Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT

For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. APPLICANT/CONTACT NAME AND ADDRESS:

FLATHEAD FRIENDS LLC
109 W 7TH ST STE 200
GEORGETOWN TX 78626-5766

2. TYPE OF ACTION:

Ground Water Application for Beneficial Water Use Permit No. 76LJ 30165510

3. WATER SOURCE NAME:

Ground Water (Helena Formation of the Mesoproterozoic Belt Supergroup Aquifer)

4. LOCATION AFFECTED BY PROJECT:

Section 25 and the NWSWSW Township 26N, Range 21W; and SWNWSW of Section 30, Township 26N, Range 20W, Flathead County

5. NARRATIVE SUMMARY OF THE PROPOSED PROJECT, PURPOSE, ACTION TO BE TAKEN, AND BENEFITS:

The Applicant proposes to divert groundwater from two wells drilled into the Belt Supergroup Aquifer. The Applicant proposes to use IW1 (GWIC No 337454) and IW2 (GWIC No 337456) at a combined flow rate of 610.0 gallons per minute (GPM), with IW1 producing 360 GPM and IW2 producing 250 GPM. The Applicant proposes to divert 337.26 acre-feet for irrigation of 131.41 acres of turf grass for the golf course and to store water for the irrigation with two reservoirs. Groundwater will be diverted into the reservoirs from April 1st to October 10th and irrigation of the golf course will occur from April 20th to October 10th.

The proposed point of diversion IW 1 is located in the NENWSW Section 25 Township 26N, Range 21W, Flathead County and IW2 is located in the NWNWSE Section 25, Township 26N, Range 21W, Flathead County. The place of use is located across the entirety of Section 25 Township 26N, Range 21W, with a small portion located in the NWSWSW and SWNWSW of Section 30, Township 26N, Range 20W, Flathead County. Figure 1 shows the boundaries of the place of use and Figure 2 shows the specific irrigation areas where the water will be used.

The project is in the Flathead River Basin (76LJ) in an area that is not subject to water right basin closures or controlled groundwater area restrictions.

The DNRC shall issue a water use permit if the Applicant proves the criteria in 85-2-311 MCA are met.

6. AGENCIES CONSULTED DURING PREPARATION OF THE ENVIRONMENTAL ASSESSMENT:

- U.S. Fish and Wildlife Service (USFWS): National Wetlands Inventory Wetlands Mapper
- Montana Natural Heritage Program: Endangered, Threatened Species, and Species of Special Concern
- Montana Department of Fish Wildlife & Parks (DFWP): Dewatered Stream Information
- Montana Department of Environmental Quality (MDEQ): Clean Water Act Information Center
- U.S. Natural Resource Conservation Service (NRCS): Web Soil Survey
- U S. National Park Service (NPS) Water Rights Branch

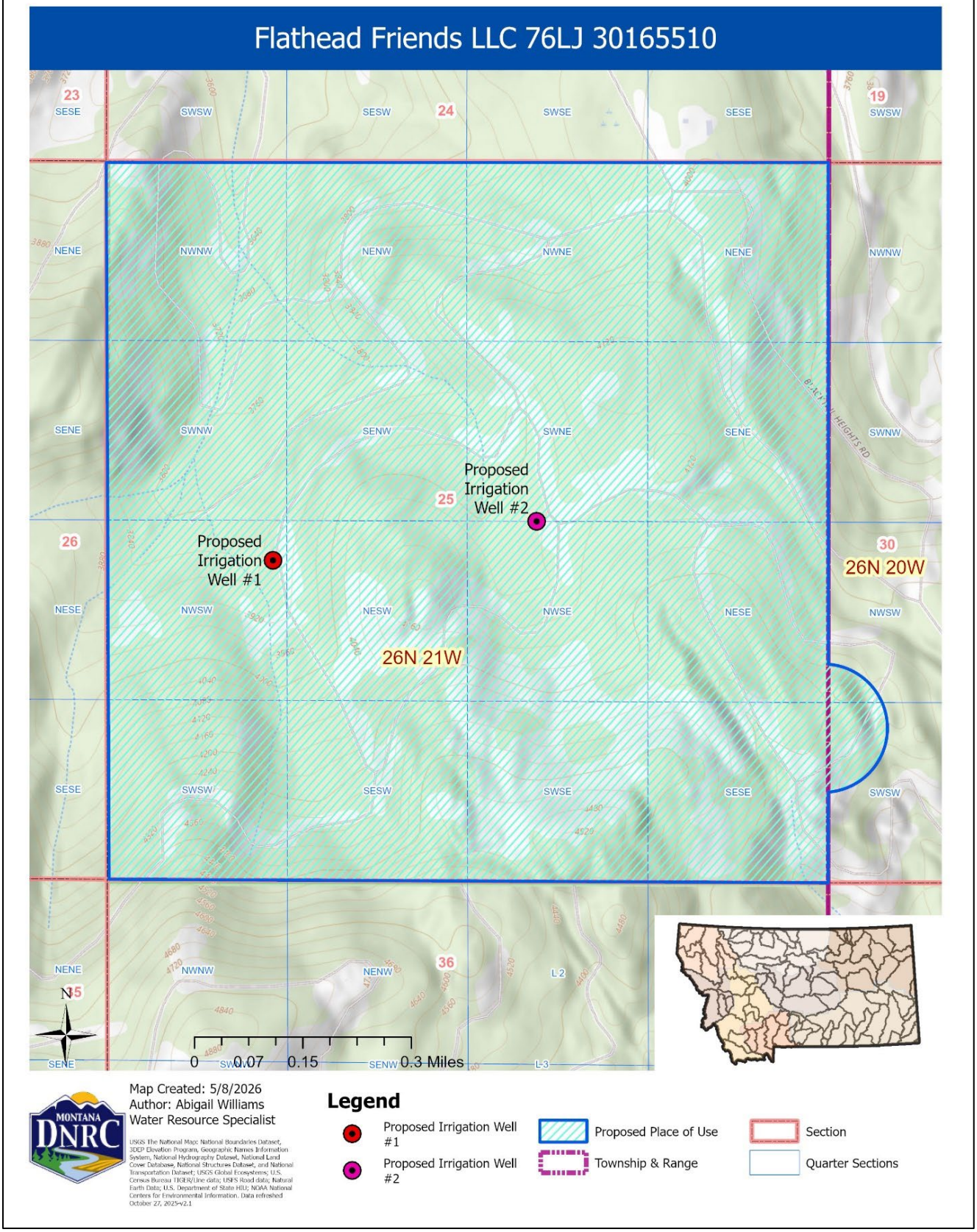


Figure 1. Map of the proposed place of use and points of diversion.

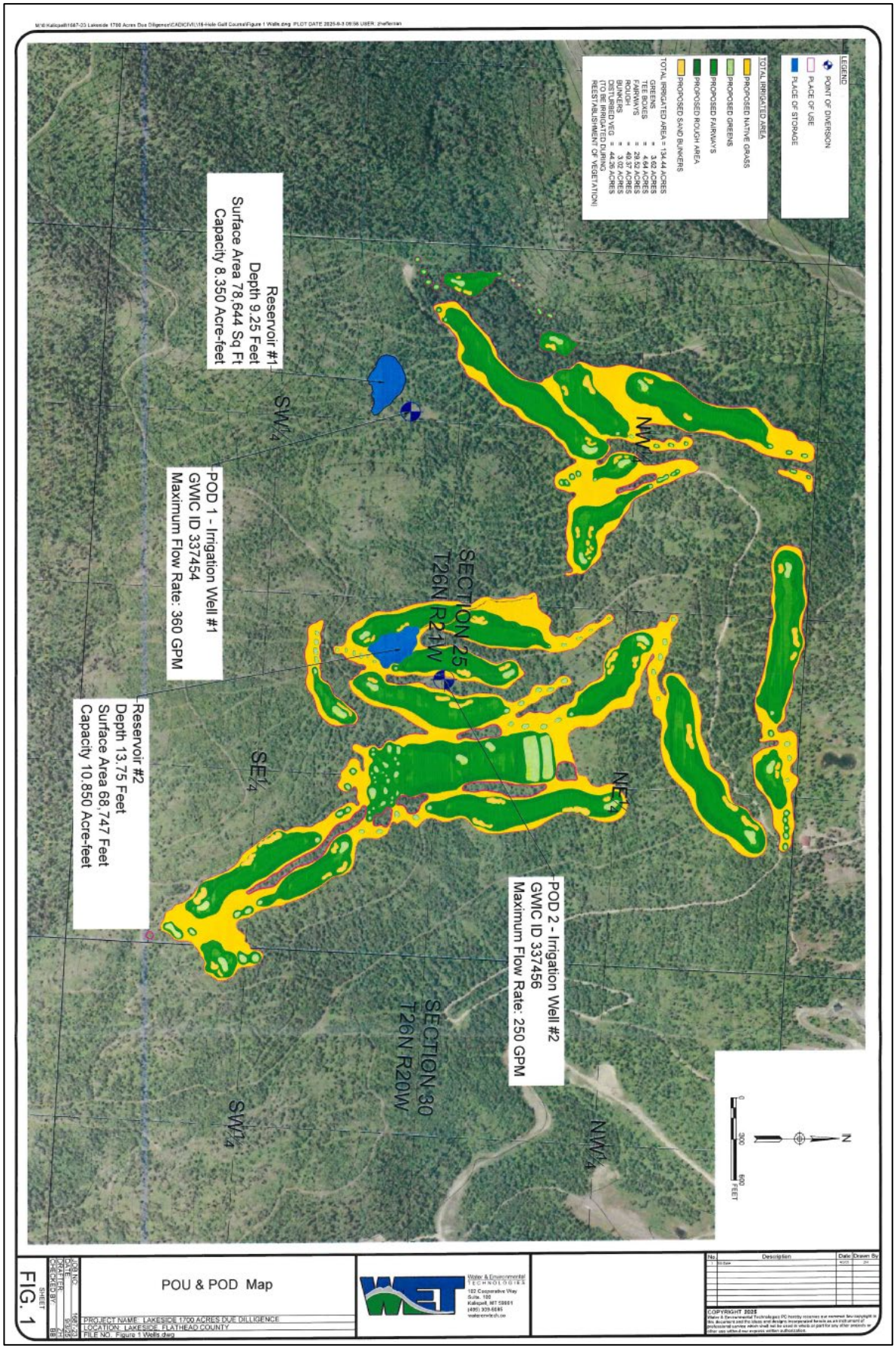


Figure 2. Applicant supplied map golf course with irrigated areas

Part II. Environmental Review

1. ENVIRONMENTAL IMPACT CHECKLIST:

PHYSICAL ENVIRONMENT

1.1 WATER QUANTITY, QUALITY AND DISTRIBUTION

Water Quantity - *Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

The Applicant proposes to divert groundwater from two wells, IW1 and IW2, that are located 3.6 miles east of Flathead Lake and 3.2 miles east of Flathead Lake, respectively. Flathead Lake is not on the DFWP list of chronically or periodically dewatered streams

Determination: No significant impact.

Water Quality - *Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

The Applicant proposes to divert and use groundwater. Diversions in this area may deplete Flathead Lake.

Flathead Lake: MDEQ Clean Water Act Information Center's 2020 Water Quality Information report lists Flathead Lake as:

i. Water Quality Category 5: Waters where one or more applicable beneficial uses have been assessed as being impaired or threatened, and a TMDL is required to address the factors causing the impairment or threat;

ii. Use Class A-1: Waters classified as suitable for drinking, culinary and food processing purposes after conventional treatment for removal of naturally present impurities;

iii. Flathead Lake is assessed as "Fully Supporting" of Agriculture, Drinking water, and Primary Contact Recreation. It is assessed that Flathead Lake is "Not Fully Supporting" of Aquatic Life due to Mercury, Polychlorinated Biphenyls (PCBs), Nitrogen, and Phosphorus. A TMDL has not been completed for the Mercury nor the Polychlorinated Biphenyls (PCBs) impairment. A TMDL was established or approved by EPA on March 31, 2002 for Nitrogen and Phosphorus with a Nutrient Management Plan.

It is not anticipated that the appropriation of groundwater will result in significant water quality impacts to the nearby surface water sources.

Determination: No significant impact.

Groundwater - *Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

The proposed wells, IW1 and IW2 are completed to a depth of 840 ft below ground surface (BGS) and 1,000 ft BGS, respectively. The wells are completed in the Helena Formation of the Mesoproterozoic Belt Supergroup and are approximately 2,040 ft away from each other in Section 25, Township 26 North, Range 21 West, Flathead County. The Applicant performed two 72-hour aquifer tests on IW1 and IW2 proving the wells can support a total flow rate requested of 610 GPM, respectively.

The Department determined the physically available volume of water in the source aquifer using aquifer properties derived from the 72-hour aquifer test conducted on IW1. The average flow rates during the tests for IW1 and IW2 were 359.8 and 251.9 GPM, using a combined flow rate of 610 GPM for the project.

Surface water depletion resulting from the applicant's proposed wells pumping from the source aquifer will primarily occur from propagation drawdown through the source aquifer to Flathead Lake. The Department conducted physical and legal availability on the source aquifer and hydraulically connected surface water and found water is legally available in all sources.

Determination: No significant impact.

1.2 DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

The Applicant proposes to divert groundwater from the aquifer at a rate of 610 GPM using two wells, IW1 and IW2, that pump 360 GPM and 250 GPM, respectively. The applicant proposes to divert up to 337.26 for irrigation of 131.41 acres of turf grass for the proposed golf course and to fill two reservoirs. Water will be diverted into the two reservoirs from April 1st to October 20th before being diverted for irrigation use from April 20th to October 10th.

The Applicant will utilize a Grundfos SPE 385S400-5 submersible pump to divert groundwater from IW1 and a Grundfos SPE 385S500-13 submersible pump to divert groundwater from IW2. The system is designed to divert water from each well into their respective pump houses before entering a 6-inch pipe discharging water into two manholes, one for each well. From the system's respective manholes water is conveyed into the two reservoirs. IW1 diverts water into the west reservoir and IW2 diverts water into the east reservoir. The two reservoirs are connected by a transfer pump station and 8-inch transfer pipeline to allow movement of water between the two reservoirs for storage and to balance water levels. The irrigation will be diverted from the east reservoir and conveyed to the irrigation zones by a pressurized irrigation system consisting of a network of pipelines, control valves, and sprinkler heads to provide uniform coverage of the irrigated areas.

The Applicant had engineering firm Kimley-Horn design the system and provided a total dynamic head (TDH) for both wells and provided the pump curves to ensure the pumps can meet the requested flow rate. The Applicant calculated a TDH of 343 ft for IW1 and a TDH of 617 ft for IW2. For each well's respective TDH, the supplied pump curve demonstrated that the pump is capable of producing the requested flow rate for IW1 and IW2 of 360 GPM and 250 GPM respectively.

The proposed points of diversion IW1 and IW2 are located 3.6 miles east of Flathead Lake and 3.2 miles east of Flathead Lake, respectively. The depletions caused by this appropriation will not negatively impact the surface water source's water quality nor the aquatic environment.

Determination: No significant impact.

1.3 UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and Threatened Species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants, aquatic species, or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

The Montana Natural Heritage Program website was reviewed to determine if there are any threatened or endangered fish, wildlife, plants, aquatic species, or any "species of special concern" in the project area that could be impacted by the proposed project. Four animal species of concern (Table 1) were identified within the project area. Of these species, the Grizzly Bear (*Ursus arctos*) is listed as threatened by the USFWS. This area has already

undergone development. It is not anticipated that any species of concern will be further impacted by water use within the proposed project. The water use within the proposed project will not create any barriers to the migration or movement of wildlife.

Table 1. Species of Concern		
Species Group	**Common Name**	**Scientific Name**
Mammals	Fisher	*Pekania pennanti*
Mammals	Grizzly Bear*	*Ursus arctos*
Birds	Brown Creeper	*Certhia americana*
Birds	Pileated Woodpecker	*Dryocopus pileatus*

**Listed as "Threatened" by the USFWS.*

Determination: The overall project may create an impact, however, irrigating the already impacted area will create no further significant impact.

Wetlands & Ponds - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted. For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

This project will be constructed near an intermittent riverine. There is a potential the intermittent streambed may seasonally flood. There is no significant impact.

Determination: No significant impact.

1.4 GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

The proposed reservoir storage and irrigation will not negatively impact the soil quality, stability, or moisture content in the project area. The soil types in the project area are;

- Kingspoint gravelly silt loam, 30 to 50 percent slopes with a moderately high to high ability to transmit water and are nonsaline to very slightly saline;
- Ashleylake cobbly ashy silt loam, 8 to 30 percent slopes with a moderately high to high ability to transmit water and are nonsaline to very slightly saline;
- Ashleylake-Rock outcrop complex, 30 to 50 percent slopes with a moderately high to high ability to transmit water and are nonsaline to very slightly saline,
- Kingspoint-Rock outcrop Sharrott complex, 15 to 50 percent slopes with a moderately high to high ability to transmit water and are nonsaline to very slightly saline;
- Ashleylake-Foyslake-Kila complex, 0 to 15 percent slopes with a moderately high to high ability to transmit water and are nonsaline to very slightly saline; and
- Ashleylake-Rock outcrop-Rockhill complex, 40 to 70 percent slopes with a moderately high to high ability to transmit water and are nonsaline to very slightly saline.

These soils have a moderately high to high capacity to transmit water and are nonsaline to very slightly saline and are therefore not likely susceptible to saline seep.

Determination: No significant impact.

1.5 VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

It is not anticipated that this project will impact the existing vegetative cover beyond what has been cleared for construction in the project area. It is not anticipated that issuance of a water use permit will contribute to the establishment or spread of noxious weeds in the project area. Noxious weed prevention and control will be the responsibility of the landowners, who must follow local noxious weed regulations.

Determination: No significant impact.

1.6 AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

There will be no impact to air quality associated with issuance of the proposed permit for beneficial use of groundwater.

Determination: No significant impact.

1.7 HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

Determination: N/A, project not located on State or Federal Lands.

1.8 DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water, and energy not already addressed.*

All impacts to land, water, and energy have been identified and no further impacts are anticipated.

Determination: No significant impact.

HUMAN ENVIRONMENT

1.9 LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

The project is consistent with planned land uses.

Determination: No significant impact.

1.10 ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

The proposed project will not inhibit, alter, or impair access to present recreational opportunities in the area. The project is not expected to create any significant pollution, noise, or traffic congestion in the area that may alter the quality of recreational opportunities. The proposed place of use and diversion do not exist on land designated as wilderness.

Determination: No significant impact.

1.11 HUMAN HEALTH - *Assess whether the proposed project impacts human health.*

This proposed use will not adversely impact human health.

Determination: No impact.

1.12 PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights. If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights*.

No government regulatory impacts on private property rights.

Determination: No impact.

1.13 OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* None identified.
(*b)* *Local and state tax base and tax revenues?* None identified.
(c) *Existing land uses?* None identified.
(*d)* *Quantity and distribution of employment?* None identified.
(e) *Distribution and density of population and housing?* None identified.
(f) *Demands for government services?* None identified.
(g) *Industrial and commercial activity?* None identified.
(h) *Utilities?* None identified.
(i) *Transportation?* None identified.
(j) *Safety?* None identified.
(k) *Other appropriate social and economic circumstances?* None identified.

2. SECONDARY AND CUMULATIVE IMPACTS ON THE PHYSICAL ENVIRONMENT AND HUMAN POPULATION:

Secondary Impacts: None identified.

Cumulative Impacts: None identified.

3. DESCRIBE ANY MITIGATION/STIPULATION MEASURES:

None.

4. DESCRIPTION AND ANALYSIS OF REASONABLE ALTERNATIVES TO THE PROPOSED ACTION, INCLUDING THE NO ACTION ALTERNATIVE, IF AN ALTERNATIVE IS REASONABLY AVAILABLE AND PRUDENT TO CONSIDER:

The only alternative to the proposed action would be the no action alternative. The no action alternative would not authorize the diversion of groundwater at this location.

Part III. Conclusion

1. PREFFERED ALTERNATIVE:

Issue a water use permit if the Applicant proves the criteria in 85-2-311 MCA are met.

2. COMMENTS AND RESPONSES:

None.

3. FINDING:

Based on the significance criteria evaluated in this EA, is an EIS required? ___**Yes** _**X**_**No**

If an EIS is not required, explain <u>why</u> the EA is the appropriate level of analysis for this proposed action:

No significant impacts related to the proposed project have been identified.

4. NAME OF PERSON(S) RESPONSIBLE FOR PREPARATION OF EA:

Name: Abigail Williams

Title: Water Resource Specialist

Date: 11/5/2026

Montana Fish, Wildlife & Parks

FWP DEWATERING CONCERN AREAS

Revised, May 2005

The following is a list of Montana streams that support important fisheries or contribute to important fisheries (i.e., provide spawning and rearing habitats) that are significantly dewatered. Dewatering refers to a reduction in streamflow below the point where stream habitat is adequate for fish.

This is the third revision of the Dewatered Streams List compiled by FWP dated January 24, 1991 and last updated in May 2003. List entries and updates were provided by FWP regional fisheries biologists from field observations. Further revisions may be necessary as water use patterns change, and additional or more detailed information becomes available.

This revised list includes a total of 323 stream reaches on 314 streams, which are chronically dewatered, and 113 stream reaches on 109 streams, which are periodically dewatered. The reaches do not overlap between categories.

The two categories of dewatering are:

1. **Chronic dewatering** -- streams where dewatering is a significant problem in virtually all years; and

2. **Periodic dewatering** -- streams where dewatering is a significant problem only in drought or water-short years.

Most man-made dewatering occurs during the irrigation season (July-September). Although most dewatering is caused by irrigation withdrawals, a few of the listed waters are dewatered through dam regulation for agricultural and power production purposes or by natural causes.

Each listed stream shows the length (in miles) of the dewatered reach. For larger/longer streams, the boundaries of the dewatered reach (Point A - Point B) are given. For streams that have no reach boundaries given, the miles shown as dewatered are from the mouth upstream. All mileages are approximate.

The dewatered reaches shown are typical for the stream. However, the number of miles dewatered may vary from year to year depending upon the amount of water available in the stream system.

CHRONIC DEWATERING

STREAM AND REACH	MILES DEWATERED
Beaverhead-Red Rock River Drainage	
Beaverhead River: West Side Canal – mouth	39
Big Sheep Creek: BLM Boundary - Red Rock River	3
Blacktail Deer Creek: Axes Canyon Rd - Beaverhead River	5.5
Horse Prairie Creek: Red Butte - Clark Canyon Reservoir	15
Junction Creek: I-15 - Red Rock River	4
Rattlesnake Creek: Dillon/Argenta Rd - mouth	7.5
Red Rock River: Dell-Briggs Ranch	6
Subtotal for Drainage	80.0
Big Hole River Drainage	
Alder Creek	0.1
Big Hole River:	
Big Lake Creek - Swamp Creek	9
Glen Bridges - mouth	24.4
Birch Creek: Beaverhead/Willow Ditch - mouth	9.8
Governor Creek	5
Wise River: Wise River Ditch - mouth	5
Subtotal for Drainage	53.3
Bitterroot River Drainage	
Baker Creek	1
Bass Creek	1
Bear Creek:	
North Channel	4
South Channel	4
Big Creek	3
Bitterroot River: Corvallis-Stevensville	17
Blodgett Creek	2
Burnt Fork Creek	5
Carlton Creek	5
Chaffin Creek	2
Eightmile Creek	3
Kootenai Creek	2
Lolo Creek	3
Lost Horse Creek	4
Mill Creek	3
Mill Creek (Trib. to Lolo Creek)	0.5
O'Brien Creek	1.5
Reimel Creek	1
Rock Creek	5
Skalkaho Creek	4
South Fork of Lolo Creek	0.5
Sweathouse Creek	2

Dearborn River Drainage

Dearborn River: Bean Lake Canal – mouth	44
Middle Fork Dearborn River	4
Subtotal for Drainage	48

Flathead River Drainage

Lost Creek: 4 miles Above Lore Lake - Stillwater River	7
Mount Creek: Welcome Springs - mouth	5
South Fork Flathead River: Hungry Horse Dam - mouth	5.3
Walker Creek: Entire Length	7
Subtotal for Drainage	24.3

Flint Creek Drainage (Clark Fork)

Cow Creek	3
Douglas Creek	2
Flint Creek: Georgetown Lake - mouth	42.4
Gird Creek	1
Henderson Creek: USFS Boundary - mouth	4
Lower Willow Creek: Reservoir - mouth	9.4
Marshall Creek: USFS Boundary - mouth	5
Subtotal for Drainage	66.8

Gallatin River Drainage

Baker Creek	10
Big Bear Creek	5
Bridger Creek	10
Gallatin River: Shedd's Bridge - Mouth	32.7
Hyalite (Middle) Creek	20
South Cottonwood Creek	6
Subtotal for Drainage	83.7

Jefferson River Drainage

Antelope Creek	7
Boulder River: Boulder - Cold Springs	36
Fish Creek	10
Jefferson River: Headwaters - mouth	84
Little Boulder River	10
North Willow Creek	9
Pipestone Creek	8
South Boulder River	10
South Willow Creek	8
Whitetail Creek	24
Subtotal for Drainage	206

Judith River Drainage

Cottonwood Creek: McMillan ditch to Big Spring Creek	17
Judith River: Ackley Lake diversion – Big Spring Creek	37
Ross Fork Creek	10
Subtotal for Drainage	64

PERIODIC DEWATERING

STREAM AND REACH	MILES DEWATERED
Beaverhead - Red Rock River Drainage	
Beaverhead River: Clark Canyon Dam - West Side Canal	21
Big Beaver Creek	0.7
Blacktail Deer Creek: West Fork - Axes Canyon Rd.	19.8
Bloody Dick Creek (Tributary to Horse Prairie Cr.)	10
Grasshopper Creek:	
Polaris - Bannock	14
Frency Place Placer - mouth	6
Jones Creek: BLM boundary - mouth	1.5
Little Sheep Creek: Road crossing - mouth	7.5
Medicine Lodge Creek (Tributary to Horse Prairie Cr.): Ayers Cyn - mouth	16.8
Peet Creek: Jones Diversion - mouth	1.7
Sage Creek: Rock Island Ranch - mouth	11
Trail Creek (Tributary to Horse Prairie Cr.): Source - mouth	7
Subtotal for Drainage	117.0
Big Hole River Drainage	
Big Hole River:	
Hamby Creek - Big Lake Creek	23.4
Swamp Creek - Glen Bridges	84.5
Big Lake Creek	7.5
Canyon Creek	6
Deep Creek	5.1
Divide Creek	9.5
Doolittle Creek	1.5
Fishtrap Creek	2.4
Francis Creek	7.7
Jerry Creek	3.1
Johnson Creek	3.7
Moose Creek	3.0
Mussigbrod Creek	9.4
North Fork Big Hole River	25
Pintlar Creek	10.8
Rock Creek	3
Rock Creek (Tributary to Big Lake Cr)	7
Ruby Creek	4.3
Sandhollow Creek	4.8
Steel Creek	8.6
Swamp Creek	17.4
Trapper Creek	6
Warm Springs Creek	9
Willow Creek	5.5
Subtotal for Drainage	268.2

Bitterroot River Drainage

Lolo Creek	1
Subtotal for Drainage	1

Blackfoot River Drainage

Arkansas Creek	2
Ashby Creek	2
Blackfoot River: Stream mile 84.9-54.1	30.8
Clearwater River	3.5
Elk Creek	3
Hoyt Creek	1
Nevada Creek: Stream mile 34.0-40.0	6
Shanley Creek	1.6
Subtotal for Drainage	49.9

Dearborn River Drainage

South Fork Dearborn River	10
Subtotal for Drainage	10

Flathead River Drainage

Ashley Creek: US Hwy. 2 Bridge – mouth	20
Blaine Creek: Above Lake Blaine - Lake Blaine	3
Bowser Spring Creek: Hwy 424 - Kalispell	8
Dayton Creek: Co. Line - mouth	10
Echo Creek: Sec. 27 - mouth	3
Evergreen Spring Creek	5
Garnier Creek: USFS - mouth	3
Lynch Creek: Sec. 12 - mouth	5
Meadow Creek (Big Fork): USFS - mouth	3
Ronan Creek: Lake Mary Ronan - mouth	5
Spring Creek: North of Kalispell	5
Trumbull Creek: USFS - Rose Crossing	20
Subtotal for Drainage	90

Gallatin River Drainage

Bozeman (Sourdough) Creek	8
Gallatin River: Gallatin Gateway - Shedd's Bridge	5.3
Subtotal for Drainage	13.3

Jefferson River Drainage

Hells Canyon Creek*	0.3
Willow Creek	10
Subtotal for Drainage	10.3

Judith River Drainage

Judith River: Utica to Ackley Lake diversion	5
Subtotal for Drainage	5

Assessment Record Summary

Reporting Cycle: 2020 **Assessment Record:** MT76O003_010 **Status:** Unassigned

WATER INFORMATION — Status: Unassigned

Reporting Cycle:	2020
Assessment Unit:	MT76O003_010
Name:	Flathead Lake
Location Description:	FLATHEAD LAKE

Water Type:	Size (Miles/Acres)	Use Class:
FRESHWATER LAKE	57305 ACRES	A-1

Trophic Status:	OLIGOTROPHIC
Trophic Trend:	Unknown
1 - Hydrologic Unit Code:	17010208
2 - HUC Name:	Flathead Lake
3 - Watershed:	Pend Oreille
4 - Basin:	Columbia
5 - TMDL Planning Area:	Flathead Lake
6 - Ecoregion:	Northern Rockies
6 - Ecoregion:	Canadian Rockies
7 - County:	Flathead County
7 - County:	Lake County
Water Quality Category:	5 - Waters where one or more applicable beneficial uses have been assessed as being impaired or threatened, and a TMDL is required to address the factors causing the impairment or threat.

Assessment Record Summary

Reporting Cycle: 2020 **Assessment Record:** MT76O003_010 **Status:** Unassigned

Beneficial Use Support Information

Use Name	Fully Supporting	Not Fully Supporting	Threatened	Insufficient Information	Not Assessed
Aquatic Life		X			
Agricultural	X				
Drinking Water	X				
Primary Contact Recreation	X				

Assessment Information

Use Name	Assessment Type	Assessment Confidence
NA		

Use Name	Assessment Methods
NA	

Impairment Information

Use Name	Probable Causes	Probable Sources	TMDL Completed
Aquatic Life	Mercury	Atmospheric Deposition - Nitrogen	N
		Impacts from Hydrostructure Flow Regulation/modification	
		Municipal Point Source Discharges	
		Silviculture Harvesting	
		Source Unknown	
		Dam or Impoundment	
		Unspecified Urban Stormwater	
	Polychlorinated Biphenyls (PCBs)	Atmospheric Deposition - Nitrogen	N
		Impacts from Hydrostructure Flow Regulation/modification	
		Municipal Point Source Discharges	
		Silviculture Harvesting	
		Source Unknown	
		Dam or Impoundment	
		Unspecified Urban Stormwater	
	Nitrogen, Total	Atmospheric Deposition - Nitrogen	Y
		Municipal Point Source Discharges	
		Unspecified Urban Stormwater	
	Phosphorus, Total	Atmospheric Deposition - Nitrogen	Y
		Municipal Point Source Discharges	
		Unspecified Urban Stormwater	

Assessment Record Summary

Reporting Cycle: 2020 **Assessment Record:** MT76O003_010 **Status:** Unassigned

Use Name	Observed Effects
NA	

Delisting / Category Changes

Cause	Reason for Change	Change Date	Comments
Nitrogen, Total	TMDL Approved or established by EPA (4A)	03/31/2002	"Nutrient Management Plan and Total Maximum Daily Load for Flathead Lake, Montana", approved by EPA on March 31, 2002 addressed TMDLs for nitrogen and phosphorus and indirectly addresses 303(d) listings for dissolved oxygen and excess algal growth, which result from excess nutrients.
Phosphorus, Total	TMDL Approved or established by EPA (4A)	03/31/2002	"Nutrient Management Plan and Total Maximum Daily Load for Flathead Lake, Montana", approved by EPA on March 31, 2002 addressed TMDLs for nitrogen and phosphorus and indirectly addresses 303(d) listings for dissolved oxygen and excess algal growth, which result from excess nutrients.
Sedimentation/Siltation	Applicable WQS attained, according to new assessment method	11/21/2014	

MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System.**

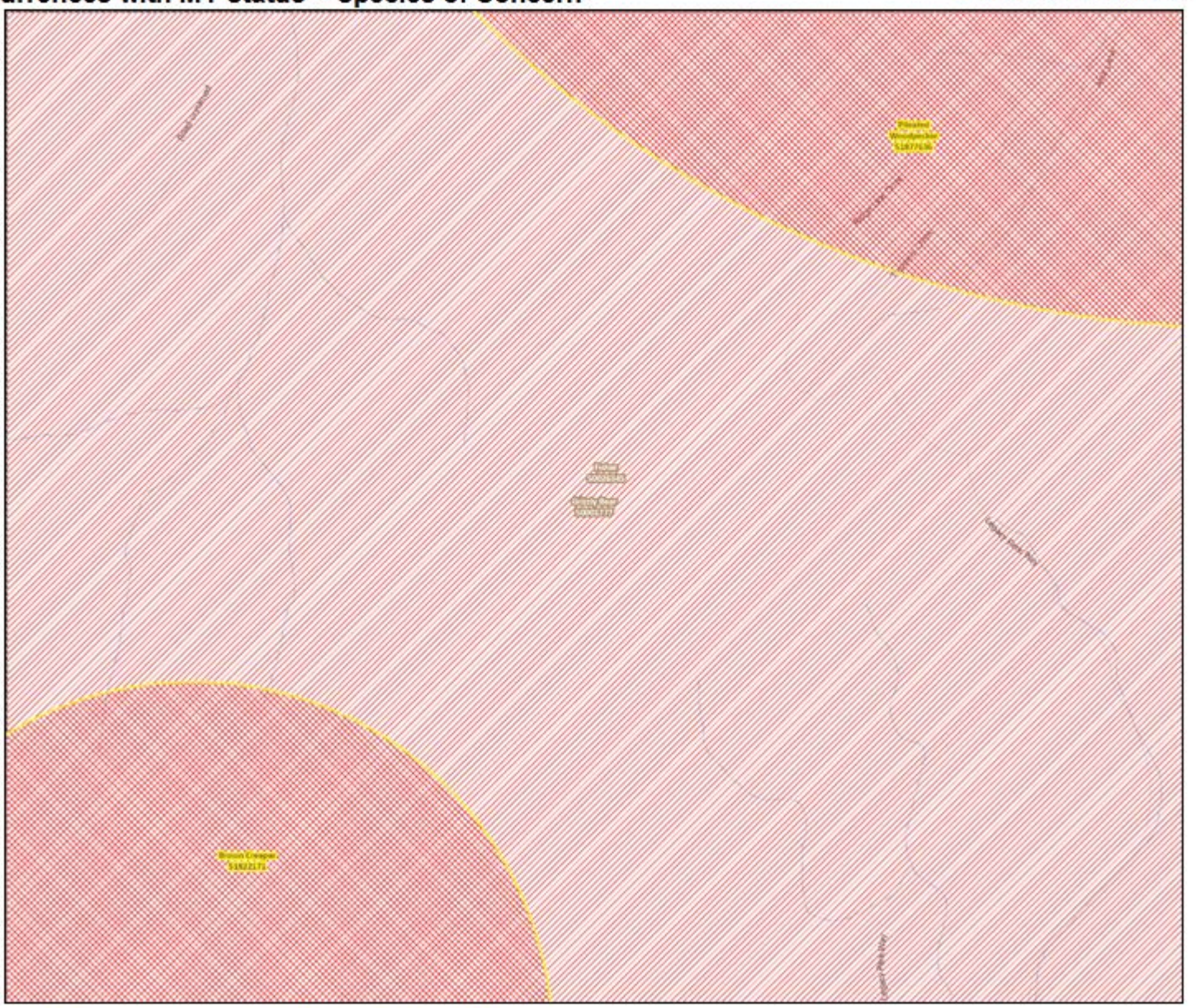
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Montana SOC Occurrences Report

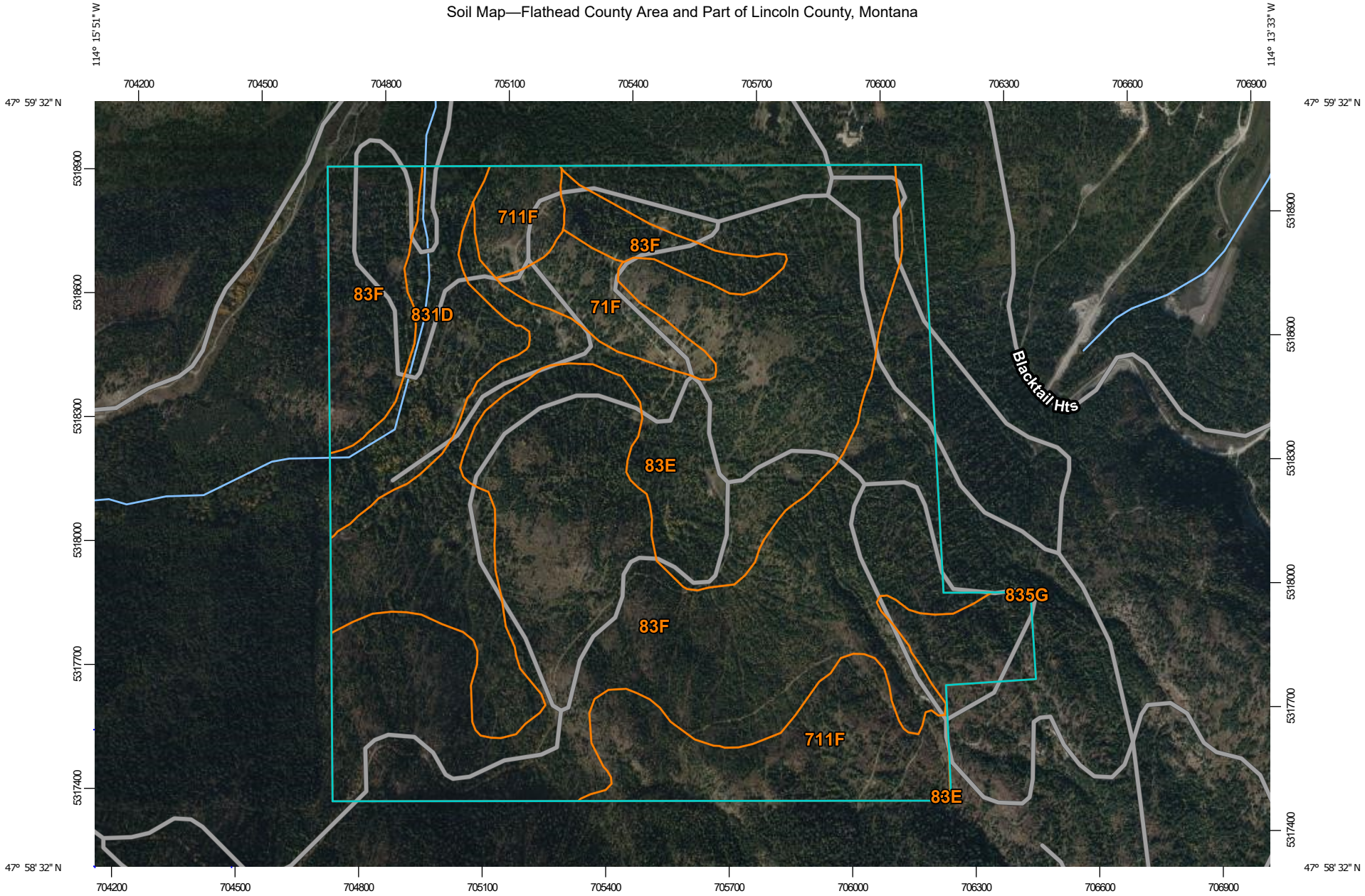
SOC Occurrences with MT Status = Species of Concern

Report generated 11/3/2026 6:50:02 AM



Species List | plus Occurrences | plus Obs (may take a while)

⊞ **Mammals - Fisher** *(Pekania pennanti)*	SO Count: 1	Obs Count: 91	Earliest Obs: 1965	Recent Obs: 2022
⊞ **Mammals - Grizzly Bear** *(Ursus arctos)*	SO Count: 1	Obs Count: 1554	Earliest Obs: 1895	Recent Obs: 2026
⊞ **Birds - Brown Creeper** *(Certhia americana)*	SO Count: 1	Obs Count: 1	Earliest Obs: 2016	Recent Obs: 2016
⊞ **Birds - Pileated Woodpecker** *(Dryocopus pileatus)*	SO Count: 1	Obs Count: 1	Earliest Obs: 2024	Recent Obs: 2024



Map Scale: 1:13,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Flathead County Area and Part of Lincoln County, Montana
Survey Area Data: Version 22, Sep 9, 2026

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 30, 2021—Oct 12, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
71F	Kingspoint gravelly silt loam, 30 to 50 percent slopes	17.2	3.0%
83E	Ashleylake cobbly ashy silt loam, 8 to 30 percent slopes	176.5	30.7%
83F	Ashleylake-Rock outcrop complex, 30 to 50 percent slopes	268.0	46.7%
711F	Kingspoint-Rock outcrop-Sharrott complex, 15 to 50 percent slopes	74.4	13.0%
831D	Ashleylake-Foyslake-Kila complex, 0 to 15 percent slopes	38.0	6.6%
835G	Ashleylake-Rock outcrop-Rockhill complex, 40 to 70 percent slopes	0.1	0.0%
Totals for Area of Interest		**574.3**	**100.0%**

Flathead County Area and Part of Lincoln County, Montana

71F—Kingspoint gravelly silt loam, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: 1krfr
Landscape: Mountains
Elevation: 3,000 to 4,200 feet
Mean annual precipitation: 18 to 25 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 70 to 95 days
Farmland classification: Not prime farmland

Map Unit Composition

Kingspoint and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kingspoint

Setting

Landscape: Mountains
Landform: Glaciated mountain slopes
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Till derived from calcareous siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
E - 1 to 4 inches: gravelly silt loam
Bw - 4 to 16 inches: very gravelly silt loam
Bk - 16 to 60 inches: very gravelly silt loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F043AP909MT - Upland Cool Woodland Group
Other vegetative classification: Douglas-fir/ninebark (PK260), Douglas-fir/snowberry (PK310), Douglas-fir/ninebark-pinegrass phase (PK262)
Hydric soil rating: No

Minor Components

Repp

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Mountain slopes
Down-slope shape: Convex
Across-slope shape: Linear, convex
Other vegetative classification: Douglas-fir/snowberry (PK310), Douglas-fir/ninebark (PK260)
Hydric soil rating: No

Sharrott

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Glacially scoured ridges
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Other vegetative classification: Douglas-fir/snowberry-bluebunch wheatgrass phase (PK311), Douglas-fir/bluebunch wheatgrass (PK210)
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: Unranked

Wimper

Percent of map unit: 3 percent
Landscape: Mountains
Landform: Glaciated mountain slopes
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Other vegetative classification: ponderosa pine/bluebunch wheatgrass (PK130), Douglas-fir/Idaho fescue (PK220), Douglas-fir/rough fescue (PK230)
Hydric soil rating: No

Mcmannamy

Percent of map unit: 2 percent
Landscape: Mountains
Landform: Glaciated mountain slopes
Down-slope shape: Convex, linear

Across-slope shape: Convex, linear
Other vegetative classification: Douglas-fir/snowberry (PK310), Douglas-fir/ninebark (PK260)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Flathead County Area and Part of Lincoln County, Montana
Survey Area Data: Version 22, Sep 9, 2026

Flathead County Area and Part of Lincoln County, Montana

83E—Ashleylake cobbly ashy silt loam, 8 to 30 percent slopes

Map Unit Setting

National map unit symbol: 1qcr7
Landscape: Mountains
Elevation: 3,200 to 4,800 feet
Mean annual precipitation: 22 to 30 inches
Mean annual air temperature: 36 to 42 degrees F
Frost-free period: 35 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Ashleylake and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ashleylake

Setting

Landscape: Mountains
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Volcanic ash over till derived from argillite and/or calcareous siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
E - 1 to 14 inches: cobbly ashy silt loam
E/Bt - 14 to 23 inches: very cobbly silt loam
Bt/E - 23 to 30 inches: very cobbly silty clay loam
Bt - 30 to 40 inches: very cobbly silty clay loam
Bk - 40 to 60 inches: very cobbly silt loam

Properties and qualities

Slope: 8 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F043AP910MT - Upland Cool Moist Woodland Group
Other vegetative classification: spruce/twinflower (PK470), grand fir/twinflower (PK590), grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Minor Components

Ashleylake, greater slope

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: spruce/twinflower (PK470), grand fir/twinflower (PK590), grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Bata

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: subalpine fir/twinflower (PK660), subalpine fir/queencup beadlily (PK620), subalpine fir/grouse whortleberry (PK730), subalpine fir/menziesia (PK670)
Hydric soil rating: No

Foyslake

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: Douglas-fir/twinflower-snowberry phase (PK291), Douglas-fir/ninebark (PK260), Douglas-fir/ dwarf huckleberry (PK250)
Hydric soil rating: No

Bendahl

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Concave, linear

Across-slope shape: Concave, linear
Other vegetative classification: grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Rock outcrop
Percent of map unit: 5 percent
Hydric soil rating: Unranked

Data Source Information

Soil Survey Area: Flathead County Area and Part of Lincoln County, Montana
Survey Area Data: Version 22, Sep 9, 2026

Flathead County Area and Part of Lincoln County, Montana

83F—Ashleylake-Rock outcrop complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: 1qv3v
Landscape: Mountains
Elevation: 3,200 to 4,600 feet
Mean annual precipitation: 22 to 30 inches
Mean annual air temperature: 36 to 42 degrees F
Frost-free period: 35 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Ashleylake and similar soils: 65 percent
Rock outcrop: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ashleylake

Setting

Landscape: Mountains
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Volcanic ash over till derived from argillite and/or calcareous siltstone

Typical profile

Oi - 0 to 1 inches: mucky peat
E - 1 to 14 inches: cobbly ashy silt loam
E/Bt - 14 to 23 inches: very cobbly silt loam
Bt/E - 23 to 30 inches: very cobbly silty clay loam
Bt - 30 to 40 inches: very cobbly silty clay loam
Bk - 40 to 60 inches: very cobbly silt loam

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F043AP910MT - Upland Cool Moist Woodland Group
Other vegetative classification: spruce/twinflower (PK470), grand fir/twinflower (PK590), grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Description of Rock Outcrop

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Ashleylake, greater slope

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: spruce/twinflower (PK470), grand fir/twinflower (PK590), grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Foyslake

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: Douglas-fir/twinflower-snowberry phase (PK291), Douglas-fir/ninebark (PK260), Douglas-fir/ dwarf huckleberry (PK250)
Hydric soil rating: No

Bata

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear

Other vegetative classification: subalpine fir/queencup beadlily (PK620), subalpine fir/menziesia (PK670), subalpine fir/grouse whortleberry (PK730), subalpine fir/twinflower (PK660)
Hydric soil rating: No

Bendahl

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Moraines
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Flathead County Area and Part of Lincoln County, Montana
Survey Area Data: Version 22, Sep 9, 2026

Flathead County Area and Part of Lincoln County, Montana

711F—Kingspoint-Rock outcrop-Sharrott complex, 15 to 50 percent slopes

Map Unit Setting

National map unit symbol: 1qv4r
Landscape: Mountains
Elevation: 2,900 to 5,400 feet
Mean annual precipitation: 18 to 24 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 70 to 95 days
Farmland classification: Not prime farmland

Map Unit Composition

Kingspoint and similar soils: 60 percent
Rock outcrop: 15 percent
Sharrott and similar soils: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kingspoint

Setting

Landscape: Mountains
Landform: Glaciated mountain slopes
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Till derived from calcareous siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
E - 1 to 4 inches: gravelly silt loam
Bw - 4 to 16 inches: very gravelly silt loam
Bk - 16 to 60 inches: very gravelly silt loam

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F043AP909MT - Upland Cool Woodland Group
Other vegetative classification: Douglas-fir/snowberry-pinegrass phase (PK312), Douglas-fir/ninebark-ninebark phase (PK261), Douglas-fir/snowberry (PK310), Douglas-fir/ninebark (PK260)
Hydric soil rating: No

Description of Rock Outcrop

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Description of Sharrott

Setting

Landscape: Mountains
Landform: Glacially scoured ridges
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Colluvium over residuum weathered from quartzite and/or argillite

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 5 inches: gravelly loam
Bw - 5 to 11 inches: very gravelly loam
BC - 11 to 13 inches: extremely gravelly loam
R - 13 to 60 inches: bedrock

Properties and qualities

Slope: 15 to 50 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Ecological site: F043AP905MT - Shallow Cool Woodland Group
Other vegetative classification: Douglas-fir/rough fescue (PK230)
Hydric soil rating: No

Minor Components

Mcmannamy

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Mountain slopes, Moraines
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: Douglas-fir/snowberry-pinegrass phase (PK312), Douglas-fir/snowberry (PK310), Douglas-fir/ninebark (PK260)
Hydric soil rating: No

Repp

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Glaciated mountain slopes
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Other vegetative classification: Douglas-fir/snowberry-pinegrass phase (PK312), Douglas-fir/snowberry (PK310), Douglas-fir/ninebark (PK260)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Flathead County Area and Part of Lincoln County, Montana
Survey Area Data: Version 22, Sep 9, 2026

Flathead County Area and Part of Lincoln County, Montana

831D—Ashleylake-Foyslake-Kila complex, 0 to 15 percent slopes

Map Unit Setting

National map unit symbol: 1qcr8
Landscape: Mountains
Elevation: 2,900 to 4,400 feet
Mean annual precipitation: 22 to 30 inches
Mean annual air temperature: 38 to 42 degrees F
Frost-free period: 70 to 90 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ashleylake and similar soils: 50 percent
Foyslake and similar soils: 30 percent
Kila and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ashleylake

Setting

Landscape: Mountains
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Volcanic ash over till derived from argillite and/or calcareous siltstone

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
E - 1 to 14 inches: cobbly ashy silt loam
E/Bt - 14 to 23 inches: very cobbly silt loam
Bt/E - 23 to 30 inches: very cobbly silty clay loam
Bt - 30 to 40 inches: very cobbly silty clay loam
Bk - 40 to 60 inches: very cobbly silt loam

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F043AP910MT - Upland Cool Moist Woodland Group
Other vegetative classification: spruce/twinflower (PK470), grand fir/twinflower (PK590), grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Description of Foyslake

Setting

Landscape: Mountains
Landform: Moraines
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Till derived from calcareous siltstone and/or argillite

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
E - 2 to 12 inches: gravelly silt loam
Bt/E - 12 to 21 inches: gravelly silt loam
Bt - 21 to 28 inches: very gravelly silty clay loam
Bk - 28 to 60 inches: very cobbly silt loam

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F043AP909MT - Upland Cool Woodland Group

Other vegetative classification: Douglas-fir/twinflower-snowberry phase (PK291), Douglas-fir/ninebark (PK260), Douglas-fir/dwarf huckleberry (PK250)
Hydric soil rating: No

Description of Kila

Setting

Landscape: Mountains
Landform: Outwash terraces
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Parent material: Outwash over till

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 8 inches: ashy silt loam
Bw - 8 to 22 inches: ashy silt loam
Bk - 22 to 41 inches: silt loam
2C - 41 to 60 inches: very gravelly silt loam

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 41 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F043AP910MT - Upland Cool Moist Woodland Group
Other vegetative classification: spruce/twinflower (PK470), spruce/queencup beadlily (PK420), spruce/queencup beadlily (PK420)
Hydric soil rating: No

Minor Components

Idahocreek

Percent of map unit: 5 percent
Landscape: Mountains
Landform: Outwash terraces
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: spruce/redosier dogwood h.t. (HP107), spruce/queencup beadlily (PK420)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Flathead County Area and Part of Lincoln County, Montana
Survey Area Data: Version 22, Sep 9, 2026

Flathead County Area and Part of Lincoln County, Montana

835G—Ashleylake-Rock outcrop-Rockhill complex, 40 to 70 percent slopes

Map Unit Setting

National map unit symbol: 1t688
Landscape: Mountains
Elevation: 3,400 to 4,200 feet
Mean annual precipitation: 22 to 30 inches
Mean annual air temperature: 38 to 43 degrees F
Frost-free period: 70 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Ashleylake and similar soils: 50 percent
Rock outcrop: 15 percent
Rockhill and similar soils: 15 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ashleylake

Setting

Landscape: Mountains
Landform: Glacially scoured ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Volcanic ash over till derived from argillite and/or calcareous siltstone

Typical profile

Oi - 0 to 1 inches: mucky peat
E - 1 to 14 inches: cobbly ashy silt loam
E/Bt - 14 to 23 inches: very cobbly silt loam
Bt/E - 23 to 30 inches: very cobbly silty clay loam
Bt - 30 to 40 inches: very cobbly silty clay loam
Bk - 40 to 60 inches: very cobbly silt loam

Properties and qualities

Slope: 40 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: F043AP910MT - Upland Cool Moist Woodland Group
Other vegetative classification: spruce/twinflower (PK470), grand fir/twinflower (PK590), grand fir/queencup beadlily (PK520)
Hydric soil rating: No

Description of Rock Outcrop

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Description of Rockhill

Setting

Landscape: Mountains
Landform: Glacially scoured ridges
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Volcanic ash over colluvium derived from quartzite

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 5 inches: very gravelly ashy silt loam
Bw - 5 to 14 inches: very gravelly ashy silt loam
2C - 14 to 19 inches: extremely gravelly silt loam
R - 19 to 60 inches: bedrock

Properties and qualities

Slope: 40 to 70 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.07 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: D
Ecological site: F043AP905MT - Shallow Cool Woodland Group
Other vegetative classification: Douglas-fir/pinegrass-kinnikinnick phase (PK322), Douglas-fir/dwarf huckleberry (PK250)
Hydric soil rating: No

Minor Components

Mitten
Percent of map unit: 10 percent
Landscape: Mountains
Landform: Glacially scoured ridges
Down-slope shape: Convex
Across-slope shape: Convex
Other vegetative classification: Douglas-fir/twinflower-snowberry phase (PK291), Douglas-fir/ninebark (PK260), Douglas-fir/dwarf huckleberry (PK250)
Hydric soil rating: No

Foyslake
Percent of map unit: 10 percent
Landscape: Mountains
Landform: Moraines, Mountain slopes
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: Douglas-fir/twinflower-snowberry phase (PK291), Douglas-fir/ninebark (PK260), Douglas-fir/dwarf huckleberry (PK250)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Flathead County Area and Part of Lincoln County, Montana
Survey Area Data: Version 22, Sep 9, 2026

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands



November 3, 2026

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.