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:

BLAKE THOMPSON REVOCABLE TRUST
PO BOX 7598
SAINT PETERSBURG FL 33734-7598

2. TYPE OF ACTION:

Surface Water Application for Beneficial Water Use Permit No. 76LJ 30172157

3. WATER SOURCE NAME:

Flathead Lake

4. LOCATION AFFECTED BY PROJECT:

SESENE Section 29, Township 25N, Range 19W, Lake County, Montana.

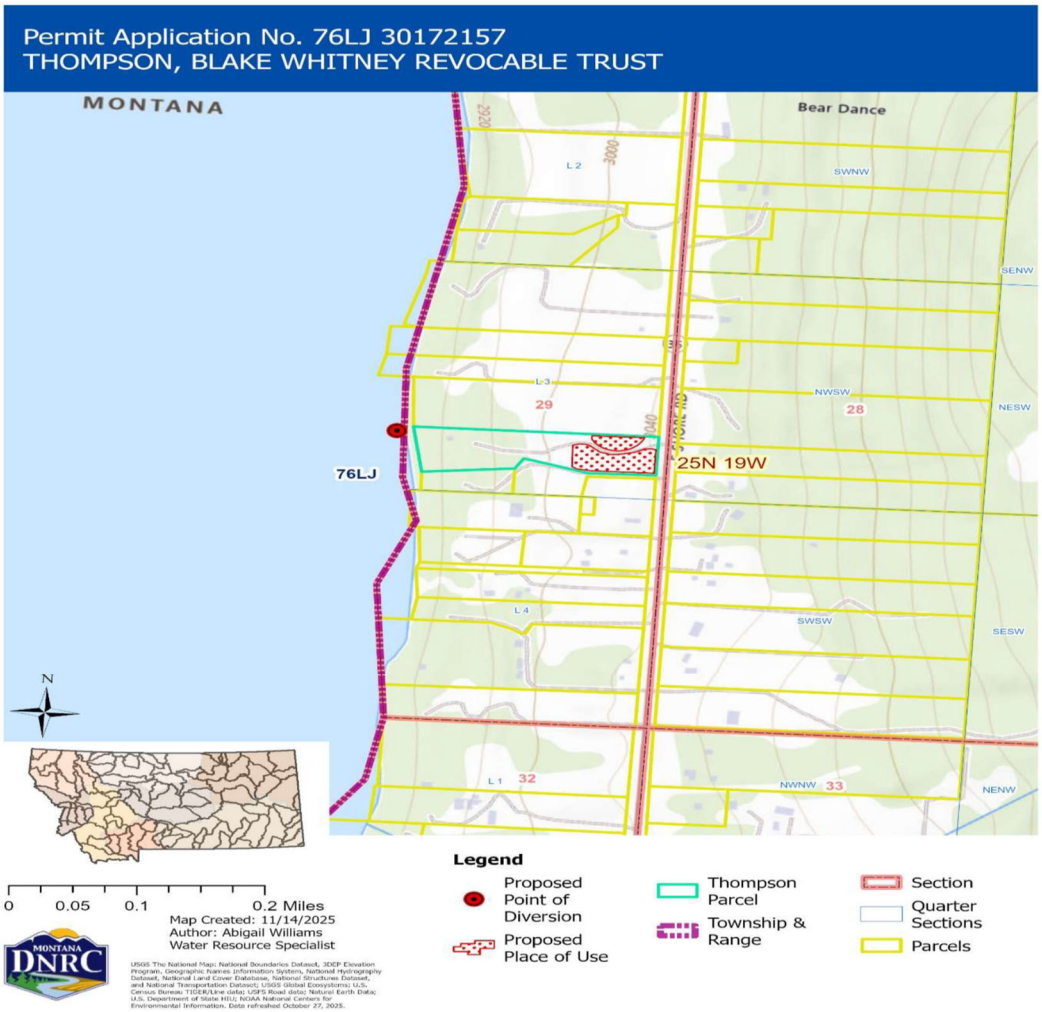


Figure 1. Map of the proposed place of use and points of diversion.

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

The Applicant proposes to divert water from Flathead Lake by means of a pump. The pump will be 100-ft from the shoreline within a welded pump holder. The pump will divert water at a rate of 20 gallons per minute (GPM) and up to 2.89 acre-feet (AF) to irrigate 1.2 acres of orchard from April 15th to October 15th.

The proposed point of diversion is located in the SW NE SE of Section 29, Township 25N, Range 19W, Lake County, Montana. The proposed place of use is located in government lot 3 SE NE NE of Section 29 Township 25N, Range 19W, Lake County, Montana (Figure 1)

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

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 water from Flathead Lake which is not identified 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.*

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.

The proposed diversion of water to irrigate lawn and garden is not expected to significantly affect the water quality on the source.

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.*

Determination: N/A, project does not involve groundwater.

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 water from Flathead Lake at a rate of 20.0 GPM up to 2.89 AF to irrigate 1.2 acres of orchard from April 15th to October 15th by means of a Grundfos SP25S20-11 2-horsepower submersible pump. The pump is 3.04 feet long and weighs 53.1 pounds, it will convey water 250 feet to a pumphouse through 1-1/2" PVC line. From the pumphouse, a 1-1/2" PVC line will carry water uphill 420 feet along the driveway to the booster pump (Red Lion RJS-750-PREM), The submersible variable frequency drive (VFD) 80 psi will provide 42 PSI at the booster pump.

The four irrigation zones are served by drip lines running through the trees. The submersible variable frequency drive (VFD) 80 PSI will provide 42 PSI at the booster pump. The applicant has calculated the total dynamic head for the system is 230 feet and has supplied a pump curve that indicates the Grundfos SP 2HP motor for the Grundfos SP25S20-11 pump can produce 20 GPM at 80 PSI. Water is diverted into two small pressure tanks with VFD to maintain constant pressure for irrigation and hydrant demands. The irrigation system is divided into four zones with ¾ inch above ground surface PVC lines that irrigate orchard rows. Micro-sprinkler heads sprinkle or drip to each tree in the row.

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. Fourteen animal species (Table 1) were identified within the project area. Of these species, the Grizzly Bear (*Ursus arctos*) and the Bull Trout (*Salvelinus confluentus*) are listed as threatened by the USFWS. This area is already developed. It is not anticipated that any species of concern will be impacted by the proposed project. Flathead Lake has a sufficient amount of water to support and maintain existing populations of Bull Trout, if they should exist there currently. The project will not create any barriers to the migration of fish or wildlife.

Table 1. Species of Concern		
Species Group	**Common Name**	**Scientific Name**
Mammals	Canada Lynx*	*Lynx canadensis*
Mammals	Fisher	*Pekania pennanti*
Mammals	Grizzly Bear*	*Ursus arctos*
Mammals	Little Brown Myotis	*Myotis lucifugus*
Mammals	Silver-haired Bat	*Lasionycteris noctivagans*
Mammals	Wolverine*	*Gulo gulo*
Birds	Boreal Chickadee	*Poecile hudsonicus*
Birds	Pileated Woodpecker	*Dryocopus pileatus*
Birds	Varied Thrush	*Ixoreus naevius*
Fish	Bull Trout*	*Salvelinus confluentus*
Fish	Westslope Cutthroat Trout	*Oncorhynchus lewisi*
Invertebrates	Alexander's Free-living Caddisfly	*Rhyacophila alexanderi*
Vascular Plants	Adder's Tongue	*Ophioglossum pusillum*
Mosses	Giant Golden Moss	*Homalothecium megaptilum*

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

Determination: No 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.*

N/A there are no wetlands in the proposed place of use or point of diversion.

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 irrigation of lawn and garden will not negatively impact the soil quality, stability, or moisture content in the project area. The soil type in the project area is, "Repp-Kingspoint-Rock outcrop complex with 40 to 80 percent slopes which came from colluvium derived from calcareous siltstone parent material. This soil has a moderately high to high capacity to transmit water. Soils in this area are non-saline 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 as the orchard established. 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 surface water from the Kootenai River.

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 why 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: Jack Vanderbilt

Title: Water Resource Specialist

Date: 05/07/2026

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	

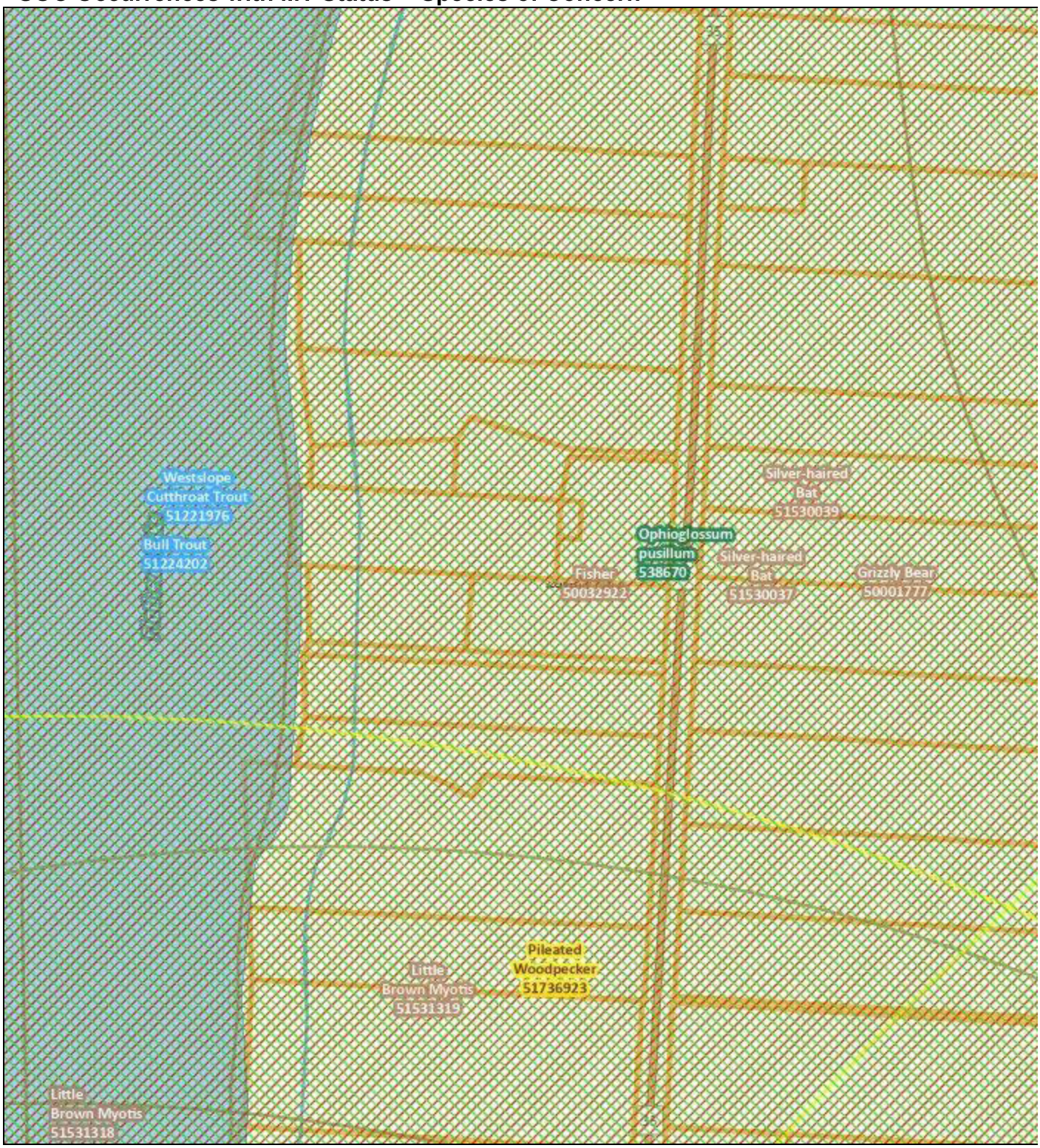
MONTANA STATE LIBRARY
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System**.

Latitude	Longitude
47.89022	-114.01513
47.90034	-114.04112

Montana SOC Occurrences Report

SOC Occurrences with MT Status = Species of Concern

Report generated 4/24/2026 10:05:54 AM



⊞ **Mammals - Canada Lynx** *(Lynx canadensis)*

SO Count: 1 **Obs Count**: 2067 **Earliest Obs**: 1895 **Recent Obs**: 2026

⊞ **Mammals - Fisher** *(Pekania pennanti)*

SO Count: 1 **Obs Count**: 216 **Earliest Obs**: 1947 **Recent Obs**: 2026

⊞ **Mammals - Grizzly Bear** *(Ursus arctos)*

SO Count: 1 **Obs Count**: 1521 **Earliest Obs**: 1895 **Recent Obs**: 2025

⊞ **Mammals - Little Brown Myotis** *(Myotis lucifugus)*

SO Count: 3 **Obs Count**: 3 **Earliest Obs**: 1943 **Recent Obs**: 2009

⊞ **Mammals - Silver-haired Bat** *(Lasionycteris noctivagans)*

SO Count: 2 **Obs Count**: 3 **Earliest Obs**: 1949 **Recent Obs**: 1967

⊞ **Mammals - Wolverine** *(Gulo gulo)* **SO Count**: 1 **Obs Count**: 492 **Earliest Obs**: 1932 **Recent Obs**: 2025

⊞ **Birds - Boreal Chickadee** *(Poecile hudsonicus)*

SO Count: 1 **Obs Count**: 1 **Earliest Obs**: 2024 **Recent Obs**: 2024

⊞ **Birds - Pileated Woodpecker** *(Dryocopus pileatus)*

SO Count: 1 **Obs Count**: 1 **Earliest Obs**: 2020 **Recent Obs**: 2020

⊞ **Birds - Varied Thrush** *(Ixoreus naevius)*

SO Count: 1 **Obs Count**: 1 **Earliest Obs**: 2024 **Recent Obs**: 2024

⊞ **Fish - Bull Trout** *(Salvelinus confluentus)*

SO Count: 1 **Obs Count**: 341 **Earliest Obs**: 1938 **Recent Obs**: 2022

⊞ **Fish - Westslope Cutthroat Trout** *(Oncorhynchus lewisi)*

SO Count: 1 **Obs Count**: 342 **Earliest Obs**: 1980 **Recent Obs**: 2022

⊞ **Invertebrates -** ***Rhyacophila alexanderi*** (Alexander's Free-living Caddisfly)

SO Count: 1 **Obs Count**: 1 **Earliest Obs**: 1965 **Recent Obs**: 1970

⊞ **Vascular Plants -** ***Ophioglossum pusillum*** (Adder's Tongue)

SO Count: 1 **Obs Count**: 1 **Earliest Obs**: 1917 **Recent Obs**: 1917

⊞ **Mosses -** ***Homalothecium megaptilum*** (Giant Golden Moss)

SO Count: 2 **Obs Count**: 2 **Earliest Obs**: 1960 **Recent Obs**: 1960

Citation for this report:
Montana SOC Occurrences Report
SOC Occurrences with MT Status = Species of Concern
Within Lat/Long: (47.89022,-114.01513) to (47.90034,-114.04112)
Natural Heritage Map Viewer. Montana Natural Heritage Program.
Retrieved on April 24, 2026, from https://mtnhp.org/MapViewer/SOReport.aspx

Map Scale: 1:1,120 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

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 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Lake County Area, Montana
Survey Area Data: Version 27, Aug 30, 2025

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

Date(s) aerial images were photographed: Aug 1, 2022—Oct 13, 2022

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
28	Courville gravelly silt loam, 4 to 15 percent slopes	1.0	23.0%
182	Winfall very gravelly loam, 4 to 15 percent slopes	2.0	45.6%
212	Yellowbay very gravelly loam, 0 to 4 percent slopes, lake effect	1.4	31.4%
Totals for Area of Interest		**4.3**	**100.0%**

Lake County Area, Montana

28—Courville gravelly silt loam, 4 to 15 percent slopes

Map Unit Setting

National map unit symbol: 4w0j
Elevation: 3,000 to 6,000 feet
Mean annual precipitation: 22 to 45 inches
Mean annual air temperature: 37 to 45 degrees F
Frost-free period: 70 to 90 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Courville and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Courville

Setting

Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Volcanic ash over glacial till

Typical profile

Oi - 0 to 1 inches: mucky peat
Bw - 1 to 15 inches: gravelly ashy silt loam
2E/Bw - 15 to 33 inches: very gravelly loam
2Bw/E - 33 to 60 inches: very gravelly loam

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F043AP909MT - Upland Cool Woodland Group
Hydric soil rating: No

Minor Components

Mitten

Percent of map unit: 5 percent
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Winfall

Percent of map unit: 5 percent
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 27, Aug 30, 2025

Lake County Area, Montana

182—Winfall very gravelly loam, 4 to 15 percent slopes

Map Unit Setting

National map unit symbol: 4vzg
Elevation: 3,000 to 6,000 feet
Mean annual precipitation: 18 to 45 inches
Mean annual air temperature: 37 to 45 degrees F
Frost-free period: 70 to 105 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Winfall and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Winfall

Setting

Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glacial till

Typical profile

Oi - 0 to 3 inches: mucky peat
E - 3 to 22 inches: very gravelly loam
E and Bt - 22 to 60 inches: very gravelly loam

Properties and qualities

Slope: 4 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
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
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F043AP909MT - Upland Cool Woodland Group
Hydric soil rating: No

Minor Components

Courville

Percent of map unit: 7 percent
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Wildgen

Percent of map unit: 6 percent
Landform: Moraines
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Poorly drained soils

Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 27, Aug 30, 2025

Lake County Area, Montana

212—Yellowbay very gravelly loam, 0 to 4 percent slopes, lake effect

Map Unit Setting

National map unit symbol: 1vln2
Elevation: 2,900 to 3,150 feet
Mean annual precipitation: 19 to 22 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 100 to 120 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Yellowbay and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yellowbay

Setting

Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash

Typical profile

Oi - 0 to 1 inches: mucky peat
A - 1 to 5 inches: very gravelly loam
Bw - 5 to 15 inches: extremely gravelly sandy loam
BC - 15 to 60 inches: extremely gravelly loamy sand

Properties and qualities

Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 5.95 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: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: F044AP903MT - Upland Cool Woodland Group
Hydric soil rating: No

Minor Components

Yellowbay, dark surface

Percent of map unit: 10 percent
Landform: Outwash plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Lake County Area, Montana
Survey Area Data: Version 27, Aug 30, 2025

U.S. Fish and Wildlife Service
National Wetlands Inventory

Wetlands

April 24, 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.