	onvex, none): concave		
Subregion (LRR): LRR F Lat:				
Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope				
Are climatic / hydrologic conditions on the site typical for this time of ye				
Are Vegetation, Soil, or Hydrology significantly				<u> </u>
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If nee	ded, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects	, important fe	atures, etc
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point near western border in north ha		Area I? Yes]No	_
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant Species		Dominance Test wor	ksheet	
7, Govern Species	· Otatus	Number of Dominant S that are OBL, FACW of		0 (A)
		Total Number of Domi Species Across All Str		1 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant S That Are OBL, FACW		0.0 % (A/B)
,		Prevalence Index wo		
		Total % Cover of OBL species	t: M 0 X 1	lultiply by:
		FACW species	0 X 2	0
		FAC species	0 X3	0
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species	0 X4	0
Bromus inermis 80	UPL	UPL species	85 X 5	425
Bromus tectorum 5	UPL	Column Totals 8	35 (A)	425 (B)
		Prevalence Index	ζ = B/A =	5.00
		Hydrophytic Vegetati		
			for Hydrophytic V	/egetation
		2 - Dominance		
			Index is <= 3.0	
			cal Adaptations (l a in remarks or o	
		5 - Wetland No	on-Vascular Plant	s
		Problematic Hy	ydrophytic Vegeta	ation (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil a present, unless disturbe		
Percent Bare Ground 15		Hydrophytic Vegetati Present?	ion Yes	NO 🗸
Remarks:				
BG/litter=15%				

SOIL Sampling Point: DP05u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Loc² Color (moist) Color (moist) Texture (inches) Remarks 0-03 _10YR __2/2 100 Sandy Loam _Gravelly - - 100--0.3 - 1.2-7.5YR -3/1 Sandy Loam 12+ Gravels Gravel bottom ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Coast Prairie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) \perp 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present):

Type:

Depth (inches):

Remarks: No hydric soil indicators observed during site visit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Saturation (A3) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes ____ No ___ Depth (inches): _ Water Table Present? Wetland Hydrology Present? Yes ____ No Yes ____ No ___ Depth (inches): ____ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No hydrologic indicators observed during site visit.

Hydric Soil Present?

Project/Site: Kindsfater	City/County: Yellowston	е	Sampling D	eate: 6/17/202	20
Applicant/Owner: MDT			ana Sampling P		
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Rang				
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, co	nvex, none): conc	ave	_ Slope (%):	3
Subregion (LRR): LRR F	45.695125	Long:	-108.698751	Datum: NAD 83	
Subregion (LRR): LRR F Lat: Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope		NWI cla	assification: PEM		
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🔽 No 🔼	(If no, explain	n in Remarks.)		
Are Vegetation, Soil, or Hydrology significantly				s 🔽 No 🗀]
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If need	ded, explain any a	nswers in Remark	(s.)	
SUMMARY OF FINDINGS - Attach site map showing					C.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: PEM depressional wetland near western border in n	Is the Sampled A within a Wetland		No	<u> </u>	
VEGETATION - Use scientific names of plants	oral nam of site.				
Tree Stratum Plot size (30 Foot Radius) Absolute Domian		Dominance Tes	t worksheet		
Iree Stratum Piol size (30 Foot Radius) % Cover: Species	? Status	Number of Domi that are OBL, FA		1 (A)	
		Total Number of Species Across		1 (B)	
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Domi		100.0 % (A/B)	
		Total % Co OBL species FACW species FAC species	0 X 1 80 X 2	Multiply by: 0 160 0	_
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species		20	
Phalaris arundinacea 80	FACW	UPL species		0	
Thlaspi arvense 5	FACU	Column Totals	85 (A)	180 (B)
		Prevalence	Index = B/A =	2.12	
		✓ 1 - Rapid ✓ 2 - Domin ✓ 3 - Preva	getation Indicato I Test for Hydrophy nance Test is >50° Illence Index is <= i nological Adaptation ng data in remarks and Non-Vascular F	ytic Vegetation % 3.0 ons (Provide or on separate	
Woody Vine Stratum Plot size (30 Foot Radius)		ndicators of hydri	c sil and wetland h sturbed or problem	ydrology must be	
Percent Bare Ground 15		Hydrophytic Ve Present?	getation Yes	✓ NO □	
Remarks: BG/litter=15%					

SOIL Sampling Point: DP05w

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type ¹ L	.oc ² Texture	Remarks
0-1				duff	_Duff
·1-4.5	-10YR —3/1	100—		Clay Loam	-
4.5-9	-10YR -4/1	- 100		Sandy Loam	Gravelly
1T. (200 C-C		nletion DM-D	advaced Matrix, CC-Covered or Costed C	and Crains 21 of	andian. Disparationa MeMatrix
			educed Matrix, CS=Covered or Coated S RRs, unless otherwise noted.)		ocation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Black H Hydroge Stratifie 1 cm Mi Deplete Thick D Sandy M 2.5 cm Mi	pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) (LRR uck (A9) (LRR F, G d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Mucky Peat or Peat (see	(S2) (LRR G,	Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	☐ Coas☐ Dark☐ High☐ (L☐ Redu☐ Red I☐ Very☐ Other☐ wetlar	Muck (A9) (LRR I, J) t Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G) Plains Depressions (F16) RR H outside of MLRA 72 & 73) ced Vertic (F18) Parent Material (TF2) Shallow Dark Surface (TF12) (Explain in Remarks) s of hydrophytic vegetation and hydrology must be present, s disturbed or problematic.
Restrictive	Layer (if present):				
Type:			<u> </u>		
Depth (in	ches):		_	Hydric So	il Present? Yes <u>V</u> No
HYDROLO	OGY				
Wetland Hy	drology Indicators	: :			
Primary Indi	cators (minimum of	one required;	check all that apply)	Second	dary Indicators (minimum of two required
✓ Surface	Water (A1)		Salt Crust (B11)	Su	rface Soil Cracks (B6)
✓ High Wa	ater Table (A2)		Aquatic Invertebrates (B13)	☐ Sp	arsely Vegetated Concave Surface (B8)
✓ Saturati	on (A3)		✓ Hydrogen Sulfide Odor (C1)	Dra	ainage Patterns (B10)
Water M	/larks (B1)		Dry-Season Water Table (C2)	Ox	idized Rhizospheres on Living Roots (C
Sedime	nt Deposits (B2)		Oxidized Rhizospheres on Living	Roots (C3)	where tilled)
Drift De	posits (B3)		(where not tilled)	Cra	ayfish Burrows (C8)
Algal Ma	at or Crust (B4)		Presence of Reduced Iron (C4)	☐ Sa	turation Visible on Aerial Imagery (C9)
Iron De	posits (B5)		Thin Muck Surface (C7)	✓ Ge	omorphic Position (D2)
Inundati	ion Visible on Aeria	Imagery (B7)	Other (Explain in Remarks)	✓ FA	C-Neutral Test (D5)
Water-S	Stained Leaves (B9)			Fro	ost-Heave Hummocks (D7) (LRR F)
Field Obser	vations:				
Surface Wat	ter Present?	Yes 🗹 🔃 No	Depth (inches):4		
Water Table	Present?	Yes 🔽 No			
Saturation P (includes ca	resent? pillary fringe)	Yes 🔽 No	Depth (inches): 0		gy Present? Yes No
Describe Re	corded Data (Streat	ıı gauge, moni	toring well, aerial photos, previous inspec	uons), ir avallable:	
Remarks: Hi	igh water table ob	served in soi	l pit at 8in after 10 min.		

Project/Site: Kindsfater	City/County: Yellowsto	ne	Sampling D	oate:6/17/20	020
			tana Sampling P		
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Rar				
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, o	onvex, none):und	lulating	Slope (%):	3
Subregion (LRR): LRR F	45.696142	Long:	-108.697919	Datum: NAD 83	3
Subregion (LRR): LRR F Lat: Lat: Lat: Lat: Lat:		NWI cl	lassification: Not M	lapped	
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes 🔽 No _	(If no, expla	in in Remarks.)		
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "	Normal Circumstar	nces" present? Ye	s <u> </u> No _	
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If ne	eded, explain any a	answers in Remark	(s.)	
SUMMARY OF FINDINGS - Attach site map showing					etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point in the NW corner of site.	Is the Sampled within a Wetlan		s No <u>v</u>		
VEGETATION - Use scientific names of plants					
Tree Stratum Plot size (30 Foot Radius) Absolute Domian		Dominance Tes	st worksheet		
Tree Stratum Plot size (30) Foot Radius) % Cover: Species	? Status	Number of Dom that are OBL, F		0 (A)	
		Total Number of Species Across		2 (B)	
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dom That Are OBL, F		0.0 % (A/B))
		Prevalence Ind		N.A. aleka barbara	
		Total % Co		Multiply by:	_
		FACW species		20	
		FAC species		0	
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species		100	
Agrostis stolonifera 10	FACW	UPL species	40 X5	200	
Bromus inermis 40	UPL	Column Totals	75 (A)	320	(B)
Elymus repens 25	FACU	Prevalence	e Index = B/A =	4.27	
		1 - Rapid 2 - Domi 3 - Preva 4 - Morp supporting	egetation Indicato d Test for Hydrophy inance Test is >50° alence Index is <= phological Adaptation ng data in remarks	ytic Vegetation % 3.0 ons (Provide or on separate	
		☐ Problem	atic Hydrophytic Ve	egetation (Explai	n)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydr	ic sil and wetland h isturbed or problem	ydrology must be	e
Percent Bare Ground 25		Hydrophytic Ve Present?			_
Remarks: BG/litter=25%		1			

SOIL Sampling Point: DP06u

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type ¹ L	oc ² Texture Remarks
0-12	_10YR5/2	100		Clay _
-12+				rock -Rock bottom
	-			
				<u> </u>
¹ Type: C=C	Concentration D=De	oletion RM=Re	duced Matrix, CS=Covered or Coated S	and Grains. ² Location: PL=Pore Lining, M=Matrix.
			Rs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histoso	l (A1)		Sandy Gleyed Matrix (S4)	1 cm Muck (A9) (LRR I, J)
	pipedon (A2)		Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
	listic (A3)		Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
_	en Sulfide (A4)	E \	Loamy Mucky Mineral (F1)	☐ High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
	ed Layers (A5) (LRR luck (A9) (LRR F, G,		Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	Reduced Vertic (F18)
	ed Below Dark Surface	•	Redox Dark Surface (F6)	Red Parent Material (TF2)
	ark Surface (A12)	,	Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (TF12)
	Mucky Mineral (S1)		Redox Depressions (F8)	Other (Explain in Remarks)
	Mucky Peat or Peat			³ Indicators of hydrophytic vegetation and
5 cm M	ucky Peat or Peat (S	53) (LRR F)	(MLRA 72 & 73 of LRR H)	wetland hydrology must be present, unless disturbed or problematic.
Restrictive	Layer (if present):			unless distarbed of problematic.
Type:				
Depth (ir	nches):		_	Hydric Soil Present? Yes No
Remarks: N	lo hydric soil indica	ators observe	d durina site visit.	
	•		<u> </u>	
HYDROLO	OGY			
	/drology Indicators	<u>.</u>		
-	icators (minimum of		neck all that apply)	Secondary Indicators (minimum of two require
	Water (A1)		Salt Crust (B11)	Surface Soil Cracks (B6)
_	ater Table (A2)		Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8
	ion (A3)		Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water N	Marks (B1)		Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C
Sedime	ent Deposits (B2)		Oxidized Rhizospheres on Living	Roots (C3) (where tilled)
Drift De	posits (B3)		(where not tilled)	Crayfish Burrows (C8)
	lat or Crust (B4)		Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
_	posits (B5)		Thin Muck Surface (C7)	Geomorphic Position (D2)
_	tion Visible on Aerial	Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
	Stained Leaves (B9)			Frost-Heave Hummocks (D7) (LRR F)
Field Obse		res No	Depth (inches):	
Water Table			Depth (inches):	
Saturation F			Depth (inches):	Wetland Hydrology Present? Yes No
(includes ca	pillary fringe)			
		n gauge, monito	oring well, aerial photos, previous inspec	tions), if available:
Remarks: N	o hydrologic indica	ators observe	d during site visit.	

Project/Site: Kindsfater City/County: Yellowstone	
Applicant/Owner: MDT State: Monta	
Investigator(s): R Quire, S Robbins, R Jones Section, Township, Range: 6	2S 25E
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave, convex	
Subregion (LRR): LRR F Lat: 45.696158 Long:	
Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope NWI cla	
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain	
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstance"	es" present? Yes _ No _ No
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any ar	iswers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transe	ects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes V No V Is the Sampled Area within a Wetland? Yes V No V Wetland? Yes V No V Ves V No V N	<u> </u>
VEGETATION - Use scientific names of plants	
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant Indicator Species? Status Dominance Test	worksheet
Number of Domir that are OBL, FA	nant Species CW or FAC: 1 (A)
Total Number of I Species Across A	
Sapling/Shrub Stratum Plot size (15 Foot Radius) Percent of Domin That Are OBL, FA	
Prevalence Inde	x worksheet
Total % Co	
OBL species FACW species	4 X 1 4 85 X 2 170
FAC species	0 X3 0
FACU species	1 X 4 4
Herbaceous Stratum Plot size (5 Foot Radius) Alopecurus arundinaceus 10 FACW	0 X 5 0
Cirsium arvense 1 FACU Column Totals	90 (A) 178 (B)
Phologic grundingers 70 Fd FACW	ndex = B/A = 1.98
Poa nalustris 5 D FACW	getation Indicators
	Test for Hydrophytic Vegetation
	ance Test is >50%
	ence Index is <= 3.0
	ological Adaptations (Provide g data in remarks or on separate
☐ 5 - Wetlar	nd Non-Vascular Plants
Problema	tic Hydrophytic Vegetation (Explain)
Woody Vine Stratum Plot size (30 Foot Radius) Indicators of hydric	sil and wetland hydrology must be turbed or problematic for #3, 4, 5.
Hydrophytic Veg	·
Percent Bare Ground 10 Remarks:	
Dominated by hydrophytic species.	

SOIL Sampling Point: DP06w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Redox Features

Color (moist) % Type¹ Loc² Color (moist) <u>Texture</u> Remarks (inches) 0-5 _10YR __5/1 _ _ 100_ Sandy Clay -- 80-7.5YR -4/6 -- 20--C --M -5-12 -10YR —5/1 Clay

¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sar	nd Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F) 1 cm Muck (A9) (LRR F, G, H) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	1 cm Muck (A9) (LRR I, J) Coast Prairie Redox (A16) (LRR F, G, H) Dark Surface (S7) (LRR G) High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) Reduced Vertic (F18) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if present):	
Type:	
Depth (inches):	Hydric Soil Present? Yes <u>V</u> No
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Dry-Season Water Table (C2) Sediment Deposits (B2) Drift Deposits (B3) Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roman Control (C2) Where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Water-Stained Leaves (B9)	✓ Geomorphic Position (D2)✓ FAC-Neutral Test (D5)☐ Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No V Depth (inches): Vincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection	Wetland Hydrology Present? Yes No
2000, 20 1.000, act at a fatter and act at a fatter act at a f	one, ii availabio.
Remarks: Soil very moist and water stained leaves observed at soil pit.	

Project/Site: Kindsfater	City/County: Yellowst	one	_ Sampling Date: _	6/17/2020
			_ Sampling Point:	
Investigator(s): R Quire, S Robbins, R Jones			S 25E	
Landform (hillslope, terrace, etc.): Terrace				pe (%):
Subregion (LRR): LRR F	45.69598	8 Long:	-108.69782 _{Datu}	m: NAD 83
Subregion (LRR): LRR F Lat: Lat: Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope	;	NWI classifi	cation: Not Mappe	ed
Are climatic / hydrologic conditions on the site typical for this time of				
Are Vegetation, Soil, or Hydrology significant	y disturbed? Are	"Normal Circumstances"	present? Yes	No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If no	eeded, explain any answ	ers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing				atures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point in the NW corner of site.	Is the Sampled within a Wetla	I Area nd? Yes	No	-
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (30 Foot Radius) % Cover Specie		Dominance Test wo	rksheet	
Iree Stratum Plot size (30 Foot Radius) % Cover: Specie	s? Status	Number of Dominant that are OBL, FACW		0 (A)
		Total Number of Dom Species Across All S		1 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant That Are OBL, FACV		.0 % (A/B)
		Prevalence Index w		delin bir bir i
		Total % Cover of OBL species	0 X 1	ultiply by:
		FACW species	-	0
		FAC species	0 X3	0
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species	15 X 4	60
Herbaceous Stratum Plot size (5 Foot Radius) Bromus inermis 60 ✓	UPL	UPL species	65 X 5	325
Convolvulus arvensis 5	UPL	Column Totals	80 (A)	385 (B)
Elymus repens 10	FACU	Prevalence Inde		4.81
Thlaspi arvense 5	FACU	Hydrophytic Vegeta		
			it for Hydrophytic V	egetation
		II — ·	e Test is >50%	-9
			e Index is <= 3.0	
		. –	gical Adaptations (F ata in remarks or on	
		5 - Wetland N	lon-Vascular Plants	S
		Problematic H	Hydrophytic Vegeta	tion (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil	and wetland hydrol	ogy must be
Percent Bare Ground 20		Hydrophytic Vegeta Present?	·	NO 🔽
Remarks:		ı		
BG/litter=20%				

SOIL Sampling Point: DP07u

(inches)	Matrix		Redox Features	. 2		
I .	Color (moist)		Color (moist) % Type ¹	Loc ²	Texture	Remarks
.0-5	_10YR4/2	100			Silty Clay _	
-5-14	-10YR —5/1	100—		5	Silty Clay -	
	-					
			duced Matrix, CS=Covered or Coated	d Sand Gr		ion: PL=Pore Lining, M=Matrix.
		cable to all LR	Rs, unless otherwise noted.)			r Problematic Hydric Soils ³ :
Histosol	l (A1) pipedon (A2)		☐ Sandy Gleyed Matrix (S4)☐ Sandy Redox (S5)			ck (A9) (LRR I, J) airie Redox (A16) (LRR F, G, H)
	istic (A3)		Stripped Matrix (S6)			face (S7) (LRR G)
	en Sulfide (A4)		Loamy Mucky Mineral (F1)			ns Depressions (F16)
	d Layers (A5) (LRR l	F)	Loamy Gleyed Matrix (F2)			H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G,		Depleted Matrix (F3)			Vertic (F18)
Deplete	d Below Dark Surfac	ce (A11)	Redox Dark Surface (F6)		Red Pare	ent Material (TF2)
Thick Da	ark Surface (A12)		Depleted Dark Surface (F7)			llow Dark Surface (TF12)
	Mucky Mineral (S1)		Redox Depressions (F8)			kplain in Remarks)
	Mucky Peat or Peat		· — · · · ·			hydrophytic vegetation and
5 cm Mu	ucky Peat or Peat (S	(3) (LRR F)	(MLRA 72 & 73 of LRR	H)		ydrology must be present, sturbed or problematic.
Restrictive	Layer (if present):				uniess di	sturbed of problematic.
Type:						
Depth (in			_		Hydric Soil Pr	resent? Yes 🔲 No 🔽
	o hydric soil indica	atara abaarii	d during cita vicit		11,411.0	
rtomanto. M	o flydric Soli ilidica	ators observe	a during site visit.			
HYDROLO)GY					
	PGY drology Indicators:	:				
Wetland Hy			neck all that apply)		<u>Secondary</u>	Indicators (minimum of two required
Wetland Hy	drology Indicators:	one required; cl	neck all that apply)		Surfac	e Soil Cracks (B6)
Wetland Hyder Primary India	drology Indicators: cators (minimum of c	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13)		Surfac	e Soil Cracks (B6) ely Vegetated Concave Surface (B8)
Wetland Hyder Primary India	drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	one required; cl	Salt Crust (B11)		Surfac Sparse Draina	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10)
Wetland Hyder Primary India Surface High Wa	drology Indicators: cators (minimum of o Water (A1) ater Table (A2)	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)		Surface Sparse Draina Oxidize	e Soil Cracks (B6) ely Vegetated Concave Surface (B8)
Wetland Hyder Primary India Surface High Wa Saturatio Water M	cators (minimum of c Water (A1) ater Table (A2) on (A3)	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	ng Roots (Surface Sparse Draina Oxidize	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10)
Wetland Hyderimary India Surface High Wa Saturatio Water M Sedimer Drift Dep	cators (minimum of control (Mater (A1)) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled)		Surfac Sparse Draina Oxidiz C3) Cayling C3	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) sh Burrows (C8)
Wetland Hyderimary India Surface High Wa Saturatia Water M Sedimer Drift Dep Algal Ma	cators (minimum of control of con	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4)		Surfac Sparse Draina Oxidiz C3) (whe	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9)
Wetland Hyderimary India Surface High Water Mater Material Material Material Material	cators (minimum of control of con	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)		Surfac Sparse Draina Oxidize C3) (whe Satura Geome	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2)
Wetland Hyderimary India Surface High Water M Sedimer Drift Dep Algal Mater M Iron Dep Inundati	cators (minimum of of cators) Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4)		Surfac Sparse Draina Oxidize C3) (whe Satura Geome	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5)
Wetland Hyderimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S	cators (minimum of of water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Stained Leaves (B9)	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7)		Surfac Sparse Draina Oxidize C3) (whe Satura Geome	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Care tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2)
Wetland Hyderimary India Surface High Water Mater Mate	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Stained Leaves (B9) rvations:	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks))	Surfac Sparse Draina Oxidize C3) (whe Satura Geome	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5)
Wetland Hyderimary India Surface High Water Mater Surface Water Surface Water Mater	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial Stained Leaves (B9) evations: der Present?	one required; cl	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	_	Surfac Sparse Draina Oxidize C3) (whe Satura Geome	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5)
Wetland Hyderimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S Field Obser Surface Water	cators (minimum of of water (A1) ater Table (A2) on (A3) flarks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial stained Leaves (B9) rvations: ter Present? Y	Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):		Surfac Sparse Draina Oxidize C3) (whe Satura Geome FAC-N Frost-h	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)
Wetland Hyderimary India Surface High Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S Field Obser Surface Water Saturation P	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Stained Leaves (B9) rvations: ter Present? Present? Y	Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)		Surfac Sparse Draina Oxidize C3) (whe Satura Geome FAC-N Frost-h	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5)
Wetland Hyderimary India Surface High Water Management Sedimer Drift Dep Algal Management Inundati Water-S Field Obser Surface Water Table Saturation P (includes cap	cators (minimum of of water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Stained Leaves (B9) rvations: ter Present? Present? Y Present? Y Present? Y Present? Y Present? Y Present? Y	Imagery (B7) Ves No Ves No Ves No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):		Surface Sparse Draina Oxidize C3) (whee Satura Second FAC-N Frost-H	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)
Primary Indice Surface High Wa Saturation Water M Sedimer Drift Dep Algal Ma Iron Dep Inundati Water-S Field Obser Surface Water Table Saturation P (includes cap	cators (minimum of of water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial Stained Leaves (B9) rvations: ter Present? Present? Y Present? Y Present? Y Present? Y Present? Y Present? Y	Imagery (B7) Ves No Ves No Ves No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)		Surface Sparse Draina Oxidize C3) (whee Satura Second FAC-N Frost-H	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)
Wetland Hyderimary India Surface High Water Mage Sedimer Drift Dep Algal Male Iron Dep Inundati Water-S Field Obser Surface Water Table Saturation P (includes cap Describe Re-	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) con Visible on Aerial Stained Leaves (B9) rvations: ter Present? Present? Present? Y pillary fringe) coorded Data (stream	Imagery (B7) /es No /es No /es No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)		Surface Sparse Draina Oxidize C3) (whee Satura Second FAC-N Frost-H	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)
Wetland Hyderimary India Surface High Wa Saturation Water M Sedimer Algal Ma Iron Dep Inundati Water-S Field Obser Surface Water Table Saturation P (includes cap	drology Indicators: cators (minimum of of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) con Visible on Aerial Stained Leaves (B9) rvations: ter Present? Present? Present? Y pillary fringe) coorded Data (stream	Imagery (B7) /es No /es No /es No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Livin (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)		Surface Sparse Draina Oxidize C3) (whee Satura Second FAC-N Frost-H	e Soil Cracks (B6) ely Vegetated Concave Surface (B8) ge Patterns (B10) ed Rhizospheres on Living Roots (Ci ere tilled) sh Burrows (C8) tion Visible on Aerial Imagery (C9) orphic Position (D2) leutral Test (D5) Heave Hummocks (D7) (LRR F)

Project/Site: Kindsfater	City/County: Yellowstor	ne	Sampling Date:	6/17/2020
Investigator(s): R Quire, S Robbins, R Jones			25E	
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, co	nvex none):CONCAVE		
Subregion (LRR): LRR F Lat:				
Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope				
Are climatic / hydrologic conditions on the site typical for this time of ye				
				D
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	ormal Circumstances" p	resent? Yes <u> </u>	□ No
Are Vegetation, Soil, or Hydrology naturally pro-	oblematic? (If need	ded, explain any answer	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects	, important fe	eatures, etc.
Hydrophytic Vegetation Present? Yes V No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: PEM depressional wetland in the NW corner of site.	within a Wetland	Area 1? Yes <u>✓</u>] No	_
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (25 Foot Radius) Absolute Domian Species		Dominance Test work	ksheet	
		Number of Dominant S that are OBL, FACW of	Species or FAC:	1 (A)
		Total Number of Domin Species Across All Str		2 _(B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant S That Are OBL, FACW,		.0 % (A/B)
,		Prevalence Index wo		
		Total % Cover of OBL species		ultiply by:
		FACW species	58 X2	116
		FAC species	0 X3	0
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species	2 X4	8
Alopecurus arundinaceus 3	FACW	UPL species	15 X 5	75
Bromus japonicus 15	UPL	Column Totals 7	75 (A)	199 (B)
Phalaris arundinacea 55	FACW	Prevalence Index	c = B/A =	2.65
Thlaspi arvense 2	FACU	Hydrophytic Vegetati	on Indicators	
		1 - Rapid Test	for Hydrophytic V	egetation/
		2 - Dominance	Test is >50%	
		✓ 3 - Prevalence	Index is <= 3.0	
			cal Adaptations (F a in remarks or or	
		sheet.		
		☐ 5 - Wetland No	n-Vascular Plants	S
		☐ Problematic Hy	/drophytic Vegeta	ition (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil ar present, unless disturbe		
Percent Bare Ground 25		Hydrophytic Vegetati Present?	Yes 🗸	NO \square
Remarks:				
BG/shallow ponded water/litter=25%				

SOIL

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

Depth

(inches) Color (moist) % Redox Features

Color (moist) % Type¹ Loc² Texture Remarks

Depth	Matrix		Redox Features			
(inches)	Color (moist)	% (Color (moist) % Ty _l	oe¹ Loc²	Texture	Remarks
0-12	_10YR5/1	100			Silty Clay	_Roots throughout.
				<u> </u>	, ,	
						
1 _{Type:} C=C	Concentration D=D	anlation PM=Pa	duced Matrix, CS=Covered or C	Control Cand Cr	oine ² l o	cation: PL=Pore Lining, M=Matrix.
		•	Rs, unless otherwise noted.)	oaled Salid Gi		for Problematic Hydric Soils ³ :
		icable to all Livi		24)		
Histoso	pipedon (A2)		 Sandy Gleyed Matrix (\$ Sandy Redox (S5)	54)		Muck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H)
	listic (A3)		Stripped Matrix (S6)			Surface (S7) (LRR G)
	en Sulfide (A4)		Loamy Mucky Mineral	(E1)		Plains Depressions (F16)
	ell Sullide (A4) ed Layers (A5) (LRF) E/	Loamy Gleyed Matrix (, ,	-	RR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, G		Depleted Matrix (F3)	1 2)		ced Vertic (F18)
	ed Below Dark Surf	•	Redox Dark Surface (F	6)	_	arent Material (TF2)
	ark Surface (A12)		Depleted Dark Surface	*		Shallow Dark Surface (TF12)
=	Mucky Mineral (S1)		Redox Depressions (F		=	(Explain in Remarks)
	Mucky Peat or Pea		 · · · ·	•	_	of hydrophytic vegetation and
5 cm Mi	ucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of	LRR H)	wetlan	d hydrology must be present,
					unless	disturbed or problematic.
Restrictive	Layer (if present)					
Type:			_			
Depth (in	nches):				Hydric Soil	Present? Yes No
. ,	,	l ll	- £: -		,	
Kemana. D	repieted matrix a	na nyarogen su	lfide odor observed.			
)CV					
HYDROLC						
Wetland Hy	drology Indicator	s:				
Primary Indi	<u>icators (minimum o</u>	f one required; ch	eck all that apply)		Seconda	ary Indicators (minimum of two required)
✓ Surface	· Water (A1)		Salt Crust (B11)		Sur	face Soil Cracks (B6)
High Wa	ater Table (A2)		Aquatic Invertebrates (B1	3)	Spa	arsely Vegetated Concave Surface (B8)
✓ Saturati	ion (A3)		✓ Hydrogen Sulfide Odor (C	(1)	Dra	inage Patterns (B10)
	/larks (B1)		Dry-Season Water Table	(C2)	Oxio	dized Rhizospheres on Living Roots (C3)
	nt Deposits (B2)		Oxidized Rhizospheres of			vhere tilled)
	posits (B3)		(where not tilled)	- `	· / `	yfish Burrows (C8)
	at or Crust (B4)		Presence of Reduced Iron	n (C4)		uration Visible on Aerial Imagery (C9)
	posits (B5)		Thin Muck Surface (C7)	. ,		omorphic Position (D2)
	ion Visible on Aeria	Il Imagery (R7)	Other (Explain in Remark	s)		C-Neutral Test (D5)
	Stained Leaves (B9			,	=	st-Heave Hummocks (D7) (LRR F)
Field Obser		,				(5,) (1,11,1)
Surface Wat		Yes No _	Depth (inches):	4		
		_				
Water Table		Yes V No		0 Wetla		
Saturation P		Yes V No	Depth (inches):	Wetla	and Hydrolog	y Present? Yes No
	pillary fringe) ecorded Data (strea	m gauge monito	ring well, aerial photos, previou	s inspections\	if available.	
2000,100 110	שנו ליווט ביינים ליינים	94490, 111011110	won, aonai photos, previou	opoodono), i	avallable.	
<u> </u>						
kemarks: _{4ii}	n standing water	and hydrogen	sulfide odor observed at soi	l pit.		

Project/Site: Kindsfater	City/County: Yellowsto					
Applicant/Owner: MDT		State: Montana_ Sampling				
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Range: 6 2S 25E Local relief (concave, convex, none): undulating Slope (%):					
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, co	onvex, none):undulating	Slope (%):			
Subregion (LRR): LRR F Lat:						
Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope						
Are climatic / hydrologic conditions on the site typical for this time of ye						
Are Vegetation, Soil, or Hydrology significantly			∕es V No □			
Are Vegetation, Soil, or Hydrology naturally pro	ablamatic? (If not	adad avalais any anavara in Dama	es 110			
SUMMARY OF FINDINGS – Attach site map showing						
Hydrophytic Vegetation Present? Yes No W Hydric Soil Present? Yes No W Wetland Hydrology Present? Yes No W Remarks: Upland sample point in the NW corner of site.	Is the Sampled a	Area				
VEGETATION - Use scientific names of plants						
Tree Stratum Plot size (30 Foot Radius) Absolute Momian Species		Dominance Test worksheet				
n cover. Cpcsics	· Otatas	Number of Dominant Species that are OBL, FACW or FAC:	0 (A)			
		Total Number of Dominant Species Across All Strata:	2 (B)			
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)			
<u> </u>		Prevalence Index worksheet				
		Total % Cover of:	Multiply by:			
		OBL species 0 X 1 FACW species 10 X 2	0			
		FACW species 10 X 2 FAC species 0 X 3	0			
		FACU species 50 X 4	200			
Herbaceous Stratum Plot size (5 Foot Radius) Agrostis stolonifera 10	FACW	UPL species 10 X 5	50			
Convolvulus arvensis 10	UPL	Column Totals 70 (A) 270 (B)			
Poa compressa 15	FACU		3.86			
Poa pratensis 35	FACU	Prevalence Index = B/A =				
		Hydrophytic Vegetation Indicat 1 - Rapid Test for Hydrop				
		2 - Dominance Test is >5	, ,			
		3 - Prevalence Index is <				
		4 - Morphological Adapta supporting data in remark sheet.				
		☐ 5 - Wetland Non-Vascula	r Plants			
		Problematic Hydrophytic '	Vegetation (Explain)			
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil and wetland present, unless disturbed or proble				
Percent Bare Ground 30		Hydrophytic Vegetation Ye				
Remarks:		<u>l</u>				
Dominated by upland species.						

SOIL

Sampling Point: DP08u

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

Depth (inches)	Matrix Color (moist)		Recolor (moist)	dox Feature %	es Type ¹	Loc ²	- Texture	Remarks
0-05	_10YR5/2	100_	(,				Clay Loam	
-05-12	-10YR —6/1	100-	<u> </u>			•	-	-
	-101K —6/1	100—	<u>–</u>			•	Clay	
12+	<u> </u>		_			•	cobbles	Cobble bottom
				_				
¹ Type: C=C	concentration, D=D	epletion, RM=Red	uced Matrix,	CS=Covere	d or Coated	d Sand (Grains. ² Loc	cation: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (App	licable to all LRR	s, unless oth	erwise no	ted.)			for Problematic Hydric Soils ³ :
Histoso	` '			Gleyed M				Muck (A9) (LRR I, J)
	pipedon (A2) listic (A3)			/ Redox (St ed Matrix (Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G)
\equiv	en Sulfide (A4)		=	y Mucky Mi				Plains Depressions (F16)
	d Layers (A5) (LRI	R F)		y Gleyed M	, ,			RR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, C	-		ted Matrix				ed Vertic (F18)
	ed Below Dark Surf	ace (A11)	=	k Dark Surf	. ,			arent Material (TF2)
	ark Surface (A12) Mucky Mineral (S1)	1		ted Dark Si k Depressio				Shallow Dark Surface (TF12) (Explain in Remarks)
	Mucky Peat or Pea				essions (F1	6)		of hydrophytic vegetation and
5 cm Mi	ucky Peat or Peat	(S3) (LRR F)	(N	ILRA 72 &	73 of LRR	H)		d hydrology must be present,
Destrictive	Lavar (if wraamt)						unless	disturbed or problematic.
	Layer (if present)							
Type: Depth (in							Hydric Soil	Present? Yes No
. `	lo hydric soil indi	aatara ahaariiad	during sits	vioit			Tiyane con	11001111 100
rtomanto. N	io riyane son ina	cators observed	during site	VISIL.				
HADBOLO	NCV							
HYDROLO	drology Indicator							
	cators (minimum o		eck all that an	nlv)			Seconda	ary Indicators (minimum of two required)
	· Water (A1)	r one required, one	Salt Cru					face Soil Cracks (B6)
_	ater Table (A2)		<u> </u>	Invertebrate	es (B13)			rsely Vegetated Concave Surface (B8)
	ion (A3)			n Sulfide C				inage Patterns (B10)
Water N	Marks (B1)		Dry-Sea	son Water	Table (C2)		Oxid	dized Rhizospheres on Living Roots (C3)
	nt Deposits (B2)			•	eres on Livii	ng Root	`	here tilled)
_	posits (B3)		`	e not tilled				yfish Burrows (C8)
	at or Crust (B4)				ed Iron (C4))		uration Visible on Aerial Imagery (C9)
	posits (B5) ion Visible on Aeria	al Imagen, (R7)	_	ck Surface xplain in R	, ,			omorphic Position (D2) C-Neutral Test (D5)
	Stained Leaves (B9		Other (E	Apiaiii iii iX	emarks)		_	st-Heave Hummocks (D7) (LRR F)
Field Obser	•	,						21 TO 200 TELLINOSING (21) (21 UT)
Surface Wat	ter Present?	Yes No	Depth (inches):		_,		
Water Table		Yes No _						
Saturation P	Present? pillary fringe)	Yes No _	✓ Depth (tland Hydrolog	y Present? Yes No
	ecorded Data (strea	am gauge, monitor	ing well, aeria	ıl photos, p	revious insp	ections), if available:	
Remarks: No	o hydrologic indi	cators observed	during site	visit. Soil d	dry.			
	· -		-		•			

Project/Site: Kindsfater	City/County: Y	ellowstone		Sampling Date:	6/17	/2020
			State: Montana			
Investigator(s): R Quire, S Robbins, R Jones Landform (hillslope, terrace, etc.): Depression	l ocal relief (co	ncave convex	none)·CONCAVE	SI	lope (%)·	- ;
Subregion (LRR): LRR F Lat:						
Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slo	oe	Long	NIVA/I classifica	tion: Not Map	ped	
Are climatic / hydrologic conditions on the site typical for this time o	fyeer? Ves 🗸	No \square	(If no explain in De	marka \		
Are Vegetation, Soil, or Hydrology significa					✓ N.	
Are Vegetation, Soil, or Hydrology significal Are Vegetation, Soil, or Hydrology naturally	ntiy disturbed?	Are "Norma	Circumstances pre	esent? Yes	<u> </u>	
SUMMARY OF FINDINGS – Attach site map show	ing sampling p	ooint location	ons, transects,	important f	eatures	, etc
Hydrophytic Vegetation Present? Yes No	─ Is the S	ampled Area				
Hydric Soil Present? Yes V No		a Wetland?	Yes	No		
Wetland Hydrology Present? Yes No Pemarks: Dental State of the Stat	<u> </u>					
Remarks: PEM depressional wetland in the NW corner of si	te.					
VECTATION Has a significan areas of plants						
VEGETATION - Use scientific names of plants Absolute Dom	iant Indicator	1_				
Tree Stratum Plot size (30 Foot Radius) % Cover: Spec			minance Test works			
			mber of Dominant Sp are OBL, FACW or		1 (A)	
			al Number of Domina ecies Across All Stra		1 (B)	
Sapling/Shrub Stratum Plot size (15 Foot Radius)			cent of Dominant Sp at Are OBL, FACW, o		0.0 % (A	/B)
, ,		Pre	valence Index work			
			Total % Cover of: L species		Multiply by:	
			•	0 X1 0 X2	100	\dashv
				0 X3	0	=
Hawbassaus Stratum Plot size (F. Ecot Pedius)			•	5 X 4	60	
Herbaceous Stratum Plot size (5 Foot Radius) Bromus japonicus 10	UPL	UPI	L species 1	0 X5	50	
Elymus repens 10	FACU	Colu	umn Totals 75	5 (A)	210	(B)
Phalaris arundinacea 50	FACW		Prevalence Index :	= R/A =	2.80	0
Thlaspi arvense 5	FACU	Hye	Irophytic Vegetatio			
			✓ 1 - Rapid Test fo		Vegetation	ก
			⊻ 2 - Dominance 1		ŭ	
			✓ 3 - Prevalence li			
					(Dues dele	
			 4 - Morphologica supporting data sheet. 			.e
			5 - Wetland Non	ı-Vascular Plan	ıts	
			Problematic Hyd	drophytic Veget	ation (Exp	olain)
Woody Vine Stratum Plot size (30 Foot Radius)			ators of hydric sil and ent, unless disturbed	d wetland hydro	ology must	t be
Percent Bare Ground 25		Hyd	drophytic Vegetatio	-		
Remarks:		1				
BG/shallow ponded water/litter=25%						

SOIL

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

Depth Matrix Redox Features
(inches) Color (moist) % Type¹ Loc² Texture Remarks

Depth	Matrix		Redox F	eatures	12	T (Daniel a
(inches)	Color (moist)	%	Color (moist)	% Type ¹	Loc ²	Texture	Remarks
0-1	<u> </u>			<u> </u>		duff	_Duff
-1-8	-10YR —5/1	100—		—	. ;	Silty Clay	-
¹Type: C=Cc	ncentration D=De	nletion RM=Re	educed Matrix, CS=	Covered or Coate	d Sand G	rains ² l oc	cation: PL=Pore Lining, M=Matrix.
			Rs, unless otherw		a cana ci		for Problematic Hydric Soils ³ :
Histosol				yed Matrix (S4)		1 cm N	/luck (A9) (LRR I, J)
	pipedon (A2)		Sandy Re	dox (S5)			Prairie Redox (A16) (LRR F, G, H)
Black His	, ,		Stripped M				Surface (S7) (LRR G)
	n Sulfide (A4)	· -		icky Mineral (F1)			Plains Depressions (F16)
	l Layers (A5) (LRF ck (A9) (LRR F, G		Loamy Gi	eyed Matrix (F2)			RR H outside of MLRA 72 & 73) ed Vertic (F18)
	Below Dark Surfa			rk Surface (F6)		=	arent Material (TF2)
	ark Surface (A12)			Dark Surface (F7)			hallow Dark Surface (TF12)
_	lucky Mineral (S1)			pressions (F8)			(Explain in Remarks)
_	lucky Peat or Pea			s Depressions (F1			of hydrophytic vegetation and
5 cm Mu	cky Peat or Peat (53) (LRR F)	(WLRA	A 72 & 73 of LRR	н)		d hydrology must be present, disturbed or problematic.
Restrictive L	_ayer (if present):						distance of proportion.
Type:							
Depth (inc	ches):		_			Hydric Soil	Present? Yes No
Remarks: De	epleted matrix ar	nd hvdrogen s	ulfide odor observ	/ed.			
	CV.						
HYDROLO							
•	drology Indicator					0	
	•	one required; c	heck all that apply)	440			ary Indicators (minimum of two required)
✓ Surface	, ,		Salt Crust (B				Face Soil Cracks (B6)
✓ Saturation	ter Table (A2)		✓ Hydrogen Su	tebrates (B13)			rsely Vegetated Concave Surface (B8) inage Patterns (B10)
	arks (B1)		=	Water Table (C2)			dized Rhizospheres on Living Roots (C3)
	it Deposits (B2)			zospheres on Livi	ng Roots		where tilled)
	oosits (B3)		(where no	•	Ū	`	yfish Burrows (C8)
Algal Ma	t or Crust (B4)		Presence of	Reduced Iron (C4)	☐ Satι	uration Visible on Aerial Imagery (C9)
Iron Dep	osits (B5)		Thin Muck S	urface (C7)		✓ Geo	morphic Position (D2)
	on Visible on Aeria		Other (Expla	in in Remarks)		_	C-Neutral Test (D5)
	tained Leaves (B9	1				Fros	st-Heave Hummocks (D7) (LRR F)
Field Observ				. 1			
Surface Wate		Yes V			- [
Water Table			Depth (inch		-		V
Saturation Pr (includes cap		res <u></u> No	Depth (inch	es):0	_ Wetl	and Hydrolog	y Present? Yes No
		m gauge, monit	oring well, aerial pho	otos, previous insp	ections),	if available:	
Remarks:4in	standing water	and hydrogen	sulfide odor, and	water-stained le	eaves ob	served at soi	il pit.
	Ü		•				•

Project/Site: Kindsfater	City/County: Yellowstor	ne	Sampling Date:	6/17/2020
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Rang	ge:6 2S	S 25E	
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, co	onvex, none):flat	Slo	pe (%):3
Subregion (LRR): LRR F Lat:				
Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope				
Are climatic / hydrologic conditions on the site typical for this time of ye				
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	ormal Circumstances"	present? Yes 💆	<u> </u>
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If nee	ded, explain any answe	ers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	յ sampling point lo	cations, transects	s, important fe	atures, etc
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point in the central portion of site.	Is the Sampled A	Area 1? Yes <u> </u>	□ No ✓	_
VEGETATION - Use scientific names of plants				
Tree Streeture Plot size (20 Feet Padius) Absolute Domiant		Dominance Test wo	rksheet	
Iree Stratum Piot size (30 Poot Radius) % Cover: Species	? Status	Number of Dominant that are OBL, FACW		0 (A)
		Total Number of Dom Species Across All St		2 _(B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant That Are OBL, FACW		0.0 % (A/B)
(10		Prevalence Index wo		
		Total % Cover of OBL species		ultiply by:
		FACW species	0 X2	0
		FAC species	0 X3	0
Herbaceous Stratum Plot size (5 Foot Radius)		•	25 X 4	100
Bromus tectorum 15	UPL	UPL species	15 X 5	75
Sporobolus cryptandrus 25 ✓	FACU	Column Totals	40 (A)	175 (B)
		Prevalence Inde	x = B/A =	4.38
		Hydrophytic Vegetat		
			t for Hydrophytic V	/egetation
			e Test is >50%	
			e Index is <= 3.0	
			ical Adaptations (F ta in remarks or or	
		5 - Wetland N	on-Vascular Plant	s
		☐ Problematic H	lydrophytic Vegeta	ation (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil a present, unless disturb	and wetland hydrol	logy must be
Percent Bare Ground 60		Hydrophytic Vegetat Present?	tion Yes	NO 🗸
Remarks:				
BG/litter=60%				

SOIL Sampling Point: DP09u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Loc² Color (moist) Color (moist) Texture (inches) Remarks 0-06 _10YR __5/2 100 Clay Loam - - 100--06 - 12-10YR -4/2 Loamy Sand -Gravelly/cobbly. 12+ Cobbles Cobble bottom ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Histic Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR F) \perp 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Depth (inches): Remarks: No hydric soil indicators observed during site visit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes ____ No ___ Depth (inches): __ Water Table Present? Wetland Hydrology Present? Yes ____ No ✓ Yes ____ No ____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrologic indicators observed during site visit.

Project/Site: Kindsfater	City/County: Yellowstor	ne	Sampling D	ate:6/17/202
Applicant/Owner: MDT			ana Sampling Po	
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Rang			25E
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, co	nvex, none): conc	ave	Slope (%):
Subregion (LRR): LRR F Lat:	45.694855	Long:	-108.695901	Datum: NAD 83
Subregion (LRR): LRR F Lat: Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope		NWI cla	ssification: Not M	apped
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes 🔽 No 🔼	(If no, explair	ı in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly				s_VNo
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If nee	ded, explain any a	nswers in Remark	s.)
SUMMARY OF FINDINGS - Attach site map showing				
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: PEM depressional wetland in the central portion of s		area ? Yes	_ ✓ No]
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (30 Foot Radius) Absolute Domiant Species		Dominance Test	worksheet	
% Cover. Species	: Status	Number of Domir that are OBL, FA		1 (A)
		Total Number of Species Across A		1 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Domir That Are OBL, FA		100.0 % (A/B)
		Prevalence Inde Total % Co OBL species FACW species	ver of: 0 X 1 65 X 2	Multiply by: 0 130
		FAC species FACU species	0 X3 10 X4	0
Herbaceous Stratum Plot size (5 Foot Radius)	1	UPL species		0
Elymus repens 10	FACU	·	75 (A)	
Hordeum jubatum 5 ☐ Juncus balticus 60 ✓	FACW FACW			
Julicus Balticus 00 🔽	TAOW_		Index = B/A =	2.27
		✓ 1 - Rapid ✓ 2 - Domir ✓ 3 - Preval ☐ 4 - Morph supporting sheet. ☐ 5 - Wetlar	getation Indicator Test for Hydrophy nance Test is >50% lence Index is <= 3 ological Adaptatio g data in remarks and Non-Vascular F tic Hydrophytic Ve	vic Vegetation % 3.0 ons (Provide or on separate
Woody Vine Stratum Plot size (30 Foot Radius)		ndicators of hydric present, unless dis		
Percent Bare Ground 25		Hydrophytic Veg Present?	getation Yes	✓ NO □
Remarks: BG/litter=25%				

SOIL

Sampling Point: DP09w

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

Depth (inches)	Matrix Color (moist)		Redo Color (moist)	ox Features %Type ¹ _	_Loc ²	Texture	Remarks
0-3	_10YR5/2		_			Clay _	
-3-12	-10YR —4/1	95– N	-4/0	3D —	M	Clay -	
·3-12	-10YR -4/1	95 ⁻ 10)YR ⁻ 3/6	2 ⁻ -C -	M	Clay -	
				S=Covered or Coate	d Sand G		L=Pore Lining, M=Matrix.
Histosol Histic Ep Black Hi Hydroge Stratified 1 cm Mu Depleted Thick Da Sandy M 2.5 cm M	Indicators: (Applie (A1) pipedon (A2) istic (A3) on Sulfide (A4) d Layers (A5) (LRR uck (A9) (LRR F, G, d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Mucky Peat or Peat (S	F) H) ce (A11) (S2) (LRR G,	Sandy Sandy Strippe Loamy Loamy Deplete Redox Redox H) High P	Gleyed Matrix (S4) Redox (S5) Ind Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) Ind Matrix (F3) Dark Surface (F6) Independent of the dependent of the depen	16)	1 cm Muck (A9 Coast Prairie R Dark Surface (3 High Plains De (LRR H out Reduced Vertic Red Parent Ma Very Shallow D Other (Explain 3Indicators of hydrol	Ledox (A16) (LRR F, G, H) S7) (LRR G) pressions (F16) side of MLRA 72 & 73) c (F18) terial (TF2) bark Surface (TF12) in Remarks) phytic vegetation and bogy must be present,
Restrictive I	Layer (if present):					unless disturbe	d or problematic.
Type: Depth (in			<u> </u>			Hydric Soil Present	?? Yes <u>V</u> No
HYDROLO	GY						
Wetland Hy	drology Indicators	:					
Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio	larks (B1) Int Deposits (B2) Int Deposits (B3) Int or Crust (B4) Int or Crust (B4) Int or Crust (B5) Int on Visible on Aerial Intained Leaves (B9) Intvations:	Imagery (B7)	Salt Crus Aquatic Ir Hydrogen Dry-Seas Oxidized (where Presence	nvertebrates (B13) I Sulfide Odor (C1) In Water Table (C2) Rhizospheres on Livinot tilled) I of Reduced Iron (C4) It sulface (C7) It plain in Remarks)	ing Roots	Surface Soil Sparsely Ve Drainage Pa Oxidized Rh (where till Crayfish Bur Saturation V Geomorphic FAC-Neutral	getated Concave Surface (B8) tterns (B10) izospheres on Living Roots (C3) ed) rows (C8) isible on Aerial Imagery (C9) Position (D2)
Water Table Saturation Projection (includes cap Describe Records)	resent? pillary fringe)	Yes <u>✓</u> No Yes <u>√</u> No	Depth (ir	nches):8		iland Hydrology Preser	nt? Yes No No
Remarks: _{Hiç}	gh water table ob	served in soi	il pit at 8in after	10 min.			

Project/Site: Kindsfater	City/County: Yellowsto	ne Sampling D	ate:6/17/2020
		State: Montana Sampling Po	
Investigator(s): R Quire, S Robbins, R Jones Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, c	onvex. none); undulating	Slope (%):
Subregion (LRR): LRR F Lat:	45.694973	-108.694535	Datum: NAD 83
Soil Map Unit Name: Bm: Bew silty clay loam, 0-1 percent slope			
Are climatic / hydrologic conditions on the site typical for this time of			
Are Vegetation, Soil, or Hydrology significant			
Are Vegetation , Soil , or Hydrology naturally p	ny disturbed? Are in	adad avalais any anavara in Dagada	s <u> </u>
SUMMARY OF FINDINGS – Attach site map showing			
			- It leatures, etc
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No	Is the Sampled		_
Hydric Soil Present? Yes No ✔ Wetland Hydrology Present? Yes No ✔	within a Wetland	d? Yes 🔲 No 🔽	<u>'</u>
Remarks: Upland sample point in the central portion of site.	l		
VEGETATION - Use scientific names of plants			
Tree Stratum Plot size (30 Foot Radius) Absolute Domia Specie		Dominance Test worksheet	
7% Cover. Specie	s? Status	Number of Dominant Species that are OBL, FACW or FAC:	0 (A)
		Total Number of Dominant Species Across All Strata:	2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
		Prevalence Index worksheet	
		Total % Cover of:	Multiply by:
		OBL species 0 X 1 FACW species 0 X 2	0
		FAC species 0 X 3	0
Harbanana Stratum Plataira / F. Foot Redive		FACU species 55 X 4	220
Herbaceous Stratum Plot size (5 Foot Radius) Bromus tectorum 15 ✓	UPL	UPL species 15 X 5	75
Poa compressa 10	FACU	Column Totals 70 (A)	295 (B)
Poa pratensis 35	FACU	Prevalence Index = B/A =	4.21
Sporobolus cryptandrus 10	FACU	Hydrophytic Vegetation Indicator	
		1 - Rapid Test for Hydrophy	
		2 - Dominance Test is >509	
		3 - Prevalence Index is <= 3	
		 4 - Morphological Adaptation supporting data in remarks sheet. 	
		5 - Wetland Non-Vascular F	Plants
		☐ Problematic Hydrophytic Ve	egetation (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil and wetland h present, unless disturbed or problem	
Percent Bare Ground 30		Hydrophytic Vegetation Yes	□ NO 🗹
Remarks:			
BG/litter=30%			

SOIL Sampling Point: DP10u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Color (moist) Loc² Color (moist) Texture (inches) 0-04 _10YR __5/2 100 Clay -04-12- - 100--10YR -4/1 Sandy Loam 12+ Rock Rock bottom. ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Coast Prairie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Loamy Mucky Mineral (F1) Hydrogen Sulfide (A4) High Plains Depressions (F16) Loamy Gleyed Matrix (F2) Stratified Layers (A5) (LRR F) (LRR H outside of MLRA 72 & 73) \perp 1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Depth (inches): Remarks: No hydric soil indicators observed during site visit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Hydrogen Sulfide Odor (C1) Saturation (A3) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Yes No Depth (inches): Surface Water Present? Yes ____ No ___ Depth (inches): ___ Water Table Present? Wetland Hydrology Present? Yes ____ No Yes ____ No ____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No hydrologic indicators observed during site visit.

Project/Site: Kindsfater		City/C	county: Yellows	stone		Sampling	Date: _	6/1	7/2020
Investigator(s): R Quire, S Robbins, R Jones									
Landform (hillslope, terrace, etc.): Depression		Local	l relief (concave	e, convex, nor	ne): conca	ave	Slor	oe (%):	1
Subregion (LRR): LRR F	Lat:		45.6948	353 Long:		-108.69447	_ Datur	n: NAI	D 83
Subregion (LRR): LRR F Soil Map Unit Name: LI: Wanetta clay loam, 0-1 perce	nt slope				NWI clas	ssification: Not	- Марре	d	
Are climatic / hydrologic conditions on the site typical for the	nis time of ye	ear? Y	es 🔽 No	(If no	o, explain	in Remarks.)			
Are Vegetation, Soil, or Hydrology							es_	No	o <u> </u>
Are Vegetation, Soil, or Hydrology	naturally pr	oblema	atic? (If	needed, expla	ain any ar	swers in Rema	rks.)		
SUMMARY OF FINDINGS - Attach site map								ature	s, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes Wetland Hydrology Present? Remarks: PSS depressional wetland in the central parts of the control of the central parts of the centr	No No		Is the Sample		Yes _	✓ No_			
VEGETATION - Use scientific names of pla	nts								
Tree Stratum Plot size (30 Foot Radius) Absolut % Cove	e Domian r: Species		idicator tatus	Domina	nce Test	worksheet			
						ant Species CW or FAC:		3 _(A)	
					ımber of [Across A		;	3 _(B)	
Sapling/Shrub Stratum Plot size (15 Foot Radius)					ant Species CW, or FAC:	100.	0 % (A/B)
Salix exigua 3	•	FA	CW	Prevale	nce Inde	x worksheet			
	النف				<u>ital % Cov</u> ecies	<u>ver of:</u> 0 X 1	Mu	Itiply by	<u>y:</u>
						95 X2		0 190	-
					ecies	3 X3		9	=
Herbaceous Stratum Plot size (5 Foot Radius	\			FACU s	pecies	2 X4		8	
	, 1	FAC	CU	UPL spe	ecies	0 X5		0	
Juncus balticus 1		FAC		Column	Totals	100 (A))	207	(B)
Poa palustris 4		FAC	CW	Pre	valence I	ndex = B/A =		2.0	07
Sonchus arvensis	3 🗌	FAC	<u> </u>	Hydropi	hytic Veg	etation Indicat	ors		
Thlaspi arvense	1 📗	FAC	CU		1 - Rapid	Test for Hydrop	hytic Ve	egetatio	on
				✓ 2	2 - Domin	ance Test is >5	0%		
				✓ 3	3 - Preval	ence Index is <	= 3.0		
					supporting	ological Adapta g data in remark	`		ate
					sheet.	d Nam Vassulai	. Dlata		
						d Non-Vasculai			
Woody Vine Stratum Plot size (30 Foot Radius)					ic Hydrophytic \	•	•	. ,
(00	,					sil and wetland turbed or proble			
Percent Bare Ground 35				Hydropi Present	hytic Veg :?	etation Ye	es 🗸	NO	
Remarks:									
BG/litter=35%									

-5-11 -2.5Y —5/3 100— — — —	— Loamy/Clayey -Gravelly and cobbly.
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered o	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.	
Histosol (A1) Sandy Gleyed Matrix	
Histic Epipedon (A2) Sandy Redox (S5) Ctrianged Matrix (A2)	Coast Prairie Redox (A16) (LRR F, G, H)
■ Black Histic (A3) ■ Stripped Matrix (S6) ■ Hydrogen Sulfide (A4) ■ Loamy Mucky Miner	_
☐ Stratified Layers (A5) (LRR F) ☐ Loamy Gleyed Matri	
1 cm Muck (A9) (LRR F, G, H) Depleted Matrix (F3)	
Depleted Below Dark Surface (A11) Redox Dark Surface	
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surfa	
Sandy Mucky Mineral (S1) Redox Depressions	
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depress	ions (F16) ³ Indicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73	of LRR H) wetland hydrology must be present,
	unless disturbed or problematic.
Restrictive Layer (if present):	
Туре:	
Depth (inches):	Hydric Soil Present? Yes <u>✓</u> No <u></u>
Remarks: Soil too wet to texture, minimal sand present, more silt and	I clay present, with prominent redoximorphic depletions common
within the depleted matrix.	
HYDROLOGY	
Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) Salt Crust (B11)	Surface Soil Cracks (B6)
✓ High Water Table (A2) ☐ Aquatic Invertebrates (
✓ Saturation (A3) Hydrogen Sulfide Odor	
Water Marks (B1) Dry-Season Water Tab	
Sediment Deposits (B2) Oxidized Rhizospheres	
Drift Deposits (B3) (where not tilled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4) Presence of Reduced I	ron (C4) Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7	(r) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Rema	
Water-Stained Leaves (B9)	Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	7
Saturation Present? Yes V No Depth (inches):	0 Wetland Hydrology Present? Yes Vo No
(includes capillary fringe)	110 110
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previ	ous inspections), if available:
Remarks: High water table observed in soil pit at 7in after 10 min.	
.g	

Project/Site: Kindsfater	City/County: Yellowstor	ne	_ Sampling Date: _	6/17/2020
Applicant/Owner: MDT		State: Montana	_ Sampling Point: [OP11u
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Rang	ge: 6 25	S 25E	
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, co	onvex. none):flat		
Subregion (LRR): LRR F Lat:				
Soil Map Unit Name: LI: Wanetta clay loam, 0-1 percent slope		NIM/ classifi	Data	···
Are climatic / hydrologic conditions on the site typical for this time of ye		NVVI classific	cation:	
				l \Box
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	ormal Circumstances"	present? Yes	No
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If nee	ded, explain any answe	ers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects	s, important fe	atures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point in the east-central portion of sit		Area 1? Yes	No	
VEGETATION - Use scientific names of plants Absolute Domiant	: Indicator			
Tree Stratum Plot size (30 Foot Radius) % Cover: Species		Dominance Test wo		
		Number of Dominant that are OBL, FACW		0 (A)
		Total Number of Dom Species Across All St		2 _(B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant That Are OBL, FACW		0 % (A/B)
		Prevalence Index we		
		Total % Cover of		ıltiply by:
		OBL species FACW species	_	0
		FACV species FAC species	0 X2	0
		FACU species	0 X 4	0
Herbaceous Stratum Plot size (5 Foot Radius)	UPL	UPL species	70 X5	350
Bromus inermis 45 ✓ Bromus japonicus 5	UPL	Column Totals	70 (A)	350 (B)
Bromus tectorum 15	UPL			5.00
Convolvulus arvensis 4	UPL	Prevalence Inde		
Tragopogon dubius 1	UPL	Hydrophytic Vegetat	tion Indicators It for Hydrophytic Ve	agotation
				egetation
			e Test is >50%	
		☐ 3 - Prevalence	e Index is <= 3.0	
			gical Adaptations (P ta in remarks or on	
			lon-Vascular Plants	
Woody Vine Stratum Plot size (30 Foot Radius)		☐ Problematic H	lydrophytic Vegetat	ion (Explain)
Piot size (50 Poot Nadius)		Indicators of hydric sil a present, unless disturb		
Percent Bare Ground 30		Hydrophytic Vegetat Present?	tion Yes	NO 🗸
Remarks:		_		
BG/litter=30%				

SOIL Sampling Point: DP11u

-05-12 -2.5Y —5/2 100— — — Clay Loam -	Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type ¹ Le	oc ² Texture	Remarks
Type: C=Concentration. D=Depletion, RM=Reduced Matrix. CS=Covered or Coated Sand Grains. Type: C=Concentration. D=Depletion, RM=Reduced Matrix. CS=Covered or Coated Sand Grains. Type: C=Concentration. D=Depletion, RM=Reduced Matrix. CS=Covered or Coated Sand Grains. Type: C=Concentration. D=Depletion, RM=Reduced Matrix. CS=Covered or Coated Sand Grains. Type: C=Concentration. D=Depletion, RM=Reduced Matrix. CS=Covered or Coated Sand Grains. Type: C=Concentration. D=Depletion, RM=Reduced Matrix. GS=Covered Matrix. GS	0-05		100		Silty Clay Loa	m _
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Location: PL=Pore Lining, M=Matrix, Phydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histos Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: Histos Eppedon (A2)	-05-12	-2.5Y —5/2	100—		Clay Loam	-
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	12+				rock	Rock bottom.
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)						
Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (LRR I, J) Histo Epipedon (A2) Sandy Redox (S5) Coast Prairie Redox (A16) (LRR F, G, H) Black Histic (A3) Loamy Mucky Mineral (F1) Loamy (Geyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Depleted Matrix (F2) Thick Dark Surface (A12) Depleted Matrix (F3) Reduced Vertic (F18) Sandy Mucky Mineral (S1) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Somy Mucky Peat or Peat (S2) (LRR G, H) Redox Depressions (F8) Restrictive Layer (if present): Type:	¹ Type: C=C	concentration, D=De	epletion, RM=Re	duced Matrix, CS=Covered or Coated Sa	and Grains. ² l	Location: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2)	Hydric Soil	Indicators: (Appl	icable to all LRI	Rs, unless otherwise noted.)	Indicato	ors for Problematic Hydric Soils ³ :
Type:	Histic E Black H Hydroge Stratifie 1 cm Me Deplete Thick D Sandy M 2.5 cm Me	pipedon (A2) listic (A3) en Sulfide (A4) d Layers (A5) (LRF, Guck (A9) (LRR F, Guck Galler) d Below Dark Surfark Surface (A12) Mucky Mineral (S1) Mucky Peat or Peat (Caller)	, H) ace (A11) t (S2) (LRR G, H S3) (LRR F)	□ Sandy Redox (S5) □ Stripped Matrix (S6) □ Loamy Mucky Mineral (F1) □ Loamy Gleyed Matrix (F2) □ Depleted Matrix (F3) □ Redox Dark Surface (F6) □ Depleted Dark Surface (F7) □ Redox Depressions (F8)) □ High Plains Depressions (F16)	☐ Coa☐ Dari☐ High ☐ High ☐ Red☐ Very☐ Othe ☐ Othe	ast Prairie Redox (A16) (LRR F, G, H) k Surface (S7) (LRR G) n Plains Depressions (F16) LRR H outside of MLRA 72 & 73) luced Vertic (F18) I Parent Material (TF2) y Shallow Dark Surface (TF12) er (Explain in Remarks) ors of hydrophytic vegetation and and hydrology must be present,
Depth (inches):		Layer (if present):				
No hydric soil indicators observed during site visit.	• • • • • • • • • • • • • • • • • • • •	uchos):		_	Hudria 6	oil Procent? Vos No V
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B10) Oxidized Rhizospheres on Living Roots (C3) (where rilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Felid Observations: Surface Water Present? Yes No Pepth (inches): Water Table Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation (Inches): Secondary Indicators (B1) Surface Soil Cracks (B1) Surfac	Remarks: N	lo hydric soil indi	cators observe	d during site visit.	l	
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B10) Oxidized Rhizospheres on Living Roots (C3) (where rilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Felid Observations: Surface Water Present? Yes No Pepth (inches): Water Table Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Wetland Hydrology Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation Present? Yes No Pepth (inches): Saturation (Inches): Secondary Indicators (B1) Surface Soil Cracks (B1) Surfac		ncv				
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Invertebrates (B13) Saturation (A3) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Table Present? Yes No Depth (inches): Saturation has a later apply) Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B13) Sparsely Vegetated Concave Surface (B14) Drift Deposits (B10) Oxidized Rhizospheres on Living Roots (C3) (where not tilled) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) FAC-Neutral Test (D5) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Frost-Heave Hummocks (D7) (LRR F) Fost-Heave Hummocks (D7) (LRR F) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Depth (inches): Saturation Present? Yes No Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Frost-Heave Hummocks (D7) No Presence of Reduced Iron (C4) Saturation Visible on Aerial Image						
Surface Water (A1)	-			nack all that apply)	Secon	adany Indicators (minimum of two required
High Water Table (A2)			one required, or			•
Hydrogen Sulfide Odor (C1) □ Drainage Patterns (B10) □ Water Marks (B1) □ Dry-Season Water Table (C2) □ Oxidized Rhizospheres on Living Roots (C3) □ Oxidiz						
Water Marks (B1) □ Dry-Season Water Table (C2) □ Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) □ Oxidized Rhizospheres on Living Roots (C3) (where tilled) □ Drift Deposits (B3) (where not tilled) □ Crayfish Burrows (C8) □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ Saturation Visible on Aerial Imagery (C9) □ Iron Deposits (B5) □ Thin Muck Surface (C7) □ Geomorphic Position (D2) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) □ Water-Stained Leaves (B9) □ Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Water Table Present? Yes □ No ✓ Depth (inches): Saturation Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Saturation Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydrology Present? Yes □ No ✓ Depth (inches): Wetland Hydro					_	
Sediment Deposits (B2)	_	, ,				` '
Drift Deposits (B3) (where not tilled) ☐ Crayfish Burrows (C8) ☐ Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7) ☐ Geomorphic Position (D2) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ FAC-Neutral Test (D5) ☐ Water-Stained Leaves (B9) ☐ Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes ☐ No ☑ Depth (inches): ☐ Water Table Present? Yes ☐ No ☑ Depth (inches): ☐ Water Table Present? Yes ☐ No ☑ Depth (inches): ☐ Wetland Hydrology Present? Yes ☐ No ☑ Depth (inches): ☐ Wetland Hydrology Present? Yes ☐ No ☐ Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		, ,		_ ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `		
Algal Mat or Crust (B4)						,
□ Iron Deposits (B5) □ Thin Muck Surface (C7) □ Geomorphic Position (D2) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) □ Water-Stained Leaves (B9) □ Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes □ No ☑ Depth (inches): □ Water Table Present? Yes □ No ☑ Depth (inches): □ Wetland Hydrology Present? Yes □ No ☑ Depth (inches): □ Wetland Hydrology Present? Yes □ No ☑ Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	=	. ,				
□ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) □ Frost-Heave Hummocks (D7) (LRR F) Field Observations: Surface Water Present? Yes □ No ☑ Depth (inches): □ Water Table Present? Yes □ No ☑ Depth (inches): □ Wetland Hydrology Present? Yes □ No ☑ Depth (inches): □ Wetland Hydrology 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:						
Water-Stained Leaves (B9)			(07)			, , ,
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				Other (Explain in Remarks)	_	
Surface Water Present? Yes No Depth (inches):		, ,)		F	rost-Heave Hummocks (D7) (LRR F)
Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No						
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Surface Wat	ter Present?				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
	(includes ca	pillary fringe)				ogy Present? Yes No
Remarks: No hydrologic indicators observed during site visit.	Describe Ke	corded Data (Sifea	in gauge, monito	ming well, aerial photos, previous inspect	ions), ii avallable:	
Remarks: No hydrologic indicators observed during site visit.						
	Remarks: No	o hydrologic indic	ators observed	d during site visit.		

Project/Site: Kindsfater		City/County: Yellows	tone	Sampling Date:	6/17/2020
Applicant/Owner: MDT			State: Montana		
Investigator(s): R Quire, S Robbins, R Jone				25E	
Landform (hillslope, terrace, etc.): Depression		_ Local relief (concave	convex none): CONCAVE		(%): 3
			89 Long: -10		
Subregion (LRR): LI: Wanetta clay loam	Lat: N-1 percent slope	+0.03+00	00 Long:	Not Manned	11/12/00
Soil Map Unit Name: LI: Wanetta clay loam,	0-1 percent slope		NVVI classific	ation: Napped	
Are climatic / hydrologic conditions on the site ty					
Are Vegetation, Soil, or Hydrolog	gy significant	ly disturbed? Are	"Normal Circumstances" p	resent? Yes <u> </u>	No
Are Vegetation, Soil, or Hydrolog	gy naturally p	oroblematic? (If n	needed, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS - Attach	site map showin	ng sampling point	locations, transects	, important feat	tures, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks: PSS depressional wetland in the	✓ No □	within a Wetla	d Area and? Yes <u>▼</u>] No	
VEGETATION - Use scientific name		nt Indicator			
<u>Tree Stratum</u> Plot size (30 Foot Radius)	Absolute Domia % Cover: Specie		Dominance Test wor	ksheet	
			Number of Dominant S that are OBL, FACW of	Species or FAC: 3	(A)
			Total Number of Domi Species Across All St	2	(B)
Sapling/Shrub Stratum Plot size (15 Fo	oot Radius)		Percent of Dominant S That Are OBL, FACW		% (A/B)
Populus deltoides	5 🗆	FAC	Prevalence Index wo	rksheet	
Salix exigua	40	FACW	Total % Cover o		ply by:
Salix lutea	5 🗍	FACW	OBL species FACW species		20
			FAC species	5 X 3	30 15
			FACU species		60
Herbaceous Stratum Plot size (5 Fo	<u> </u>	FACIL	UPL species	0 X5	0
Elaeagnus angustifolia Eleocharis palustris	5 <u> </u>	FACU OBL	Column Totals 1	05 (A) 2	25 (B)
Elymus repens	5 🗆	FACU			2.14
Juncus balticus	20 🔽	FACW	Prevalence Index		2.14
Schoenoplectus pungens	5	OBL	Hydrophytic Vegetat	ion Indicators for Hydrophytic Veg	otation
Solidago canadensis	5 🗍	FACU	✓ 1 - Rapid Test		Clation
			✓ 3 - Prevalence	index is <= 3.0	
				cal Adaptations (Pro a in remarks or on s	
			<u> </u>	on-Vascular Plants	
Woody Vine Stratum Plot size (30 Fc	not Radius)		□ □ Problematic H	ydrophytic Vegetatio	n (Explain)
Woody vine Stratum 1 lot size (50 10	ot Nadius)		Indicators of hydric sil a present, unless disturbe		
Percent Bare Ground 30			Hydrophytic Vegetat Present?	ion Yes 🗹 N	NO 🗆
Remarks:			•		
BG/litter=30%, shrub cover in 5' herb stra	tum				

SOIL Sampling Point: DP11w

		,		nent the indicator or co x Features	nfirm the absence of	f indicators.)
Depth (inches)	Mati Color (mois		Color (moist)		c ² Texture _	Remarks
0-7	_2.5Y5/2	97_		3CM	Silty Clay	-
-7-12	-2.5Y —4/1	100-			Loamy Sand	_
-12	2.01 4/1	100			Louiny Gand	
						_
						_
				S=Covered or Coated Sar		tion: PL=Pore Lining, M=Matrix. or Problematic Hydric Soils ³ :
		plicable to all	LRRs, unless other			· · · · · · · · · · · · · · · · · · ·
Histoso	pipedon (A2)			Gleyed Matrix (S4) Redox (S5)		ck (A9) (LRR I, J) rairie Redox (A16) (LRR F, G, H)
	listic (A3)		= '	d Matrix (S6)	_	face (S7) (LRR G)
_	en Sulfide (A4)			Mucky Mineral (F1)	_	ins Depressions (F16)
	ed Layers (A5) (L	RR F)		Gleyed Matrix (F2)	-	H outside of MLRA 72 & 73)
	uck (A9) (LRR F		= :	d Matrix (F3)	_	Vertic (F18)
	ed Below Dark Su		=	Dark Surface (F6)		ent Material (TF2)
_	ark Surface (A12	7		d Dark Surface (F7) Depressions (F8)		allow Dark Surface (TF12) xplain in Remarks)
_	Mucky Mineral (S Mucky Peat or P	•		ains Depressions (F16)		hydrophytic vegetation and
_	ucky Peat or Pea	, , ,		RA 72 & 73 of LRR H)		nydrology must be present,
	•	, , ,	`	,		isturbed or problematic.
Restrictive	Layer (if preser	it):				
Type:						
Depth (in	nches):				Hydric Soil P	resent? Yes <u> </u> No
Remarks: P	rominent redox	kimorphic con	centrations comm	on within the depleted	matrix.	
HYDROLC	OGY					
Wetland Hy	drology Indicat	ors:				
Primary Indi	icators (minimum	of one required	l; check all that appl	y)	<u>Secondary</u>	Indicators (minimum of two required)
Surface	Water (A1)		Salt Crust	(B11)	Surfac	ce Soil Cracks (B6)
✓ High W	ater Table (A2)		Aquatic Inv	vertebrates (B13)	Spars	ely Vegetated Concave Surface (B8)
✓ Saturat	ion (A3)		Hydrogen	Sulfide Odor (C1)	Draina	age Patterns (B10)
Water N	Marks (B1)		☐ Dry-Seaso	n Water Table (C2)	Oxidiz	ed Rhizospheres on Living Roots (C3)
	ent Deposits (B2)			Rhizospheres on Living R		ere tilled)
_	posits (B3)			not tilled)	= .	sh Burrows (C8)
	at or Crust (B4)			of Reduced Iron (C4)	_	ation Visible on Aerial Imagery (C9)
	posits (B5)	-:		Surface (C7)		orphic Position (D2)
	ion Visible on Ae Stained Leaves (I)	plain in Remarks)		Neutral Test (D5) Heave Hummocks (D7) (LRR F)
Field Obser	•	59)			11031-	rieave ridiffinocks (D1) (LIKE)
	ter Present?	Yes 🗆 I	No Depth (ind	ches).		
Water Table			No Depth (inc			
Saturation F			No Depth (inc	Circs)	Wetland Hydrology I	Present? Yes No
(includes ca	pillary fringe)			on 03)		1000Ht; 100
Describe Re	ecorded Data (str	eam gauge, mo	nitoring well, aerial p	ohotos, previous inspection	ons), if available:	
D						
Remarks: H	igh water table	observed in s	oil pit at 9in after	10 min.		

Project/Site: Kindsfater	City/County: Yellowsto	ne	Sampling Date:	6/17/2020
Investigator(s): R Quire, S Robbins, R Jones			2S 25I	
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, c	onvex none):flat		
Subregion (LRR): LRR F Lat:	Local relief (collicave, collicave, colli	Janes .	5i	NAD 83
Soil Map Unit Name: LI: Wanetta clay loam, 0-1 percent slope				<u>Jeu</u>
Are climatic / hydrologic conditions on the site typical for this time of y				
Are Vegetation, Soil, or Hydrology significant	y disturbed? Are "N	lormal Circumstances	;" present? Yes <u> </u> '	⊻ No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If nee	eded, explain any ansv	wers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showin	g sampling point lo	cations, transec	ts, important f	eatures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: Upland sample point in the NE portion of site.	Is the Sampled within a Wetland	Area d? Yes	No_ <u>✓</u>	_
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (30 Foot Radius) Absolute Domia % Cover: Specie		Dominance Test w	orksheet	
		Number of Dominar that are OBL, FACV		0 (A)
		Total Number of Do Species Across All		5 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominan That Are OBL, FAC		0.0 % (A/B)
<u></u>		Prevalence Index v	worksheet	
		Total % Cover		Multiply by:
		OBL species	_	0
		FACW species FAC species	0 X2 0 X3	0
		FACU species	15 X4	60
Herbaceous Stratum Plot size (5 Foot Radius)		UPL species		225
Agropyron cristatum 10	UPL			
Bromus japonicus 10	UPL	Column Totals	60 (A)	285 (B)
Bromus tectorum 15	UPL	Prevalence Inc	ex = B/A =	4.75
Nassella viridula 10 🗸	UPL	Hydrophytic Veget	ation Indicators	
Sporobolus cryptandrus 15 🗸	FACU	☐ 1 - Rapid Te	est for Hydrophytic	Vegetation
		2 - Dominan	nce Test is >50%	
		☐ 3 - Prevalen	nce Index is <= 3.0	
		4 - Morpholo	ogical Adaptations	(Provide
			data in remarks or c	
		5 - Wetland	Non-Vascular Plan	ıts
		Problematic	Hydrophytic Veget	tation (Evolain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric si	il and wetland hydro	ology must be
		present, unless distur Hydrophytic Veget	tation —	
Percent Bare Ground 40		Present?	Yes L	NO ⊻
Remarks: BG/litter=40%				

SOIL Sampling Point: DP12u

Depth (inches)	Matrix Color (moist)		Redo	x Feature %	s Type ¹	Loc ²	Texture	Remarks
0-04	_2.5Y5/2		yolor (molocy				Silty Clay	Romano
					<u> </u>	•		-
04-10	-10YR —5/2	100—	_			San	idy Clay Loan	n -
10+			_			•	rock	Rock bottom.
					-	-	-	
	oncentration, D=D	•				d Sand G		cation: PL=Pore Lining, M=Matrix.
	Indicators: (App	licable to all LRR						s for Problematic Hydric Soils ³ :
Histoso	pipedon (A2)			Gleyed Ma Redox (S5				Muck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H)
	listic (A3)			d Matrix (S				Surface (S7) (LRR G)
	en Sulfide (A4)			Mucky Mi				Plains Depressions (F16)
	d Layers (A5) (LRI			Gleyed M			(LF	RR H outside of MLRA 72 & 73)
	uck (A9) (LRR F, C		= :	d Matrix (ced Vertic (F18)
	d Below Dark Surf ark Surface (A12)	ace (A11)	=	Dark Surfa	ace (F6) urface (F7)			Parent Material (TF2) Shallow Dark Surface (TF12)
	Mucky Mineral (S1)			Depressio				(Explain in Remarks)
	Mucky Peat or Pea				essions (F	16)		s of hydrophytic vegetation and
	ucky Peat or Peat			-	73 of LRR			nd hydrology must be present,
							unless	s disturbed or problematic.
	Layer (if present)	:						
Type:								I Present? Yes No
Depth (in	lcnes):lo hydric soil indi		-				Hydric Soi	I Present? Yes No
HYDROLC	nGV							
	drology Indicator cators (minimum o		ock all that ann	W			Sacand	ary Indicators (minimum of two required
	· Water (A1)	r one required, cir	Salt Crust					face Soil Cracks (B6)
	ater Table (A2)		Aquatic In	` '	es (B13)			arsely Vegetated Concave Surface (B8)
Saturati			Hydrogen					ainage Patterns (B10)
_	/larks (B1)		Dry-Seaso				=	idized Rhizospheres on Living Roots (C
_	nt Deposits (B2)		Oxidized F			ing Roots		where tilled)
	posits (B3)		(where	not tilled)			☐ Cra	ayfish Burrows (C8)
Algal Ma	at or Crust (B4)		Presence	of Reduce	ed Iron (C4	!)	☐ Sat	turation Visible on Aerial Imagery (C9)
Iron De	posits (B5)		Thin Muck	Surface	(C7)		☐ Ged	omorphic Position (D2)
	ion Visible on Aeria		Other (Ex	olain in Re	emarks)			C-Neutral Test (D5)
	Stained Leaves (B9)					Fro	st-Heave Hummocks (D7) (LRR F)
Field Obser		Van D	V D 0 C	ala a =\:				
Surface Wat			Depth (in					
Water Table		Yes No _						gy Present? Yes No
Saturation P (includes ca	resent? pillary fringe)	Yes No _	_ ✓ _ Depth (in	cnes):		_ vvet	iana Hyarolog	gy Present? Yes No
	ecorded Data (stream	ım gauge, monitoi	ring well, aerial	photos, pr	evious ins	pections)	, if available:	
Remarks: No	o hydrologic indi	cators observed	during site vi	sit.				

Project/Site: Kindsfater	City/County: Yellowston	ne Sampling	Date: 6/17/2020
		State: Montana Sampling	
Investigator(s): R Quire, S Robbins, R Jones			
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, co	nvey none): CONCAVE	
Subregion (LRR): LRR F Lat:			
Soil Map Unit Name: LI: Wanetta clay loam, 0-1 percent slope	10.000107	Notice No	· Mapped
Soil Map Unit Name: 21. Warretta day learn, 6 1 percent diepe		NVVI classification: 1400	Марроч
Are climatic / hydrologic conditions on the site typical for this time of y			🔽 🗆
Are Vegetation, Soil, or Hydrology significantly	/ disturbed? Are "No	ormal Circumstances" present?	Yes <u> </u>
Are Vegetation, Soil, or Hydrology naturally p	oblematic? (If need	ded, explain any answers in Rema	arks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point loc	cations, transects, import	ant features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: PSS depressional wetland in the NE portion of site.	within a Wetland	∧rea ? Yes <u>√</u> No	
VEGETATION - Use scientific names of plants Absolute Domian	nt Indicator		
Tree Stratum Plot size (30 Foot Radius) % Cover: Species		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)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0 % (A/B)
Elaeagnus angustifolia 3	FACU	Prevalence Index worksheet	
Salix exigua 45 🗸	FACW	Total % Cover of: OBL species 0 X 1	Multiply by:
		FACW species 45 X 2	90
		FAC species 35 X 3	105
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species 13 X 4	52
Bromus japonicus 5	UPL	UPL species 5 X 5	25
Cirsium arvense 5	FACU	Column Totals 98 (A	A) 272 (B)
Elymus repens 5	FACU	Prevalence Index = B/A =	2.78
Sonchus arvensis 35	FAC	Hydrophytic Vegetation Indica	tors
		1 - Rapid Test for Hydro	
		✓ 2 - Dominance Test is >:	50%
		✓ 3 - Prevalence Index is	= 3.0
		4 - Morphological Adapta	ations (Provide
		supporting data in remar sheet.	\
		5 - Wetland Non-Vascula	ar Plants
		☐ Problematic Hydrophytic	Vegetation (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		ndicators of hydric sil and wetland present, unless disturbed or probl	
Devent Para Crawad 20	Ţ	Hydrophytic Vocatation	es 🗹 NO 🗌
Percent Bare Ground 30 Remarks:		,	
BG/litter=30%, shrubs present in 5' herb stratum			

SOIL Sampling Point: DP12w

Depth	cription: (Describ Matrix	-	Dodov	Features	,
(inches)	Color (moist)	%	Color (moist)	<u>% Type¹ Lo</u>	oc ² Texture Remarks
0-05	_2.5Y5/2	100_			Silty Clay
-05-13	-10YR —4/2	93– 1	0YR -6/8 -	- 7CSM	Loamy Sand -
¹ Type: C=C	Concentration, D=D	epletion, RM=	Reduced Matrix, CS=	——— ——————————————————————————————————	and Grains. ² Location: PL=Pore Lining, M=Matrix.
			.RRs, unless otherv		Indicators for Problematic Hydric Soils ³ :
Histoso	ol (A1)		Sandy G	leyed Matrix (S4)	☐ 1 cm Muck (A9) (LRR I, J)
	pipedon (A2)		✓ Sandy Re	, ,	Coast Prairie Redox (A16) (LRR F, G, H)
_	Histic (A3)			Matrix (S6)	Dark Surface (S7) (LRR G)
	en Sulfide (A4)) E/		lucky Mineral (F1) leyed Matrix (F2)	High Plains Depressions (F16)
	ed Layers (A5) (LRF luck (A9) (LRR F, G		= '	Matrix (F3)	(LRR H outside of MLRA 72 & 73) Reduced Vertic (F18)
	ed Below Dark Surfa			ark Surface (F6)	Red Parent Material (TF2)
	Dark Surface (A12)	,		Dark Surface (F7)	☐ Very Shallow Dark Surface (TF12)
Sandy I	Mucky Mineral (S1)		Redox D	epressions (F8)	Other (Explain in Remarks)
	Mucky Peat or Pea			ns Depressions (F16)	³ Indicators of hydrophytic vegetation and
5 cm M	lucky Peat or Peat (S3) (LRR F)	(MLR	A 72 & 73 of LRR H)	wetland hydrology must be present,
Destrictive	Layer (if present):	•			unless disturbed or problematic.
	Layer (II present).				
Depth (in					Hydric Soil Present? Yes <u>✓</u> No
		aorabia aona	entrations of soct	ad aand grains same	mon within the matrix.
rtomanto. P	Tominent redoxin	norpriic conc	entrations of coate	eu sanu grains comi	non within the matrix.
LIVEROL C	201				
HYDROLC					
_	ydrology Indicator				Occasional Indicators (estatement of the constitution
		r one required	check all that apply		Secondary Indicators (minimum of two require
	e Water (A1)		Salt Crust (,	Surface Soil Cracks (B6)
✓ Saturati	ater Table (A2)		 .	ertebrates (B13)	Sparsely Vegetated Concave Surface (B8Drainage Patterns (B10)
	Marks (B1)			ulfide Odor (C1) Water Table (C2)	Oxidized Rhizospheres on Living Roots (
_	ent Deposits (B2)			nizospheres on Living F	
	eposits (B3)		(where ne		Crayfish Burrows (C8)
	lat or Crust (B4)			f Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
	posits (B5)			Surface (C7)	✓ Geomorphic Position (D2)
	tion Visible on Aeria	ıl Imagery (B7		ain in Remarks)	FAC-Neutral Test (D5)
	Stained Leaves (B9				Frost-Heave Hummocks (D7) (LRR F)
Field Obser	rvations:				
Surface Wa	ter Present?	Yes N	lo 🔽 Depth (incl	nes):	
Water Table	e Present?	Yes 🔲 N	lo <u>V</u> Depth (incl	nes):	
Saturation F			o Depth (incl	_	Wetland Hydrology Present? Yes No
			sitoring well geriel pl	notos previous inspect	tions) if available:
(includes ca	ecorded Data (strea	ım gauge, mo	illoring well, aeriai pi	iotoo, proviodo iriopool	norts), ii available.
(includes ca		m gauge, mo	moning well, aerial pi		along, ii avallabie.
(includes ca Describe Re			moning well, aerial pi	Total, providuo moposi	iionoj, ii avaliabie.
(includes ca Describe Re	ecorded Data (strea		moring well, aerial pi	Total, provided moposit	iiono), ii availabie.

Project/Site: Kindsfater	City/County: Yellowsto	one Sampling	Date: 6/17/2020
		State: Montana Sampling	
Investigator(s): R Quire, S Robbins, R Jones	Section, Township, Ra	nge: 6 2S	25E
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave,	convex, none): undulating	Slope (%):15
Subregion (LRR): LRR F Lat:			
Soil Map Unit Name: Wf: Larim gravelly loam, 0-4 percent slope		NWI classification: Not	Mapped
Are climatic / hydrologic conditions on the site typical for this time of year	ear? Yes 🔽 No _	(If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "	'Normal Circumstances" present?	res 🔽 No 🔲
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If ne	eded, explain any answers in Rema	ırks.)
SUMMARY OF FINDINGS - Attach site map showing	g sampling point l	ocations, transects, import	ant features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Wetland Sample point located upslope of wetland both	within a Wetlar	nd? Yes 🔲 No _	<u> </u>
VEGETATION - Use scientific names of plants			
Tree Stratum Plot size (30 Foot Radius) Absolute Domian % Cover: Species		Dominance Test worksheet	
Elaeagnus angustifolia 10 🗸	FACU	Number of Dominant Species that are OBL, FACW or FAC:	0 (A)
		Total Number of Dominant Species Across All Strata:	2 (B)
Sapling/Shrub Stratum Plot size (15 Foot Radius)		Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
Outpring/onrab Gratain 1100 3120 (13 1 000 Nadida)		Prevalence Index worksheet	
		Total % Cover of: OBL species 0 X 1	Multiply by:
		FACW species 0 X 2	0
		FAC species 0 X 3	0
Herbaceous Stratum Plot size (5 Foot Radius)		FACU species 10 X 4	40
Bromus inermis 100	UPL	UPL species 100 X 5	500
		Column Totals 110 (A	.) 540 (B)
		Prevalence Index = B/A =	4.91
		Hydrophytic Vegetation Indicate	
		1 - Rapid Test for Hydrop	, ,
		2 - Dominance Test is >5 3 - Prevalence Index is <	
		4 - Morphological Adapta supporting data in remark sheet.	\
		5 - Wetland Non-Vascula	r Plants
		Problematic Hydrophytic	Vegetation (Explain)
Woody Vine Stratum Plot size (30 Foot Radius)		Indicators of hydric sil and wetland present, unless disturbed or proble	
Percent Bare Ground 0		Hydrophytic Vegetation Ye	es NO 🔽
Remarks:			
Dominated by upland species.			

SOIL Sampling Point: DP13u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) Loc² Color (moist) Type Texture (inches) 0-06 _10YR __3/2 100 Silty Clay Loam 95-10YR -3/6-06 - 12-10YR -4/1 Silty Clay Loam 12+ Cobbles Cobble bottom ²Location: PL=Pore Lining, M=Matrix. ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils³: Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (**LRR I, J**) Coast Prairie Redox (A16) (LRR F, G, H) Histic Epipedon (A2) Sandy Redox (S5) Black Histic (A3) Stripped Matrix (S6) Dark Surface (S7) (LRR G) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) High Plains Depressions (F16) Loamy Gleyed Matrix (F2) (LRR H outside of MLRA 72 & 73) Stratified Layers (A5) (LRR F) ✓ Depleted Matrix (F3) \perp 1 cm Muck (A9) (LRR F, G, H) Reduced Vertic (F18) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Redox Depressions (F8) Other (Explain in Remarks) High Plains Depressions (F16) ³Indicators of hydrophytic vegetation and 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present. unless disturbed or problematic. Restrictive Layer (if present): Type: Hydric Soil Present? Depth (inches): Remarks: While a depleted matrix indicator was observed at this upland sample point, the data point lacked any indication of hydrology in the wettest part of the year and the plant community was dominated by upland species. The redox features observed in the lower horizon are considered relict. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aguatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) (where tilled) Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Visible on Aerial Imagery (B7) FAC-Neutral Test (D5) Other (Explain in Remarks) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Yes No Depth (inches): Surface Water Present? Yes ____ No ___ Depth (inches): ___ Water Table Present? Wetland Hydrology Present? Yes ____ No Yes ____ No ____ Depth (inches): _____ Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrologic indicators observed during site visit. Soil dry.

Applicant/Owner_MOT Investigator(s): RQuire, S Robbins, R Jones Section, Township, Range: 6 28 25E Lat	Project/Site: Kindsfater	City/County: Yellowston	ne Sampling	Date: 6/17/2020
Investigator(s): R Quire, S Robbins, R Jones Saction, Township, Range: 6 ZS 25E				
Landtom (fillstope, terrace, etc.) Depression Local relief (concave, convex, none): CONCAVE Slope (8): 10 Subregion (LRR): LRR F	• •			
Subregion (LRR): LRR F	Landform (hillslone terrace etc.): Depression	Local relief (concave, co	invex_none):CONCAVE	
Soil Map Unit Name: Wf. Larim gravelly loam, 0.4 percent slope Are climatic / hydrologic conditions on the site typical for this time of year? Yes				
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	Sail Man Unit Name: Wf: Larim gravelly loam, 0-4 percent slope	10.001100	NIM/ placeification: NOt	Mapped
Are Vegetation	Soil Map Offit Name.		NVVI classification	
Are Vegetation Soil or Hydrology anaturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No No Wetland Hydrology Present? Yes No Is the Sampled Area within a Wetland? Yes No Dominance Test worksheet Number of Dominant Species that are OBL_FACW or FAC: 1 (A) Total Number of Dominant Species Status Species Across All Stratz: 2 (B) Percent of Dominant Species Across All Stratz: 2 (B) Percent of Dominant Species Species Across All Stratz: 1 (A) Total Number of Dominant Species Across All Stratz: 1 (A) Total Number of Dominant Species Across All Stratz: 1 (B) Species Across All				
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present?	Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	ormal Circumstances" present? Y	'es <u> </u>
Hydrophytic Vegetation Present? Yes No within a Westland? Yes No within a Westland? Yes No within a Westland? Yes No within a Westland? Yes No within a Westland? Yes No within a Westland? Yes No within a Westland? Yes No Westland Hydrology Present? Yes No within a Westland? Yes No Westland? Yes No	Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If need	ded, explain any answers in Rema	rks.)
Hydrocours arundinaceus Total Recours Stratum Plot size (5 Foot Radius) Foot Radius Total Recours arundinaceus Total Recours Total Reco	SUMMARY OF FINDINGS – Attach site map showing	sampling point lo	cations, transects, importa	ant features, etc.
Hydric Soil Present? Ves V No		Is the Sampled A	Area	
VEGETATION - Use scientific names of plants	Hydric Soil Present? Yes No No No No No No No N			
VEGETATION - Use scientific names of plants				
Tree Stratum Plot size (30 Foot Radius) Absolute Moody Vine Stratum Plot size (30 Foot Radius) Moody Vine	Remarks: PEM slope wetland located at the eastern boundary.			
Tree Stratum Plot size (30 Foot Radius) Absolute Moody Vine Stratum Plot size (30 Foot Radius) Moody Vine				
Tree Stratum				
Tree Stratum Plot size (30 Foot Radius) % Cover: Species? Status Number of Dominant Species that are OBL, FACW or FAC:	-			
Sapling/Shrub Stratum Plot size (15 Foot Radius) Herbaceous Stratum Plot size (5 Foot Radius) Herbaceous Stratum Plot size (5 Foot Radius) Alopecurus arundinaceus 10 FACW Soecies 10 × 2 20 FACS Solanum dulcamara 25 FACW FACU FACU Plot Solanum dulcamara 25 FACU FACU FACU FACU FACU FACU FACU FACU	Trace Ctratures - Diet size (OO - Feet Dedice)		Dominance Test worksheet	
Sapling/Shrub Stratum Plot size (15 Foot Radius) Herbaceous Stratum Alopecurus arundinaceus Typha latifolia Typha latifolia Typha latifolia Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Plot size (30 Foot Radius) Percent Bare Ground Remarks: Species Across All Strata: 2 (B) Percent of Dominant Species 50.00 % (A/B) Prevalence Index worksheet Total % Cover of: Multiply by: OBL species 35 X1 35 FACW species 10 X2 20 FAC species 0 X3 0 FACU species 25 X4 1000 UPL species 0 X5 0 Column Totals 70 (A) 155 (B) Prevalence Index = B/A = 2.21 Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is <= 3.0 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Yes V NO				1 (A)
That Are OBL, FACW, or FAC:				2 (B)
Prevalence Index worksheet Total % Cover of: Multiply by: OBL species 35 × 1 35 FACW species 10 × 2 20 FAC species 0 × 3 0 FACU species 25 × 4 100 UPL species 25 × 4 100 UPL species 0 × 5 0 Column Totals 70 (A) 155 (B) Prevalence Index = B/A = 2.21 Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% Woody Vine Stratum Plot size (30 Foot Radius) Woody Vine Stratum Percent Bare Ground 30 Remarks:	Sanling/Shrub Stratum Plot size (15 Foot Radius)			50.0 % (A/B)
Herbaceous Stratum Plot size (5 Foot Radius) Alopecurus arundinaceus 10	The size (10 Test radius)		Prevalence Index worksheet	
Herbaceous Stratum Plot size (5 Foot Radius) Alopecurus arundinaceus 10 FACW Solanum dulcamara 25 FACU Typha latifolia 35 ✓ OBL Prevalence Index = B/A = 2.21 Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is <= 3.0 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Percent Bare Ground 30 Remarks:				
Herbaceous Stratum Plot size (5 Foot Radius) Alopecurus arundinaceus 10				
Herbaceous Stratum Plot size (5 Foot Radius) Alopecurus arundinaceus 10			FACW species 10 X 2	
Alopecurus arundinaceus Alopecurus arundinaceus 10				
Solanum dulcamara Typha latifolia 25 OBL Prevalence Index = B/A = 2.21 Hydrophytic Vegetation Indicators 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is <= 3.0 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes NO		FAC\\\/	UPL species 0 X 5	0
Typha latifolia 35 ✓ OBL Prevalence Index = B/A = 2.21 Hydrophytic Vegetation Indicators □ 1 - Rapid Test for Hydrophytic Vegetation □ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is <= 3.0 □ 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes ✓ NO □ Remarks:			Column Totals 70 (A) 155 (B)
Hydrophytic Vegetation Indicators				
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is <= 3.0 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes ✓ NO □ Remarks:	- yyernamana			
2 - Dominance Test is >50% ✓ 3 - Prevalence Index is <= 3.0 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes ✓ NO □ Remarks:				
Woody Vine Stratum Plot size (30 Foot Radius) Percent Bare Ground 30 ■ 3 - Prevalence Index is <= 3.0 □ 4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes № NO □ Remarks:				
4 - Morphological Adaptations (Provide supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes ✓ NO □				
supporting data in remarks or on separate sheet. 5 - Wetland Non-Vascular Plants				
Woody Vine Stratum Plot size (30 Foot Radius) Problematic Hydrophytic Vegetation (Explain) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Percent Bare Ground 30 Remarks: □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain) □ Hydrophytic Vegetation Present? □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain) □ Problematic Hydrophytic Vegetation Present? □ 5 - Wetland Non-Vascular Plants □ Problematic Hydrophytic Vegetation (Explain) □ Problematic Hydrophytic Vegetation Present? □ Problematic Hydrophytic Vegetation (Explain)			supporting data in remark	
Problematic Hydrophytic Vegetation (Explain) Moody Vine Stratum				r Dlante
Woody Vine Stratum Plot size (30 Foot Radius) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Remarks: Plot size (30 Foot Radius) Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes ✓ NO □ Remarks:				
Percent Bare Ground 30 Remarks: Indicators of hydric sil and wetland hydrology must be present, unless disturbed or problematic for #3, 4, 5. Hydrophytic Vegetation Present? Yes NO	Woody Vine Stratum Plot size (30 Foot Radius)		☐ Problematic Hydrophytic \	Vegetation (Explain)
Percent Bare Ground 30 Remarks:	The old (00) contradictly			
Remarks:	Porcent Baro Ground 30			es 🗸 NO 🗌

SOIL Sampling Point: DP13w

		e to the depth	needed to document the indicator or o	confirm the absence	e of indicators.)
Depth (inches)	Matrix Color (moist)	 _	Redox Features Color (moist) % Type ¹ L		Remarks
0-3	_10YR2/1	100_		Mucky Peat	_Organic-fibric
-3-12	-10YR —2/1	100—		Mucky Peat	-Organic-fibric
			Reduced Matrix, CS=Covered or Coated S		cation: PL=Pore Lining, M=Matrix.
Histoso Histic E Black H Hydrog Stratifie 1 cm M Deplete Thick D Sandy I 2.5 cm		R F) , H) ace (A11) t (S2) (LRR G,	Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)	1 cm l Coast Dark s High F (LF Reduce Red F Very s Other Indicators wetlan	Muck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G) Plains Depressions (F16) RR H outside of MLRA 72 & 73) Ded Vertic (F18) Parent Material (TF2) Shallow Dark Surface (TF12) (Explain in Remarks) Is of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Type: Depth (ir			 sent in both horizons.	Hydric Soi	I Present? Yes <u>✓</u> No <u>□</u>
HYDROLO	OGY				
	vdrology Indicator	s:			
Primary Indi Surface High W Saturat Water M Sedime Drift De Algal M Iron De	icators (minimum of e Water (A1) /ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aeria Stained Leaves (B9	one required;	check all that apply) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living (where not tilled) Presence of Reduced Iron (C4) Thin Muck Surface (C7) Other (Explain in Remarks)	Sur Spa Spa V Dra Oxi Cra Sat V Gec FAC	ary Indicators (minimum of two required) face Soil Cracks (B6) arsely Vegetated Concave Surface (B8) alinage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) ayfish Burrows (C8) uration Visible on Aerial Imagery (C9) comorphic Position (D2) C-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Surface Wa Water Table Saturation F	ter Present? e Present?		Depth (inches): 1 Depth (inches): 3 Depth (inches): 0	Wetland Hydrolog	ıy Present? Yes No
		m gauge, moni	itoring well, aerial photos, previous inspec	ctions), if available:	
Remarks: 1i	in surface water a	and drain patt	ern observed at soil pit.		
"	Sandoc Water c	a arani pati	on pit.		

Project/Site: Kindsfater	Cit	ty/County: Yell	owstone		Sampling Da	ate: 6/1	7/2020
Applicant/Owner: MDT					Sampling Po		
Investigator(s): R Quire, S Robbins, R Jones					2S :		
Landform (hillslope, terrace, etc.): Hillside							: 15
Subregion (LRR): LRR F							
Soil Map Unit Name: Wf: Larim gravelly loam, 0-4 percent s	slope			NI\A/I classi	fication: Not M	apped	
Are climatic / hydrologic conditions on the site typical for this time	of vear	2 Vas 🗸	No 🗆 (IVVI classi	Pemarke \		
Are Vegetation, Soil, or Hydrology significant si	cantly dis	sturbed?	Are Normal	Circumstances	present? Yes		0
SUMMARY OF FINDINGS – Attach site map sho	wing s	sampling po	int locatio	ns, transec	ts, importan	it feature	s, etc
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes No Wetland Hydrology Present?		within a V	npled Area Vetland?	Yes	□ No <u>✓</u>]	
Remarks: Upland sample point located near the eastern	ooundar	ry.					
VEGETATION - Use scientific names of plants			ı				
Tree Stratum Plot size (30 Foot Radius) Absolute % Cover: Sp	omiant oecies?	Indicator Status	Dom	inance Test w	orksheet		
				ber of Dominar are OBL, FACV		0 (A)	
				Number of Do cies Across All		2 (B)	
Sapling/Shrub Stratum Plot size (15 Foot Radius)				ent of Dominan Are OBL, FAC		0.0 % ((A/B)
,			Prev	alence Index v			
			<u></u>	Total % Cover species		Multiply b	. <u>у:</u>
				Species W species	0 X1 0 X2	0	=
				species		0	
Harbacaus Stratum Plat size (F. Foot Radius)				U species		140	
Herbaceous Stratum Plot size (5 Foot Radius) Bromus inermis 40	√ (UPL	UPL	species	45 X5	225	
Convolvulus arvensis 5		UPL	Colu	mn Totals	80 (A)	365	(B)
Poa compressa 5		FACU		Prevalence Ind			.56
Poa pratensis 30	✓ F	FACU					
			Hyur		ation Indicator est for Hydrophy		on
				_	ce Test is >50%	•	
					ce Index is <= 3		
				_			
					ogical Adaptation lata in remarks o		
				5 - Wetland	Non-Vascular P	Plants	
					Hydrophytic Ve		vnlain)
Woody Vine Stratum Plot size (30 Foot Radius)				ors of hydric si	I and wetland hybed or problem	ydrology mu	ust be
Percent Bare Ground 20			Hydr	ophytic Veget	•		√
Remarks:							
BG/litter=20%							

SOIL Sampling Point: DP14u

Depth (inches)	Matrix	<u> </u>	Redox Fe		1.5-2		Damarka
(inches)	Color (moist)		Color (moist)	% Type ¹	Loc ²	Texture	Remarks
0-04	_10YR4/2	100			•	Clay Loam	-
-04-11	-10YR —4/1	100—			•	Clay Loam	-Very hard.
11+	- —				•	Cobbles	Cobble bottom.
			-				
1							
			Reduced Matrix, CS=C		d Sand		cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Black Hydrog Hydrog Stratific 1 cm M Deplet Thick I Sandy 2.5 cm 5 cm M	Epipedon (A2) Histic (A3) gen Sulfide (A4) ed Layers (A5) (LRF Muck (A9) (LRR F, G ed Below Dark Surfa Dark Surface (A12) Mucky Mineral (S1) I Mucky Peat or Peat (, H) ace (A11) t (S2) (LRR G, S3) (LRR F)	Sandy Redd Stripped Ma Loamy Muc Loamy Gley Depleted M Redox Dark Depleted Di Redox Depl High Plains	atrix (S6) ky Mineral (F1) ved Matrix (F2)	16)	Coast Dark S High F (LF Reduct Red P Very S Other Indicators wetlan	Muck (A9) (LRR I, J) Prairie Redox (A16) (LRR F, G, H) Surface (S7) (LRR G) Plains Depressions (F16) RR H outside of MLRA 72 & 73) sed Vertic (F18) arent Material (TF2) Shallow Dark Surface (TF12) (Explain in Remarks) of hydrophytic vegetation and d hydrology must be present, s disturbed or problematic.
Restrictive	Layer (if present):						
Туре:							
Depth (i	nches):					Hydric Soil	Present? Yes No
HYDROLO	OGY						
Wetland H	ydrology Indicators	S:					
			check all that apply)			Seconda	ary Indicators (minimum of two required
	e Water (A1)	•		1)		_	face Soil Cracks (B6)
	Vater Table (A2)		Aquatic Inverte				rsely Vegetated Concave Surface (B8)
	tion (A3)		Hydrogen Sulf	` ,			inage Patterns (B10)
_	Marks (B1)		<u>_</u> , ,	/ater Table (C2)			dized Rhizospheres on Living Roots (C
_	ent Deposits (B2)		-	ospheres on Liv			/here tilled)
_	eposits (B3)		(where not	•		` ′ _ `	yfish Burrows (C8)
	/lat or Crust (B4)			educed Iron (C4	1)	_	uration Visible on Aerial Imagery (C9)
	eposits (B5)		Thin Muck Sui	,	•)		emorphic Position (D2)
_	ition Visible on Aeria	I Imagery (B7)	Other (Explain				C-Neutral Test (D5)
	Stained Leaves (B9		Other (Explain	i iii r (oiniairio)			st-Heave Hummocks (D7) (LRR F)
Field Obse		<i>,</i>					(21)
	ater Present?	Yes N	Depth (inches	z)·			
Water Table			Depth (inches				
Saturation			Depth (inches			etland Hydrolog	y Present? Yes No
		m gauge, mon	itoring well, aerial phot	os, previous ins	pections	s), if available:	
Remarks: N	lo hydrologic indic	ators observ	ed during site visit.				
1,	, ar orogio iridic		22 441119 OILO VIOIL				

Project/Site: Kindsfater							
Applicant/Owner: MDT					ana Sampling P		
Investigator(s): R Quire, S Robbins, R Jones Landform (hillslope, terrace, etc.): Hillside		Section	, Township, Rar	nge:6	2S	25E	
Landform (hillslope, terrace, etc.): Hillside		_ Local r	elief (concave, c	convex, none): conc	ave	_ Slope (%)):1
Subregion (LRR): LRR F							
Soil Map Unit Name: Wf: Larim gravelly loam, 0-4 p	ercent slope	!		NWI cla	ssification: Not M	1apped	
Are climatic / hydrologic conditions on the site typical fo	this time of v	ear? Yes	s 🗸 No	 (If no. explain	ı in Remarks.)		
Are Vegetation, Soil, or Hydrology						.s 🗸)	vo 🗆
Are Vegetation, Soil, or Hydrology	orgriniounity	rohlemati	c? (If ne.	eded evolain any a	newers in Remark	(e)	
SUMMARY OF FINDINGS – Attach site m							es, etc
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: PEM slope wetland located near the early the slope was a slope with the slope was a slope was a slope with the slope was a slope was	No	- -	s the Sampled within a Wetlan	Area d? Yes	✓ No _	<u></u>	
VEGETATION - Use scientific names of p	lants						
Abso	ute Domiar		cator	Dominance Test	t worksheet		
Tree Stratum Plot size (5 Foot Radius) % Co	ver: Species	s? Sta	tus	Number of Domit that are OBL, FA	nant Species	3 _(A))
				Total Number of Species Across A		3 (B))
Sapling/Shrub Stratum Plot size (15 Foot Radi	us)			Percent of Domir That Are OBL, F		100.0 %	(A/B)
(10	/			Prevalence Inde			
				Total % Co		Multiply I	by:
				OBL species FACW species	50 X 1 25 X 2	50 50	_
				FAC species	0 X3	0	_
DI 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,			FACU species	15 X 4	60	
Herbaceous Stratum Plot size (5 Foot Radi	· · · · · · · · · · · · · · · · · · ·	OBL		UPL species	0 X5	0	
Nasturtium officinale	20 v	OBL		Column Totals	90 (A)	160	(B)
Phalaris arundinacea	25	FACV	V				.78
Poa pratensis	5	FACL			Index = B/A =		
Schedonorus pratensis	10 🗍	FACL	J	Hydrophytic Veg ✓ 1 - Rapid	getation indicato Test for Hydroph		rion
					nance Test is >50	•	
					lence Index is <=		
					ological Adaptation g data in remarks		
				5 - Wetlar	nd Non-Vascular l	Plants	
				Problema	tic Hydrophytic V	egetation (E	Explain)
Woody Vine Stratum Plot size (30 Foot Radi	us)			Indicators of hydric present, unless dis	sil and wetland h	nydrology m	ust be
Percent Bare Ground 10				Hydrophytic Veg Present?	jetation Yes	NO NO	
Remarks:				•			
BG/shallow flowing water/litter=10%							

SOIL Sampling Point: DP14w

Depth (inches)	Mati Color (mois		Color (moist)	ox Features % Type ¹	_Loc ²	Texture	Remarks
0-01						Gravel	_Gravels.
01-05	-10YR —5/2	100 <u>-</u>			<u> </u>	Clay Loam	
				000			-
05-14	⁻ 10YR 5/2	80	2.5Y ⁻ 4/6	20 C F	²L, ———	Clay Loam	
,	-						
1							
			l=Reduced Matrix, 0 I LRRs, unless oth	S=Covered or Coate erwise noted.)	d Sand		ocation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Histoso				Gleyed Matrix (S4)			Muck (A9) (LRR I, J)
	pipedon (A2)			Redox (S5)		_	t Prairie Redox (A16) (LRR F, G, H)
	listic (A3)			ed Matrix (S6)		_	Surface (S7) (LRR G)
_	en Sulfide (A4)			Mucky Mineral (F1)			Plains Depressions (F16)
	ed Layers (A5) (L			Gleyed Matrix (F2)			RR H outside of MLRA 72 & 73)
	uck (A9) (LRR F , ed Below Dark St			ed Matrix (F3) Dark Surface (F6)		_	ced Vertic (F18) Parent Material (TF2)
	ark Surface (A12		=	ed Dark Surface (F7)			Shallow Dark Surface (TF12)
	Mucky Mineral (S	?		Depressions (F8)			(Explain in Remarks)
_	Mucky Peat or P	, , ,	· · · — •	Plains Depressions (F	16)	³ Indicators	s of hydrophytic vegetation and
5 cm M	ucky Peat or Pea	at (S3) (LRR F) (M	LRA 72 & 73 of LRR	H)		nd hydrology must be present,
Da atulativa	1 (:5	.41.				unles	s disturbed or problematic.
	Layer (if preser						
Type: Depth (ir						Usalvia Cai	il Present? Yes <u> </u> No
. ,							il Flesent? Tes No
Remarks: P	rominent redox	ximorphic coi	ncentrations many	within the depleted	d matri	X.	
IYDROLC							
-	/drology Indicat						
-	•	•	ed; check all that ap				lary Indicators (minimum of two required
	Water (A1)					=	rface Soil Cracks (B6)
	ater Table (A2)			nvertebrates (B13)			arsely Vegetated Concave Surface (B8)
Saturat				n Sulfide Odor (C1)			ainage Patterns (B10)
_	Marks (B1) ent Deposits (B2)			son Water Table (C2) Rhizospheres on Livi	na Poot		idized Rhizospheres on Living Roots (C3 where tilled)
	posits (B3)			not tilled)	ilg Kool		ayfish Burrows (C8)
_	at or Crust (B4)			e of Reduced Iron (C4)		turation Visible on Aerial Imagery (C9)
	posits (B5)		<u>—</u>	k Surface (C7)	,		omorphic Position (D2)
	ion Visible on Ae	rial Imagery (E		xplain in Remarks)			C-Neutral Test (D5)
_	Stained Leaves (I			·		_	ost-Heave Hummocks (D7) (LRR F)
Field Obse	rvations:						
Surface Wa	ter Present?	Yes 🔽	No Depth (i	nches):0.5	_		
Water Table	Present?	Yes 🔽		nches): 0	_		
Saturation F	Present? pillary fringe)	Yes 🔽	No Depth (i	nches): 0	_ We	etland Hydrolog	gy Present? Yes No
		eam gauge, m	onitoring well, aeria	l photos, previous insp	pections	s), if available:	
Remarks: S	oil pit along cha	annel flowing	from slope wetlar	nd, 0.5in flowing wa	iter obs	served at point	t.
	, 5		,	, J	_	,	

MDT Montana Wetland Assessment Form (revised March 2008)

						•			•	
1. Project name Kinds	sfater		2. MDT	project#	ST	PX-0056(56)		Cor	ntrol#	5034
3. Evaluation Date 6/16/		R Quir		bins, R 5.	Wetl	and/Site# (s)	Kindsfate	er - creat	ed wetla	nd
6. Wetland Location(s): T		5E	Sec1	6	Т	R		Sec2		
Approx Stationing or Milep								0002		
		-4	- 4/0	4 Vallan						
Watershed 13 - Upper	Yellowstone Wa	atersne	ed/Coun	ty Yellov	sione					
7. Evaluating Agency	CCI for MDT					8. Wetland s	size acres	i		4.9
Purpose of Evaluation						How assesse	ed:	Measur	ed e.g. b	y GPS
☐ Wetlands potentially a	ffected by MDT project					9. Assesssn (AA) size (ac				4.9
☐ Mitigation Wetlands: p	re-construction					How assesse	•	Moosur	ed e.g. b	v CDS
✓ Mitigation Wetlands: p	ost construction					110W a556550	ou.	ivicasui	eu e.g. b	y Gi G
Other										
10. Classification of Wetla	and and Aquatic Habitats Class (Cowardin)	s in AA		er (Coward	in)	Water Re	egime		% of A	A
Depressional	Emergent Wetland		Excava	ted		Seasonal/Int	ermittent			50
Depressional	Scrub-Shrub Wetland		Excava	ted		Seasonal/Int	ermittent			45
Depressional	Aquatic Bed		Excava	ted		Seasonal/Int	ermittent			5
	_									
 Estimated Relative Abu General Condition of A Disturbance: (use matrix aquatic nuisance vegetation 	AA c below to determine [circle] a	ppropria	ate respor							
Conditions w	vithin AA	natura hayed conver		ominantly ot grazed, otherwise	Land mode select subject few r	conditions adjacent d not cultivated, but erately grazed or ha ctively logged; or ha ect to minor clearing roads or buildings; n d or ANVS cover is	may be lyed or is been g; contains loxious	Land cu or logge placeme hydrolo building	iltivated or l ed; subject t ent, grading gical alterat	heavily grazed to substantial fill y, clearing, or tion; high road or noxious weed =30%.
AA occurs and is managed in predom grazed, hayed, logged, or otherwise or roads or occupied buildings; and noxi <=15%.	converted; does not contain	lo	w distur	bance		low disturba	nce	mod	erate di	isturbance
AA not cultivated, but may be modera selectively logged; or has been subje- placement, or hydrological alteration; noxious weed or ANVS cover is <=30	ect to relatively minor clearing, fill contains few roads or buildings;		modera disturba		m	oderate distu	rbance	hi	gh distu	urbance
AA cultivated or heavily grazed or log substantial fill placement, grading, cle high road or building density; or noxi->=30%.	earing, or hydrological alteration;	hig	gh distur	rbance		high disturba	ince	hi	gh distu	urbance
Comments: (types of disturements) The wetland mitigation site was and revegetation.			d included	d substantia	al exca	avation, modifi	cation/reh	abilitatio	n to exist	ing wetlands,
ii. Prominent noxious, aqua	atic nuisance, other exot	ic spe	cies:							
Euphorbia esula, Cirsium arv										
iii. Provide brief descriptive	e summary of AA and su	ırroun	ding lan	d use/habi	tat					
The AA consists of excavated in 2013 and 2020 is the eight agriculture (grazing), transport	h monitoring year for the e	expand	ded wetla	nd site. Lar	d use	surrounding th				

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		rent management ence of additional	 	Modif Rati	
>=3 (or 2 if 1 is forested) classes	Н	NA		NA	N/	4
2 (or 1 if forested) classes	М	NA		NA	N/	4
1 dass, but not a monoculture	М	<no< td=""><td></td><td>YES></td><td>L</td><td></td></no<>		YES>	L	
1 class, monoculture (1 species comprises>=90% of total cover)	L	NA		NA	N/	4

					_			
Comments:	Palustrine er	mergent vegeta	ition, aquatic be	d and young palus	trine scrub-shrub co	ommunities develo	oping.	
		SECTIO	N PERTAINI	NG to FUNCTI	ONS VALUES	ASSESSMEN	IT	
14A. Habitat	for Federally	Listed or Pro	posed Threate	ned or Endangere	ed Plants or Anima	ıls:		
i. AA is D	ocumented ((D) or Suspect	ed (S) to conta	in (check one bas	sed on definitions	contained in inst	tructions):	
Primary or c	itical habitat	t (list species)	□ D □	S				
Secondary h	abitat (list S _l	oecies)	(D (s				
Incidental ha	bitat (list sp	ecies)	(D (S				
No usable ha	bitat		√ S					
ii. Rating (use the cond	usions from i a	bove and the m	atrix below to arriv	e at [check] the fun	ctional points and	rating)	
Highest Ha	abitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None

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

.8H

USFWS list for species in Yellowstone County; no habitat specifications/known occurrences

.7M

.3L

.1L

0L

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

Primary or critical habitat (list species)	D S Plains spadefoot (S3)	
Secondary habitat (list Species)	□ D □ S	
Incidental habitat (list species)	□ D □ S □	
No usable habitat		

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

ii. Italing tuse the conc	iusions nonn a	bove and the n	IALI IX DELOW LO AITIV	e at [check] the full	ctional points and	rauriy)	
Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: Functional Points and Rating	1H	.8H	.7M	.6M	.2L	.1L	OL
S2 and S3 Species: Functional Points and Rating	.9Н	.7M	.6M	.5M	.2L	1L	OL

Sources for documented use

Functional Points and

Rating

Sources for documented use

1H

.9H

Observed approximately 40 plains spadefoot during the 2013 site visit and MDT identified this species during a 2019 site visit; none observed in 2014-2018 or 2020.

																			Mod	lerate	;		
ubstantial (based	on any	of the	followin	ıg [che	:ck]):						Minir	nal (t	based on	ก any of	i the foll	owing	[check]):					
observations of	of abund	ant wil	idlife #s	or hig	h specie	es diver	rsity (du	ring ar	ıy perioc	(L	fe	∌w or r	no wildlif	ie obse	rvations	durinç	ງ peak ເ	use pe	riods				
abundant wild	llife sign	such a	as scat,	tracks	, nest st	ıructure	∍s, gamr	e trails	, etc.		lit	ttle to	no wildlif	ife sign									
presence of ex	xtremely	/ limitin/	ıg habita	at featı	ures not	availal	ble in th	ie surro	ounding	area	sr	parse	adjacent	ıt uplan	d food s	ources	s						
interviews with	-		-								ir	ntervie	ws with I	local bi	iologists	with k	inowled	ge of t	he AA				
_					· ·	12							••	0.	,,	•••	14.	,-					
oderate (based o	n any of	the fol	llowing	[check	(]):																		
observations of	of scatter	red wild	dlife gro	oups or	r individ	uals or	relative	ly few	species	during r	peak pe	əriods											
common occu	ırrence o'	f wildlif	fe sign	such a	ıs scat, f	tracks,	nest str	ucture	s, game	trails, e	∌tc.												
adequate adja	acent upl:	and for	od sour	rces																			
interviews with	n local bi	ologist	ts with k	knowle	dge of t	he AA																	
ii. Wildlife habi from #13. For cother in terms of permanent/pere	class co of their p	over to percer	o be co	onside npositi	ered ev ion of th	venly d the AA	distribut A (see #	ited, th #10).	he most Abbrev	st and le	least pr s for su	revale urface	ent veg e water	getateo r duratio	d class ions are	ses mu e as fo	ust be follows:	within : P/P :	n 20% of =	of each			
Structural diversity (see #13)				Hi	igh							Mod	derate					L	Low				
Class cover distribution (all vegetated classes)		Eve	an			Une	ven			Eve	∍n	l		Une	ven			E	Even				
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	Α	P/P	S/I	T/E	А	P/P	S/I	T/E	A			
_ow disturbance at AA (see #12i)	Е	E	Е	н	Е	Е	н	н	Е	Н	Н	М	E	Н	М	М	E	Н	М	М			
Moderate disturbance at AA (see #12i)	н	Н	Н	н	н	Н	Н	М	Н	Н	М	М	Н	М	М	٦	Н	М	L	L			
High disturbance at AA (see #12i)	М	М	М	٦	М	М	L	1	М	М	L	1.7	м	L	٦		L	L	1	L			
iii. Rating (u <i>Evidence of</i> w					om i aı Except			and t	:he ma		Vildlife		rive at oitat fea		s rating			point	s and r	rating)) Low	_	
Substantial					1E			厂		.9F						.8H					.7M		_
Moderate		-			. 'L .9H					.71						.5M				_	.3L		-
Minimal					.6M	_		厂		.4N		—				.2L	1				.1L		-
comments	Wildli	fe rat	ting is	ехре	ected f	to inc	rease	in su	ubsequ	ient m	ionitoi	ring y	/ears.	_					<u> </u>		<u> </u>		_
4D. General Fould be used bestorable due to NA here a	by fish to habit and pro	[i.e., i itat co oceed	, fish u onstra d to 14	use is aints, 4E.)	or is r	uded I not de	by per esired	rched from	d culve a man	ert or o nagem	other b	barrie Derspe	er, etc. ective	:]. If th	the AA n as fis	is no shent	ot used trappe	ed by f ed in a	fish, fis a cana	sh use	e is not		
Habitat Qua	•		=						,	1													
Duration of surface in AA	e water			Pe	ermanen	t / Pere	ennial			<u>'</u>		Seas	sonal / In	1 <u>termitte</u>	<u>nt nt</u>				Ten	nporary,	/ Ephemer	ral	Ų
Duration of surface in AA Aquatic hiding / res escape cover	e water		Optima			nt / Pere		Poo	or	Ор	ptimal	Seas	Adequ			Poor	士	Optii			/ Ephemera	eral Po	00
Duration of surface in AA Aquatic hiding / res	e water	(Optima O			dequate		Poo	oor S	Op O	ptimal S						s	Optio					_ oo I

in AA		Per	manent /	Perennial			Seasonal / Intermittent							Temporary / Ephemeral						
Aquatic hiding / resting / escape cover	Opt	imal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	oor		
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	s	0	S	0	S	0	S	0	S		
FWP Tier I fish species	1E	.9Н	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.3L		
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L		
FWP Tier III or Introduced Game fish	.8H	.7M	.6М	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L		
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L		
or No fish species				. ****				. 7141		.52										

Sources used for identifying fish sp. potentially t	found in AA:									
ii. Modified Rating (NOTE: Modified score of a) Is fish use of the AA significantly reduced by current final MDEQ list of waterbodies in need of fishery or aquatic life support, or do aquatic nuisy yes, reduce score in i above by 0.1: Modified	a culvert, di of TMDL dev sance plant	ke, or other n elopment wit	man-made st th listed "Pro	bable Impa	aired Úses	" includin	g cold or w		ne If	
b) Does the AA contain a documented spawning comments) for native fish or introduced game fis	_	ner critical ha Y	If yes, ac	•	e adjusted	•	g area, etc. i or iia abo			
iii. Final Score and Rating: 0 NA	Comme	nts: No fish	habitat w	ithin miti	gation s	ite; no _l	oerennia	l water.		
14E. Flood Attenuation: (Applies only to wet channel or overbank flow, click ✓ NA her	lands subjected		via in-chann	el or overb	ank flow.	If wetland	ds in AA are	e not floode	ed from in-	
i. Rating (working from top to bottom, use the				functional	points and	l rating)				
Estimated or Calculated Entrenchment (Rosge 1994, 1996)	Slightly	y entrenched stream type			ly entrenc ream type		Entrench	ned-A, F, G types	stream	
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%	
AA contains no outlet or restricted outlet	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9Н	.8Н	.5M	.7M	.6M	.4M	.3L	.2L	.1L	
Slightly Entrenched ER = >2.2		•	Entrenched				ntrenched R = 1.0 – 1.4			7
C stream type D stream type E stream	m type			_						-
		D Siles	am type	As	tream type		F stream typ	e G	stream type	
						Flood-pro	ne Width	e G	stream type	
		Bankfull D			F	rlood-pro	ne Width	e G	stream type	
2 x Bankfull D Floodprone width ii. Are ≥10 acres of wetland in the AA subject to within 0.5 mile downstream of the AA (check)?	Depth / Bank widtl	Bankfull D	Depth	4	F Banl	Flood-pro cfull Wid	ne Width			
2 x Bankfull D Floodprone width ii. Are ≥10 acres of wetland in the AA subject to	Depth Widtle of flooding A	Bankfull D	made feature	es which m	F Banl	Flood-pro	ne Width th chment damaged b	y floods loc	eated	om in
2 x Bankfull D Floodprone width ii. Are ≥10 acres of wetland in the AA subject to within 0.5 mile downstream of the AA (check)? Comments: Flooding does not occur o	Depth / Bank width o flooding A Y On the site	Bankfull D	made feature	es which me prima	Banl = ay be sign ry hyrdd	Entrenation inficantly of the sology so	ne Width th chment damaged b urce; no	y floods loo	eated occurs from	edpitation,
2 x Bankfull D Floodprone width ii. Are ≥10 acres of wetland in the AA subject to within 0.5 mile downstream of the AA (check)? Comments: Flooding does not occur of channel or overbank flow. 14F. Short and Long Term Surface Watupland surface flow, or groundwater flow. 14G.) i. Rating (Working from top to bottom, top to bottom).	/ Bank width of flooding A Y on the site	Bankfull D Afull ND are man- N as ground ge: (Applies ands in the	made feature lwater is the to wetland AA are subspansive at [6]	es which me prima s that floo	F Banl = nay be sign ry hyrdc od or ponoding or	Entrenrationificantly of ponding, and points	ne Width th chment damaged b urce; no	y floods loo flooding or in-chann NA here	eated occurs from the flow, present and processitations for sections.	ecipitation, sed to
Floodprone width ii. Are ≥10 acres of wetland in the AA subject to within 0.5 mile downstream of the AA (check)? Comments: Flooding does not occur of channel or overbank flow. 14F. Short and Long Term Surface War upland surface flow, or groundwater flow. 14G.) i. Rating (Working from top to bottom, to water durations are as follows: P/P = per further definitions of these terms].)	/ Bank width of flooding A Y on the site	Bankfull D Afull ND are man- N as ground ge: (Applies ands in the	made feature lwater is the to wetland AA are subspansive at [6]	es which me prima s that floor ject to flo	F Banl = nay be sign ry hyrdc od or ponoding or	Entrenrationificantly of ponding, and points	ne Width th chment damaged b urce; no	y floods loo flooding or in-chann NA here	eated occurs from the flow, present and processitations for sections.	ecipitation, sed to
2 x Bankfull D Floodprone width ii. Are ≥10 acres of wetland in the AA subject to within 0.5 mile downstream of the AA (check)? Comments: Flooding does not occur of channel or overbank flow. 14F. Short and Long Term Surface Watupland surface flow, or groundwater flow. 14G.) i. Rating (Working from top to bottom, to water durations are as follows: P/P = period.	/ Bank width of flooding A Y on the site	Bankfull D Afull ND are man- N as ground ge: (Applies ands in the	made feature lwater is the to wetland AA are subspansive at [6]	es which me prima s that floor ject to flo	F Banl = nay be sign ry hyrdo od or ponoding or e function ent; and 1	Entrenrationificantly of ponding, and points	ne Width th chment damaged b urce; no	y floods loo flooding or in-chann NA here	eated occurs from the flow, present and processitations for sections.	ecipitation, sed to

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		>5 acre feet		1.	1 to 5 acre feet				
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	.8Н	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	.9Н	.8H	.7М	.7M	.5M	.4M	.3L	.2L	.1L

Comments: Estimated that AA ponds greater than 5 out of 10 years with approximately 4.9 acres inundated to approximately 0.5 feet

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, click 🔲 NA here and proceed i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating [H = high, M = moderate, or L Sediment, nutrient, and toxicant input Waterbody on MDEQ list of waterbodies in need of TMDL levels within AA AA receives or surrounding land use with potential development for "probable causes" related to sediment, to deliver levels of sediments, nutrients, or nutrients, or toxicants or AA receives or surrounding land use compounds at levels such that other functions are with potential to deliver high levels of sediments, nutrients, or not substantially impaired. Minor sedimentation, compounds such that other functions are substantially impaired. sources of nutrients or toxicants, or signs of Major s edimentation, sources of nutrients or toxicants, or signs eutrophication present 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 No AA contains no or restricted outlet .8H .7M .5M .5M .4M .3L .2L 1H AA contains unrestricted outlet .9H .3L .21 .1L .7M .6M 4M 4M Comments: Isolated depressional wetland cells do not have outlets. Percent cover of wetland vegetation increased to greater than 70% within the majority of wetland cells. 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, click VA here and proceed to 14I.) Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) % Cover of wetland streambank or Duration of surface water adjacent to rooted vegetation shoreline by species with stability ratings Permanent / Perennial Seasonal / Intermittent Temporary / Ephemeral of ≥6 (see Appendix F). ≥ 65% .9H .7M 1H .6M .5M 35-64% .7M < 35% .1L .3L 2L The AA does not occur on a stream bank or drainage. No wave action occurs in depression wetland areas when inundated. Comments: 14I. Production Export/Food Chain Support: i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [check]) General Fish Habitat General Wildlife Habitat Rating (14C.iii.) Rating (14D.iii.) M Н М E/H Н М М M М L Н N/A ii. Rating (Working from top to bottom, use the matrix below to arrive at [check] 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].] Vegetated component >5 acres Vegetated component 1-5 acres Vegetated component <1 acre В Moderate Moderate High High Moderate Yes Yes Nο Nο Yes Nο P/P 1E .7H .8H .5M 6M 4M .9H 6M .7H 4M 5M 31 8H 6M 6M 4M 31 21 S/I .9H .6M .7H .4M .5M .3L .8H .6M .3L .4M .2L .7H .5M .5M .3L .3L .2L .5M .8H .5M .6M .3L 4M 21 7H 4M 5M 21 31 11 6M 4M 4M 21 21 11 T/E/A 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). N O If yes, add 0.1 a) Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y to the score in ii above and adjust rating accordingly: Modified Rating

B-80

Adjacent upland buffer with greater than 30% plant cover.

Comments:

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during domant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other: iii. Rating (use the information from i and ii above and the table below to arrive at [check] the functional points and rating) Duration of saturation at AA Wetlands <u>FROM GROUNDWATER</u> <u>DISCHARGE OR WITH WATER</u> THAT IS RECHARGING THE GROUNDWATER SYSTEM Criteria P/P S/I None Groundwater Discharge or Recharge 1H .4M .1L .7M Insufficient Data/Information Comments: All wetland cells with shallow surface water or cells saturated to surface; gravel substrate in created depressional wetland 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative abundant abundant abundant commo common rare rare common rare abundance (#11) Low disturbance at AA 1H .9H .8H .8H .6M .5M .5M .4M .3L (#12i) Moderate disturbance at .9H H8. .7M .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .3L .1L .4M .3L .2L (#12i) Comments: Wetlands are considered common, site has moderate disturbance, and structural diversity is moderate. 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: (check) Y $N\bigcirc$ (if 'Yes' continue with the evaluation; if 'No' then click NA here and proceed to the overall summary and rating page) Check categories that apply to the AA: 🖊 Educational/scientific study; 🗹 Consumptive rec.; 🔽 Non-consumptive rec.; ___Other iii. Rating (use the matrix below to arrive at [check] the functional points and rating) Known or Potential Recreation or Education Area Known Potential Public ownership or public easement with general public access (no permission required) 15H .2H 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: Access is permitted without permission with the exception of the police shooting range. **General Site Notes** Anticipate higher wildlife ratings in subsequent monitoring years. Wetland acreage increased by 0.2 acres since 2019.

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Kindsfater - created wetland

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0	1	0	
B. MT Natural Heritage Program Species Habitat	Н	.9	1	4.41	V
C. General Wildlife Habitat	М	.7	1	3.43	✓
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	NA	0	0	0	
F. Short and Long Term Surface Water Storage	М	.6	1	2.94	
G. Sediment/Nutrient/Toxicant Removal	Н	1	1	4.9	V
H. Sediment/Shoreline Stabilization	NA	0	0	0	
Production Export/Food Chain Support	М	.6	1	2.94	
J. Groundwater Discharge/Recharge	М	.7	1	3.43	✓
K. Uniqueness	L	.3	1	1.47	
L. Recreation/Education Potential (bonus points)	Н	.2	NA	0.98	
Totals:		5	8	24.5	
Percent of Possible Score			62.5 %		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) □ "Low" rating for Uniqueness; and □ Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and □ Percent of possible score < 35% (round to nearest whole #).

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

I II III IV

MDT Montana Wetland Assessment Form (revised March 2008)

I. Project name Kindsf	fater		2. MDT p	roject#	ST	STPX-0056(56)				Control# 5034		
3. Evaluation Date 6/16/2	2020 4. Evaluators	R Qui	re, S Robb	ins, R 5	Wet	land/Site#	(s)	Kindsfate	er - prese	wetland		
6. Wetland Location(s): T	2S R 2	Jones 25E		6	т		R		Sec2			
Approx Stationing or Milepo									0002			
Watershed 13 - Upper Y		atersh	ed/County	Yellov	vstone	<u> </u>						
7. Evaluating Agency	CCI for MDT		•			0 14/-4/-					20.0	
Purpose of Evaluation	5 6 7 1 1 1 1 1 1 1 1 1 1					How ass		ize acres			29.8	
☐ Wetlands potentially aff	fected by MDT project							ent area			29.8	
☐ Mitigation Wetlands: pr						(AA) size					20.0	
✓ Mitigation Wetlands: po						How ass	sesse	d:	Measure	ed e.g.	by GPS	
Other												
10. Classification of Wetlar	nd and Aquatic Habitat	s in A	4									
HGM Class (Brinson)	Class (Cowardin)		Modifier	(Coward	lin)	Wate	er Re	gime		% of <i>i</i>	AA	
Slope	Emergent Wetland		Partly Dr	ained		Season	ermittent		80			
Slope	Scrub-Shrub Wetland		Partly Dr	ained		Seasonal/Intermittent					20	
 Estimated Relative Abun General Condition of A Disturbance: (use matrix to aquatic nuisance vegetation) 	A below to determine [circle] a	Mana	iate respons ged in predom al state; is not	Pred inantly	ominant Lan	ns for Monta	<i>jacent t</i> d, but n	to (within 500	feet of) AA	l ltivated o	r heavily grazed	
Conditions wit	thin AA	conve roads	d, logged, or o erted; does not s or buildings; a or ANVS cove	therwise contain and noxious	sele subj few	ctively logged ect to minor cl roads or buildi d or ANVS cov	; or has earing; ings; no	s been contains oxious	placeme hydrolog building	ent, gradir gical alter	ng, clearing, or ation; high road or noxious weed	
AA occurs and is managed in predomir grazed, hayed, logged, or otherwise coroads or occupied buildings; and noxio <=15%.	low disturbance				low disturbance				moderate disturbano			
AA not cultivated, but may be moderate selectively logged; or has been subject placement, or hydrological alteration; on noxious weed or ANVS cover is <=30%	t to relatively minor clearing, fill contains few roads or buildings;	moderate disturbance				oderate o	distur	bance	high disturbance			
AA cultivated or heavily grazed or logg substantial fill placement, grading, cleahigh road or building density; or noxion >=30%.	aring, or hydrological alteration;	hi	gh disturb	ance		high dist	nce	high disturbance				
Comments: (types of disturb The wetland mitigation site wa excavation, modification/rehab rehabilitated. i. Prominent noxious, aquat	s constructed in 2012 ar oilitation of existing wetla	nd 2013 nds, ar	3 which co nd revegeta	nsisted of ation. Exis	subst	antial vetlands (p	re-co	nstruction) were p	reserve	d and	

Euphorbia esula, Cirsium arvense, Convolvulus arvensis, Cynoglossum officinale iii. Provide brief descriptive summary of AA and surrounding land use/habitat

The AA consists of pre-existing slope/depressional wetland areas located within a historic gravel pit/wetland site. Wetland mitigation constructed was completed in early spring 2013 and 2020 is the eighth monitoring year for the expanded wetland site. Land use surrounding the AA includes commercial developments, agriculture (grazing), transportation (railroad and interstate), and a shooting range within 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	ls current managemer existence of addition		Modified Rating
>=3 (or 2 if 1 is forested) classes	Н	NA	NA	NA
2 (or 1 if forested) classes	М	NA	NA	NA
1 dass, but not a monoculture	М	<no< td=""><td>YES></td><td>L</td></no<>	YES>	L
1 class, monoculture (1 species comprises>=90% of total cover)	L	NA	NA	NA

Comments:	Emergent wetland community is dominant with areas of scrub-shrub wetland.

SECTION PERTAINING to FUNCTIONS VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

Primary or critical habitat	(list species)	(D (s				
Secondary habitat (list Sp	ecies)	(D (s				
Incidental habitat (list spe	ecies)	(D () S				
No usable habitat		√ S					
ii. Rating (use the cond	usions from i a	bove and the m	atrix below to arrive	e at [check] the fun	ctional 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	.8H	.7M	.3L	.1L	OL.
Sources for documented use	FWS list for sp	pecies in Yellow	stone County				

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

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

Primary or critical habitat (list species)

Secondary habitat (list Species)

Incidental habitat (list species)

No usable habitat

S

Plains spadefoot (S3)

Plains spadefoot (S3)

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

ii. Italing (use the conc	usions nonn a	bove and the n	IALI IX DELOW LO AITIV	e at [check] the full	ctional points and	rauriy)	
Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: Functional Points and Rating	1H	.8H	.7M	6M	.2L	1L	OL
S2 and S3 Species: Functional Points and Rating	.9Н	.7M	.6M	.5M	.2L	1L	OL

Sources for documented use

Observed approximately 40 plains spadefoot during the 2013 site visit and MDT identified this species during a 2019 site visit; none observed in 2014-2018 or 2020.

ubstantial (based																			Mode	erate			_
(sassa	d on any	of the	followin	g [che	ck]):						Minin	າ al (b:	ased or	any of	the follo	wing [۰	check]):	:					
observations o	of abund	Jant wil	dlife #s	or high	ı specie	s diver	sity (dur	ring an	ıy period	1)	fe	w or no	o wildlif	e obser	vations	during	peak us	se peri	iods				
abundant wildl	life sign	such a	s scat, f	tracks,	nest st	ructures	s, game	e trails,	, etc.		litt	le to n	no wildlif	e sign									
presence of ex	xtremely	/ limitin	g habita	at featu	res not	availab	le in the	e surrc	ounding a	area	sp	arse a	adjacen	t upland	d food so	ources							
interviews with	n local b	iologist	s with k	inowle	dge of th	ne AA					inf	terviev	vs with !	ocal bio	ologists	with kr	nowledge	e of th	ie AA				
oderate (based or	n any o ^f	f the fol	lowing	[check]):																		
observations o	of scatte	red wild	dlife gro	oups or	individu	uals or	relative ^r	ly few	species	during r	peak pe	riods											
common occur	ırrence c	of wildlif	fe sign s	such a	s scat, t	racks, ı	nest str	ucture	s, game	trails, e	tc.												
adequate adja	acent up	land for	od sour	ces																			
interviews with	n local b	iologist	s with k	inowle	dge of th	ne AA																	
ii. Wildlife habit from #13. For co other in terms of permanent/pere terms])	class co	over to percer	be cont	onside positio	ered eve on of th	enly di he AA	listribut (see #	ted, th #10).	ne most Abbrev	t and le	east pro	evale ırface	ent veg water	duration	d classe ons are	es mu e as fo	ist be w	within P/P =	20% of =	f each	е		
Structural diversity (see #13)				Hig	jh							Mode	erate					Lo	ow				
Class cover distribution (all vegetated classes)		Eve	'n			Unev	/en			Eve	n		<u> </u>	Unev	ven			Ev	/en				
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	А	P/P	S/I	T/E	A			
Low disturbance at AA (see #12i)	Е	Е	Е	н	Е	Е	Н	н	Е	н	н	м	Е	Н	М	м	Е	Н	М	м			
Moderate																							
disturbance at AA	н	Н	н	н	Н	н	Н	М	н	н	М	М	н	М	М	L	н	М	L	L			
(see #12i) High disturbance																							
at AA (see #12i)	M	М	М	L	М	М		<u></u>	M	М	L	L	М		L	L		L		L			
iii. Rating (u				ns fro	o <u>m ia</u> i	nd ii a	a <u>bove</u>	and t	t <u>he ma</u>								i <u>onal p</u>	o <u>oints</u>	s <u>and r</u>	rating)			_
Evidence of w	<i>il dlife</i>	use (i)				_	_				habi	tat fea	atures	rating						-		_
			_	==	xcept	ional		╄	—	High	_		4			derate	al .		_		Low	1	_
Outretential								4		OI	-				4	8H					.7M		
Substantial					1E					.91	1							_					٠
Substantial Moderate			+		1E .9H			\vdash		.9F						.5M					.3L		
			#		.9H			F		.7N	И		F										_
Moderate		<u> </u>	+					F			И		F			.5M .2L					.3L .1L		
Moderate Minimal	Expe	ct wild	dlife u	se/ra	.9H .6M	1	ease i	n suk	oseque	.7N	М	ng ye	ears.						<u>+</u>			1	
Moderate Minimal Comments 44D. General F could be used bestorable due t NA here a	Fish Haby fish to haby and pro	labitat i [i.e., pitat co	nt Ration fish use onstra d to 14	ng: (ause is nints, 14E.)	.9H .6M ating to	o incre	s funct by per sired	tion if rched from	f the A d culve a man	.7N .4N ent mo	onitoring sed by other benent pe	y fish parrier erspe	n or the er, etc. ective]. If th [such	ting si he AA as fis	tuation is no	t used rapped	d by fi d in a	ish, fis	h use	.1L that th		
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Moderate Minimal Comments I4D. General Foould be used be estorable due t NA here a Duration of surface in AA Aquatic hiding / res	Fish Haby fish to habit and pro	labitat n [i.e., oitat co roceed	nt Ration fish us onstraid to 14 down / S	ing: (ase is a sints, 4E.)	.9H .6M ating to	o incress this suded it is hot des	s funct by per sired to	tion if rched from in AA	f the Ad culve a man	.7N .4M ent mo	onitoring sed by other benefit per	y fish parrien erspe e at [cl	n or the er, etc. ective heck th]. If the [such the function of the function o	ting sine AA as fishertional pent	tuatio is no sh entr	t used rapped	d by fi	ish, fis a canal	h use I], ther	.1L that th is not n check	k eral	

Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [check the functional points and fathing)																		
Duration of surface water in AA	Permanent / Perennial				Seasonal / Intermittent				Temporary / Ephemeral									
Aquatic hiding / resting / escape cover	Opt	timal	Adeq	uate	Po	oor	Opti	mal	Ade	quate	Po	or	Opti	mal	Adeo	quate	Po	or
Thermal cover optimal/ suboptimal	0	S	0	S	0	S	0	S	0	s	0	S	0	S	0	S	0	S
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.3L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
FWP Tier III or Introduced Game fish	.8H	.7M	.6М	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L

Sources used for identifying fish sp. potentially for	ound in AA	l <i>:</i>								
ii. Modified Rating (NOTE: Modified score ca a) Is fish use of the AA significantly reduced by a current final MDEQ list of waterbodies in need of fishery or aquatic life support, or do aquatic nuis yes, reduce score in i above by 0.1: Modified	a culvert, d TMDL de ance plant	like, or other m velopment with	an-made s listed "Pro	obable Imp	aired Úses"	including	g cold or w		ne If	
b) Does the AA contain a documented spawning comments) for native fish or introduced game fish. iii. Final Score and Rating:	h? ()	ther critical hab Y • N ents: No fish	If yes, a	dd 0.1 to t	he adjusted Rating	score in				
i. Rating (working from top to bottom, use the	e and proc matrix belo	eed to 14F.) ow to arrive at	[check] the	functiona	l points and	rating)				
Estimated or Calculated Entrenchment (Rosger 1994, 1996)	Slight	ly entrenched - stream types			ely entrench stream type	ied – B	Entrench	ned-A, F, G types	stream	
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%	
AA contains no outlet or restricted outlet	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9Н	.8Н	.5M	.7M	.6M	.4M	.3L	.2L	.1L	
Slightly Entrenched ER = >2.2	, time	Moderately I	11 – 2.2		atroom tree	ER	ntrenched		atroom to ma	
C stream type D stream type E stream	Ttype	B stream	Птуре		stream type	Ę	F stream typ		stream type	
Flood-prone Width Bankfull Depth Bankfull Depth Bankfull Width Bankfull Width										
14F. Short and Long Term Surface Wa upland surface flow, or groundwater flow. 14G.)	ter Stora If no wet	ge: (Applies dands in the A	to wetland VA are su	ds that flo bject to fl	od or pond ooding or p	l from ov onding,	verbank o dick		el flow, pre and proce	
i. Rating (Working from top to bottom, us water durations are as follows: P/P = perm 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 a	acre feet			≤1 acre foot	
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/F	,	S/I	T/E	P/P	S/I	T/F

ILITINET GETINIUONS OF TNESS 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	.9Н	.8Н	.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: Estimated that AA ponds greater than 5 out of 10 years with approximately 25 acres inundated to approximately 0.5 feet.

14G. Sediment/Nutrient/Toxicant through influx of surface or ground v to 14H.)	Retention and Removal: (Applies to wetlands water or direct input. If no wetlands in the AA are	with potential to receive sediments, nutrients, or toxicants e subject to such input, click NA here and proceed				
i. Rating (working from top to botto	om, use the matrix below to arrive at [check] 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 Evidence of flooding / ponding in AA	≥ 70% < 70%	≥ 70% < 70%				
	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: Unrestricted drainage	e from the bench down to meadow below.					
drainage, or on the shoreline of a standir proceed to 14l.) i. Rating (working from top to bottom, to bottom, to cover of wetland streambank or	(Applies only if AA occurs on or within the banks or a gray water body which is subject to wave action. If 14H of the subject to wave action. If 14H of the subject to wave action. If 14H of the subject to water below to arrive at [check] the functional Duration of surface water adjacent to	does not apply, click NA here and points and rating)				
shoreline by species with stability ratings of ≥6 (see Appendix F).	Permanent / Perennial Seasonal / Intermitte	nt Temporary / Ephemeral				
≥ 65%	1H .9H	.7М				
35-64%	.7M .6M	.5М				
< 35%	.3L .2L	.1L				
14I. Production Export/Food Chain i. Level of Biological Activity (synthesis)	Support: esis of wildlife and fish habitat ratings [check])					
General Fish Habitat Ge Rating (14D.iii.) E/H	neral Wildlife Habitat Rating (14C.iii.) M L					
E/H H	н М					
М	M M					
L M	M L					
N/A H	M L					
wetland component in the AA; Factor B subsurface outlet; the final three rows pe [see instructions for further definitions of A Vegetated component >5 ac	these terms].) res Vegetated component 1-5 acres	actor C = whether or not the AA contains a surface or S/I, and T/E are as previously defined, and A = "absent" Vegetated component <1 acre				
B High Moderate C Yes No Yes No	Low High Moderate Yes No Yes No Yes	Low High Moderate Low No Yes No Yes No				
P/P 1E .7H .8H .5M	.6M .4M .9H .6M .7H .4M .5M	.3L 8H 6M .6M .4M .3L .2L				
S/I .9H .6M .7H .4M	.5M .3L .8H .5M .6M .3L .4M	.2L .7H .5M .5M .3L .3L .2L				
T/E/A .8H .5M .6M .3L	.4M .2L .7H .4M .5M .2L .3L	.1L .6M .4M .4M .2L .2L .1L				
i. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with ≥ 30% lant cover, ≤ 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed ontrol). Is there an average ≥ 50 foot-wide vegetated upland buffer around ≥ 75% of the AA circumference? Y N If yes, add 0.1 of the score in ii above and adjust rating accordingly: Modified Rating Becomments: Adjacent upland buffer with greater than 30% plant cover.						

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators ii. Recharge Indicators Permeable substrate present without underlying impeding layer The AA is a slope wetland Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during domant season/drought Stream is a known 'losing' stream; discharge volume decreases ✓ Wetland occurs at the toe of a natural slope Other: Seeps are present at the wetland edge AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other: iii. Rating (use the information from i and ii above and the table below to arrive at [check] the functional points and rating) Duration of saturation at AA Wetlands <u>FROM GROUNDWATER</u> <u>DISCHARGE OR WITH WATER</u> THAT IS RECHARGING THE GROUNDWATER SYSTEM Criteria P/P S/I None Groundwater Discharge or Recharge 1H .1L .4M .7M Insufficient Data/Information Comments: PEM/PSS wetland present at the toe of slope; receives groundwater from terrace above. 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [check] the functional points and rating) AA does not contain previously AA contains fen, bog, warm springs cited rare types and structural AA does not contain previously Replacement potential or mature (>80 yr-old) forested diversity (#13) is high or contains cited rare types or associations wetland or plant association listed and structural diversity (#13) is plant association listed as "S2" by as "S1" by the MTNHP the MTNHP low-moderate Estimated relative abundant abundant abundant commo rare rare common rare common abundance (#11) Low disturbance at AA .5M .6M 1H .9H .8H .8H .5M .4M .3L (#12i) Moderate disturbance at .7M .9H H8. .2L .7M .5M .4M .4M .3L AA (#12i) High disturbance at AA .8H .7H .6M .6M .4M .3L .3L .2L .1L (#12i) Comments: Site is not unique for this area. 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: (check) Y $N\bigcirc$ (if 'Yes' continue with the evaluation; if 'No' then click NA here and proceed to the overall summary and rating page) Check categories that apply to the AA: 🖊 Educational/scientific study; 📝 Consumptive rec.; ___Other iii. Rating (use the matrix below to arrive at [check] the functional points and rating) Known or Potential Recreation or Education Area Known Potential Public ownership or public easement with general public access (no permission required) 15H .2H 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: Access is permitted without permission with the exception of the police shooting range. **General Site Notes** Constructed wetland areas were wetter in 2020 compared to data provided in 2019.

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Estimated AA Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	L	0	1	0	
B. MT Natural Heritage Program Species Habitat	Н	.9	1	26.82	✓
C. General Wildlife Habitat	М	.5	1	14.9	
D. General Fish Habitat	NA	0	0	0	
E. Flood Attenuation	NA	0	0	0	
F. Short and Long Term Surface Water Storage	Н	.9	1	26.82	~
G. Sediment/Nutrient/Toxicant Removal	Н	.9	1	26.82	✓
H. Sediment/Shoreline Stabilization	NA	0	0	0	
Production Export/Food Chain Support	Н	.8	1	23.84	✓
J. Groundwater Discharge/Recharge	М	.7	1	20.86	
K. Uniqueness	L	.3	1	8.94	
L. Recreation/Education Potential (bonus points)	Н	.2	NA	5.96	
Totals:		5.2	8	154.96	
Percent of Possible Score			65 %		U-

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component < 1 acre (do not include upland vegetated buffer); and Percent of possible score < 35% (round to nearest whole #).

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

I II III IV

Kindsfater Wetland Mitigation Site – 2013 – 2020 Vegetation Species List

Scientific Names	Common Names	GP Indicator Status ^(a)
Achillea millefolium	Common Yarrow	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
Agrostis stolonifera	Spreading Bent	FACW
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FACW
Alyssum alyssoides	Pale or Yellow Alyssum	UPL
Alyssum desertorum	Dwarf Alyssum	UPL
Amaranthus retroflexus	Red-Root	FACU
Artemisia absinthium	Common Sagewort	UPL
Artemisia dracunculus	Wild Tarragon	UPL
Artemisia frigida	Fringed Sage	UPL
Artemisia michauxiana	Michaux Sagewort	FAC
Asclepias speciosa	Showy Milkweed	FAC
Atriplex suckleyi	Suckley's Saltbush	UPL
Bassia scoparia (Kochia scoparia)	Mexican-Fireweed	FACU
Berteroa incana	Hoary False Alyssum	UPL
Brassica nigra	Black Mustard	UPL
Bromus arvensis	Field Brome	FACU
Bromus inermis	Smooth Brome	UPL
Bromus japonicus	Japanese Brome	UPL
Bromus tectorum	Cheatgrass	UPL
Calamagrostis canadensis	Bluejoint	FACW
Carduus nutans	Musk Thistle	UPL
Carex aquatilis	Leafy Tussock Sedge	OBL
Carex nebrascensis	Nebraska Sedge	OBL
Carex pellita	Wooly Sedge	OBL
Carex praegracilis	Clustered Field Sedge	FACW
Carex utriculata	Northwest Territory Sedge	OBL
Centaurea stoebe	Spotted Knapweed	UPL
Centaurium exaltatum	Centaury	UPL
Ceratophyllum demersum	Coon's-Tail	OBL
Chenopodium album	Lamb's-Quarters	FACU
Chenopodium sp.	Goosefoot	N/A
Cirsium arvense	Canadian Thistle	FACU
Cirsium vulgare	Bull Thistle	UPL
Conium maculatum	Poison-Hemlock	FACW
Convolvulus arvensis	Field Bindweed	UPL
Cornus alba	Red Osier	FACW
Crepis atribarba	Hawksbeard	UPL
Cynoglossum officinale	Gypsy-Flower	FACU
Deschampsia caespitosa	Tufted Hair Grass	FACW
Descurainia sophia	Flixweed Tansymustard	UPL
Elaeagnus angustifolia	Russian-Olive	FACU

Kindsfater Wetland Mitigation Site – 2013 – 2020 Vegetation Species List

Scientific Names	Common Names	GP Indicator Status ^(a)
Elaeagnus commutata	American Silver-Berry	UPL
Eleocharis palustris	Common Spike-Rush	OBL
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus trachycaulus	Slender Wild Rye	FACU
Epilobium ciliatum	Fringed Willowherb	FACW
Equisetum hyemale	Tall Scouring-Rush	FACW
Equisetum laevigatum	Smooth Scouring Rush	FACW
Erigeron caespitosus	Tufted Fleabane	UPL
Erigeron canadensis	Canada Horseweed	FACU
Erodium cicutarium	Stork's bill	UPL
Euphorbia esula	Leafy Spurge	UPL
Fumaria vaillantii	Fumitory	UPL
Fraxinus pennsylvanica	Green Ash	FAC
Galium aparine	Sticky-Willy	FACU
Gaura parviflora	Butterfly Weed	UPL
Glycyrrhiza lepidota	American Licorice	FACU
Grindelia squarrosa	Curly-Cup Gumweed	FACU
Helianthus annuus	Common Sunflower	FACU
Hesperostipa comata	Needle-and-Thread	UPL
Heterotheca villosa	Golden-Aster	UPL
Hordeum jubatum	Fox-Tail Barley	FACW
Hyoscyamus niger	Black Henbane	UPL
Juncus articulatus	Joint-Leaf Rush	OBL
Juncus balticus	Baltic Rush	FACW
Juncus ensifolius	Dagger-Leaf Rush	FACW
Juncus gerardii	Saltmarsh Rush	FACW
Juncus longistylis	Long-style Rush	FACW
Juncus torreyi	Torrey's Rush	FACW
Juniperus scopulorum	Rocky Mountain Juniper	UPL
Koeleria macrantha	Prairie Junegrass	UPL
Lactuca serriola	Prickly Lettuce	FAC
Lemna minor	Common Duckweed	OBL
Lepidium campestre	Field Pepperweed	UPL
Logfia arvensis	Fluffweed	UPL
Lepidium perfoliatum	Clasping Pepperwort	FACU
Lycopus asper	Rough Water-Horehound	OBL
Marrubium vulgare	White Horehound	FACU
Medicago lupulina	Black Medick	FACU
Medicago sativa	Alfalfa	UPL
Melilotus albus	White Sweetclover	FACU
Melilotus officinalis	Yellow Sweet-Clover	FACU

Kindsfater Wetland Mitigation Site – 2013 – 2020 Vegetation Species List

Scientific Names	Common Names	GP Indicator Status ^(a)
Mentha arvensis	American Wild Mint	FACW
Muhlenbergia asperiflora	Alkali Muhly	FACW
Nassella viridula	Green Needlegrass	UPL
Nasturium officinale	Water Cress	OBL
Nepeta cataria	Catnip	FACU
Oenothera villosa	Hairly Evening-Primrose	FACU
Onopordum acanthium	Scotch Thistle	UPL
Opuntia polyacantha	Plains Pricklypear	UPL
Panicum capillare	Common Panic Grass	FAC
Pascopyrum smithii	Western-Wheat Grass	FACU
Persicaria amphibia	Water Smartweed	OBL
Persicaria lapathifolia	Dock-Leaf Smartweed	OBL
Phalaris arundinacea	Reed Canary Grass	FACW
Physalis longifolia	Long-leaf Ground Cherry	UPL
Poa compressa	Flat-Stem Blue Grass	FACU
Poa palustris	Fowl Blue Grass	FACW
Poa pratensis	Kentucky Blue Grass	FACU
Polygonum aviculare	Yard Knotweed	FACU
Polypogon monspeliensis	Annual Rabbit's-Foot Grass	FACW
Populus angustifolia	Narrow-Leaf Cottonwood	FACW
Populus deltoides	Eastern Cottonwood	FAC
Ranunculus gmelinii	Lesser Yellow Water Buttercup	FACW
Potentilla pensylvanica	Pennsylvania Cinquefoil	FACU
Ratibida columnifera	Prairie Coneflower	UPL
Rosa woodsii	Wood's Rose	FACU
Rumex crispus	Curly Dock	FAC
Rumex salicifolius	Willow Dock	FACW
Salix exigua	Narrow-Leaf Willow	FACW
Salix lutea (S. eriocephala)	Yellow Willow	FACW
Salix sp.	Willow	N/A
Salsola tragus	Prickly Russian-Thistle	FACU
Schedonorus arundinaceus	Tall False Rye Grass	FAC
Schedonorus pratensis	False Meadow Rye	FACU
Schoenocrambe linifolia	Flax-leaf Plains Mustard	UPL
Schoenoplectus acutus	Hard-Stem Club-Rush	OBL
Schoenoplectus pungens	Three-Square	OBL
Scirpus microcarpus	Red-Tinge Bulrush	OBL
Silene latifolia	White Cockle	UPL
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Sisymbrium loeselii	Smallpod Tumble Mustard	UPL
Solanum dulcamara	Climbing Nightshade	FACU
Solidago canadensis	Canadian Goldenrod	FACU
Sonchus arvensis	Field Sow-Thistle	FAC

Kindsfater Wetland Mitigation Site – 2013 – 2020 Vegetation Species List

Scientific Names	Common Names	GP Indicator Status ^(a)
Sphaeralcea coccinea	Scarlet Globemallow	UPL
Sporobolus cryptandrus	Sand Dropseed	FACU
Tanacetum vulgare	Common Tansy	FACU
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Pennycress	FACU
Tragopogon dubius	Meadow Goat's-beard	UPL
Typha angustifolia	Narrow-Leaf Cat-Tail	OBL
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Ulmus americana	American Elm	FAC
Verbascum thapsus	Great Mullein	UPL
Verbena bracteata	Carpet Vervain	FACU
Veronica anagallis-aquatica	Blue Water Speedwell	OBL
Veronica peregrina	Neckweed	FACW
Vicia americana	American Purple Vetch	FACU
Vicia sativa	Garden Vetch	FACU
Xanthium strumarium	Rough Cockleburr	FAC
Zeltnera exaltata	Desert Mountain-pink	FACW

⁽a) 2018 NWPL (USACE 2018)

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

APPENDIX C PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring Kindsfater Yellowstone County, Montana



Photo Point: 1. View of eastern edge of Cell 14 looking W Bearing: 280 degrees Year: 2013



Photo Point: 1. View of eastern edge of Cell 14 looking W Bearing: 280 degrees Year: 2020



Photo Point: 2. View of western side of Cell 13 looking SW Bearing: 280 degrees Year: 2013



Photo Point: 2. View of western side of Cell 13 looking SW Bearing: 280 degrees Year: 2020



Photo Point: 3. View of southern edge of Cell 9 looking NE Bearing: 0 degrees Year: 2013



Photo Point: 3. View of southern edge of Cell 9 looking NE Bearing: 0 degrees Year: 2020



Photo Point: 4. View of Cell 12 looking S Bearing: 200 degrees Year: 2013



Photo Point: 4. View of Cell 12 looking S Bearing: 200 degrees Year: 2020



Photo Point: 5. View of Cell 11 looking SW Bearing: 10 degrees Year: 2013



Photo Point: 5. View of Cell 11 looking SW Bearing: 10 degrees Year: 2020



Photo Point: 6. View of western side of Cell 10 looking SW Bearing: 150 degrees Year: 2013



Photo Point: 6. View of western side of Cell 10 looking SW Bearing: 150 degrees Year: 2020



Photo Point: 7. View of western side of Cell 5 looking east Bearing: 90 degrees Year: 2013



Photo Point: 7. View of western side of Cell 5 looking east Bearing: 90 degrees Year: 2020



Photo Point: 8. View of western edge of Cell 2 looking NW Bearing: 315 degrees Year: 2013



Photo Point: 8. View of western edge of Cell 2 looking NW Bearing: 315 degrees Year: 2020



Photo Point: 9. View of Cell 1 looking N Bearing: 90 degrees Year: 2013



Photo Point: 9. View of Cell 1 looking N Bearing: 90 degrees Year: 2020



Photo Point: 10. View of northern portion of Cell 3 looking SE Bearing: 140 degrees Year: 2013



Photo Point: 10. View of northern portion of Cell 3 looking SE Bearing: 140 degrees Year: 2020



Photo Point: 11. View of Cell 7 looking SE Bearing: 150 degrees Year: 2013



Photo Point: 11. View of Cell 7 looking SE Bearing: 150 degrees Year: 2020



Photo Point: 12. View of Cell 6 looking W Bearing: 230 degrees Year: 2013



Photo Point: 12. View of Cell 6 looking W Bearing: 230 degrees Year: 2020

Kindsfater: Transect Photographs



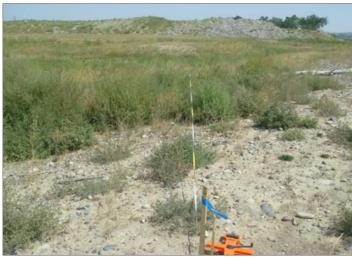
Transect 1: Start Bearing: 240 degrees

Location: Wetland Cell 14 Year: 2013



Transect 1: Start Bearing: 240 degrees

Location: Wetland Cell 14 Year: 2020



Transect 1: End Bearing: 50 degrees

Location: Wetland Cell 14 Year: 2013



Transect 1: End Bearing: 50 degrees

Location: Wetland Cell 14 Year: 2020



Transect 2: Start Bearing: 225 degrees

Location: Wetland Cell 8 Year 2013



Transect 2: Start Bearing: 225 degrees

Location: Wetland Cell 8 Year 2020

Kindsfater: Transect Photographs



Transect 2: End Bearing: 40 degrees

Location: Wetland Cell 8 Year 2013



Transect 2: End Bearing: 40 degrees

Location: Wetland Cell 8 Year 2020



Transect 3: Start Bearing: 290 degrees

Location: Wetland Cell 4 Year 2013



Transect 3: Start Bearing: 290 degrees

Location: Wetland Cell 4 Year 2020



Transect 3: End Bearing: 290 degrees

Location: Wetland Cell 4 Year 2013



Transect 3: End Bearing: 290 degrees

Location: Wetland Cell 4 Year 2020



Data Point: DP01w Year 2020



Location: Veg Community 11



Data Point: DP01u Location: Veg Community 14 Year 2020



Data Point: DP02w Year 2020

Location: Veg Community 11



Year 2020



Location: Veg Community 14 Data Point: DP02u



Data Point: DP03w Year 2020

Location: Veg Community 5

Data Point: DP03u Year 2020

Location: Veg Community 4/14



Data Point: DP04w Year 2020



Location: Veg Community 5



Location: Veg Community 4/14 Data Point: DP04u Year 2020



Data Point: DP05w Year 2020



Location: Veg Community 5



Year 2020



Location: Veg Community 14 Data Point: DP05u



Data Point: DP06w Year 2020

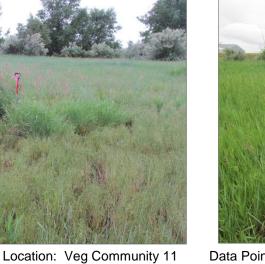
Location: Veg Community 5

Data Point: DP06u Year 2020

Location: Veg Community 14



Data Point: DP07w Year 2020



Data Point: DP07u Year 2020



Location: Veg Community 14



Data Point: DP08w Year 2020



Location: Veg Community 2



Data Point: DP08u Location: Veg Community 4/14 Year 2020



Data Point: DP09w Year 2020

Location: Veg Community 16



Data Point: DP09u

Location: Veg Community 14

Year 2020



Data Point: DP10w Year 2020



Data Point: DP10u Year 2020



Location: Veg Community 4/14



Data Point: DP11w Year 2020



Location: Veg Community 8



Data Point: DP11u Year 2020



Location: Veg Community 17



Data Point: DP12w Year 2020

Location: Veg Community 8

Data Point: DP12u Year 2020

Location: Veg Community 15



Data Point: DP13w Year 2020



Location: Veg Community 11



Data Point: DP13u Year 2020

Location: Veg Community 17



Data Point: DP14w Year 2020





Data Point: DP14u Year 2020

Location: Veg Community 17