Montana 2020

Addendum to the 2020 Water Quality Integrated Report

Prepared in accordance with the requirements of
Sections 303(d) and 305(b) of the federal Clean Water Act

April 2023

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ACRONYMS

ARM	Administrative Rules of Montana
AU	Assessment Unit
CFL	Cycle First Listed
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWAIC	Clean Water Act Information Center
DEQ	Department of Environmental Quality
DEQ-7	Circular DEQ-7, Montana Water Quality Standards
DEQ-12A	Circular DEQ-12A, Montana Water Quality Standards
DQA	Data Quality Assessment
DW	Drinking Water
EMAP	Environmental Monitoring and Assessment Program
EPA	U.S. Environmental Protection Agency
EQC	Montana Environmental Quality Council
GIS	Geographic Information System
HUC	Hydrologic Unit Code
IR	Integrated Report
LWQD	Local Water Quality District
MCA	Montana Code Annotated
MCL	Maximum Contaminated Levels
MWQA	Montana Water Quality Act
NHD	National Hydrography Dataset
NWIS	National Water Information System
PS	Point Source "pollution or pollutant"
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
SOP	Standard Operating Procedure
STAG	State TMDL Advisory Group
TKN	Total Kjehldahl Nitrogen
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TPA	TMDL Planning Area
WARD	Water Quality Assessment, Reporting, and Documentation
WQMAS	Water Quality Monitoring and Assessment Section (DEQ)
WPS	Watershed Protection Section (DEQ)

WQPB	Water Quality Planning Bureau (DEQ)
WQRP	Water Quality Restoration Plan
WQS	Water Quality Standards
WQSA	Water Quality Standards Attainment

Document Summary

This addendum presents the results of the 2020 assessment of the Gallatin River, Yellowstone National Park Boundary to Spanish Creek (MT41H001_021). Also included is an update with added content to **Section 6** of the Montana 2020 Integrated Water Quality Report (2020 IR) and any appendices that were updated to include the Gallatin River. **Section 6** was the only section in the 2020IR affected by adding the Gallatin River to the impaired waters list. Assessment of sufficient credible data indicates the Gallatin River, from the Yellowstone National Park Boundary to Spanish Creek (MT41H001_021), is impaired by excess algal growth due to exceeding the prohibition in ARM 17.30.637(1)(e). Based upon the proposed impairment listing, DEQ will, in consultation with the statewide TMDL advisory group, establish a medium priority ranking for appropriate Total Maximum Daily Load (TMDL) development pursuant to 75-5-702, MCA.

On March 31, 2022, Montana Department of Environmental Quality (DEQ) received a petition from Upper Missouri Waterkeeper, Gallatin River Task Force, Montana Trout Unlimited, American Rivers, and Greater Yellowstone Coalition under MCA § 75-5-702 and 33 U.S.C. § 1313(d)(1) to assess the middle segment of the Gallatin River, Yellowstone National Park to Spanish Creek (MT41H001_021) to determine if recurrent, nuisance algal blooms have degraded uses of this segment of the Gallatin River and warrant listing as an impaired water on Montana's 303(d) list and development of Total Maximum Daily Loads for factors causing the impairment.

Nutrient, algae measurements (chl a/algae dry weight), and macroinvertebrate data were analyzed to update the 2020 303(d) list for this assessment unit regarding aquatic life and primary contact recreation beneficial uses. Data and information obtained for assessment include all existing and readily available data collected by DEQ through internal monitoring activities, secondary data that were submitted to DEQ by other interested parties according to our call for data requirements or Montana Code, and any other accessible data in public databases that meet QA/QC requirements.

Nutrients were compared to DEQ -12A standards according to DEQ's assessment methods applicable to this segment. Generally, nutrient conditions were low during the applicable growing season and passed assessment method statistical tests based upon DEQ-12A standards. Direct measures of benthic algae, photos of algae growth, and aquatic insect community analysis all indicate that excessive algal growth is affecting aquatic life and recreational uses. See **Addendum Attachment 1** for a review of the DEQ data analysis and the decisions that DEQ came to in addressing the petition to list the Gallatin River for excess algal growth.

DEQ accepted public comments on the Draft Water Quality Assessment for the Gallatin River, Yellowstone National Park Boundary to Spanish Creek, Montana between June 20, 2022, and August 22, 2022. A public hearing was held on July 14, 2022. The department received over 2,373 comment letters and one phone call. Most of these comment letters support the proposed impairment designation while urging DEQ to declare nitrogen and phosphorus as the cause of increased algal blooms in the Gallatin River. No comments were received that were opposed to the impairment listing. Please see Addendum Appendix K for details.

The addended content to the 2020 IR is summarized in **Table 1**. Section and appendices numbering parallels corresponding sections and appendices in the un-addended 2020 IR. Table and Figure numbers have been updated for this addendum.

Table 1. Updates to Section 6 and Appendices of 2020 IR and Addendum Attachments

Section	Section Header	Update
6.0	Beneficial Use Assessment and Impairment Listing	Not Updated
6.1.1	Assessment Process	Not Updated
6.1.2	Assessment Priorities	Not Updated
6.1.3	Assessment Units	Not Updated
6.1.4	Water Quality Reporting Categories	Not Updated
6.1.5	Assessment Records Access	Added link to 2020 GIS map and downloadable data
6.2	Summary of 2020 Water Quality Assessments	Updated stream miles assessed
6.2.1	Overview of Cause Groups and AU-Cause Listings	Updated AU-Cause combination statistics
6.2.2	AU Categories	Updated AU category statistics
6.2.3	River and Stream Water Quality Assessment	Updated statistics regarding fully supporting AU uses for rivers
6.2.4	Lake Water Quality Assessment	Not Updated
6.2.5	2020 Monitoring and Assessment Results	Added assessed Gallatin River segment and corresponding information
6.2.5.1	Category 5 Pollutant Listings and Delistings	Updated pollutant listings
Appendix	**Appendix Description**	**Update**
Addendum Appendix A	Impaired Waters	Added Gallatin River segment
Addendum Appendix B	Waters in need of TMDLs [303(d) list] and TMDL Priority Schedule	Added Gallatin River segment
Addendum Appendix C	Waters with Use Support Assessments During the 2020 IR Cycle	Added Gallatin River segment
Addendum Appendix D	Causes Delisted	No Change
Addendum Appendix E	Beneficial Use Support Changes	Added Gallatin River segment
Addendum Appendix F	Approved TMDLs	No Change
Addendum Appendix G	Monitoring Schedule	Added TMDL and Standard monitoring objectives to Gallatin River
Addendum Appendix H	Waters That Changed Reporting Categories	Added Gallatin River segment
Addendum Appendix I	Changes Made in the Course of Data Management/QA Activities	No change
Addendum Appendix J	Comments and Responses	No change
Addendum Appendix K	Public Comments and Responses Regarding the Addition of the Excess Algal Growth Cause to the Gallatin River	New
Attachment	**Attachment Description**	**Update**
Addendum Attachment 1	Existing Conditions Summary and Beneficial Use Assessment for the Middle Segment of Gallatin River	New
303(d) List (text format)	MT’s list of impaired waters requiring the development of a TMDL	Added excess algal growth cause to Gallatin River
303(d) List (Excel format)	MT’s list of impaired waters requiring the development of a TMDL	Added excess algal growth cause to Gallatin River

6.0 Beneficial Use Assessment and Impairment Listing

Please see the 2020 IR for details.

6.1.1 Assessment Process

Please see the 2020 IR for details.

6.1.2 Assessment Priorities

Please see the 2020 IR for details.

6.1.3 Assessment Units

Please see the 2020 IR for details.

6.1.4 Water Quality Reporting Categories

Please see the 2020 IR for details.

6.1.5 Assessment Records Access

For each waterbody assessment unit, DEQ maintains an electronic assessment record, which summarizes data and information as well as beneficial use support and impairment listing decisions. Assessment records, online mapping tools, and Montana's Water Quality Integrated Report documents can be accessed on the Clean Water Act Information Center (CWAIC) website at http://deq.mt.gov/Water/Resources/cwaic. Here, you can run queries of the state's water quality assessment records. A map of the 2020 Assessment and corresponding Detailed Waterbody and Impairment reports are available at https://clean-water-act-information-center-mtdeq.hub.arcgis.com/. An option to download pertinent data is also available at the preceding website. Water quality data may also be found at the EPA's How's My Waterway webpage at https://mywaterway.epa.gov/state.

6.2 SUMMARY OF 2020 WATER QUALITY ASSESSMENTS

Montana selects watersheds or large river systems across the state for implementing beneficial use assessment projects to help frame and inform TMDLs (**Section 7.1 in the 2020 IR**). In addition to TMDL-based project areas, projects are implemented in more specific waterbodies where water quality threats or improvements are occurring. Other waters are assessed on a case-by-case basis depending on responses during our biennial call for data. In April 2023, Montana addended the 2020 IR, adding an assessment of the Gallatin River, Yellowstone National Park Boundary to Spanish Creek (MT41H001_021). This increased the assessed miles of stream by 39.28 miles. As of this 2020 cycle addendum, Montana has assessed the water quality of 20,832 miles of streams and 493,343 acres of lakes, which account for 42% of the total length of Montana's perennial streams excluding streams on tribal lands and ORWs and 82% of lake acreage excluding lakes on tribal lands and ORWs (**Figure 1**). Because the monitoring is targeted, overall statistical results about this program do not represent the average conditions across Montana.

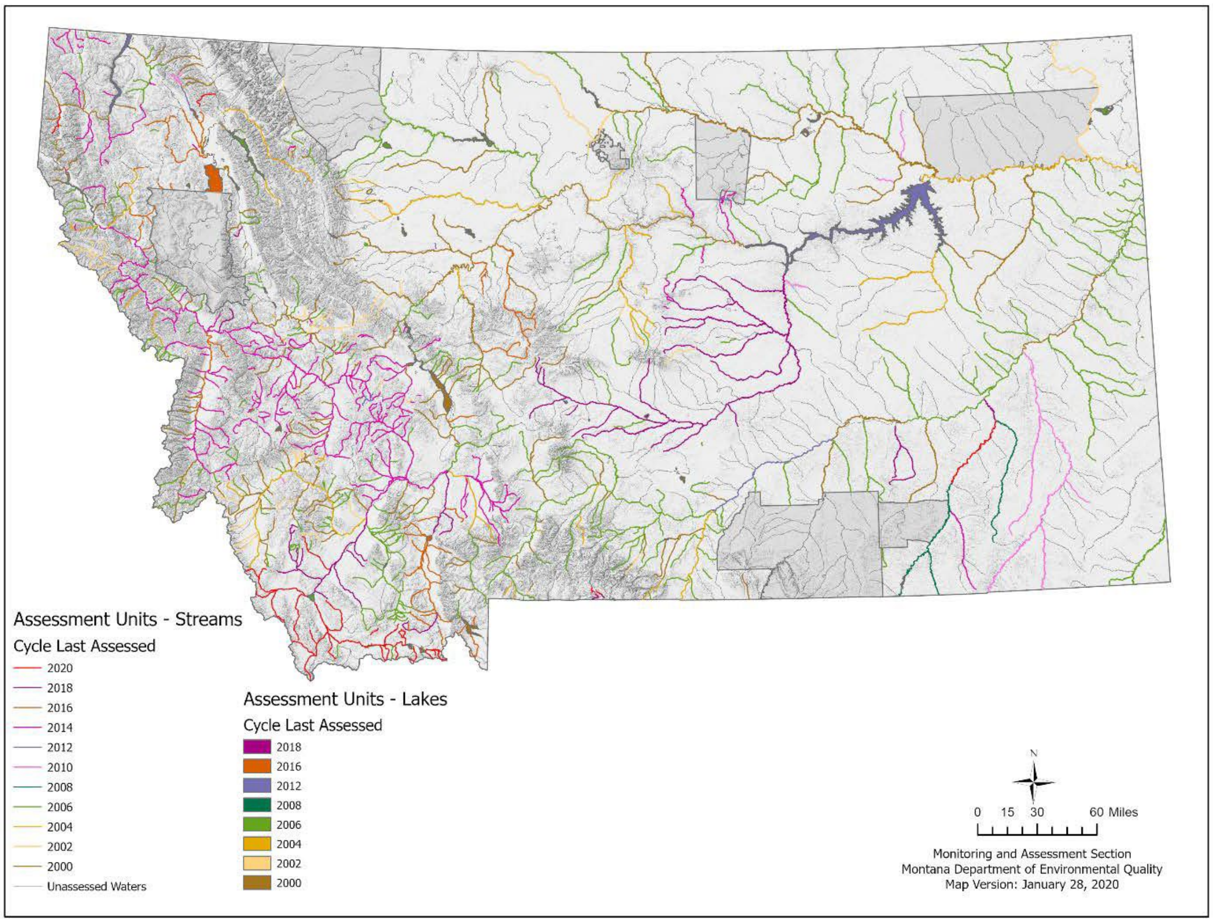


Figure 1. Integrated Reporting Cycle that Assessment Units were Last Assessed

*This map has not been updated to reflect the 2020 assessment of the Gallatin River, Yellowstone National Park Boundary to Spanish Creek (MT41H001_021)

6.2.1 Overview of Cause Groups and AU-Cause Listings

Sediment, habitat, metals and nutrients are the most common cause groups impacting rivers (**Table 2**). Impaired lakes are overwhelmingly impacted by metals, particularly mercury.

Table 2. Common Causes and Cause Groups

Cause or Cause Group	Total River Mileage Impaired by Cause	% of River Miles that have been Assessed that are Listed as Impaired by Cause*	% of Perennial Rivers Excluding ORW and Tribal Waters that are Listed as Impaired by Cause*	Total Lake Acreage Impaired by Cause	% of Lake Acres that have been Assessed that are Listed as Impaired by Cause*	% of Named Lakes 5 Acres or Larger Excluding ORW and Tribal Waters that are Listed as Impaired by Cause*
Habitat (4C)	10,226	49%	21%	9,446	2%	2%
Metals	7,524	36%	15%	392,132	78%	66%
Mercury	1,663	8%	3%	311,192	62%	52%
Nutrients	7,231	35%	15%	111,479	22%	19%
PCBs	75	0.36%	0.15%	60,622	12%	10%
Salinity	2,919	14%	6%	16,191	3%	3%
Sediment	8,220	40%	17%	10,948	2%	2%
Temperature	2,717	13%	5%	0	0%	0%

*An assessed AU is an AU with at least one use support determination.

As of this addendum, a total of 3,440 AU-cause combinations have been identified as impairing Montana's surface waters (Appendix A). The addition of the Gallatin River, Yellowstone National Park Boundary to Spanish Creek (MT41H001_021) assessment to the 2020 IR addendum increased this number by one cause. Both pollutants and non-pollutants are included in these AU-cause combinations. One thousand, four hundred fifteen of the AU-pollutant combinations have TMDLs completed as of the 2020 IR. An AU-cause combination is a specific waterbody segment and its associated impairment cause listing. A waterbody may have multiple causes harming its uses and not all causes require a TMDL. Montana's waters are impacted by 67 unique causes and 96 unique sources as of the addended 2020 IR.

6.2.2 AU Categories

Of the 20,871 miles of streams and rivers with use support determinations as of the 2020 IR addendum, 54% of miles or 380 AUs are listed as impaired (category 5 or category 5,5N), 23% of miles or 471 AUs are listed as impaired but with a completed TMDL (category 4A), 4% of miles or 49 AUs are fully supporting assessed uses (some uses not assessed; category 2) and 10% of miles or 118 AUs are fully supporting all beneficial uses (category 1). (See **Section 6.1.4** for category definitions; see **Figure 2** for details regarding all categories).

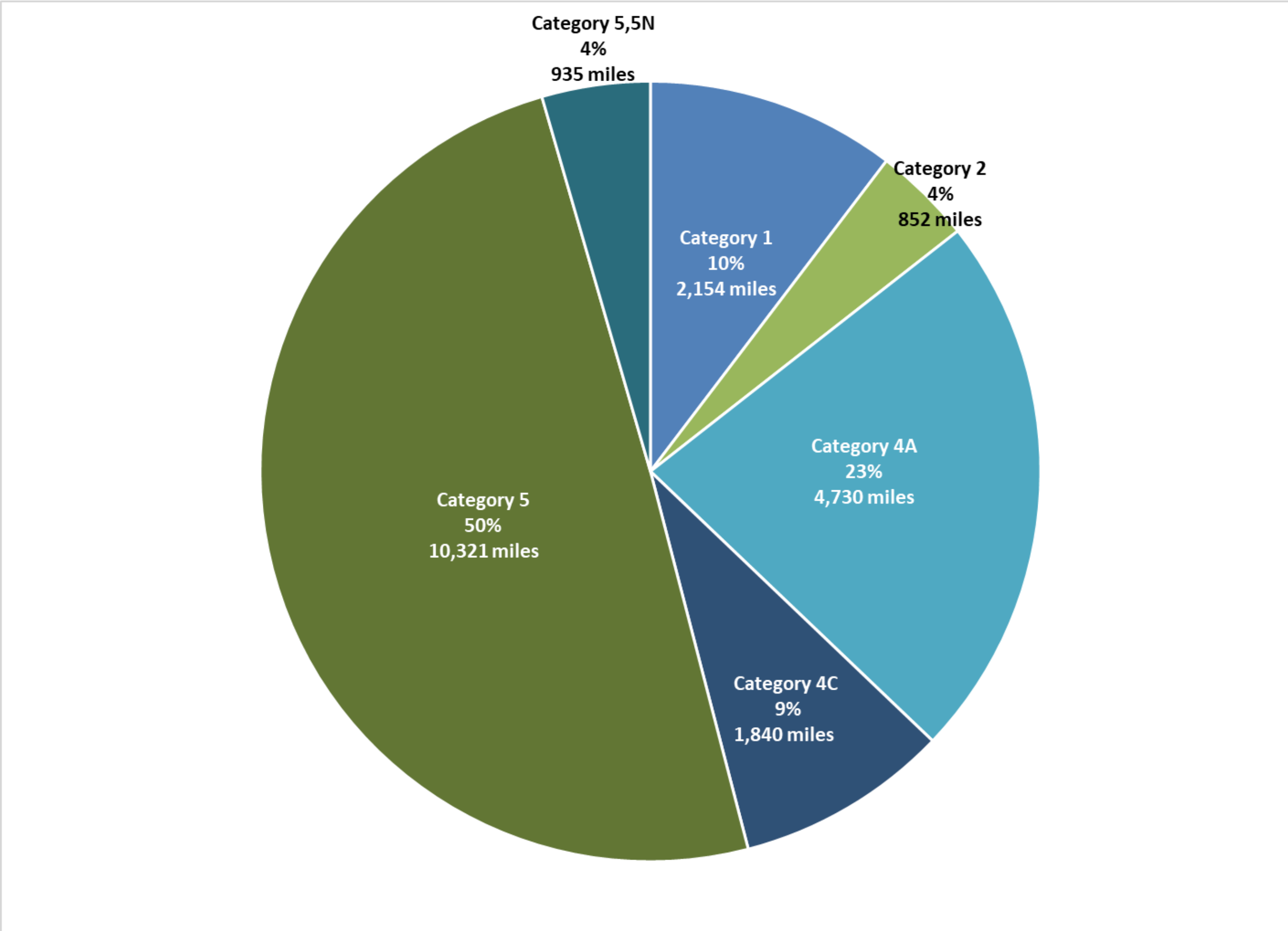


Figure 2. River Categories for AUs with Use Support Determinations

Please see the 2020 IR for a summary of Use Support Determinations for Lakes.

6.2.3 River and Stream Water Quality Assessment

Many of the most common impairments in Montana affect aquatic life. The following river and stream beneficial uses are fully supported: 92% of agriculture, 72% of human health, 65% primary contact recreation and 16% of aquatic life based on the number of AUs. As of the 2020 IR addendum, DEQ has assessed 1,011 river and stream AUs, for a total of 20,832 miles. One hundred eighteen river and stream AUs, or 2,154 miles, support all of their uses. Because the monitoring is targeted, overall statistical results about this program do not represent the average conditions across Montana.

Alteration in stream-side or littoral vegetative cover, sedimentation/siltation and flow regime modification are the most common causes impacting stream beneficial uses (see **Table 3** for a list of the 10 most common causes impacting rivers and streams based on mileage). Agriculture (mainly grazing in riparian or shoreline zones and irrigated crop production), silviculture and mining are the leading sources for these three causes.

Table 3. Ten Most Common Causes for Perennial Rivers and Streams Based on Mileage

CAUSE (RIVERS and Streams)	# of Impacted AUs	Total Miles of Impacted Rivers and Streams	% of Assessed River and Stream Miles	% of Total Perennial River and Stream Milles Excluding ORW and Tribal Waters
Alteration in stream-side or littoral vegetative covers	417	8,526	41%	15%
Sedimentation/Siltation	452	6,802	33%	12%
Flow Regime Modification	299	6,367	31%	11%
Phosphorus, Total	247	5,299	26%	9%
Nitrogen, Total	213	5,023	24%	9%
Iron	126	3,745	18%	6%
Lead	169	3,228	16%	6%
Physical substrate habitat alterations	146	2,909	14%	5%
Temperature	105	2,699	13%	5%
Copper	147	2,691	13%	5%

6.2.4 Lake Water Quality Assessment

Please see the 2020 IR for details.

6.2.5 2020 Monitoring and Assessment Results

The 2020 IR provides an update to the 2018 IR. Not all waters are reassessed every reporting cycle. DEQ assessed 35 rivers and stream segments during the 2020 cycle. A summary of the assessed waters, including the Gallatin River, Yellowstone National Park Boundary to Spanish Creek (MT41H001_021) is listed in **Table 4.**

Table 4. Summary of Streams Assessed during the 2020 Cycle, including the 2020 IR Addendum

TMDL PLANNING AREA	WATERSHED	AUs ASSESSED	MILES ASSESSED
Beaverhead	Missouri Headwaters	2	27
Big Creek (Columbia)	Pend Oreille	1	17
Cooke City	Upper Yellowstone	3	9
Upper Gallatin	Missouri Headwaters	1	39
Kootenai	Kootenai	2	24
Red Rock	Missouri Headwaters	25	495
Tongue	Tongue	1	72

6.2.6 Category 5 Pollutant Listings and Delistings

During the 2020 cycle, 29 pollutant causes on 14 waterbodies were delisted (i.e., removed) from the 2018 303(d) List (**Table 5**). For the complete list, see Appendix D. Of these, 16 were delisted due to an approved TMDL (4A), ten were delisted for achieving water quality standards, and three causes were delisted due to data and/or information lacking to determine WQ status; original basis for listing was incorrect. The three causes delisted due to a refinement of terminology were turbidity listings that were replaced with sedimentation/siltation listings. The sediment-related impairment is more accurately captured via the sedimentation/siltation cause. Four causes were delisted from category 4A to category 1. See **Section 9.1** of the 2020 IR for success story details.

Table 5. Number of Pollutant Causes Delisted from 2018 303(d) List (Category 5)

2020 Delisting Category	**Delisting Reason**	**# of Delistings**
Category 1 Delistings	Applicable WQS attained, according to new assessment method	1
	Applicable WQS attained, due to change in WQS	2
	Applicable WQS attained; based on new data	7
	Data and/or information lacking to determine WQ status; original basis for listing was incorrect	3
	Total category 1 pollutant delistings	**13**
Category 4A Pollutant Delistings	TMDL approved or established by EPA (4A)	16
Total Delisted Pollutant Causes		**29**

Fifty-five causes were listed on 20 rivers and streams during the 2020 cycle (**Table 6**). Three of the seven sediment listings are replacements for turbidity listings (see previous paragraph). All new cause listings were in the Red Rock, Tongue, or Missouri Headwaters watersheds.

Table 6. Pollutant Causes Listed during the 2020 Cycle, including the 2020 IR Addendum

Cause	**TMDL Planning Area**		
	Red Rock	**Tongue**	**Upper Gallatin**
Alteration in stream-side or littoral vegetative covers	6		
Aluminum	4		
Arsenic	4		
Cadmium	1		
Copper	1		
Escherichia coli (*E. coli*)	4		
Excess Algal Growth			1
Habitat Alterations	1		
Iron	3		
Lead	1		
Nitrogen, Total	8		
Phosphorus, Total	13		
Sedimentation/Siltation	7		
Specific Conductivity		1	
Total Causes Listed during the 2020 Cycle, including the 2020 IR Addendum	**53**	**1**	**1**

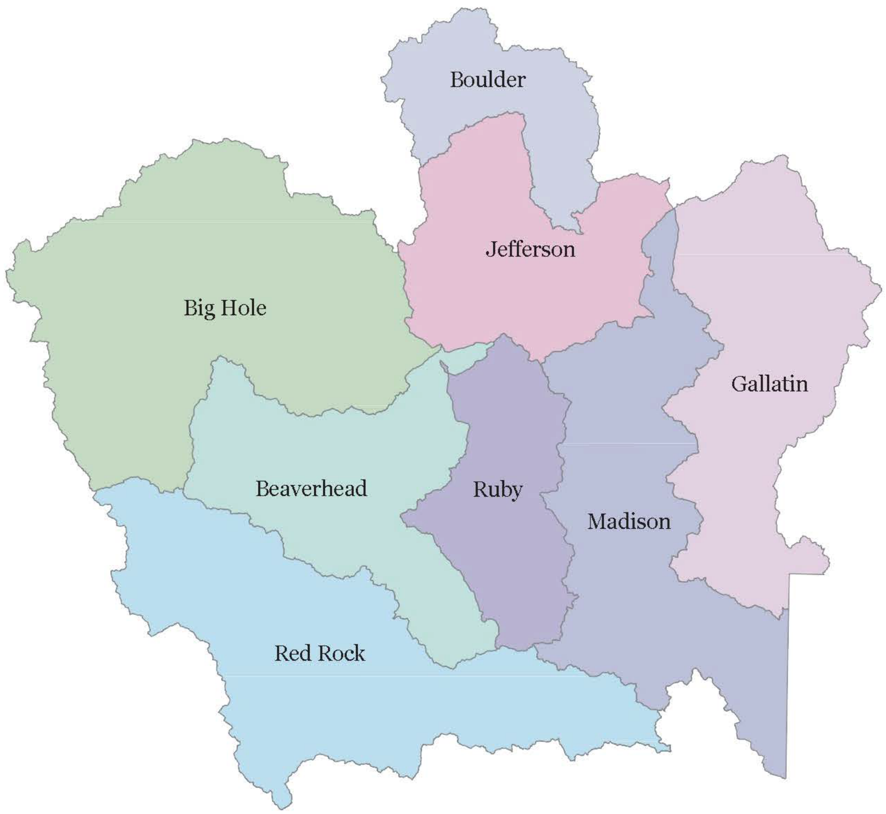
* These causes are listed on 20 AUs

ADDENDED APPENDIX A – Impaired Waters

HUC 10020008: GALLATIN

ST WTRSHD	HUC	HUC Name
Upper South Saskatchewan River	09040001	St. Marys
	09040002	Belly
Missouri Headwaters	10020001	Red Rock
	10020002	Beaverhead
	10020003	Ruby
	10020004	Big Hole
	10020005	Jefferson
	10020006	Boulder
	10020007	Madison
	10020008	Gallatin
Upper Missouri	10030101	Upper Missouri
	10030102	Upper Missouri-Dearborn
	10030103	Smith
	10030104	Sun
	10030105	Belt
Marias	10030201	Two Medicine
	10030202	Cut Bank
	10030203	Marias
	10030204	Willow
	10030205	Teton
Fort Peck Lake	10040101	Bullwhacker-Dog
	10040102	Arrow
	10040103	Judith
	10040104	Fort Peck Reservoir
	10040105	Big Dry
	10040106	Little Dry
Musselshell	10040201	Upper Musselshell
	10040202	Middle Musselshell
	10040203	Flat Willow
	10040204	Box Elder
	10040205	Lower Musselshell
Milk	10050001	Milk Headwaters
	10050002	Upper Milk
	10050003	Wild Horse Lake
	10050004	Middle Milk
	10050005	Big Sandy
	10050006	Sage
	10050007	Lodge
	10050008	Battle
	10050009	Peoples
	10050010	Cottonwood
	10050011	Whitewater
	10050012	Lower Milk
	10050013	Frenchman
	10050014	Beaver
	10050015	Rock
	10050016	Porcupine
Missouri-Poplar	10060001	Prairie Elk-Wolf
	10060002	Redwater
	10060003	Poplar

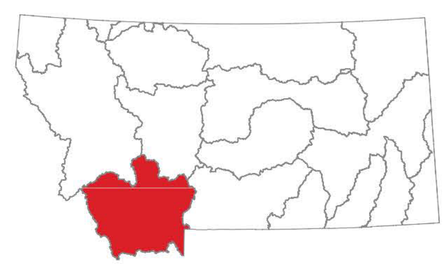
ST WTRSHD	HUC	HUC Name
Missouri-Poplar	10060004	West Fork Poplar
	10060005	Charlie-Little Muddy
	10060006	Big Muddy
	10060007	Brush Lake Closed Basin
Upper Yellowstone	10070001	Yellowstone Headwaters
	10070002	Upper Yellowstone
	10070003	Shields
	10070004	Upper Yellowstone-Lake Basin
	10070005	Stillwater
	10070006	Clarks Fork Yellowstone
	10070007	Upper Yellowstone-Pompeys Pillar
	10070008	Pryor
Big Horn	10080010	Big Horn Lake
	10080014	Shoshone
	10080015	Lower Bighorn
	10080016	Little Bighorn
Tongue	10090101	Upper Tongue
	10090102	Lower Tongue
Powder	10090207	Middle Powder
	10090208	Little Powder
	10090209	Lower Powder
	10090210	Mizpah
Lower Yellowstone	10100001	Lower Yellowstone-Sunday
	10100002	Big Porcupine
	10100003	Rosebud
	10100004	Lower Yellowstone
	10100005	O'Fallon
Little Missouri/ Belle Fourche	10110201	Upper Little Missouri
	10110202	Boxelder
	10110203	Middle Little Missouri
	10110204	Beaver
	10120202	Lower Belle Fourche
Kootenai	17010101	Middle Kootenai
	17010102	Fisher
	17010103	Yaak
	17010104	Lower Kootenai
	17010105	Moyie
	17010106	Elk
Pend Oreille	17010201	Upper Clark Fork
	17010202	Flint-Rock
	17010203	Blackfoot
	17010204	Middle Clark Fork
	17010205	Bitterroot
	17010206	North Fork Flathead
	17010207	Middle Fork Flathead
	17010208	Flathead Lake
	17010209	South Fork Flathead
	17010210	Stillwater
	17010211	Swan
	17010212	Lower Flathead
	17010213	Lower Clark Fork



Missouri Headwaters Sub-Major Basin

Upper Missouri River Basin

USGS HUC	HUC NAME
10020001	Red Rock
10020002	Beaverhead
10020003	Ruby
10020004	Big Hole
10020005	Jefferson
10020006	Boulder
10020008	Gallatin
10020007	Madison



Montana Department of Environmental Quality

DEQ MONTANA

Addended Appendix A: Impaired Waters

HUC: 10020008 Gallatin **Watershed:** Missouri Headwaters

TMDL Planning Area	ID305B	Waterbody Name/Location	Category	Size	Units	Use Class	AqL	Ag	DW	Rec	Cause Name *	Source Name *
Lower Gallatin	MT41H001_010	GALLATIN RIVER, Spanish Creek to mouth (Missouri River)	4C	48.12	MILES	B-1	N	F	F	X		
Upper Gallatin	MT41H001_021	GALLATIN RIVER, Yellowstone National Park Boundary to Spanish Creek	5	39.28	MILES	B-1	N	F	F	N	Excess Algal Growth	Erosion from Derelict Land (Barren Land)
												Forest Roads (Road Construction and Use)
												Freshets or Major Flooding
												Golf Courses
												Highways, Roads, Bridges, Infrastructure (New Construction)
												Impervious Surface/Parking Lot Runoff
												Loss of Riparian Habitat
												Managed Pasture Grazing
												Municipal (Urbanized High Density Area)
												Natural Sources
												On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
												Other Recreational Pollution Sources
												Other Turf Management
												Rangeland Grazing
												Silviculture Activities
												Unspecified Urban Stormwater
Lower Gallatin	MT41H002_010	CAMP CREEK, headwaters to mouth (Gallatin River)	4A	29.55	MILES	B-1	N	F	F	N	Alteration in stream-side or littoral vegetative covers	Agriculture
											Escherichia coli (E. Coli)	Animal Feeding Operations (NPS)
											Other anthropogenic substrate alterations	Channelization
											Physical substrate habitat alterations	Crop Production (Crop Land or Dry Land)
											Sedimentation/Siltation	Crop Production (Irrigated)
											Nitrogen, Total	Grazing in Riparian or Shoreline Zones
											Phosphorus, Total	Natural Sources
											Flow Regime Modification	Unrestricted Cattle Access
												Unspecified Unpaved Road or Trail

AqL=Aquatic Life; Ag=Agriculture; DW=Drinking Water; Rec=Primary Contact Recreation
F=Fully Supporting; T=Threatened; N=Not Fully Supporting; I=Insufficient Information; X=Not Assessed; - = Beneficial Use Not Assigned
* The impairment cause and source names in this appendix are listed alphabetically. There is no implied relationship between the listed causes and sources. See individual assessment reports for details.

DEQ MONTANA

Addended Appendix A: Impaired Waters

HUC: 10020008 Gallatin **Watershed:** Missouri Headwaters

TMDL Planning Area	ID305B	Waterbody Name/Location	Category	Size	Units	Use Class	AqL	Ag	DW	Rec	Cause Name *	Source Name *
Lower Gallatin	MT41H002_020	GODFREY CREEK, headwaters to mouth (Moreland Ditch), T1S R3E S12	4A	9	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers Escherichia coli (E. Coli) Sedimentation/Siltation Nitrogen, Total Phosphorus, Total Algae	Agriculture Animal Feeding Operations (NPS) Crop Production (Crop Land or Dry Land) Grazing in Riparian or Shoreline Zones Livestock (Grazing or Feeding Operations) Rural (Residential Areas) Septage Disposal
Lower Gallatin	MT41H002_031	SOUTH COTTONWOOD CREEK, Middle Creek Assoc Ditch diversion to mouth (Gallatin River)	4C	6.26	MILES	B-1	N	F	F	I	Flow Regime Modification	Crop Production (Irrigated)
Lower Gallatin	MT41H003_010	EAST GALLATIN RIVER, confluence of Rocky and Bear Creeks to MT HWY No. 411 (Spring Hill Rd)	4A	10.70	MILES	B-1	N	X	X	N	Nitrogen, Total Phosphorus, Total	Grazing in Riparian or Shoreline Zones Municipal (Urbanized High Density Area) Residential Districts
Lower Gallatin	MT41H003_020	EAST GALLATIN RIVER, MT HWY 411 to Smith Creek	4A	22.12	MILES	B-2	N	X	X	N	Alteration in stream-side or littoral vegetative covers pH Nitrogen, Total Phosphorus, Total Algae Flow Regime Modification	Crop Production (Crop Land or Dry Land) Crop Production (Irrigated) Grazing in Riparian or Shoreline Zones Livestock (Grazing or Feeding Operations) Municipal Point Source Discharges Residential Districts Yard Maintenance
Lower Gallatin	MT41H003_021	MANDEVILLE CREEK, headwaters to mouth (East Gallatin River)	4A	5.62	MILES	B-1	N	X	X	N	Nitrogen, Total Phosphorus, Total	Municipal (Urbanized High Density Area) Municipal Point Source Discharges Residential Districts
Lower Gallatin	MT41H003_030	EAST GALLATIN RIVER, Smith Creek to mouth (Gallatin River)	4A	13.54	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers pH Nitrogen, Total Phosphorus, Total	Grazing in Riparian or Shoreline Zones Municipal Point Source Discharges

AqL=Aquatic Life; **Ag**=Agriculture; **DW**=Drinking Water; **Rec**=Primary Contact Recreation
F=Fully Supporting; **T**=Threatened; **N**=Not Fully Supporting; **I**=Insufficient Information; **X**=Not Assessed; **-** = Beneficial Use Not Assigned
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DEQ MONTANA

Addended Appendix A: Impaired Waters

HUC: 10020008 Gallatin **Watershed:** Missouri Headwaters

TMDL Planning Area	ID305B	Waterbody Name/Location	Category	Size	Units	Use Class	AqL	Ag	DW	Rec	Cause Name *	Source Name *
Lower Gallatin	MT41H003_040	SOURDOUGH CREEK, confluence of Limestone Creek and Bozeman Creek to the mouth (East Gallatin River), T2S R6E S6	4A	4.88	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers Chlorophyll-a Escherichia coli (E. Coli) Sedimentation/Siltation Nitrogen, Total	Crop Production (Crop Land or Dry Land) Crop Production (Irrigated) Grazing in Riparian or Shoreline Zones Livestock (Grazing or Feeding Operations) Loss of Riparian Habitat Municipal (Urbanized High Density Area) Natural Sources Residential Districts Septage Disposal Unspecified Unpaved Road or Trail Urban Runoff/Storm Sewers Wastes from Pets
Lower Gallatin	MT41H003_050	JACKSON CREEK, headwaters to mouth (Rocky Creek)	4A	8.55	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers Chlorophyll-a Sedimentation/Siltation Phosphorus, Total	Crop Production (Crop Land or Dry Land) Grazing in Riparian or Shoreline Zones Silviculture Activities Unspecified Unpaved Road or Trail
Lower Gallatin	MT41H003_060	SMITH CREEK, confluence of Ross and Reese Creeks to mouth (East Gallatin River)	4A	6.76	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers Escherichia coli (E. Coli) Nitrate Physical substrate habitat alterations Sedimentation/Siltation Nitrogen, Total	Agriculture Livestock (Grazing or Feeding Operations) Loss of Riparian Habitat Managed Pasture Grazing Rural (Residential Areas) Septage Disposal Wastes from Pets Wildlife Other than Waterfowl
Lower Gallatin	MT41H003_070	REESE CREEK, headwaters to mouth (Smith Creek)	4A	8.28	MILES	B-1	N	X	X	N	Escherichia coli (E. Coli) Nitrate Nitrogen, Total Sediment	Agriculture Crop Production (Crop Land or Dry Land)

AqL=Aquatic Life; **Ag**=Agriculture; **DW**=Drinking Water; **Rec**=Primary Contact Recreation
F=Fully Supporting; **T**=Threatened; **N**=Not Fully Supporting; **I**=Insufficient Information; **X**=Not Assessed; **-** = Beneficial Use Not Assigned
* The impairment cause and source names in this appendix are listed alphabetically. There is no implied relationship between the listed causes and sources. See individual assessment reports for details.

DEQ MONTANA

Addended Appendix A: Impaired Waters

HUC: 10020008 Gallatin **Watershed:** Missouri Headwaters

TMDL Planning Area	ID305B	Waterbody Name/Location	Category	Size	Units	Use Class	AqL	Ag	DW	Rec	Cause Name *	Source Name *
Lower Gallatin	MT41H003_080	ROCKY CREEK, confluence of Jackson and Timberline Creeks to mouth (East Gallatin River)	4A	7.94	MILES	B-1	N	X	X	X	Alteration in stream-side or littoral vegetative covers Other anthropogenic substrate alterations Physical substrate habitat alterations Sedimentation/Siltation	Agriculture Channelization Highways, Roads, Bridges, Infrastructure (New Construction) Loss of Riparian Habitat Residential Districts
Lower Gallatin	MT41H003_081	BEAR CREEK, headwaters to mouth (Rocky Creek)	4A	10.15	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers Sedimentation/Siltation Phosphorus, Total Algae	Crop Production (Crop Land or Dry Land) Grazing in Riparian or Shoreline Zones Silviculture Harvesting Unspecified Unpaved Road or Trail
Lower Gallatin	MT41H003_090	THOMPSON CREEK (Thompson Spring), headwaters to mouth (East Gallatin River)	4A	7.42	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers Chlorophyll-a Sedimentation/Siltation Nitrogen, Total	Crop Production (Crop Land or Dry Land) Grazing in Riparian or Shoreline Zones Loss of Riparian Habitat Unspecified Unpaved Road or Trail
Lower Gallatin	MT41H003_100	DRY CREEK, headwaters to mouth (East Gallatin River)	4A	20.09	MILES	B-1	N	X	X	N	Alteration in stream-side or littoral vegetative covers Physical substrate habitat alterations Sedimentation/Siltation Nitrogen, Total Phosphorus, Total Cause Unknown	Agriculture Channelization Crop Production (Crop Land or Dry Land) Grazing in Riparian or Shoreline Zones Source Unknown Unspecified Unpaved Road or Trail
Lower Gallatin	MT41H003_110	BRIDGER CREEK, headwaters to mouth (East Gallatin River)	4A	21.46	MILES	B-1	N	X	X	N	Chlorophyll-a Nitrate/Nitrite (Nitrite + Nitrate as N)	Grazing in Riparian or Shoreline Zones Impacts from Resort Areas Unspecified Unpaved Road or Trail
Lower Gallatin	MT41H003_120	STONE CREEK, headwaters to mouth (Bridger Creek)	4A	6.06	MILES	B-1	N	X	X	X	Alteration in stream-side or littoral vegetative covers Sedimentation/Siltation	Grazing in Riparian or Shoreline Zones Residential Districts Silviculture Harvesting Unspecified Unpaved Road or Trail

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DEQ MONTANA

Addended Appendix A: Impaired Waters

HUC: 10020008 Gallatin **Watershed:** Missouri Headwaters

TMDL Planning Area	ID305B	Waterbody Name/Location	Category	Size	Units	Use Class	Beneficial Use AqL	Ag	DW	Rec	Cause Name *	Source Name *
Lower Gallatin	MT41H003_132	HYALITE CREEK, Bozeman water supply intake to the mouth (East Gallatin River)	4A	20.99	MILES	B-1	N	X	X	N	Nitrogen, Total Flow Regime Modification	Crop Production (Irrigated) Leaking Underground Storage Tanks Managed Pasture Grazing Natural Sources
Upper Gallatin	MT41H005_010	STORM CASTLE CREEK, headwaters to the mouth (Gallatin River), T4S R4E S33	5	14.19	MILES	B-1	N	F	X	F	Alteration in stream-side or littoral vegetative covers Physical substrate habitat alterations Phosphorus, Total	Forest Roads (Road Construction and Use) Natural Sources Silviculture Activities
Upper Gallatin	MT41H005_020	TAYLOR FORK, Lee Metcalf Wilderness boundary to mouth (Gallatin River)	5	13.98	MILES	B-1	N	X	X	F	Physical substrate habitat alterations Sedimentation/Siltation	Silviculture Activities Site Clearance (Land Development or Redevelopment)
Upper Gallatin	MT41H005_030	CACHE CREEK, headwaters to mouth (Taylor Fork)	5	4.66	MILES	B-1	N	F	X	F	Alteration in stream-side or littoral vegetative covers Physical substrate habitat alterations Sedimentation/Siltation	Agriculture Forest Roads (Road Construction and Use) Silviculture Activities
Upper Gallatin	MT41H005_040	WEST FORK GALLATIN RIVER, confluence Middle and North Forks to mouth (Gallatin River)	5	3.87	MILES	B-1	N	F	F	N	Chlorophyll-a Sedimentation/Siltation Nitrate/Nitrite (Nitrite + Nitrate as N) Nitrogen, Total Phosphorus, Total	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) Silviculture Activities Site Clearance (Land Development or Redevelopment)
Upper Gallatin	MT41H005_050	MIDDLE FORK WEST FORK GALLATIN RIVER, headwaters to mouth (West Fork Gallatin River)	4A	6.23	MILES	B-1	N	F	F	N	Alteration in stream-side or littoral vegetative covers Escherichia coli (E. Coli) Fecal Coliform Nitrate/Nitrite (Nitrite + Nitrate as N) Sediment	Animal Feeding Operations (NPS) Highway/Road/Bridge Runoff (Non-construction Related) Highways, Roads, Bridges, Infrastructure (New Construction) On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) Unspecified Urban Stormwater Wastes from Pets Waterfowl

AqL=Aquatic Life; **Ag**=Agriculture; **DW**=Drinking Water; **Rec**=Primary Contact Recreation
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DEQ MONTANA

Addended Appendix A: Impaired Waters

HUC: 10020008 Gallatin **Watershed:** Missouri Headwaters

TMDL Planning Area	ID305B	Waterbody Name/Location	Category	Size	Units	Use Class	Beneficial Use AqL	Ag	DW	Rec	Cause Name *	Source Name *
Upper Gallatin	MT41H005_060	SOUTH FORK WEST FORK GALLATIN RIVER, headwaters to mouth (West Fork Gallatin River)	5	14.57	MILES	B-1	N	F	F	N	Alteration in stream-side or littoral vegetative covers Chlorophyll-a Physical substrate habitat alterations Sedimentation/Siltation Nitrate/Nitrite (Nitrite + Nitrate as N) Phosphorus, Total	Forest Roads (Road Construction and Use) On-site Treatment Systems (Septic Systems and Similar Decentralized Systems) Silviculture Activities Site Clearance (Land Development or Redevelopment)

AqL=Aquatic Life; **Ag**=Agriculture; **DW**=Drinking Water; **Rec**=Primary Contact Recreation
F=Fully Supporting; **T**=Threatened; **N**=Not Fully Supporting; **I**=Insufficient Information; **X**=Not Assessed; **-** = Beneficial Use Not Assigned
* The impairment cause and source names in this appendix are listed alphabetically. There is no implied relationship between the listed causes and sources. See individual assessment reports for details.

ADDENDED APPENDIX B – Waters in need of TMDLs [303(d) List] and TMDL Priority Schedule

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Big Horn	Yellowstone - Lower Bighorn	10080015	MT43R001_010	BIGHORN RIVER, Crow Indian Res. Boundary to mouth (Yellowstone River)	Lead	1996	Unassigned	L
Big Horn	Yellowstone - Lower Bighorn	10080015	MT43R001_010	BIGHORN RIVER, Crow Indian Res. Boundary to mouth (Yellowstone River)	Mercury	1996	Unassigned	L
Big Horn	Yellowstone - Lower Bighorn	10080015	MT43R002_010	TULLOCK CREEK, Crow Indian Reservation Boundary to mouth (Bighorn River)	Iron	1990	Unassigned	L
Big Horn	Yellowstone - Lower Bighorn	10080015	MT43R002_010	TULLOCK CREEK, Crow Indian Reservation Boundary to mouth (Bighorn River)	Nitrogen, Total	1990	Unassigned	L
Big Horn	Yellowstone - Lower Bighorn	10080015	MT43R002_010	TULLOCK CREEK, Crow Indian Reservation Boundary to mouth (Bighorn River)	Phosphorus, Total	1990	Unassigned	L
Big Horn	Yellowstone - Lower Bighorn	10080015	MT43R002_010	TULLOCK CREEK, Crow Indian Reservation Boundary to mouth (Bighorn River)	Sedimentation/Siltation	1990	Unassigned	L
Fort Peck Lake	Big and Little Dry	10040105	MT40D001_010	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)	Ammonia, Un-ionized	2000	Unassigned	L
Fort Peck Lake	Big and Little Dry	10040105	MT40D001_010	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1994	Unassigned	L
Fort Peck Lake	Big and Little Dry	10040105	MT40D001_010	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)	Nitrogen, Total	1994	Unassigned	L
Fort Peck Lake	Big and Little Dry	10040105	MT40D001_010	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)	Phosphorus, Total	1994	Unassigned	L
Fort Peck Lake	Missouri River	10040104	MT40E001_010	MISSOURI RIVER, Bullwhacker Creek to Fort Peck Reservoir	Arsenic	1990	Unassigned	L
Fort Peck Lake	Missouri River	10040104	MT40E001_010	MISSOURI RIVER, Bullwhacker Creek to Fort Peck Reservoir	Copper	2000	Unassigned	L
Fort Peck Lake	Landusky	10040104	MT40E002_070	RUBY GULCH, headwaters to confluence of Alder Gulch, T25N R25E S21	Arsenic	2014	Unassigned	L
Fort Peck Lake	Landusky	10040104	MT40E002_090	ROCK CREEK, headwaters to mouth (Missouri River)	Escherichia coli (E. Coli)	2000	Unassigned	L
Fort Peck Lake	Landusky	10040104	MT40E002_100	MILL GULCH, headwaters to mouth (Rock Creek)	Arsenic	2014	Unassigned	L
Fort Peck Lake	Landusky	10040104	MT40E002_100	MILL GULCH, headwaters to mouth (Rock Creek)	Cadmium	2014	Unassigned	L
Fort Peck Lake	Landusky	10040104	MT40E002_100	MILL GULCH, headwaters to mouth (Rock Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2014	Unassigned	L
Fort Peck Lake	Landusky	10040104	MT40E002_100	MILL GULCH, headwaters to mouth (Rock Creek)	Zinc	2014	Unassigned	L
Fort Peck Lake	Landusky	10040104	MT40E002_110	SULLIVAN CREEK, headwaters to mouth (Rock Creek)	Nickel	2014	Unassigned	L
Fort Peck Lake	Redwater	10040104	MT40E003_020	NELSON CREEK, headwaters to mouth (Big Dry Creek arm of Fort Peck Res)	Cadmium	2006	Unassigned	L
Fort Peck Lake	Redwater	10040104	MT40E003_020	NELSON CREEK, headwaters to mouth (Big Dry Creek arm of Fort Peck Res)	Copper	2006	Unassigned	L
Fort Peck Lake	Missouri River	10040104	MT40E004_010	FORT PECK RESERVOIR	Lead	2000	Unassigned	L
Fort Peck Lake	Missouri River	10040104	MT40E004_010	FORT PECK RESERVOIR	Mercury	2000	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040102	MT41R001_010	COFFEE CREEK, headwaters to mouth (Arrow Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040102	MT41R001_010	COFFEE CREEK, headwaters to mouth (Arrow Creek)	Selenium	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Fort Peck Lake	Judith - Arrow	10040102	MT41R001_010	COFFEE CREEK, headwaters to mouth (Arrow Creek)	Total Dissolved Solids (TDS)	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040102	MT41R001_020	ARROW CREEK, Surprise Creek to mouth (Missouri River)	Iron	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S001_020	JUDITH RIVER, Ross Fork to Big Spring Creek	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S001_020	JUDITH RIVER, Ross Fork to Big Spring Creek	Sedimentation/Siltation	1988	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_010	DRY WOLF CREEK, headwaters to mouth (Wolf Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_010	DRY WOLF CREEK, headwaters to mouth (Wolf Creek)	Nitrogen, Total	1990	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_010	DRY WOLF CREEK, headwaters to mouth (Wolf Creek)	Phosphorus, Total	1990	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_010	DRY WOLF CREEK, headwaters to mouth (Wolf Creek)	Salinity	1988	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_020	WOLF CREEK, Dry Wolf Creek to mouth (Judith River)	Iron	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_020	WOLF CREEK, Dry Wolf Creek to mouth (Judith River)	Selenium	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_020	WOLF CREEK, Dry Wolf Creek to mouth (Judith River)	Total Dissolved Solids (TDS)	1992	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_030	WARM SPRING CREEK, 5 miles upstream to mouth (Judith River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2000	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_030	WARM SPRING CREEK, 5 miles upstream to mouth (Judith River)	Nitrogen, Total	2000	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_030	WARM SPRING CREEK, 5 miles upstream to mouth (Judith River)	Phosphorus, Total	2000	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_030	WARM SPRING CREEK, 5 miles upstream to mouth (Judith River)	Sedimentation/Siltation	1988	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_050	SAGE CREEK, headwaters to mouth (Judith River)	Iron	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_050	SAGE CREEK, headwaters to mouth (Judith River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_050	SAGE CREEK, headwaters to mouth (Judith River)	Nitrogen, Total	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_070	ROSS FORK JUDITH RIVER, headwaters to mouth (Judith River)	Biochemical oxygen demand (BOD)	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_070	ROSS FORK JUDITH RIVER, headwaters to mouth (Judith River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_070	ROSS FORK JUDITH RIVER, headwaters to mouth (Judith River)	Sedimentation/Siltation	1988	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_080	SOUTH FORK JUDITH RIVER, headwaters to mouth	Sedimentation/Siltation	1992	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_100	LAST CHANCE CREEK, headwaters to mouth (Moccasin Creek)	Cyanide	2004	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_100	LAST CHANCE CREEK, headwaters to mouth (Moccasin Creek)	Iron	2004	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_100	LAST CHANCE CREEK, headwaters to mouth (Moccasin Creek)	Selenium	2004	Unassigned	L
Fort Peck Lake	Judith - Arrow	10040103	MT41S002_100	LAST CHANCE CREEK, headwaters to mouth (Moccasin Creek)	Thallium	2004	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_040	CASINO CREEK, headwaters to mouth (Big Spring Creek)	Nitrogen, Total	1992	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_040	CASINO CREEK, headwaters to mouth (Big Spring Creek)	Phosphorus, Total	1992	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_052	COTTONWOOD CREEK, county road at T14N R18E S18 to mouth (Big Spring Creek)	Dissolved Oxygen	1992	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_052	COTTONWOOD CREEK, county road at T14N R18E S18 to mouth (Big Spring Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1992	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_052	COTTONWOOD CREEK, county road at T14N R18E S18 to mouth (Big Spring Creek)	Nitrogen, Total	1992	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_052	COTTONWOOD CREEK, county road at T14N R18E S18 to mouth (Big Spring Creek)	Phosphorus, Total	1992	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_052	COTTONWOOD CREEK, county road at T14N R18E S18 to mouth (Big Spring Creek)	Sedimentation/Siltation	1992	Unassigned	L
Fort Peck Lake	Big Springs	10040103	MT41S004_052	COTTONWOOD CREEK, county road at T14N R18E S18 to mouth (Big Spring Creek)	Total Kjehldahl Nitrogen (TKN)	1992	Unassigned	L
Fort Peck Lake	Missouri River	10040101	MT41T001_010	MISSOURI RIVER, the Marias River to Bullwhacker Creek	Copper	2000	Unassigned	L
Fort Peck Lake	Missouri River	10040101	MT41T001_010	MISSOURI RIVER, the Marias River to Bullwhacker Creek	Lead	2000	Unassigned	L
Fort Peck Lake	Bullwhacker - Dog	10040101	MT41T002_020	DOG CREEK, Cutbank Creek to mouth (Missouri River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2004	Unassigned	L
Fort Peck Lake	Bullwhacker - Dog	10040101	MT41T002_020	DOG CREEK, Cutbank Creek to mouth (Missouri River)	Sedimentation/Siltation	2004	Unassigned	L
Kootenai	Kootenai	17010104	MT76A001_010	KOOTENAI RIVER, confluence with Yaak River to Idaho border	Temperature	1992	Unassigned	L
Kootenai	Kootenai	17010101	MT76D001_010	KOOTENAI RIVER, Libby Dam to Yaak River	Temperature	1990	Unassigned	L
Kootenai	Kootenai	17010101	MT76D003_010	LAKE KOOCANUSA	Selenium	2012	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_010	THOMPSON CREEK, Wyoming border to mouth (Little Missouri River)	Cadmium	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_010	THOMPSON CREEK, Wyoming border to mouth (Little Missouri River)	Copper	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_010	THOMPSON CREEK, Wyoming border to mouth (Little Missouri River)	Iron	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_010	THOMPSON CREEK, Wyoming border to mouth (Little Missouri River)	Zinc	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_020	LITTLE MISSOURI RIVER, Wyoming border to South Dakota border	Cadmium	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_020	LITTLE MISSOURI RIVER, Wyoming border to South Dakota border	Copper	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_020	LITTLE MISSOURI RIVER, Wyoming border to South Dakota border	Iron	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_020	LITTLE MISSOURI RIVER, Wyoming border to South Dakota border	Lead	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_020	LITTLE MISSOURI RIVER, Wyoming border to South Dakota border	Nitrogen, Total	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_020	LITTLE MISSOURI RIVER, Wyoming border to South Dakota border	Phosphorus, Total	2006	Unassigned	L
Little Missouri/Belle Fourche	Little Missouri	10110201	MT39F001_020	LITTLE MISSOURI RIVER, Wyoming border to South Dakota border	Zinc	2006	Unassigned	L
Lower Yellowstone	Yellowstone River	10100001	MT42K001_010	YELLOWSTONE RIVER, the Cartersville Diversion Dam to Powder River	Copper	1992	Unassigned	L
Lower Yellowstone	Yellowstone River	10100001	MT42K001_010	YELLOWSTONE RIVER, the Cartersville Diversion Dam to Powder River	Lead	1992	Unassigned	L
Lower Yellowstone	Yellowstone River	10100001	MT42K001_010	YELLOWSTONE RIVER, the Cartersville Diversion Dam to Powder River	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Scheduled	M
Lower Yellowstone	Yellowstone River	10100001	MT42K001_010	YELLOWSTONE RIVER, the Cartersville Diversion Dam to Powder River	Sediment	1990	Unassigned	L
Lower Yellowstone	Yellowstone River	10100001	MT42K001_010	YELLOWSTONE RIVER, the Cartersville Diversion Dam to Powder River	Total Dissolved Solids (TDS)	1990	Unassigned	L
Lower Yellowstone	Yellowstone River	10100001	MT42K001_010	YELLOWSTONE RIVER, the Cartersville Diversion Dam to Powder River	Zinc	1992	Unassigned	L
Lower Yellowstone	Yellowstone River	10100001	MT42K001_010	YELLOWSTONE RIVER, the Cartersville Diversion Dam to Powder River	pH	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_020	HARRIS CREEK, headwaters to mouth (Yellowstone River)	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_020	HARRIS CREEK, headwaters to mouth (Yellowstone River)	Sediment	1992	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_030	SUNDAY CREEK, the North and South Forks to mouth (Yellowstone River)	Copper	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_030	SUNDAY CREEK, the North and South Forks to mouth (Yellowstone River)	Iron	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_030	SUNDAY CREEK, the North and South Forks to mouth (Yellowstone River)	Lead	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_030	SUNDAY CREEK, the North and South Forks to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_030	SUNDAY CREEK, the North and South Forks to mouth (Yellowstone River)	Nitrogen, Total	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_030	SUNDAY CREEK, the North and South Forks to mouth (Yellowstone River)	Phosphorus, Total	1990	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_040	MUSTER CREEK, headwaters to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1992	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_040	MUSTER CREEK, headwaters to mouth (Yellowstone River)	Phosphorus, Total	1992	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_040	MUSTER CREEK, headwaters to mouth (Yellowstone River)	Sediment	1992	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_060	DEADMAN CREEK, headwaters to mouth (North Fork Sunday Creek)	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_060	DEADMAN CREEK, headwaters to mouth (North Fork Sunday Creek)	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_070	STELLAR CREEK, headwaters to mouth (Little Porcupine Creek)	Cadmium	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_070	STELLAR CREEK, headwaters to mouth (Little Porcupine Creek)	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_070	STELLAR CREEK, headwaters to mouth (Little Porcupine Creek)	pH	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_080	NORTH FORK SUNDAY CREEK, Custer/Rosebud County border to mouth (Sunday Creek)	Sedimentation/Siltation	1994	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_080	NORTH FORK SUNDAY CREEK, Custer/Rosebud County border to mouth (Sunday Creek)	Sodium	1994	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_080	NORTH FORK SUNDAY CREEK, Custer/Rosebud County border to mouth (Sunday Creek)	Specific Conductivity	1994	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_080	NORTH FORK SUNDAY CREEK, Custer/Rosebud County border to mouth (Sunday Creek)	Total Dissolved Solids (TDS)	1994	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_090	SARPY CREEK, Crow Indian Reservation Boundary to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_090	SARPY CREEK, Crow Indian Reservation Boundary to mouth (Yellowstone River)	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_090	SARPY CREEK, Crow Indian Reservation Boundary to mouth (Yellowstone River)	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_110	EAST FORK ARMELLS CREEK, East Rosebud Mine outfall 020 (45.85887N, -106.6621W) to mouth (Armells Creek)	Aluminum	2018	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_110	EAST FORK ARMELLS CREEK, East Rosebud Mine outfall 020 (45.85887N, -106.6621W) to mouth (Armells Creek)	Iron	2018	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_110	EAST FORK ARMELLS CREEK, East Rosebud Mine outfall 020 (45.85887N, -106.6621W) to mouth (Armells Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1994	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_110	EAST FORK ARMELLS CREEK, East Rosebud Mine outfall 020 (45.85887N, -106.6621W) to mouth (Armells Creek)	Nitrogen, Total	1994	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_110	EAST FORK ARMELLS CREEK, East Rosebud Mine outfall 020 (45.85887N, -106.6621W) to mouth (Armells Creek)	Phosphorus, Total	2018	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_110	EAST FORK ARMELLS CREEK, East Rosebud Mine outfall 020 (45.85887N, -106.6621W) to mouth (Armells Creek)	Specific Conductivity	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_110	EAST FORK ARMELLS CREEK, East Rosebud Mine outfall 020 (45.85887N, -106.6621W) to mouth (Armells Creek)	Total Dissolved Solids (TDS)	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_120	WEST FORK ARMELLS CREEK, headwaters to mouth (Armells Creek)	Aluminum	2018	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_120	WEST FORK ARMELLS CREEK, headwaters to mouth (Armells Creek)	Iron	2018	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_160	LITTLE PORCUPINE CREEK, headwaters to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_160	LITTLE PORCUPINE CREEK, headwaters to mouth (Yellowstone River)	Nitrogen, Total	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_160	LITTLE PORCUPINE CREEK, headwaters to mouth (Yellowstone River)	Phosphorus, Total	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_160	LITTLE PORCUPINE CREEK, headwaters to mouth (Yellowstone River)	Total Dissolved Solids (TDS)	1990	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_180	ARMELLS CREEK, confluence of East and West Forks to mouth (Yellowstone River)	Aluminum	2018	Unassigned	L
Lower Yellowstone	Middle Yellowstone Tributaries	10100001	MT42K002_180	ARMELLS CREEK, confluence of East and West Forks to mouth (Yellowstone River)	Iron	2018	Unassigned	L
Lower Yellowstone	O'Fallon	10100005	MT42L001_010	PENNEL CREEK, headwaters to mouth (O'Fallon Creek)	Total Dissolved Solids (TDS)	1988	Unassigned	L
Lower Yellowstone	O'Fallon	10100005	MT42L001_020	SANDSTONE CREEK, headwaters to mouth (O'Fallon Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Lower Yellowstone	O'Fallon	10100005	MT42L001_020	SANDSTONE CREEK, headwaters to mouth (O'Fallon Creek)	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	Chromium, Total	1992	Unassigned	L
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	Copper	1992	Unassigned	L
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	Lead	1992	Unassigned	L
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	Nitrogen, Total	1990	Scheduled	M
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	Phosphorus, Total	1990	Scheduled	M
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	Sedimentation/Siltation	1988	Unassigned	L
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	Total Dissolved Solids (TDS)	1988	Unassigned	L
Lower Yellowstone	Yellowstone River	10100004	MT42M001_011	YELLOWSTONE RIVER, Lower Yellowstone Diversion Dam to North Dakota border	pH	1990	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_020	FOURMILE CREEK, headwaters to North Dakota border	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_020	FOURMILE CREEK, headwaters to North Dakota border	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_020	FOURMILE CREEK, headwaters to North Dakota border	Total Dissolved Solids (TDS)	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Copper	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Lead	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Sediment	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_030	FIRST HAY CREEK, headwaters to mouth (Yellowstone River)	Total Dissolved Solids (TDS)	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_040	LONE TREE CREEK, confluence of North Fork to mouth (Yellowstone River)	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_040	LONE TREE CREEK, confluence of North Fork to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_040	LONE TREE CREEK, confluence of North Fork to mouth (Yellowstone River)	Sediment	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Arsenic	1994	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Lead	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Mercury	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Sediment	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Sulfate	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_051	FOX CREEK, headwaters to mouth (Yellowstone River), T22N R59E S19	Total Dissolved Solids (TDS)	1988	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Arsenic	1994	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Lead	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Mercury	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Sediment	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Sulfate	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_052	NORTH FORK FOX CREEK, headwaters to mouth (Fox Creek), T22N R58E S21	Total Dissolved Solids (TDS)	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_060	O'BRIEN CREEK, North Dakota border to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_060	O'BRIEN CREEK, North Dakota border to mouth (Yellowstone River)	Selenium	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_070	CRANE CREEK, headwaters to mouth (Yellowstone River, T21N R58E S23)	Sedimentation/Siltation	1988	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_100	COTTONWOOD CREEK, headwaters to mouth (Yellowstone River)	Cadmium	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_100	COTTONWOOD CREEK, headwaters to mouth (Yellowstone River)	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_110	BURNS CREEK, headwaters to mouth (Yellowstone River)	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_110	BURNS CREEK, headwaters to mouth (Yellowstone River)	Nitrogen, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_110	BURNS CREEK, headwaters to mouth (Yellowstone River)	Phosphorus, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_110	BURNS CREEK, headwaters to mouth (Yellowstone River)	Sediment	1992	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Cadmium	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Chromium, Total	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Copper	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Lead	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Nickel	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Sediment	1990	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Selenium	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_130	GLENDIVE CREEK, headwaters to mouth (Yellowstone River)	Zinc	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_141	CEDAR CREEK, 26 miles upstream to mouth (Yellowstone River)	Arsenic	2000	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_141	CEDAR CREEK, 26 miles upstream to mouth (Yellowstone River)	Copper	2000	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_141	CEDAR CREEK, 26 miles upstream to mouth (Yellowstone River)	Iron	2000	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_141	CEDAR CREEK, 26 miles upstream to mouth (Yellowstone River)	Lead	2000	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_142	CEDAR CREEK, tributary confluence at 12N 57E S35 to tributary confluence at 13N 56E S27	Copper	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_142	CEDAR CREEK, tributary confluence at 12N 57E S35 to tributary confluence at 13N 56E S27	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_142	CEDAR CREEK, tributary confluence at 12N 57E S35 to tributary confluence at 13N 56E S27	Lead	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_142	CEDAR CREEK, tributary confluence at 12N 57E S35 to tributary confluence at 13N 56E S27	Selenium	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_150	CABIN CREEK, headwaters to mouth (Yellowstone River)	Dissolved Oxygen	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_150	CABIN CREEK, headwaters to mouth (Yellowstone River)	Nitrogen, Total	1990	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_150	CABIN CREEK, headwaters to mouth (Yellowstone River)	Sedimentation/Siltation	1994	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_180	SEARS CREEK, headwaters to mouth (Yellowstone River)	Copper	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_180	SEARS CREEK, headwaters to mouth (Yellowstone River)	Iron	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_180	SEARS CREEK, headwaters to mouth (Yellowstone River)	Lead	2006	Unassigned	L
Lower Yellowstone	Lower Yellowstone	10100004	MT42M002_180	SEARS CREEK, headwaters to mouth (Yellowstone River)	Sediment	2006	Unassigned	L
Marias	Sun	10030205	MT41K004_030	FREEZEOUT LAKE	Phosphorus, Total	2000	Unassigned	L
Marias	Cut Bank - Two Medicine	10030202	MT41L001_010	OLD MAIDS COULEE, headwaters to mouth (Cutbank Creek)	Ammonia, Total	1990	Unassigned	L
Marias	Cut Bank - Two Medicine	10030202	MT41L001_010	OLD MAIDS COULEE, headwaters to mouth (Cutbank Creek)	Chloride	1990	Unassigned	L
Marias	Cut Bank - Two Medicine	10030202	MT41L001_010	OLD MAIDS COULEE, headwaters to mouth (Cutbank Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Marias	Cut Bank - Two Medicine	10030202	MT41L001_010	OLD MAIDS COULEE, headwaters to mouth (Cutbank Creek)	Phosphorus, Total	1990	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Marias	Cut Bank - Two Medicine	10030202	MT41L001_010	OLD MAIDS COULEE, headwaters to mouth (Cutbank Creek)	Specific Conductivity	1990	Unassigned	L
Marias	Cut Bank - Two Medicine	10030202	MT41L001_010	OLD MAIDS COULEE, headwaters to mouth (Cutbank Creek)	Total Dissolved Solids (TDS)	1990	Unassigned	L
Marias	Cut Bank - Two Medicine	10030202	MT41L001_040	CUT BANK CREEK, Blackfeet Reservation boundary to mouth (Marias River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1988	Unassigned	L
Marias	Cut Bank - Two Medicine	10030202	MT41L001_040	CUT BANK CREEK, Blackfeet Reservation boundary to mouth (Marias River)	Temperature	1990	Unassigned	L
Marias	Cut Bank - Two Medicine	10030201	MT41M002_080	BIRCH CREEK, Blacktail Creek to mouth (Two Medicine River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Marias	Cut Bank - Two Medicine	10030201	MT41M002_110	DUPUYER CREEK, confluence of South Fork Dupuyer Creek and Middle Fork Dupuyer Creek to the mouth (Birch Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Marias	Cut Bank - Two Medicine	10030201	MT41M002_110	DUPUYER CREEK, confluence of South Fork Dupuyer Creek and Middle Fork Dupuyer Creek to the mouth (Birch Creek)	Sedimentation/Siltation	2006	Unassigned	L
Marias	Cut Bank - Two Medicine	10030201	MT41M002_110	DUPUYER CREEK, confluence of South Fork Dupuyer Creek and Middle Fork Dupuyer Creek to the mouth (Birch Creek)	Temperature	1992	Unassigned	L
Marias	Marias - Willow	10030203	MT41P002_030	PONDERA COULEE, headwaters to mouth (Marias River)	Salinity	1988	Unassigned	L
Marias	Marias - Willow	10030203	MT41P002_050	CORRAL CREEK, headwaters to mouth (Cottonwood Creek)	Phosphorus, Total	2000	Unassigned	L
Marias	Marias - Willow	10030204	MT41P004_020	EAGLE CREEK, headwaters to mouth (Lake Elwell (Tiber Reservoir))	Nitrogen, Total	2000	Unassigned	L
Marias	Marias - Willow	10030204	MT41P004_020	EAGLE CREEK, headwaters to mouth (Lake Elwell (Tiber Reservoir))	Phosphorus, Total	2000	Unassigned	L
Marias	Marias - Willow	10030204	MT41P005_010	OILMONT WETLAND	Arsenic	2000	Unassigned	L
Milk	Upper Milk	10050002	MT40F003_010	MILK RIVER, Canada border to Fresno Reservoir	Copper	2006	Unassigned	L
Milk	Upper Milk	10050002	MT40F003_010	MILK RIVER, Canada border to Fresno Reservoir	Iron	2006	Unassigned	L
Milk	Upper Milk	10050002	MT40F003_010	MILK RIVER, Canada border to Fresno Reservoir	Lead	2006	Unassigned	L
Milk	Big Sandy - Sage	10050005	MT40H001_010	BIG SANDY CREEK, Lonesome Lake Coulee to mouth (Milk River)	Mercury	2002	Unassigned	L
Milk	Middle Milk and Tributaries	10050009	MT40I001_020	PEOPLES CREEK, headwaters to Fort Belknap Reservation boundary	Mercury	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050009	MT40I001_020	PEOPLES CREEK, headwaters to Fort Belknap Reservation boundary	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050009	MT40I001_020	PEOPLES CREEK, headwaters to Fort Belknap Reservation boundary	Phosphorus, Total	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050009	MT40I001_020	PEOPLES CREEK, headwaters to Fort Belknap Reservation boundary	Temperature	1988	Unassigned	L
Milk	Landusky	10050009	MT40I001_040	KING CREEK, headwaters to Fort Belknap Reservation boundary	Lead	2014	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J001_011	MILK RIVER, Fresno Dam to Thirtymile Creek	Mercury	2000	Unassigned	L

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Milk	Middle Milk and Tributaries	10050004	MT40J001_012	MILK RIVER, Thirtymile Creek to Dodson Creek	Mercury	2000	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J001_013	MILK RIVER, Dodson Creek to Whitewater Creek	Mercury	2000	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J001_020	MILK RIVER, Whitewater Creek to Beaver Creek	Iron	2000	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J001_020	MILK RIVER, Whitewater Creek to Beaver Creek	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_010	BEAVER CREEK, Beaver Creek Reservoir to mouth (Milk River)	Iron	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_010	BEAVER CREEK, Beaver Creek Reservoir to mouth (Milk River)	Lead	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_010	BEAVER CREEK, Beaver Creek Reservoir to mouth (Milk River)	Mercury	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_010	BEAVER CREEK, Beaver Creek Reservoir to mouth (Milk River)	Sedimentation/Siltation	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_010	BEAVER CREEK, Beaver Creek Reservoir to mouth (Milk River)	Temperature	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_020	BULLHOOK CREEK, headwaters to the Bullhook Dam, T32N R16E S16	Nitrate/Nitrite (Nitrite + Nitrate as N)	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_020	BULLHOOK CREEK, headwaters to the Bullhook Dam, T32N R16E S16	Sedimentation/Siltation	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_020	BULLHOOK CREEK, headwaters to the Bullhook Dam, T32N R16E S16	Temperature	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_030	LITTLE BOXELDER CREEK, headwaters to mouth (Milk River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_030	LITTLE BOXELDER CREEK, headwaters to mouth (Milk River)	Nitrogen, Total	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_030	LITTLE BOXELDER CREEK, headwaters to mouth (Milk River)	Phosphorus, Total	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_030	LITTLE BOXELDER CREEK, headwaters to mouth (Milk River)	Sedimentation/Siltation	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050004	MT40J002_030	LITTLE BOXELDER CREEK, headwaters to mouth (Milk River)	Temperature	1988	Unassigned	L
Milk	Middle Milk and Tributaries	10050007	MT40J003_010	LODGE CREEK, Canadian border to mouth (Milk River)	Dissolved Oxygen	1992	Unassigned	L
Milk	Middle Milk and Tributaries	10050007	MT40J003_010	LODGE CREEK, Canadian border to mouth (Milk River)	Mercury	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050007	MT40J003_010	LODGE CREEK, Canadian border to mouth (Milk River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1992	Unassigned	L
Milk	Middle Milk and Tributaries	10050007	MT40J003_010	LODGE CREEK, Canadian border to mouth (Milk River)	Nitrogen, Total	1992	Unassigned	L
Milk	Middle Milk and Tributaries	10050007	MT40J003_010	LODGE CREEK, Canadian border to mouth (Milk River)	Phosphorus, Total	1992	Unassigned	L
Milk	Middle Milk and Tributaries	10050008	MT40J004_010	BATTLE CREEK, Canadian border to mouth (Milk River)	Sedimentation/Siltation	2000	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Milk	Middle Milk and Tributaries	10050010	MT40J005_020	COTTONWOOD CREEK, Black Coulee to mouth (Milk River)	Iron	2006	Unassigned	L
Milk	Middle Milk and Tributaries	10050010	MT40J005_020	COTTONWOOD CREEK, Black Coulee to mouth (Milk River)	Sedimentation/Siltation	1990	Unassigned	L
Milk	Middle Milk and Tributaries	10050011	MT40K001_010	WHITEWATER CREEK, Canadian border to mouth (Milk River)	Mercury	2006	Unassigned	L
Milk	Beaver	10050014	MT40M001_013	BEAVER CREEK, Fort Belknap Reservation boundary to Big Warm Creek	Mercury	2006	Unassigned	L
Milk	Beaver	10050014	MT40M001_013	BEAVER CREEK, Fort Belknap Reservation boundary to Big Warm Creek	Phosphorus, Total	2006	Unassigned	L
Milk	Beaver	10050014	MT40M001_014	BEAVER CREEK, Big Warm Creek to Un-Named tributary, T30N R32E S32	Mercury	2006	Unassigned	L
Milk	Beaver	10050014	MT40M001_014	BEAVER CREEK, Big Warm Creek to Un-Named tributary, T30N R32E S32	Phosphorus, Total	2006	Unassigned	L
Milk	Beaver	10050014	MT40M001_020	BEAVER CREEK, Un-named tributary at T30N R32E S32 to mouth (Milk River)	Nitrogen, Total	1990	Unassigned	L
Milk	Beaver	10050014	MT40M001_020	BEAVER CREEK, Un-named tributary at T30N R32E S32 to mouth (Milk River)	Phosphorus, Total	1990	Unassigned	L
Milk	Beaver	10050014	MT40M001_020	BEAVER CREEK, Un-named tributary at T30N R32E S32 to mouth (Milk River)	Uranium	2000	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Arsenic	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Cadmium	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Copper	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Dissolved Oxygen	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Iron	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Lead	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Nitrate/Nitrite (Nitrite + Nitrate as N)	1996	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Nitrogen, Total	1996	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Phosphorus, Total	1996	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Sediment	1996	Unassigned	L
Milk	Beaver	10050014	MT40M002_010	FLAT CREEK, headwaters to mouth (Beaver Creek), T27N R32E S35	Zinc	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_020	LARB CREEK, headwaters to mouth (Beaver Creek)	Copper	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_020	LARB CREEK, headwaters to mouth (Beaver Creek)	Dissolved Oxygen	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Milk	Beaver	10050014	MT40M002_020	LARB CREEK, headwaters to mouth (Beaver Creek)	Lead	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_020	LARB CREEK, headwaters to mouth (Beaver Creek)	Nitrogen, Total	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_020	LARB CREEK, headwaters to mouth (Beaver Creek)	Phosphorus, Total	2006	Unassigned	L
Milk	Beaver	10050014	MT40M002_030	BIG WARM CREEK, Fort Belknap Reservation boundary to mouth (Beaver Creek)	Phosphorus, Total	1996	Unassigned	L
Milk	Beaver	10050014	MT40M002_030	BIG WARM CREEK, Fort Belknap Reservation boundary to mouth (Beaver Creek)	Salinity	2000	Unassigned	L
Milk	Beaver	10050014	MT40M002_030	BIG WARM CREEK, Fort Belknap Reservation boundary to mouth (Beaver Creek)	Sedimentation/Siltation	2000	Unassigned	L
Milk	Beaver	10050014	MT40M003_010	LAKE BOWDOIN	Salinity	1990	Unassigned	L
Milk	Beaver	10050014	MT40M003_010	LAKE BOWDOIN	Selenium	2000	Unassigned	L
Milk	Beaver	10050014	MT40M003_020	NELSON RESERVOIR	Phosphorus, Total	1990	Unassigned	L
Milk	Lower Milk	10050012	MT40O001_010	MILK RIVER, Beaver Creek to mouth (Missouri River)	Escherichia coli (E. Coli)	2000	Unassigned	L
Milk	Lower Milk	10050012	MT40O001_010	MILK RIVER, Beaver Creek to mouth (Missouri River)	Lead	2000	Unassigned	L
Milk	Lower Milk	10050012	MT40O001_010	MILK RIVER, Beaver Creek to mouth (Missouri River)	Mercury	2000	Unassigned	L
Milk	Lower Milk	10050012	MT40O002_020	BUGGY CREEK, headwaters to mouth (Milk River)	Iron	2006	Unassigned	L
Milk	Lower Milk	10050012	MT40O002_031	WILLOW CREEK, headwaters to Halfpint Reservoir, T25N R35E S26	Sedimentation/Siltation	1992	Unassigned	L
Milk	Lower Milk	10050012	MT40O002_033	WILLOW CREEK, Halfpint Reservoir to mouth (Milk River), T28N R40E S29	Sedimentation/Siltation	1992	Unassigned	L
Milk	Lower Milk	10050012	MT40O002_040	BEAVER CREEK, confluence of Little Beaver Creek and South Fork Beaver Creek to mouth (Willow Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Milk	Lower Milk	10050012	MT40O002_040	BEAVER CREEK, confluence of Little Beaver Creek and South Fork Beaver Creek to mouth (Willow Creek)	Sediment	1996	Unassigned	L
Milk	Lower Milk	10050016	MT40O003_010	PORCUPINE CREEK, confluence of West and Middle Forks to mouth (Milk River)	Nitrogen, Total	1996	Unassigned	L
Milk	Lower Milk	10050016	MT40O003_010	PORCUPINE CREEK, confluence of West and Middle Forks to mouth (Milk River)	Phosphorus, Total	1996	Unassigned	L
Milk	Lower Milk	10050016	MT40O003_010	PORCUPINE CREEK, confluence of West and Middle Forks to mouth (Milk River)	Salinity	2000	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A001_010	RED ROCK RIVER, Lima Dam to Clark Canyon Reservoir	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A001_010	RED ROCK RIVER, Lima Dam to Clark Canyon Reservoir	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A001_010	RED ROCK RIVER, Lima Dam to Clark Canyon Reservoir	Sedimentation/Siltation	1990	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Missouri Headwaters	Red Rock	10020001	MT41A001_010	RED ROCK RIVER, Lima Dam to Clark Canyon Reservoir	Temperature	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A001_020	RED ROCK RIVER, Lower Red Rock Lake to Lima Dam	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A001_020	RED ROCK RIVER, Lower Red Rock Lake to Lima Dam	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A001_020	RED ROCK RIVER, Lower Red Rock Lake to Lima Dam	Sedimentation/Siltation	1990	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A001_020	RED ROCK RIVER, Lower Red Rock Lake to Lima Dam	Temperature	1992	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_010	MEDICINE LODGE CREEK, headwaters to mouth (Horse Prairie Creek)	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_010	MEDICINE LODGE CREEK, headwaters to mouth (Horse Prairie Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_010	MEDICINE LODGE CREEK, headwaters to mouth (Horse Prairie Creek)	Temperature	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_020	MUDDY CREEK, confluence of Sourdough and Wilson Creek to mouth (Big Sheep Creek), T14S R10W S10	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_030	CABIN CREEK, headwaters to mouth (Big Sheep Creek)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_040	NICHOLIA CREEK, headwaters to mouth (Big Sheep Creek)	Aluminum	2020	Unassigned	H
Missouri Headwaters	Red Rock	10020001	MT41A003_040	NICHOLIA CREEK, headwaters to mouth (Big Sheep Creek)	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_040	NICHOLIA CREEK, headwaters to mouth (Big Sheep Creek)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_080	TRAIL CREEK, headwaters to mouth (Horse Prairie Creek)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_090	HORSE PRAIRIE CREEK, headwaters to mouth (Clark Canyon Res)	Mercury	2000	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_090	HORSE PRAIRIE CREEK, headwaters to mouth (Clark Canyon Res)	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_090	HORSE PRAIRIE CREEK, headwaters to mouth (Clark Canyon Res)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_100	BLOODY DICK CREEK, headwaters to mouth (Horse Prairie Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_110	SELWAY CREEK, headwaters to mouth (Bloody Dick Creek)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_140	SAGE CREEK, headwaters to mouth (Red Rock River)	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_140	SAGE CREEK, headwaters to mouth (Red Rock River)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_150	BIG SHEEP CREEK, headwaters to mouth (Red Rock River)	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_150	BIG SHEEP CREEK, headwaters to mouth (Red Rock River)	Phosphorus, Total	2020	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Missouri Headwaters	Red Rock	10020001	MT41A003_160	LITTLE SHEEP CREEK, headwaters to mouth (Red Rock River)	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A003_160	LITTLE SHEEP CREEK, headwaters to mouth (Red Rock River)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_010	PRICE CREEK, headwaters to mouth (Red Rock River)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_020	METZEL CREEK, headwaters to mouth (Red Rock River)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_030	FISH CREEK, headwaters to mouth (Metzel Creek)	Nitrogen, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_030	FISH CREEK, headwaters to mouth (Metzel Creek)	Phosphorus, Total	2020	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_040	CORRAL CREEK, headwaters to mouth (Red Rock Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_050	EAST FORK CLOVER CREEK, headwaters to mouth (Clover Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_090	PEET CREEK, headwaters to mouth (Red Rock River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_090	PEET CREEK, headwaters to mouth (Red Rock River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A004_130	JONES CREEK, headwaters to mouth (Winslow Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A005_020	LOWER RED ROCK LAKE	Sedimentation/Siltation	2000	Unassigned	L
Missouri Headwaters	Red Rock	10020001	MT41A005_030	UPPER RED ROCK LAKE	Sedimentation/Siltation	1990	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B001_010	BEAVERHEAD RIVER, Clark Canyon Dam to Grasshopper Creek	Nitrogen, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B001_010	BEAVERHEAD RIVER, Clark Canyon Dam to Grasshopper Creek	Phosphorus, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B001_020	BEAVERHEAD RIVER, Grasshopper Creek to mouth (Jefferson River)	Nitrogen, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B001_020	BEAVERHEAD RIVER, Grasshopper Creek to mouth (Jefferson River)	Phosphorus, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_010	GRASSHOPPER CREEK, headwaters to mouth (Beaverhead River)	Nitrogen, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_010	GRASSHOPPER CREEK, headwaters to mouth (Beaverhead River)	Phosphorus, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_030	BLACKTAIL DEER CREEK, headwaters to mouth (Beaverhead River)	Nitrogen, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_030	BLACKTAIL DEER CREEK, headwaters to mouth (Beaverhead River)	Temperature	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_070	WEST FORK DYCE CREEK, headwaters to mouth (Dyce Creek)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_080	SPRING CREEK, headwaters to mouth (Beaverhead River)	Nitrogen, Total	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Missouri Headwaters	Beaverhead	10020002	MT41B002_080	SPRING CREEK, headwaters to mouth (Beaverhead River)	Phosphorus, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_090	RATTLESNAKE CREEK, from the Dillon PWS off-channel well T7S R10W S11 to the mouth (Van Camp Slough)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_090	RATTLESNAKE CREEK, from the Dillon PWS off-channel well T7S R10W S11 to the mouth (Van Camp Slough)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_110	CLARK CANYON CREEK, headwaters to mouth (Beaverhead River), T9S R10W S28	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_120	RESERVOIR CREEK, headwaters to mouth (Grasshopper Creek)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_120	RESERVOIR CREEK, headwaters to mouth (Grasshopper Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_131	STONE CREEK, Un-named tributary at T6S R7W S34 to Staudaher Bishop Ditch	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_131	STONE CREEK, Un-named tributary at T6S R7W S34 to Staudaher Bishop Ditch	Nitrogen, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_131	STONE CREEK, Un-named tributary at T6S R7W S34 to Staudaher Bishop Ditch	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_132	STONE CREEK, Left and Middle Fork to un-named tributary, T6S R7W S34	Nitrate/Nitrite (Nitrite + Nitrate as N)	2000	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_132	STONE CREEK, Left and Middle Fork to un-named tributary, T6S R7W S34	Nitrogen, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_132	STONE CREEK, Left and Middle Fork to un-named tributary, T6S R7W S34	Phosphorus, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_140	DYCE CREEK, confluence of East and West Forks to Grasshopper Creek	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_140	DYCE CREEK, confluence of East and West Forks to Grasshopper Creek	Phosphorus, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_160	STEEL CREEK, headwaters to mouth (Driscoll Creek), T6S R12W S18	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_160	STEEL CREEK, headwaters to mouth (Driscoll Creek), T6S R12W S18	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_170	TAYLOR CREEK, headwaters to mouth (Grasshopper Creek)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_170	TAYLOR CREEK, headwaters to mouth (Grasshopper Creek)	Phosphorus, Total	2018	Unassigned	L
Missouri Headwaters	Beaverhead	10020002	MT41B002_180	SCUDDER CREEK, headwaters to mouth (Grasshopper Creek), T6S R12W S19	Nitrogen, Total	2010	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C001_010	RUBY RIVER, Ruby Dam to mouth (Beaverhead River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C001_020	RUBY RIVER, confluence of East, West, and Middle Forks to Ruby Reservoir	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_010	WISCONSIN CREEK, headwaters to mouth (Ruby River)	Arsenic	2002	Unassigned	L

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Missouri Headwaters	Ruby	10020003	MT41C002_010	WISCONSIN CREEK, headwaters to mouth (Ruby River)	Copper	2002	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_010	WISCONSIN CREEK, headwaters to mouth (Ruby River)	Lead	2002	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_010	WISCONSIN CREEK, headwaters to mouth (Ruby River)	Mercury	2002	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_020	MILL CREEK, headwaters to mouth (Ruby River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_020	MILL CREEK, headwaters to mouth (Ruby River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_040	ALDER GULCH, headwaters to mouth (Ruby River)	Lead	2000	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_040	ALDER GULCH, headwaters to mouth (Ruby River)	Manganese	2000	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_040	ALDER GULCH, headwaters to mouth (Ruby River)	Mercury	2000	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_040	ALDER GULCH, headwaters to mouth (Ruby River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_050	RAMSHORN CREEK, headwaters to mouth (Ruby River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_060	CURRANT CREEK, headwaters to mouth (Ramshorn Creek), T4S R4W S35	Copper	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_060	CURRANT CREEK, headwaters to mouth (Ramshorn Creek), T4S R4W S35	Lead	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_060	CURRANT CREEK, headwaters to mouth (Ramshorn Creek), T4S R4W S35	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_060	CURRANT CREEK, headwaters to mouth (Ramshorn Creek), T4S R4W S35	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_090	CALIFORNIA CREEK, headwaters to mouth (Ruby River), T5S R4W S30	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_100	GARDEN CREEK, headwaters to mouth (Ruby Reservoir)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_100	GARDEN CREEK, headwaters to mouth (Ruby Reservoir)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C002_110	MORMON CREEK, headwaters to mouth (Upper end of Ruby River Reservoir)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_030	COTTONWOOD CREEK, headwaters to mouth (Ruby River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_040	EAST FORK RUBY RIVER, headwaters to mouth (Ruby River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_040	EAST FORK RUBY RIVER, headwaters to mouth (Ruby River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_060	SWEETWATER CREEK, headwaters to mouth (Ruby River)	Temperature	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_090	MIDDLE FORK RUBY RIVER, Divide Creek to mouth (Ruby River)	Nitrogen, Total	2006	Unassigned	L

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Missouri Headwaters	Ruby	10020003	MT41C003_090	MIDDLE FORK RUBY RIVER, Divide Creek to mouth (Ruby River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_110	POISON CREEK, headwaters to mouth (Ruby River), T11S R3W S18	Cadmium	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_110	POISON CREEK, headwaters to mouth (Ruby River), T11S R3W S18	Lead	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_110	POISON CREEK, headwaters to mouth (Ruby River), T11S R3W S18	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_110	POISON CREEK, headwaters to mouth (Ruby River), T11S R3W S18	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_120	BASIN CREEK, headwaters to mouth (Ruby River), T11S R3W S20	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_120	BASIN CREEK, headwaters to mouth (Ruby River), T11S R3W S20	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_130	BURNT CREEK, headwaters to mouth (Ruby River), T10S R3W S21	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_130	BURNT CREEK, headwaters to mouth (Ruby River), T10S R3W S21	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Ruby	10020003	MT41C003_140	HAWKEYE CREEK, headwaters to mouth (Middle Fork Ruby River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D001_010	BIG HOLE RIVER, Divide Creek to mouth (Jefferson River)	Cadmium	2000	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D001_010	BIG HOLE RIVER, Divide Creek to mouth (Jefferson River)	Copper	2000	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D001_010	BIG HOLE RIVER, Divide Creek to mouth (Jefferson River)	Lead	2000	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D001_010	BIG HOLE RIVER, Divide Creek to mouth (Jefferson River)	Zinc	2000	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D002_020	CAMP CREEK, headwaters to mouth (Big Hole River)	Arsenic	2006	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D002_070	SASSMAN GULCH, headwaters to the end of the stream reach in T4S R9W S9	Arsenic	1988	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D002_120	WICKIUP CREEK, headwaters to mouth (Camp Creek), T2S R8W S1	Lead	1994	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D002_120	WICKIUP CREEK, headwaters to mouth (Camp Creek), T2S R8W S1	Mercury	1994	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D002_120	WICKIUP CREEK, headwaters to mouth (Camp Creek), T2S R8W S1	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Lower Big Hole	10020004	MT41D002_120	WICKIUP CREEK, headwaters to mouth (Camp Creek), T2S R8W S1	Sediment	1994	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D002_150	CHARCOAL CREEK, headwaters to mouth (Big Hole River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D002_150	CHARCOAL CREEK, headwaters to mouth (Big Hole River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D002_150	CHARCOAL CREEK, headwaters to mouth (Big Hole River)	Sedimentation/Siltation	2006	Unassigned	L

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Missouri Headwaters	Middle Big Hole	10020004	MT41D003_020	JERRY CREEK, headwaters to mouth (Big Hole River)	Lead	2000	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D003_070	CALIFORNIA CREEK, headwaters to mouth (French Creek-Deep Creek)	Iron	1992	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D003_080	OREGON CREEK, headwaters to mouth (California Creek-French Creek-Deep Creek)	Lead	2000	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D003_120	TWELVEMILE CREEK, headwaters to mouth (Deep Creek)	Sedimentation/Siltation	1992	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D003_160	FISHTRAP CREEK, confluence of West & Middle Forks to mouth (Big Hole River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D003_170	PINTLAR CREEK, headwaters to mouth (Big Hole River)	Temperature	2000	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D003_230	GOLD CREEK, headwaters to mouth (Wise River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	North Fork Big Hole	10020004	MT41D004_020	MUSSIGBROD CREEK, headwaters to mouth (North Fork Big Hole River)	Lead	2000	Unassigned	L
Missouri Headwaters	North Fork Big Hole	10020004	MT41D004_030	JOHNSON CREEK, headwaters to mouth (North Fork Big Hole River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	North Fork Big Hole	10020004	MT41D004_040	SCHULTZ CREEK, headwaters to mouth (Johnson Creek)	Sedimentation/Siltation	1992	Unassigned	L
Missouri Headwaters	North Fork Big Hole	10020004	MT41D004_060	TIE CREEK, headwaters to mouth (North Fork Big Hole River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	North Fork Big Hole	10020004	MT41D004_090	JOSEPH CREEK, headwaters to mouth (Trail Creek)	Copper	2002	Unassigned	L
Missouri Headwaters	North Fork Big Hole	10020004	MT41D004_090	JOSEPH CREEK, headwaters to mouth (Trail Creek)	Lead	2002	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_110	SWAMP CREEK, headwaters to mouth (Big Hole River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_110	SWAMP CREEK, headwaters to mouth (Big Hole River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_120	ROCK CREEK, headwaters to mouth (Big Hole River)	Nitrogen, Total	2002	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_120	ROCK CREEK, headwaters to mouth (Big Hole River)	Phosphorus, Total	2002	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_150	GOVERNOR CREEK, headwaters to mouth (Warm Springs Creek)	Copper	2000	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_160	PINE CREEK, headwaters to mouth (Andrus Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_170	FOX CREEK, headwaters to mouth (Governor Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_180	WARM SPRINGS CREEK, headwaters to mouth (Big Hole River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_180	WARM SPRINGS CREEK, headwaters to mouth (Big Hole River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_180	WARM SPRINGS CREEK, headwaters to mouth (Big Hole River)	Sedimentation/Siltation	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_190	STEEL CREEK, headwaters to mouth (Big Hole River)	Cadmium	2000	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_190	STEEL CREEK, headwaters to mouth (Big Hole River)	Copper	2000	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_210	McVEY CREEK, headwaters to mouth (Big Hole River)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Upper Big Hole	10020004	MT41D004_210	McVEY CREEK, headwaters to mouth (Big Hole River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Middle Big Hole	10020004	MT41D004_230	SAWLOG CREEK, headwaters to mouth (Big Hole River)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F001_010	MADISON RIVER, Madison Dam to mouth (Missouri River)	Arsenic	2016	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F001_010	MADISON RIVER, Madison Dam to mouth (Missouri River)	Sedimentation/Siltation	2000	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F001_010	MADISON RIVER, Madison Dam to mouth (Missouri River)	Temperature	1990	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F001_020	MADISON RIVER, Quake Lake to Ennis Lake	Arsenic	2016	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F001_030	MADISON RIVER, Hebgen Dam to Quake Lake	Arsenic	2016	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F002_020	ELK CREEK, headwaters to mouth (Madison River)	Arsenic	2016	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F004_010	BLAINE SPRING CREEK, headwaters to mouth (Madison River, T7S R1W S6)	Arsenic	2016	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F004_010	BLAINE SPRING CREEK, headwaters to mouth (Madison River, T7S R1W S6)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F004_020	O'DELL SPRING CREEK, headwaters to mouth (Madison River)	Arsenic	2000	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F004_100	WEST FORK MADISON RIVER, headwaters to mouth (Madison River)	Temperature	2000	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F004_130	MOORE CREEK, springs to mouth (Fletcher Channel), T5S R1W S15	Arsenic	2000	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F004_150	BUFORD CREEK, headwaters to confluence with West Fork Madison River	Arsenic	2006	Unassigned	L
Missouri Headwaters	Madison	10020007	MT41F005_030	ENNIS LAKE	Arsenic	2016	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G001_011	JEFFERSON RIVER, headwaters to confluence of Jefferson Slough	Sedimentation/Siltation	1988	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G001_012	JEFFERSON RIVER, confluence of Jefferson Slough to mouth (Missouri River)	Sedimentation/Siltation	1988	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G001_012	JEFFERSON RIVER, confluence of Jefferson Slough to mouth (Missouri River)	Temperature	2000	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_010	BIG PIPESTONE CREEK, headwaters to mouth (Jefferson Slough), T1N R4W S11	Nitrogen, Total	1990	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_010	BIG PIPESTONE CREEK, headwaters to mouth (Jefferson Slough), T1N R4W S11	Phosphorus, Total	1990	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_010	BIG PIPESTONE CREEK, headwaters to mouth (Jefferson Slough), T1N R4W S11	Temperature	2000	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_020	HALFWAY CREEK, headwaters to mouth (Big Pipestone Creek-Jefferson River)	Sedimentation/Siltation	1992	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_040	LITTLE PIPESTONE CREEK, headwaters to mouth (Big Pipestone Creek)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_040	LITTLE PIPESTONE CREEK, headwaters to mouth (Big Pipestone Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_050	NORTH WILLOW CREEK, headwaters to mouth (Willow Creek)	Lead	1992	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_050	NORTH WILLOW CREEK, headwaters to mouth (Willow Creek)	Mercury	1992	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_060	SOUTH BOULDER RIVER, headwaters to mouth (Jefferson River)	Arsenic	2000	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_060	SOUTH BOULDER RIVER, headwaters to mouth (Jefferson River)	Copper	2000	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_060	SOUTH BOULDER RIVER, headwaters to mouth (Jefferson River)	Lead	2000	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_060	SOUTH BOULDER RIVER, headwaters to mouth (Jefferson River)	Mercury	2000	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_060	SOUTH BOULDER RIVER, headwaters to mouth (Jefferson River)	Phosphorus, Total	2000	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_080	WILLOW CREEK, North and South Fork confluence to mouth (Jefferson River)	Temperature	2000	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_080	WILLOW CREEK, North and South Fork confluence to mouth (Jefferson River)	Zinc	2000	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_090	NORWEGIAN CREEK, headwaters to mouth (Willow Creek Reservoir)	Arsenic	2006	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_090	NORWEGIAN CREEK, headwaters to mouth (Willow Creek Reservoir)	Nitrogen, Total	2006	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_090	NORWEGIAN CREEK, headwaters to mouth (Willow Creek Reservoir)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_090	NORWEGIAN CREEK, headwaters to mouth (Willow Creek Reservoir)	Sedimentation/Siltation	2006	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_090	NORWEGIAN CREEK, headwaters to mouth (Willow Creek Reservoir)	Temperature	2006	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_130	SOUTH WILLOW CREEK, headwaters to mouth (Willow Creek)	Sedimentation/Siltation	1992	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_130	SOUTH WILLOW CREEK, headwaters to mouth (Willow Creek)	Zinc	1992	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_141	WHITETAIL DEER CREEK, headwaters to mouth (Jefferson Slough)	Ammonia, Un-ionized	2006	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_141	WHITETAIL DEER CREEK, headwaters to mouth (Jefferson Slough)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1994	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_141	WHITETAIL DEER CREEK, headwaters to mouth (Jefferson Slough)	Nitrogen, Total	1994	Unassigned	L

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Missouri Headwaters	Upper Jefferson	10020005	MT41G002_141	WHITETAIL DEER CREEK, headwaters to mouth (Jefferson Slough)	Phosphorus, Total	1994	Unassigned	L
Missouri Headwaters	Lower Jefferson	10020005	MT41G002_150	CHARCOAL CREEK, headwaters to mouth (Pony Creek)	Sedimentation/Siltation	1994	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_160	FITZ CREEK, headwaters to mouth (Whitetail Deer Creek)	Phosphorus, Total	2006	Unassigned	L
Missouri Headwaters	Upper Jefferson	10020005	MT41G002_160	FITZ CREEK, headwaters to mouth (Whitetail Deer Creek)	Sedimentation/Siltation	1996	Unassigned	L
Missouri Headwaters	Upper Gallatin	10020008	MT41H001_021	GALLATIN RIVER, Yellowstone National Park Boundary to Spanish Creek	Excess Algal Growth	2020	Unassigned	M
Missouri Headwaters	Upper Gallatin	10020008	MT41H005_010	STORM CASTLE CREEK, headwaters to the mouth (Gallatin River), T4S R4E S33	Phosphorus, Total	2000	Unassigned	L
Missouri Headwaters	Upper Gallatin	10020008	MT41H005_020	TAYLOR FORK, Lee Metcalf Wilderness boundary to mouth (Gallatin River)	Sedimentation/Siltation	2000	Unassigned	L
Missouri Headwaters	Upper Gallatin	10020008	MT41H005_030	CACHE CREEK, headwaters to mouth (Taylor Fork)	Sedimentation/Siltation	1988	Unassigned	L
Missouri Headwaters	Upper Gallatin	10020008	MT41H005_040	WEST FORK GALLATIN RIVER, confluence Middle and North Forks to mouth (Gallatin River)	Phosphorus, Total	2000	Unassigned	L
Missouri Headwaters	Upper Gallatin	10020008	MT41H005_060	SOUTH FORK WEST FORK GALLATIN RIVER, headwaters to mouth (West Fork Gallatin River)	Phosphorus, Total	2000	Unassigned	L
Missouri-Poplar	Redwater	10060002	MT40P002_010	EAST REDWATER CREEK, headwaters to mouth (Redwater River)	Sedimentation/Siltation	1992	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q001_011	POPLAR RIVER, Confluence of East & Middle Forks to Fort Peck Reservation boundary, T33N R48E S12	Escherichia coli (E. Coli)	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q001_011	POPLAR RIVER, Confluence of East & Middle Forks to Fort Peck Reservation boundary, T33N R48E S12	Sedimentation/Siltation	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q001_011	POPLAR RIVER, Confluence of East & Middle Forks to Fort Peck Reservation boundary, T33N R48E S12	Temperature	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q001_012	MIDDLE FORK POPLAR RIVER, headwater (confluence of Lost Child & Goose Creeks) to the mouth (Poplar River)	Escherichia coli (E. Coli)	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q001_012	MIDDLE FORK POPLAR RIVER, headwater (confluence of Lost Child & Goose Creeks) to the mouth (Poplar River)	Sedimentation/Siltation	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q001_012	MIDDLE FORK POPLAR RIVER, headwater (confluence of Lost Child & Goose Creeks) to the mouth (Poplar River)	Temperature	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q002_010	BUTTE CREEK, headwaters to mouth (Poplar River)	Iron	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q002_010	BUTTE CREEK, headwaters to mouth (Poplar River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q002_010	BUTTE CREEK, headwaters to mouth (Poplar River)	Nitrogen, Total	2006	Unassigned	L

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Missouri-Poplar	Lower Missouri	10060003	MT40Q002_010	BUTTE CREEK, headwaters to mouth (Poplar River)	Phosphorus, Total	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q002_010	BUTTE CREEK, headwaters to mouth (Poplar River)	Sodium	1988	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q002_010	BUTTE CREEK, headwaters to mouth (Poplar River)	Specific Conductivity	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060003	MT40Q002_020	EAST FORK POPLAR RIVER, Canada border to mouth (Poplar River)	Iron	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_010	BIG MUDDY CREEK, north corner of Fort Peck Reservation boundary to mouth (Missouri River)	Nitrogen, Total	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_010	BIG MUDDY CREEK, north corner of Fort Peck Reservation boundary to mouth (Missouri River)	Phosphorus, Total	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_010	BIG MUDDY CREEK, north corner of Fort Peck Reservation boundary to mouth (Missouri River)	Sedimentation/Siltation	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_020	BIG MUDDY CREEK, Canadian border to northern boundary of Fort Peck Reservation	Copper	2002	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_020	BIG MUDDY CREEK, Canadian border to northern boundary of Fort Peck Reservation	Lead	2002	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_020	BIG MUDDY CREEK, Canadian border to northern boundary of Fort Peck Reservation	Mercury	2002	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_020	BIG MUDDY CREEK, Canadian border to northern boundary of Fort Peck Reservation	Nitrogen, Total	1996	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_020	BIG MUDDY CREEK, Canadian border to northern boundary of Fort Peck Reservation	Organic Enrichment	2000	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_020	BIG MUDDY CREEK, Canadian border to northern boundary of Fort Peck Reservation	Phosphorus, Total	1996	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R001_020	BIG MUDDY CREEK, Canadian border to northern boundary of Fort Peck Reservation	Zinc	2002	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R003_010	MEDICINE LAKE	Cadmium	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R003_010	MEDICINE LAKE	Lead	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060006	MT40R003_010	MEDICINE LAKE	Mercury	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060001	MT40S001_011	MISSOURI RIVER, Fort Peck Dam to Milk River	Temperature	2002	Unassigned	L
Missouri-Poplar	Lower Missouri	10060001	MT40S001_012	MISSOURI RIVER, Milk River to Poplar River	Temperature	2002	Unassigned	L
Missouri-Poplar	Redwater	10060001	MT40S002_030	SAND CREEK, confluence of East and West Forks to mouth (Missouri River)	Sedimentation/Siltation	1990	Unassigned	L
Missouri-Poplar	Lower Missouri	10060005	MT40S003_010	MISSOURI RIVER, Poplar River to North Dakota border	Temperature	2000	Unassigned	L
Missouri-Poplar	Lower Missouri	10060005	MT40S004_010	CHARLIE CREEK, East and Middle Charlie Creek to mouth (Missouri River)	Iron	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060005	MT40S004_010	CHARLIE CREEK, East and Middle Charlie Creek to mouth (Missouri River)	Nitrogen, Total	2006	Unassigned	L
Missouri-Poplar	Lower Missouri	10060005	MT40S004_010	CHARLIE CREEK, East and Middle Charlie Creek to mouth (Missouri River)	Specific Conductivity	1988	Unassigned	L
Missouri-Poplar	Lower Missouri	10060005	MT40S004_020	HARDSCRABBLE CREEK, headwaters to mouth (Missouri River)	Nitrogen, Total	2006	Unassigned	L

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Missouri-Poplar	Lower Missouri	10060005	MT40S004_020	HARDSCRABBLE CREEK, headwaters to mouth (Missouri River)	Specific Conductivity	1992	Unassigned	L
Missouri-Poplar	Lower Missouri	10060005	MT40S004_020	HARDSCRABBLE CREEK, headwaters to mouth (Missouri River)	Total Dissolved Solids (TDS)	1992	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A001_010	MUSSELSHELL RIVER, North & South Fork confluence to Deadmans Basin Diversion Canal	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A001_020	MUSSELSHELL RIVER, Deadmans Basin Supply Canal to HUC boundary near Roundup	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A001_020	MUSSELSHELL RIVER, Deadmans Basin Supply Canal to HUC boundary near Roundup	Lead	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A001_020	MUSSELSHELL RIVER, Deadmans Basin Supply Canal to HUC boundary near Roundup	Sediment	1998	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_012	NORTH FORK MUSSELSHELL RIVER, Bair Reservoir to confluence with South Fork Musselshell River	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_012	NORTH FORK MUSSELSHELL RIVER, Bair Reservoir to confluence with South Fork Musselshell River	Phosphorus, Total	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_030	TRAIL CREEK, headwaters to mouth (North Fork Musselshell River)	Phosphorus, Total	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_030	TRAIL CREEK, headwaters to mouth (North Fork Musselshell River)	Sediment	2006	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_040	MILL CREEK, headwaters to mouth (North Fork Musselshell River)	Sediment	1992	Unassigned	L
Musselshell	Careless Creek	10040201	MT40A002_050	CARELESS CREEK, confluence with Swimming Woman Creek to mouth (Musselshell River)	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_070	FISH CREEK, headwaters to mouth (Musselshell River)	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_070	FISH CREEK, headwaters to mouth (Musselshell River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_080	PAINTED ROBE CREEK, headwaters to mouth (Musselshell River)	Nitrogen, Total	1994	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_080	PAINTED ROBE CREEK, headwaters to mouth (Musselshell River)	Salinity	1994	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_080	PAINTED ROBE CREEK, headwaters to mouth (Musselshell River)	Sulfate	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_090	HALF BREED CREEK, headwaters to mouth (Musselshell River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1992	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_110	MILLER CREEK, confluence of East and West Forks Miller Creek to mouth (Little Elk Creek)	Sediment	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_130	BIG COULEE CREEK, confluence of North and South Forks Big Coulee Creek to mouth (Musselshell River)	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_130	BIG COULEE CREEK, confluence of North and South Forks Big Coulee Creek to mouth (Musselshell River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2018	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_130	BIG COULEE CREEK, confluence of North and South Forks Big Coulee Creek to mouth (Musselshell River)	Nitrogen, Total	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040201	MT40A002_130	BIG COULEE CREEK, confluence of North and South Forks Big Coulee Creek to mouth (Musselshell River)	Selenium	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040203	MT40B001_021	FLATWILLOW CREEK, headwaters to Highway 87 bridge	Iron	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040203	MT40B001_021	FLATWILLOW CREEK, headwaters to Highway 87 bridge	Sediment	2000	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040203	MT40B001_022	FLATWILLOW CREEK, Highway 87 bridge to mouth (Musselshell River)	Iron	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040203	MT40B001_022	FLATWILLOW CREEK, Highway 87 bridge to mouth (Musselshell River)	Selenium	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040203	MT40B001_040	NORTH FORK FLATWILLOW CREEK, headwaters to confluence with South Fork	Sediment	2002	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040204	MT40B002_001	BOX ELDER CREEK, headwaters to mouth	Iron	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040204	MT40B002_010	McDONALD CREEK, North and South Forks to mouth (Box Elder Creek)	Iron	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040204	MT40B002_010	McDONALD CREEK, North and South Forks to mouth (Box Elder Creek)	Salinity	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040204	MT40B002_021	FORDS CREEK, East Fork Fords Creek to mouth (Box Elder Creek)	Iron	2018	Unassigned	L
Musselshell	Flatwillow - Box Elder	10040204	MT40B002_070	SOUTH FORK McDONALD CREEK, headwaters to confluence with North Fork McDonald Creek	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040202	MT40C001_010	MUSSELSHELL RIVER, HUC boundary near Roundup to Flatwillow Creek	Iron	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040202	MT40C002_010	NORTH WILLOW CREEK, headwaters to mouth (Musselshell River)	Iron	2006	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040202	MT40C002_010	NORTH WILLOW CREEK, headwaters to mouth (Musselshell River)	Nitrogen, Total	2006	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040202	MT40C002_010	NORTH WILLOW CREEK, headwaters to mouth (Musselshell River)	Phosphorus, Total	2006	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040202	MT40C002_010	NORTH WILLOW CREEK, headwaters to mouth (Musselshell River)	Salinity	2018	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040202	MT40C002_010	NORTH WILLOW CREEK, headwaters to mouth (Musselshell River)	Sedimentation/Siltation	1994	Unassigned	L
Musselshell	Upper - Middle Musselshell	10040202	MT40C002_010	NORTH WILLOW CREEK, headwaters to mouth (Musselshell River)	Sulfate	2006	Unassigned	L
Musselshell	Lower Musselshell	10040205	MT40C003_010	MUSSELSHELL RIVER, Flatwillow Creek to Fort Peck Reservoir	Iron	2018	Unassigned	L
Pend Oreille	Lower Flathead	17010212	MT76L001_010	FLATHEAD RIVER, Flathead Reservation boundary to mouth (Clark Fork River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2010	Unassigned	L
Pend Oreille	Lower Flathead	17010212	MT76L001_010	FLATHEAD RIVER, Flathead Reservation boundary to mouth (Clark Fork River)	Nitrogen, Total	2010	Unassigned	L

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Pend Oreille	Lower Flathead	17010212	MT76L001_010	FLATHEAD RIVER, Flathead Reservation boundary to mouth (Clark Fork River)	Phosphorus, Total	2010	Unassigned	L
Pend Oreille	Lower Flathead	17010212	MT76L001_010	FLATHEAD RIVER, Flathead Reservation boundary to mouth (Clark Fork River)	Sedimentation/Siltation	1990	Unassigned	L
Pend Oreille	Lower Flathead	17010212	MT76L001_010	FLATHEAD RIVER, Flathead Reservation boundary to mouth (Clark Fork River)	Temperature	1990	Unassigned	L
Pend Oreille	Clark Fork River	17010213	MT76N001_010	CLARK FORK RIVER, Flathead River to Thompson Falls Reservoir	Dissolved Gas Supersaturation	2014	Unassigned	L
Pend Oreille	Clark Fork River	17010213	MT76N001_020	CLARK FORK RIVER, Noxon Dam to Noxon Bridge	Dissolved Gas Supersaturation	2006	Unassigned	L
Pend Oreille	Clark Fork River	17010213	MT76N001_020	CLARK FORK RIVER, Noxon Dam to Noxon Bridge	Temperature	2006	Unassigned	L
Pend Oreille	Flathead - Stillwater	17010208	MT76O002_040	SPRING CREEK, headwaters to mouth (Ashley Creek)	Arsenic	2006	Unassigned	L
Pend Oreille	Flathead Lake	17010208	MT76O003_010	FLATHEAD LAKE	Mercury	2000	Unassigned	L
Pend Oreille	Flathead Lake	17010208	MT76O003_010	FLATHEAD LAKE	Polychlorinated Biphenyls (PCBs)	2000	Unassigned	L
Pend Oreille	Flathead - Stillwater	17010210	MT76P003_010	WHITEFISH RIVER, Whitefish Lake to mouth (Stillwater River)	Oil and Grease	2000	Unassigned	L
Pend Oreille	Flathead - Stillwater	17010210	MT76P003_010	WHITEFISH RIVER, Whitefish Lake to mouth (Stillwater River)	Polychlorinated Biphenyls (PCBs)	2000	Unassigned	L
Pend Oreille	Flathead - Stillwater	17010210	MT76P004_010	WHITEFISH LAKE	Mercury	2000	Unassigned	L
Pend Oreille	Flathead - Stillwater	17010210	MT76P004_010	WHITEFISH LAKE	Polychlorinated Biphenyls (PCBs)	2000	Unassigned	L
Powder	Powder	10090208	MT42I001_010	LITTLE POWDER RIVER, Wyoming border to mouth (Powder River)	Salinity	1996	Unassigned	L
Powder	Powder	10090207	MT42J001_010	POWDER RIVER, Wyoming border to Little Powder River	Salinity	2008	Unassigned	L
Powder	Powder	10090209	MT42J003_011	POWDER RIVER, Little Powder River to Mizpah Creek	Salinity	1996	Unassigned	L
Powder	Powder	10090209	MT42J003_012	POWDER RIVER, Mizpah Creek to mouth (Yellowstone River)	Salinity	1996	Unassigned	L
Powder	Powder	10090209	MT42J004_010	STUMP CREEK, headwaters to mouth (Powder River)	Salinity	2008	Unassigned	L
Powder	Powder	10090210	MT42J005_011	MIZPAH CREEK, headwaters to Corral Creek	Salinity	2008	Unassigned	L
Powder	Powder	10090210	MT42J005_012	MIZPAH CREEK, Corral Creek to the mouth (Powder River)	Salinity	2010	Unassigned	L
Tongue	Tongue	10090101	MT42B001_010	TONGUE RIVER, Wyoming border to Tongue River Reservoir	Iron	2008	Unassigned	L
Tongue	Tongue	10090101	MT42B002_031	HANGING WOMAN CREEK, Stroud Creek to mouth (Tongue River)	Iron	1996	Unassigned	L
Tongue	Tongue	10090101	MT42B002_031	HANGING WOMAN CREEK, Stroud Creek to mouth (Tongue River)	Salinity	2008	Unassigned	L
Tongue	Tongue	10090101	MT42B002_031	HANGING WOMAN CREEK, Stroud Creek to mouth (Tongue River)	Sedimentation/Siltation	2000	Unassigned	L
Tongue	Tongue	10090101	MT42B002_032	HANGING WOMAN CREEK, Wyoming border to Stroud Creek	Salinity	1996	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Tongue	Tongue	10090101	MT42B003_010	TONGUE RIVER RESERVOIR	Dissolved Oxygen	2008	Unassigned	L
Tongue	Tongue	10090101	MT42B003_010	TONGUE RIVER RESERVOIR	Sediment	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Cadmium	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Copper	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Iron	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Lead	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Nickel	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Salinity	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Sediment	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_011	TONGUE RIVER, Twelve Mile Dam to mouth (Yellowstone River)	Zinc	2008	Unassigned	L
Tongue	Tongue	10090102	MT42C001_013	TONGUE RIVER, Hanging Woman Creek to Beaver Creek	Iron	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C001_013	TONGUE RIVER, Hanging Woman Creek to Beaver Creek	Sediment	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C001_014	TONGUE RIVER, Beaver Creek to Twelve Mile Dam, T6N R48E S29	Iron	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C001_014	TONGUE RIVER, Beaver Creek to Twelve Mile Dam, T6N R48E S29	Sediment	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C001_014	TONGUE RIVER, Beaver Creek to Twelve Mile Dam, T6N R48E S29	Specific Conductivity	2020	Scheduled	H
Tongue	Tongue	10090102	MT42C002_020	OTTER CREEK, headwaters to mouth (Tongue River)	Iron	1996	Scheduled	M
Tongue	Tongue	10090102	MT42C002_020	OTTER CREEK, headwaters to mouth (Tongue River)	Salinity	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C002_061	PUMPKIN CREEK, headwaters to Little Pumpkin Creek	Salinity	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C002_061	PUMPKIN CREEK, headwaters to Little Pumpkin Creek	Temperature	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C002_062	PUMPKIN CREEK, Little Pumpkin Creek to the mouth (Tongue River)	Salinity	1996	Unassigned	L
Tongue	Tongue	10090102	MT42C002_062	PUMPKIN CREEK, Little Pumpkin Creek to the mouth (Tongue River)	Temperature	1996	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I001_011	MISSOURI RIVER, headwaters to Toston Dam	Arsenic	2006	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I001_011	MISSOURI RIVER, headwaters to Toston Dam	Nitrogen, Total	1988	Scheduled	M
Upper Missouri	Missouri River	10030101	MT41I001_011	MISSOURI RIVER, headwaters to Toston Dam	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I001_012	MISSOURI RIVER, Toston Dam to Canyon Ferry Reservoir	Cadmium	2000	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Missouri	Missouri River	10030101	MT41I001_012	MISSOURI RIVER, Toston Dam to Canyon Ferry Reservoir	Copper	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I001_012	MISSOURI RIVER, Toston Dam to Canyon Ferry Reservoir	Lead	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I001_012	MISSOURI RIVER, Toston Dam to Canyon Ferry Reservoir	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_020	BATTLE CREEK, headwaters to mouth (Sixteenmile Creek)	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_020	BATTLE CREEK, headwaters to mouth (Sixteenmile Creek)	Sedimentation/Siltation	1990	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_020	BATTLE CREEK, headwaters to mouth (Sixteenmile Creek)	Temperature	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_030	BEAVER CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Cadmium	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_030	BEAVER CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Chromium, Total	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_030	BEAVER CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Lead	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_030	BEAVER CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_030	BEAVER CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Phosphorus, Total	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_030	BEAVER CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Silver	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_030	BEAVER CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Zinc	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_041	CONFEDERATE GULCH, headwaters to Hunter Gulch	Cadmium	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_041	CONFEDERATE GULCH, headwaters to Hunter Gulch	Nitrate/Nitrite (Nitrite + Nitrate as N)	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_042	CONFEDERATE GULCH, Hunter Gulch to mouth (Canyon Ferry Reservoir)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_042	CONFEDERATE GULCH, Hunter Gulch to mouth (Canyon Ferry Reservoir)	Phosphorus, Total	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_050	CROW CREEK, National Forest boundary to mouth (Missouri River)	Nitrogen, Total	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_050	CROW CREEK, National Forest boundary to mouth (Missouri River)	Phosphorus, Total	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_050	CROW CREEK, National Forest boundary to mouth (Missouri River)	Sedimentation/Siltation	1996	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_060	CROW CREEK, Crow Creek Falls to National Forest boundary	Copper	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_060	CROW CREEK, Crow Creek Falls to National Forest boundary	Lead	2000	Unassigned	L
Upper Missouri	Deep Creek	10030101	MT41I002_070	DEEP CREEK, National Forest boundary to mouth (Missouri River)	Temperature	2016	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Missouri	Canyon Ferry	10030101	MT41I002_080	DRY CREEK, headwaters to mouth (Missouri River)	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_080	DRY CREEK, headwaters to mouth (Missouri River)	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_080	DRY CREEK, headwaters to mouth (Missouri River)	Temperature	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_090	HELLGATE GULCH, headwaters to mouth (Canyon Ferry Reservoir)	Mercury	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_100	INDIAN CREEK, headwaters to mouth (Missouri River)	Arsenic	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_100	INDIAN CREEK, headwaters to mouth (Missouri River)	Cadmium	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_100	INDIAN CREEK, headwaters to mouth (Missouri River)	Lead	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_100	INDIAN CREEK, headwaters to mouth (Missouri River)	Mercury	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_110	MAGPIE CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_110	MAGPIE CREEK, headwaters to mouth (Canyon Ferry Reservoir)	Sedimentation/Siltation	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_120	SIXTEENMILE CREEK, Lost Creek to mouth (Missouri River)	Nitrogen, Total	1988	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_120	SIXTEENMILE CREEK, Lost Creek to mouth (Missouri River)	Phosphorus, Total	1988	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_120	SIXTEENMILE CREEK, Lost Creek to mouth (Missouri River)	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_130	WHITE GULCH, headwaters to mouth (Canyon Ferry Reservoir)	Sedimentation/Siltation	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_140	WILSON CREEK, 3.3 miles upstream to mouth (Crow Creek)	Mercury	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_150	CAVE GULCH, headwaters to mouth (Canyon Ferry Reservoir)	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_150	CAVE GULCH, headwaters to mouth (Canyon Ferry Reservoir)	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_150	CAVE GULCH, headwaters to mouth (Canyon Ferry Reservoir)	Sedimentation/Siltation	1992	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_170	EAST FORK INDIAN CREEK, headwaters to mouth (Indian Creek)	Arsenic	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_170	EAST FORK INDIAN CREEK, headwaters to mouth (Indian Creek)	Cadmium	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_170	EAST FORK INDIAN CREEK, headwaters to mouth (Indian Creek)	Lead	2000	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I002_170	EAST FORK INDIAN CREEK, headwaters to mouth (Indian Creek)	Mercury	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I003_010	CANYON FERRY RESERVOIR	Ammonia, Un-ionized	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I003_010	CANYON FERRY RESERVOIR	Arsenic	2000	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Missouri	Missouri River	10030101	MT41I003_010	CANYON FERRY RESERVOIR	Thallium	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I004_030	MISSOURI RIVER, Holter Dam to Little Prickly Pear Creek	Nitrogen, Total	1988	Scheduled	M
Upper Missouri	Missouri River	10030101	MT41I004_030	MISSOURI RIVER, Holter Dam to Little Prickly Pear Creek	Phosphorus, Total	1988	Scheduled	M
Upper Missouri	Missouri River	10030101	MT41I004_030	MISSOURI RIVER, Holter Dam to Little Prickly Pear Creek	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Holter	10030101	MT41I005_011	BEAVER CREEK, headwaters to confluence of Bridge Creek	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Holter	10030101	MT41I005_012	BEAVER CREEK, Nelson to mouth (Missouri River below Hauser Dam)	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Canyon Ferry	10030101	MT41I005_020	TROUT CREEK, headwaters to mouth (Hauser Lake)	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Holter	10030101	MT41I005_040	VIRGINIA CREEK, headwaters to mouth (Canyon Creek)	Lead	1988	Unassigned	L
Upper Missouri	Holter	10030101	MT41I005_051	LITTLE PRICKLY PEAR CREEK, North and South Forks to Clark Creek	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Holter	10030101	MT41I005_051	LITTLE PRICKLY PEAR CREEK, North and South Forks to Clark Creek	Temperature	2000	Unassigned	L
Upper Missouri	Holter	10030101	MT41I005_052	LITTLE PRICKLY PEAR CREEK, Clark Creek to mouth (Missouri River)	Temperature	2000	Unassigned	L
Upper Missouri	Holter	10030101	MT41I005_080	WOODSIDING GULCH, headwaters to mouth (Little Prickly Pear Creek), T13N R4W S33	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_020	PRICKLY PEAR CREEK, Helena WWTP Discharge Ditch to Lake Helena	Ammonia, Un-ionized	1990	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_020	PRICKLY PEAR CREEK, Helena WWTP Discharge Ditch to Lake Helena	Temperature	2000	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_030	PRICKLY PEAR CREEK, Highway 433 (Wylie Dr.) Crossing to Helena WWTP Discharge	Ammonia, Un-ionized	2006	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_030	PRICKLY PEAR CREEK, Highway 433 (Wylie Dr.) Crossing to Helena WWTP Discharge	Temperature	2000	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_090	CORBIN CREEK, headwaters to mouth (Spring Creek)	Temperature	2000	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_141	TENMILE CREEK, headwaters to confluence of Spring Creek	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_150	SILVER CREEK, headwaters to T11N R4W S30 / S31 to Lake Helena	DDE (Dichlorodiphenyldichloroethylene)	1992	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_180	NORTH FORK WARM SPRINGS CREEK, headwaters to mouth (Warmsprings Creek)	Organic Enrichment	2002	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_210	JENNIES FORK, headwaters to mouth (Silver Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Missouri	Lake Helena	10030101	MT41I006_210	JENNIES FORK, headwaters to mouth (Silver Creek)	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_020	HOLTER LAKE	Mercury	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	Arsenic	2000	Unassigned	L

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Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	DDT (Dichlorodiphenyltrichloroethane)	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	Dissolved Oxygen	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	Endosulfan sulfate	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	Endrin aldehyde	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	Mercury	2000	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	Nitrate/Nitrite (Nitrite + Nitrate as N)	2010	Unassigned	L
Upper Missouri	Missouri River	10030101	MT41I007_040	HAUSER LAKE	Phosphorus, Total	2010	Unassigned	L
Upper Missouri	Smith	10030103	MT41J001_010	SMITH RIVER, North and South Forks to Hound Creek	Escherichia coli (E. Coli)	2000	Unassigned	L
Upper Missouri	Smith	10030103	MT41J001_010	SMITH RIVER, North and South Forks to Hound Creek	Phosphorus, Total	2000	Scheduled	M
Upper Missouri	Smith	10030103	MT41J001_020	SMITH RIVER, Hound Creek to mouth (Missouri River)	Phosphorus, Total	2000	Scheduled	M
Upper Missouri	Smith	10030103	MT41J001_020	SMITH RIVER, Hound Creek to mouth (Missouri River)	Temperature	1988	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_011	NORTH FORK SMITH RIVER, Lake Sutherlin to mouth (Smith River), T9N R6E S21	Escherichia coli (E. Coli)	2000	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_011	NORTH FORK SMITH RIVER, Lake Sutherlin to mouth (Smith River), T9N R6E S21	Nitrogen, Total	2000	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_011	NORTH FORK SMITH RIVER, Lake Sutherlin to mouth (Smith River), T9N R6E S21	Phosphorus, Total	2000	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_020	HOUND CREEK, Spring Creek to mouth (Smith River)	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_040	BEAVER CREEK, headwaters to mouth (Smith River)	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_040	BEAVER CREEK, headwaters to mouth (Smith River)	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_040	BEAVER CREEK, headwaters to mouth (Smith River)	Sedimentation/Siltation	1990	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_050	BENTON GULCH, headwaters to mouth (Smith River)	Escherichia coli (E. Coli)	2000	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_060	ELK CREEK, headwaters to mouth (Camas Creek)	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_060	ELK CREEK, headwaters to mouth (Camas Creek)	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_060	ELK CREEK, headwaters to mouth (Camas Creek)	Sedimentation/Siltation	1990	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_060	ELK CREEK, headwaters to mouth (Camas Creek)	Temperature	1988	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_070	THOMPSON GULCH, headwaters to mouth (Smith River)	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_070	THOMPSON GULCH, headwaters to mouth (Smith River)	Sedimentation/Siltation	1988	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Missouri	Smith	10030103	MT41J002_081	NEWLAN CREEK, Newlan Reservoir to mouth (Smith River)	Escherichia coli (E. Coli)	2010	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_081	NEWLAN CREEK, Newlan Reservoir to mouth (Smith River)	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_081	NEWLAN CREEK, Newlan Reservoir to mouth (Smith River)	Temperature	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_082	NEWLAN CREEK, headwaters to Newlan Reservoir	Cadmium	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_082	NEWLAN CREEK, headwaters to Newlan Reservoir	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_082	NEWLAN CREEK, headwaters to Newlan Reservoir	Phosphorus, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_082	NEWLAN CREEK, headwaters to Newlan Reservoir	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_100	LITTLE CAMAS CREEK, headwaters to mouth (Camas Creek)	Nitrogen, Total	2006	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_100	LITTLE CAMAS CREEK, headwaters to mouth (Camas Creek)	Temperature	1990	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_110	CAMAS CREEK, junction of Big and Little Camas Creeks to mouth (Smith River)	Escherichia coli (E. Coli)	2000	Unassigned	L
Upper Missouri	Smith	10030103	MT41J002_120	MOOSE CREEK, headwaters to mouth (Sheep Creek)	Aluminum	2016	Unassigned	L
Upper Missouri	Sun	10030104	MT41K002_040	HUBER COULEE, headwaters to mouth (Sun River Valley Ditch)	Escherichia coli (E. Coli)	2012	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_011	MISSOURI RIVER, Sun River to Rainbow Dam	Chromium, Total	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_011	MISSOURI RIVER, Sun River to Rainbow Dam	Mercury	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_011	MISSOURI RIVER, Sun River to Rainbow Dam	Polychlorinated Biphenyls (PCBs)	2012	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_011	MISSOURI RIVER, Sun River to Rainbow Dam	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_011	MISSOURI RIVER, Sun River to Rainbow Dam	Selenium	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_011	MISSOURI RIVER, Sun River to Rainbow Dam	Turbidity	2000	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_013	MISSOURI RIVER, Rainbow Dam to Morony Dam	Arsenic	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_013	MISSOURI RIVER, Rainbow Dam to Morony Dam	Copper	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_013	MISSOURI RIVER, Rainbow Dam to Morony Dam	Polychlorinated Biphenyls (PCBs)	2012	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_013	MISSOURI RIVER, Rainbow Dam to Morony Dam	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_013	MISSOURI RIVER, Rainbow Dam to Morony Dam	Temperature	2000	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_013	MISSOURI RIVER, Rainbow Dam to Morony Dam	Turbidity	2000	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Aluminum	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Arsenic	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Cadmium	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Copper	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Iron	1992	Unassigned	L

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Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Lead	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Nitrogen, Total	1988	Scheduled	M
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Phosphorus, Total	1988	Scheduled	M
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_014	MISSOURI RIVER, Morony Dam to Marias River	Zinc	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_021	MISSOURI RIVER, Little Prickly Pear Creek to Sheep Creek	Arsenic	1992	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_021	MISSOURI RIVER, Little Prickly Pear Creek to Sheep Creek	Nitrogen, Total	1988	Scheduled	M
Upper Missouri	Missouri River	10030102	MT41Q001_021	MISSOURI RIVER, Little Prickly Pear Creek to Sheep Creek	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Missouri River	10030102	MT41Q001_022	MISSOURI RIVER, Sheep Creek to Sun River	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q002_010	LAKE CREEK, headwaters to mouth (Benton Lake)	Cadmium	1992	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q002_010	LAKE CREEK, headwaters to mouth (Benton Lake)	Salinity	1992	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q002_010	LAKE CREEK, headwaters to mouth (Benton Lake)	Sedimentation/Siltation	1992	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q002_010	LAKE CREEK, headwaters to mouth (Benton Lake)	Selenium	1992	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q002_010	LAKE CREEK, headwaters to mouth (Benton Lake)	Zinc	1992	Unassigned	L
Upper Missouri	Missouri Cascade	10030102	MT41Q002_020	COTTONWOOD CREEK, 1 mile above Stockett to mouth (Sand Coulee Creek-Missouri River)	Arsenic	2016	Unassigned	L
Upper Missouri	Missouri Cascade	10030102	MT41Q002_020	COTTONWOOD CREEK, 1 mile above Stockett to mouth (Sand Coulee Creek-Missouri River)	Copper	2016	Unassigned	L
Upper Missouri	Missouri Cascade	10030102	MT41Q002_020	COTTONWOOD CREEK, 1 mile above Stockett to mouth (Sand Coulee Creek-Missouri River)	Lead	2016	Unassigned	L
Upper Missouri	Missouri Cascade	10030102	MT41Q002_030	NUMBER FIVE COULEE, headwaters to mouth (Cottonwood Creek)	Lead	1988	Unassigned	L
Upper Missouri	Missouri Cascade	10030102	MT41Q002_040	SAND COULEE CREEK, confluence with Cottonwood Creek to the mouth (Missouri River)	Lead	1988	Unassigned	L
Upper Missouri	Missouri Cascade	10030102	MT41Q002_040	SAND COULEE CREEK, confluence with Cottonwood Creek to the mouth (Missouri River)	Salinity	2000	Unassigned	L
Upper Missouri	Missouri Cascade	10030102	MT41Q002_040	SAND COULEE CREEK, confluence with Cottonwood Creek to the mouth (Missouri River)	Zinc	1988	Unassigned	L
Upper Missouri	Missouri Choteau	10030102	MT41Q002_050	BOX ELDER CREEK, Spring Creek to mouth (Missouri River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Missouri	Missouri Choteau	10030102	MT41Q002_050	BOX ELDER CREEK, Spring Creek to mouth (Missouri River)	Sedimentation/Siltation	1992	Unassigned	L
Upper Missouri	Dearborn	10030102	MT41Q003_010	DEARBORN RIVER, Falls Creek to mouth (Missouri River)	Temperature	1990	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q005_020	BENTON LAKE	Nitrogen, Total	2000	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q005_020	BENTON LAKE	Salinity	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Missouri	Benton Lake	10030102	MT41Q005_020	BENTON LAKE	Selenium	2000	Unassigned	L
Upper Missouri	Benton Lake	10030102	MT41Q005_020	BENTON LAKE	Sulfate	2000	Unassigned	L
Upper Missouri	Belt	10030105	MT41U001_011	BELT CREEK, headwaters to Big Otter Creek	Salinity	2006	Unassigned	L
Upper Missouri	Belt	10030105	MT41U001_011	BELT CREEK, headwaters to Big Otter Creek	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Belt	10030105	MT41U001_012	BELT CREEK, Big Otter Creek to mouth (Missouri River)	Aluminum	2016	Unassigned	L
Upper Missouri	Belt	10030105	MT41U001_012	BELT CREEK, Big Otter Creek to mouth (Missouri River)	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Belt	10030105	MT41U002_010	CARPENTER CREEK, headwaters to mouth (Belt Creek)	Mercury	1988	Unassigned	L
Upper Missouri	Belt	10030105	MT41U002_030	DRY FORK BELT CREEK, headwaters to mouth (Belt Creek)	Sedimentation/Siltation	2000	Unassigned	L
Upper Missouri	Belt	10030105	MT41U002_040	LITTLE BELT CREEK, three miles upstream to mouth (Belt Creek)	Nitrogen, Total	1988	Unassigned	L
Upper Missouri	Belt	10030105	MT41U002_040	LITTLE BELT CREEK, three miles upstream to mouth (Belt Creek)	Phosphorus, Total	1988	Unassigned	L
Upper Missouri	Belt	10030105	MT41U002_040	LITTLE BELT CREEK, three miles upstream to mouth (Belt Creek)	Sedimentation/Siltation	1988	Unassigned	L
Upper Missouri	Belt	10030105	MT41U002_050	BIG OTTER CREEK, headwaters to mouth (Belt Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2000	Unassigned	L
Upper Missouri	Belt	10030105	MT41U002_050	BIG OTTER CREEK, headwaters to mouth (Belt Creek)	Sedimentation/Siltation	1996	Unassigned	L
Upper Yellowstone	Shields	10070003	MT43A002_020	ANTELOPE CREEK, headwaters to mouth (Shields River)	Sediment	1992	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_010	YELLOWSTONE RIVER, Yellowstone Park Boundary to Reese Creek	Ammonia, Total	1990	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_010	YELLOWSTONE RIVER, Yellowstone Park Boundary to Reese Creek	Arsenic	1992	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_010	YELLOWSTONE RIVER, Yellowstone Park Boundary to Reese Creek	Copper	1992	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_010	YELLOWSTONE RIVER, Yellowstone Park Boundary to Reese Creek	Lead	1992	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_010	YELLOWSTONE RIVER, Yellowstone Park Boundary to Reese Creek	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Scheduled	M
Upper Yellowstone	Yellowstone River	10070001	MT43B001_010	YELLOWSTONE RIVER, Yellowstone Park Boundary to Reese Creek	Sedimentation/Siltation	1990	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_011	YELLOWSTONE RIVER, Wyoming border to Yellowstone National Park Boundary	Ammonia, Un-ionized	2006	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_011	YELLOWSTONE RIVER, Wyoming border to Yellowstone National Park Boundary	Arsenic	1992	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_011	YELLOWSTONE RIVER, Wyoming border to Yellowstone National Park Boundary	Copper	1992	Unassigned	L
Upper Yellowstone	Yellowstone River	10070001	MT43B001_011	YELLOWSTONE RIVER, Wyoming border to Yellowstone National Park Boundary	Nitrate/Nitrite (Nitrite + Nitrate as N)	1988	Scheduled	M

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Yellowstone	Yellowstone River	10070001	MT43B001_011	YELLOWSTONE RIVER, Wyoming border to Yellowstone National Park Boundary	Sedimentation/Siltation	1988	Unassigned	L
Upper Yellowstone	Paradise	10070001	MT43B002_021	BEAR CREEK, 1/2 mile below Jardine Mine to mouth (Yellowstone River)	Temperature	2002	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_012	OTTER CREEK, headwaters to 2 mi downstream of Highway 191 bridge	Sedimentation/Siltation	1996	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Arsenic	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Cadmium	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Copper	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Iron	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Lead	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Manganese	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Nickel	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Sedimentation/Siltation	1992	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_022	BIG TIMBER CREEK, headwaters downstream to Swamp Creek	Selenium	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070002	MT43B004_042	UPPER DEER CREEK, headwaters to Cartwright Gulch	Sediment	1996	Unassigned	L
Upper Yellowstone	Paradise	10070002	MT43B004_051	BILLMAN CREEK, 1.3 miles upstream to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Paradise	10070002	MT43B004_051	BILLMAN CREEK, 1.3 miles upstream to mouth (Yellowstone River)	Sedimentation/Siltation	1992	Unassigned	L
Upper Yellowstone	Paradise	10070002	MT43B004_052	BILLMAN CREEK, headwaters to 1.3 miles above mouth (Yellowstone River)	Combined Biota/Habitat Bioassessments	2006	Unassigned	L
Upper Yellowstone	Paradise	10070002	MT43B004_052	BILLMAN CREEK, headwaters to 1.3 miles above mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Paradise	10070002	MT43B004_052	BILLMAN CREEK, headwaters to 1.3 miles above mouth (Yellowstone River)	Sedimentation/Siltation	1992	Unassigned	L
Upper Yellowstone	Paradise	10070002	MT43B004_061	TOM MINER CREEK, Tepee Creek to mouth (Yellowstone River)	Temperature	2002	Unassigned	L
Upper Yellowstone	Paradise	10070002	MT43B004_102	SIX MILE CREEK, Absaroka-Beartooth Wilderness boundary to National Forest boundary	Sedimentation/Siltation	2000	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_131	BOULDER RIVER, Clayton Ditch to mouth (Yellowstone River)	Silver	2004	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_132	BOULDER RIVER, Natural Bridge and Falls (T3S R12E S26) to Clayton Ditch (T1N R14E S34)	Chromium, Total	2006	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_132	BOULDER RIVER, Natural Bridge and Falls (T3S R12E S26) to Clayton Ditch (T1N R14E S34)	Nickel	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_132	BOULDER RIVER, Natural Bridge and Falls (T3S R12E S26) to Clayton Ditch (T1N R14E S34)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_132	BOULDER RIVER, Natural Bridge and Falls (T3S R12E S26) to Clayton Ditch (T1N R14E S34)	Nitrogen, Total	2006	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_133	BOULDER RIVER, confluence of the East Fork Boulder River to Natural bridge and Falls (T35 R12E S26)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_133	BOULDER RIVER, confluence of the East Fork Boulder River to Natural bridge and Falls (T35 R12E S26)	Nitrogen, Total	2006	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_133	BOULDER RIVER, confluence of the East Fork Boulder River to Natural bridge and Falls (T35 R12E S26)	Phosphorus, Total	2006	Unassigned	L
Upper Yellowstone	Boulder - Big Timber	10070002	MT43B004_141	EAST BOULDER RIVER, Elk Creek to mouth (Boulder River)	Sedimentation/Siltation	2000	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C001_020	STILLWATER RIVER, Absaroka Beartooth Wilderness Boundary to the mouth (Yellowstone River)	Cadmium	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C001_020	STILLWATER RIVER, Absaroka Beartooth Wilderness Boundary to the mouth (Yellowstone River)	Chromium, Total	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C001_020	STILLWATER RIVER, Absaroka Beartooth Wilderness Boundary to the mouth (Yellowstone River)	Copper	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C001_020	STILLWATER RIVER, Absaroka Beartooth Wilderness Boundary to the mouth (Yellowstone River)	Cyanide	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C001_020	STILLWATER RIVER, Absaroka Beartooth Wilderness Boundary to the mouth (Yellowstone River)	Mercury	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C001_020	STILLWATER RIVER, Absaroka Beartooth Wilderness Boundary to the mouth (Yellowstone River)	Nickel	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C001_020	STILLWATER RIVER, Absaroka Beartooth Wilderness Boundary to the mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_010	LODGEPOLE CREEK, headwaters to mouth (Castle Creek)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_030	CASTLE CREEK, headwaters to the mouth (Limestone Creek), T4S R15E S29	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_041	GROVE CREEK, confluence of South Fork Grove Creek, T4S R18E S13 to the mouth (Stillwater River), T3S R18E S34	Phosphorus, Total	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_041	GROVE CREEK, confluence of South Fork Grove Creek, T4S R18E S13 to the mouth (Stillwater River), T3S R18E S34	Sedimentation/Siltation	1992	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_050	FISHTAIL CREEK, headwaters to mouth (West Rosebud Creek)	Iron	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_050	FISHTAIL CREEK, headwaters to mouth (West Rosebud Creek)	Lead	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_070	JOE HILL CREEK, headwaters to mouth (Stillwater River)	Sedimentation/Siltation	1992	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_081	BUTCHER CREEK, highway 78 to mouth (Rosebud Creek)	Sediment	1996	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_082	BUTCHER CREEK, headwaters to highway 78	Phosphorus, Total	1996	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_082	BUTCHER CREEK, headwaters to highway 78	Sedimentation/Siltation	1996	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_090	WEST ROSEBUD CREEK, Absaroka-Beartooth Wilderness boundary to mouth (Rosebud Creek)	Benthic Macroinvertebrates	2006	Unassigned	L
Upper Yellowstone	Stillwater - Columbus	10070005	MT43C002_100	ROSEBUD CREEK, East and West Branches to mouth (Stillwater River)	Benthic Macroinvertebrates	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Ammonia, Total	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Copper	1992	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Iron	1992	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Lead	1992	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Mercury	1992	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Nitrogen, Total	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Phosphorus, Total	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Sediment	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Creek to mouth (Yellowstone River)	Temperature	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_010	ELBOW CREEK, headwaters to mouth (Clarks Fork)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_010	ELBOW CREEK, headwaters to mouth (Clarks Fork)	Nitrogen, Total	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_010	ELBOW CREEK, headwaters to mouth (Clarks Fork)	Sedimentation/Siltation	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_020	BEAR CREEK, headwaters to mouth (Clarks Fork)	Iron	1988	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_020	BEAR CREEK, headwaters to mouth (Clarks Fork)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_020	BEAR CREEK, headwaters to mouth (Clarks Fork)	Phosphorus, Total	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_020	BEAR CREEK, headwaters to mouth (Clarks Fork)	Sedimentation/Siltation	1988	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_031	BLUEWATER CREEK, unnamed tributary at T6N R24E S7 NWNE to mouth (Clarks Fork Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_031	BLUEWATER CREEK, unnamed tributary at T6N R24E S7 NWNE to mouth (Clarks Fork Yellowstone River)	Phosphorus, Total	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_031	BLUEWATER CREEK, unnamed tributary at T6N R24E S7 NWNE to mouth (Clarks Fork Yellowstone River)	Sedimentation/Siltation	1988	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_060	RED LODGE CREEK, Cooney Reservoir to mouth (Rock Creek)	Organic Enrichment	2000	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_070	WILLOW CREEK, headwaters to mouth (Cooney Reservoir)	Sedimentation/Siltation	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_080	WEST RED LODGE CREEK, Absaroka-Beartooth Wilderness boundary to mouth (Red Lodge Creek)	Sedimentation/Siltation	1992	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Dissolved Oxygen	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Nitrogen, Total	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Phosphorus, Total	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Sediment	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Specific Conductivity	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Temperature	1996	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Total Dissolved Solids (TDS)	1990	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_100	SILVERTIP CREEK, Wyoming border to mouth (Clarks Fork Yellowstone River)	Turbidity	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_140	COTTONWOOD CREEK, headwaters to the mouth (Clarks Fork of Yellowstone), T3S R24E S24	Dissolved Oxygen	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_140	COTTONWOOD CREEK, headwaters to the mouth (Clarks Fork of Yellowstone), T3S R24E S24	Sediment	1992	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_180	SOUTH FORK BRIDGER CREEK, Headwaters to mouth (Bridger Creek)	Arsenic	2006	Unassigned	L
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_180	SOUTH FORK BRIDGER CREEK, Headwaters to mouth (Bridger Creek)	Iron	2006	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Yellowstone	Clarks Fork Yellowstone	10070006	MT43D002_180	SOUTH FORK BRIDGER CREEK, Headwaters to mouth (Bridger Creek)	Sedimentation/Siltation	1994	Unassigned	L
Upper Yellowstone	Yellowstone - Lower Bighorn	10070008	MT43E001_010	PRYOR CREEK, Interstate 90 bridge to mouth (Yellowstone River)	Benthic Macroinvertebrates	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Lower Bighorn	10070008	MT43E001_011	PRYOR CREEK, Crow Reservation Boundary to Interstate 90 bridge	Sedimentation/Siltation	1990	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43F001_010	YELLOWSTONE RIVER, City of Billings PWS to Huntley Diversion Dam	Arsenic	2008	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43F001_010	YELLOWSTONE RIVER, City of Billings PWS to Huntley Diversion Dam	Benthic Macroinvertebrates	2008	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43F001_010	YELLOWSTONE RIVER, City of Billings PWS to Huntley Diversion Dam	Dissolved Oxygen	2008	Scheduled	M
Upper Yellowstone	Yellowstone River	10070007	MT43F001_010	YELLOWSTONE RIVER, City of Billings PWS to Huntley Diversion Dam	Eutrophication	2008	Scheduled	M
Upper Yellowstone	Yellowstone River	10070007	MT43F001_010	YELLOWSTONE RIVER, City of Billings PWS to Huntley Diversion Dam	Oil and Grease	2012	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43F001_010	YELLOWSTONE RIVER, City of Billings PWS to Huntley Diversion Dam	Sediment	2008	Unassigned	L
Upper Yellowstone	Yellowstone River	10070004	MT43F001_011	YELLOWSTONE RIVER, City of Laurel PWS to City of Billings PWS	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Scheduled	M
Upper Yellowstone	Yellowstone River	10070004	MT43F001_011	YELLOWSTONE RIVER, City of Laurel PWS to City of Billings PWS	Oil and Grease	2012	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070004	MT43F002_010	DUCK CREEK, headwaters to mouth (Yellowstone River)	Sedimentation/Siltation	1996	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070004	MT43F002_022	CANYON CREEK, headwaters to highway 532	Dissolved Oxygen	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070004	MT43F002_022	CANYON CREEK, headwaters to highway 532	Sedimentation/Siltation	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070004	MT43F002_040	VALLEY CREEK, headwaters to mouth (Yellowstone River)	Benthic Macroinvertebrates	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070004	MT43F002_040	VALLEY CREEK, headwaters to mouth (Yellowstone River)	Dissolved Oxygen	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Sweet Grass	10070004	MT43F002_040	VALLEY CREEK, headwaters to mouth (Yellowstone River)	Sedimentation/Siltation	1992	Unassigned	L
Upper Yellowstone	Lake Basin - Spidel	10070004	MT43F003_010	BIG LAKE	Salinity	2000	Unassigned	L
Upper Yellowstone	Lake Basin - Spidel	10070004	MT43F003_030	HALFBREED LAKE	Salinity	2002	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43Q001_011	YELLOWSTONE RIVER, Huntley Diversion Dam to mouth of Big Horn River	Ammonia, Un-ionized	1996	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43Q001_011	YELLOWSTONE RIVER, Huntley Diversion Dam to mouth of Big Horn River	Oil and Grease	2012	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43Q001_011	YELLOWSTONE RIVER, Huntley Diversion Dam to mouth of Big Horn River	Sedimentation/Siltation	1988	Unassigned	L
Upper Yellowstone	Yellowstone River	10070007	MT43Q001_011	YELLOWSTONE RIVER, Huntley Diversion Dam to mouth of Big Horn River	Total Dissolved Solids (TDS)	1988	Unassigned	L

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Probable Cause of Impairment	CFL	TMDL Project Status	TMDL Priority
Upper Yellowstone	Yellowstone - Lower Bighorn	10070007	MT43Q002_010	FLY CREEK, Crow Indian Reservation boundary to mouth (Yellowstone River)	Dissolved Oxygen	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Lower Bighorn	10070007	MT43Q002_010	FLY CREEK, Crow Indian Reservation boundary to mouth (Yellowstone River)	Nitrate/Nitrite (Nitrite + Nitrate as N)	2006	Unassigned	L
Upper Yellowstone	Yellowstone - Lower Bighorn	10070007	MT43Q002_010	FLY CREEK, Crow Indian Reservation boundary to mouth (Yellowstone River)	Nitrogen, Total	2006	Unassigned	L
Upper Yellowstone	Lake Basin - Spidel	10070007	MT43Q003_010	SPIDEL WATERFOWL PRODUCTION AREA	Salinity	2000	Unassigned	L
Upper Yellowstone	Lake Basin - Spidel	10070007	MT43Q003_010	SPIDEL WATERFOWL PRODUCTION AREA	Selenium	2000	Unassigned	L

ADDENDED APPENDIX C – Waters with Use Support Assessments During the 2020 IR Cycle

Watershed	TMDL Planning Area	HUC	ID305B	Water Body Name / Location Description
Kootenai	Kootenai	17010101	MT76D002_010	STANLEY CREEK, headwaters to mouth (Lake Creek)
Kootenai	Kootenai	17010101	MT76D002_070	LAKE CREEK, Bull Lake outlet to mouth (Kootenai River)
Missouri Headwaters	Red Rock	10020001	MT41A001_010	RED ROCK RIVER, Lima Dam to Clark Canyon Reservoir
Missouri Headwaters	Red Rock	10020001	MT41A001_020	RED ROCK RIVER, Lower Red Rock Lake to Lima Dam
Missouri Headwaters	Red Rock	10020001	MT41A003_010	MEDICINE LODGE CREEK, headwaters to mouth (Horse Prairie Creek)
Missouri Headwaters	Red Rock	10020001	MT41A003_020	MUDDY CREEK, confluence of Sourdough and Wilson Creek to mouth (Big Sheep Creek), T14S R10W S10
Missouri Headwaters	Red Rock	10020001	MT41A003_030	CABIN CREEK, headwaters to mouth (Big Sheep Creek)
Missouri Headwaters	Red Rock	10020001	MT41A003_040	NICHOLIA CREEK, headwaters to mouth (Big Sheep Creek)
Missouri Headwaters	Red Rock	10020001	MT41A003_080	TRAIL CREEK, headwaters to mouth (Horse Prairie Creek)
Missouri Headwaters	Red Rock	10020001	MT41A003_090	HORSE PRAIRIE CREEK, headwaters to mouth (Clark Canyon Res)
Missouri Headwaters	Red Rock	10020001	MT41A003_100	BLOODY DICK CREEK, headwaters to mouth (Horse Prairie Creek)
Missouri Headwaters	Red Rock	10020001	MT41A003_110	SELWAY CREEK, headwaters to mouth (Bloody Dick Creek)
Missouri Headwaters	Red Rock	10020001	MT41A003_140	SAGE CREEK, headwaters to mouth (Red Rock River)
Missouri Headwaters	Red Rock	10020001	MT41A003_150	BIG SHEEP CREEK, headwaters to mouth (Red Rock River)
Missouri Headwaters	Red Rock	10020001	MT41A003_160	LITTLE SHEEP CREEK, headwaters to mouth (Red Rock River)
Missouri Headwaters	Red Rock	10020001	MT41A004_010	PRICE CREEK, headwaters to mouth (Red Rock River)
Missouri Headwaters	Red Rock	10020001	MT41A004_020	METZEL CREEK, headwaters to mouth (Red Rock River)
Missouri Headwaters	Red Rock	10020001	MT41A004_030	FISH CREEK, headwaters to mouth (Metzel Creek)
Missouri Headwaters	Red Rock	10020001	MT41A004_040	CORRAL CREEK, headwaters to mouth (Red Rock Creek)
Missouri Headwaters	Red Rock	10020001	MT41A004_050	EAST FORK CLOVER CREEK, headwaters to mouth (Clover Creek)
Missouri Headwaters	Red Rock	10020001	MT41A004_060	HELL ROARING CREEK, headwaters to mouth (Red Rock Creek)
Missouri Headwaters	Red Rock	10020001	MT41A004_070	LONG CREEK, headwaters to mouth (Red Rock River)
Missouri Headwaters	Red Rock	10020001	MT41A004_080	O'DELL CREEK, headwaters to mouth (Lower Red Rock Lake)
Missouri Headwaters	Red Rock	10020001	MT41A004_090	PEET CREEK, headwaters to mouth (Red Rock River)
Missouri Headwaters	Red Rock	10020001	MT41A004_100	TOM CREEK, headwaters to mouth (Upper Red Rock Lake)
Missouri Headwaters	Red Rock	10020001	MT41A004_110	RED ROCK CREEK, headwaters to mouth (Upper Red Rock Lake)
Missouri Headwaters	Red Rock	10020001	MT41A004_130	JONES CREEK, headwaters to mouth (Winslow Creek)
Missouri Headwaters	Beaverhead	10020002	MT41B002_090	RATTLESNAKE CREEK, from the Dillon PWS off-channel well T7S R10W S11 to the mouth (Van Camp Slough)
Missouri Headwaters	Beaverhead	10020002	MT41B002_091	RATTLESNAKE CREEK, headwaters to Dillon PWS off-channel well, T7S R10W S11
Missouri Headwaters	Upper Gallatin	10020008	MT41H001_021	GALLATIN RIVER, Yellowstone National Park Boundary to Spanish Creek
Pend Oreille	Big Creek (Columbia)	17010206	MT76Q002_050	BIG CREEK, headwaters to mouth (North Fork of the Flathead River)
Tongue	Tongue	10090102	MT42C001_014	TONGUE RIVER, Beaver Creek to Twelve Mile Dam, T6N R48E S29
Upper Yellowstone	Cooke City	10070005	MT43C001_010	STILLWATER RIVER, headwaters to Absaroka-Beartooth Wilderness boundary
Upper Yellowstone	Cooke City	10070005	MT43C002_140	DAISY CREEK, headwaters to mouth (Stillwater River)
Upper Yellowstone	Cooke City	10070006	MT43D002_110	FISHER CREEK, headwaters to mouth (Clarks Fork Yellowstone River)

ADDENDED APPENDIX D – Causes Delisted

No change was made to this appendix. Please see Appendix D in 2020 IR.

ADDENDED APPENDIX E – Beneficial Use Support Changes

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Beneficial Use	Cycle 2018	Cycle 2020
Kootenai	Kootenai	17010101	MT76D002_010	STANLEY CREEK, headwaters to mouth (Lake Creek)	Agricultural	F	X
Kootenai	Kootenai	17010101	MT76D002_010	STANLEY CREEK, headwaters to mouth (Lake Creek)	Primary Contact Recreation	N	I
Kootenai	Kootenai	17010101	MT76D002_070	LAKE CREEK, Bull Lake outlet to mouth (Kootenai River)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A001_010	RED ROCK RIVER, Lima Dam to Clark Canyon Reservoir	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A001_010	RED ROCK RIVER, Lima Dam to Clark Canyon Reservoir	Primary Contact Recreation	X	N
Missouri Headwaters	Red Rock	10020001	MT41A001_020	RED ROCK RIVER, Lower Red Rock Lake to Lima Dam	Primary Contact Recreation	F	N
Missouri Headwaters	Red Rock	10020001	MT41A003_010	MEDICINE LODGE CREEK, headwaters to mouth (Horse Prairie Creek)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A003_020	MUDDY CREEK, confluence of Sourdough and Wilson Creek to mouth (Big Sheep Creek), T14S R10W S10	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A003_020	MUDDY CREEK, confluence of Sourdough and Wilson Creek to mouth (Big Sheep Creek), T14S R10W S10	Drinking Water	F	N
Missouri Headwaters	Red Rock	10020001	MT41A003_020	MUDDY CREEK, confluence of Sourdough and Wilson Creek to mouth (Big Sheep Creek), T14S R10W S10	Primary Contact Recreation	I	N
Missouri Headwaters	Red Rock	10020001	MT41A003_090	HORSE PRAIRIE CREEK, headwaters to mouth (Clark Canyon Res)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A003_090	HORSE PRAIRIE CREEK, headwaters to mouth (Clark Canyon Res)	Primary Contact Recreation	I	N
Missouri Headwaters	Red Rock	10020001	MT41A003_100	BLOODY DICK CREEK, headwaters to mouth (Horse Prairie Creek)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A003_100	BLOODY DICK CREEK, headwaters to mouth (Horse Prairie Creek)	Primary Contact Recreation	F	N
Missouri Headwaters	Red Rock	10020001	MT41A003_110	SELWAY CREEK, headwaters to mouth (Bloody Dick Creek)	Aquatic Life	X	N
Missouri Headwaters	Red Rock	10020001	MT41A003_110	SELWAY CREEK, headwaters to mouth (Bloody Dick Creek)	Primary Contact Recreation	X	N
Missouri Headwaters	Red Rock	10020001	MT41A003_150	BIG SHEEP CREEK, headwaters to mouth (Red Rock River)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_010	PRICE CREEK, headwaters to mouth (Red Rock River)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_010	PRICE CREEK, headwaters to mouth (Red Rock River)	Drinking Water	F	N
Missouri Headwaters	Red Rock	10020001	MT41A004_010	PRICE CREEK, headwaters to mouth (Red Rock River)	Primary Contact Recreation	X	N
Missouri Headwaters	Red Rock	10020001	MT41A004_030	FISH CREEK, headwaters to mouth (Metzel Creek)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_040	CORRAL CREEK, headwaters to mouth (Red Rock Creek)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_040	CORRAL CREEK, headwaters to mouth (Red Rock Creek)	Drinking Water	F	X

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Beneficial Use	Cycle 2018	Cycle 2020
Missouri Headwaters	Red Rock	10020001	MT41A004_040	CORRAL CREEK, headwaters to mouth (Red Rock Creek)	Primary Contact Recreation	F	N
Missouri Headwaters	Red Rock	10020001	MT41A004_050	EAST FORK CLOVER CREEK, headwaters to mouth (Clover Creek)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_050	EAST FORK CLOVER CREEK, headwaters to mouth (Clover Creek)	Drinking Water	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_060	HELL ROARING CREEK, headwaters to mouth (Red Rock Creek)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_060	HELL ROARING CREEK, headwaters to mouth (Red Rock Creek)	Primary Contact Recreation	F	I
Missouri Headwaters	Red Rock	10020001	MT41A004_070	LONG CREEK, headwaters to mouth (Red Rock River)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_070	LONG CREEK, headwaters to mouth (Red Rock River)	Primary Contact Recreation	X	I
Missouri Headwaters	Red Rock	10020001	MT41A004_080	O'DELL CREEK, headwaters to mouth (Lower Red Rock Lake)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_090	PEET CREEK, headwaters to mouth (Red Rock River)	Drinking Water	F	N
Missouri Headwaters	Red Rock	10020001	MT41A004_100	TOM CREEK, headwaters to mouth (Upper Red Rock Lake)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_100	TOM CREEK, headwaters to mouth (Upper Red Rock Lake)	Drinking Water	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_100	TOM CREEK, headwaters to mouth (Upper Red Rock Lake)	Primary Contact Recreation	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_110	RED ROCK CREEK, headwaters to mouth (Upper Red Rock Lake)	Primary Contact Recreation	X	I
Missouri Headwaters	Red Rock	10020001	MT41A004_130	JONES CREEK, headwaters to mouth (Winslow Creek)	Agricultural	F	X
Missouri Headwaters	Red Rock	10020001	MT41A004_130	JONES CREEK, headwaters to mouth (Winslow Creek)	Drinking Water	F	X
Missouri Headwaters	Beaverhead	10020002	MT41B001_010	BEAVERHEAD RIVER, Clark Canyon Dam to Grasshopper Creek	Agricultural	F	X
Missouri Headwaters	Beaverhead	10020002	MT41B001_020	BEAVERHEAD RIVER, Grasshopper Creek to mouth (Jefferson River)	Agricultural	F	X
Missouri Headwaters	Beaverhead	10020002	MT41B002_010	GRASSHOPPER CREEK, headwaters to mouth (Beaverhead River)	Agricultural	F	X
Missouri Headwaters	Beaverhead	10020002	MT41B002_090	RATTLESNAKE CREEK, from the Dillon PWS off-channel well T7S R10W S11 to the mouth (Van Camp Slough)	Agricultural	F	X
Missouri Headwaters	Beaverhead	10020002	MT41B002_170	TAYLOR CREEK, headwaters to mouth (Grasshopper Creek)	Agricultural	F	X
Missouri Headwaters	Beaverhead	10020002	MT41B002_170	TAYLOR CREEK, headwaters to mouth (Grasshopper Creek)	Drinking Water	F	X

Watershed	TMDL Planning Area	HUC No	ID305B	Waterbody Name and Location	Beneficial Use	Cycle 2018	Cycle 2020
Missouri Headwaters	Upper Gallatin	10020008	MT41H001_021	GALLATIN RIVER, Yellowstone National Park Boundary to Spanish Creek	Aquatic Life	F	N
Missouri Headwaters	Upper Gallatin	10020008	MT41H001_021	GALLATIN RIVER, Yellowstone National Park Boundary to Spanish Creek	Primary Contact Recreation	F	N
Pend Oreille	Big Creek (Columbia)	17010206	MT76Q002_050	BIG CREEK, headwaters to mouth (North Fork of the Flathead River)	Aquatic Life	N	F
Tongue	Tongue	10090102	MT42C001_014	TONGUE RIVER, Beaver Creek to Twelve Mile Dam, T6N R48E S29	Agricultural	F	N
Upper Yellowstone	Cooke City	10070005	MT43C001_010	STILLWATER RIVER, headwaters to Absaroka-Beartooth Wilderness boundary	Drinking Water	I	F

ADDENDED APPENDIX F – Approved TMDLs

No change was made to this appendix. Please see Appendix F in 2020 IR.

ADDENDED APPENDIX G – Monitoring Schedule

Project Name	Basin	HUC	HUC Name	Waterbody Name	Monitoring Objectives: Standards Development	Monitoring Objectives: Ambient (303d/305b)	Monitoring Objectives: TMDL Development	Monitoring Objectives: Restoration Effectiveness
Goat Creek	Columbia	17010211	Swan	Goat Creek		X		X
Lake Koocanusa	Columbia	17010101	Middle Kootenai	Lake Koocanusa	X	X		
Bitterroot	Columbia	17010205	Bitterroot	Multiple		X	X	X
Kennedy CreeK	Columbia	17010204	Middle Clark Fork	Kennedy Creek		X		X
Middle Fork Judith	Lower Missouri	10040103	Judith	Middle Fork Judith River		X		
Bigg Springg Creek	Lower Missouri	10040103	Judith	Big Spring Creek		X		X
Reference PProject	State Wide	Multiple	Multiple	Multiple	X			
Upper Missouri River	Upper Missouri	Multiple	Multiple Headwaters to Marias	Missouri River		X	X	
Smith River	Upper Missouri	10040203	Flatwillow	Multiple	X	X	X	
Ruby Watershed	Upper Missouri	10020003	Ruby	Multiple		X		X
Upper Gallatin	Upper Missouri	10020008	Gallatin	Multiple	X	X	X	X
Lower/East Gallatin	Upper Missouri	10020008	Gallatin	Multiple		X		X
Yellowstone River	Yellowstone	Multple	Multiple - all segments	Yellowstone River		X	X	

ADDENDED APPENDIX H – Waters That Changed Reporting Categories

Watershed Name	TMDL Planning Area	HUC No	ID305b	Waterbody Name and Location	2018 Cycle	2020 Cycle
Missouri Headwaters	Red Rock	10020001	MT41A003_030	CABIN CREEK, headwaters to mouth (Big Sheep Creek)	-	5
Missouri Headwaters	Red Rock	10020001	MT41A003_040	NICHOLIA CREEK, headwaters to mouth (Big Sheep Creek)	-	5
Missouri Headwaters	Red Rock	10020001	MT41A003_080	TRAIL CREEK, headwaters to mouth (Horse Prairie Creek)	-	5
Missouri Headwaters	Red Rock	10020001	MT41A003_110	SELWAY CREEK, headwaters to mouth (Bloody Dick Creek)	3	5
Missouri Headwaters	Red Rock	10020001	MT41A003_140	SAGE CREEK, headwaters to mouth (Red Rock River)	-	5
Missouri Headwaters	Red Rock	10020001	MT41A003_160	LITTLE SHEEP CREEK, headwaters to mouth (Red Rock River)	-	5
Missouri Headwaters	Red Rock	10020001	MT41A004_020	METZEL CREEK, headwaters to mouth (Red Rock River)	-	5,5N
Missouri Headwaters	Red Rock	10020001	MT41A004_090	PEET CREEK, headwaters to mouth (Red Rock River)	5	5,5N
Missouri Headwaters	Upper Gallatin	10020008	MT41H001_021	GALLATIN RIVER, Yellowstone National Park Boundary to Spanish Creek	1	5
Pend Oreille	Big Creek (Columbia)	17010206	MT76Q002_050	BIG CREEK, headwaters to mouth (North Fork of the Flathead River)	4C	2

ADDENDED APPENDIX I – Changes Made in the Course of Data Management Activities

No change was made to this appendix. Please see Appendix I in 2020 IR.

ADDENDED APPENDIX J: - Comments and Responses

No change was made to this appendix. Please see Appendix J in 2020 IR.

ADDENDED APPENDIX K – Public Comments and Responses Regarding the Addition of the Excess Algal Growth Cause to the Gallatin River

RESPONSE TO COMMENTS

Draft Water Quality Assessment for the Gallatin River, Yellowstone National Park Boundary to Spanish Creek

Public comments were received between June 20, 2022, and August 22, 2022, by the Montana Department of Environmental Quality (DEQ) on the Draft Water Quality Assessment for the Gallatin River, Yellowstone National Park Boundary to Spanish Creek, Montana. A public hearing was held on July 14, 2022. The department received over 2,373 comment letters. Most of these comment letters support the proposed impairment designation while urging DEQ to declare nitrogen and phosphorus as the cause of increased algal blooms in the Gallatin River. No comments were received that were opposed to the impairment listing.

Summarized here are the substantive comments related to the draft Water Quality Assessment received or postmarked by August 22, 2022. Individual comments are grouped into similar concepts and addressed together. Many commentors submitted identical comments and they are grouped together as a single comment.

COMMENT NO. 1: The proposed impairment designation is scientifically justified and desirable as a planning tool for Gallatin County

<u>RESPONSE</u>: The Montana Water Quality Act provides a comprehensive program and process to prevent, abate, and control water pollution. See Title 75, Chapter 5, Part 7, Montana Code Annotated (MCA). DEQ follows a scientific process for beneficial use assessment using validated available information and data from federal, state, and local agencies, private entities, or individuals with an interest in water quality protection. *See* § 75-5-702(2), MCA. DEQ agrees there is sufficient credible data to support the designation of the middle segment of the Gallatin River, from the Yellowstone National Park Boundary to Spanish Creek, Montana as impaired for algae. The impairment listing will be used to prioritize this segment of the Gallatin River for future TMDL development. See § 75-5-702, MCA.

COMMENT NO. 2: I support the Department's water quality planning and river restoration focus embodied in the proposed determination and believe this determination provides the Gallatin County Commission with a valuable tool by with to make informed decision for years to come. The Gallatin County Commission is aware of a wide-array of conservation and business community leaders that support the common-sense, science-based, and proven waterway restoration strategy embodied in a formal impairment designation. Numerous polls confirm that an overwhelming majority of Montanans believe that protecting clean water should be a top priority in order to sustain our economy and way of life.

<u>RESPONSE</u>: Based upon the proposed impairment listing, DEQ will, in consultation with the statewide TMDL advisory group, establish a priority ranking for total maximum daily load (TMDL) development pursuant to 75-5-702, MCA. TMDLs for sediment, Total Nitrogen, Nitrate/Nitrite have been completed in the West Fork of the Gallatin River and Tributaries where they can currently be used as planning tools to address Chlorophyl a and algae growth. Successful implementation of TMDLs in the Middle Segment of the Gallatin River will require a combination of local, county and state actions.

COMMENT NO. 3: We want to applaud and add our concerned voices to DEQ's preliminary determination to list the middle segment of the Gallatin as "impaired" under the Federal Clean Water Act. This will begin a pollution reduction plan for a beloved and hugely valuable waterway in our State and Nation. This is an essential move on the part of DEQ to restore and preserve our precious Gallatin River and the local outdoor recreation economy and the agricultural heritage of Montana. NOW is the time!

<u>RESPONSE</u>: The department acknowledges the comment. See Responses to Comment 1 and 2.

COMMENT NO. 4: While the DEQ states that excess algae is often caused by an exceedance of thresholds for Total Nitrogen and Total Phosphorus, it goes on to state that the data do not show an exceedance of those thresholds. That leads us to believe that either the water quality data collected over the past ten years somehow failed to document exceedance of Total Nitrogen and Total Phosphorus, or the Gallatin River is so sensitive to nutrient inputs that it can suffer algal blooms even when nutrient pollution standards are not exceeded.

<u>RESPONSE</u>: The available nutrient (total nitrogen, total phosphorus) data set is larger for the middle segment of the Gallatin River than for most wadable streams assessed for beneficial use determination in MT. DEQ compared nutrient monitoring data to DEQ-12A standards according to DEQ's assessment methods. In general, DEQ found that Total Nitrogen and Total Phosphorus levels were low during the applicable growing season. In 2015, DEQ-12A standards were approved by U.S. EPA as being protective of the most sensitive beneficial uses designated for the Gallatin River, this includes appropriate criteria for Total Nitrogen and Total Phosphorus. The DEQ-12A standards, as adopted and where applicable, are intended to supersede the narrative standards at ARM 17.30.637(1) for the regulation of Total Nitrogen and Total Phosphorus and in the development of TMDLs. *See* 3 Mont. Admin. Register. 280, 281-82 (Feb. 13, 2014). Nonetheless, DEQ will continue to study algae and casual variable conditions, to determine all factors that may influence excess algae in the middle segment of the Gallatin River.

COMMENT NO. 5: MT is adding the middle segment of the Gallatin River to the state's 303(d) list, because the applicable narrative water quality standard is violated based on excess algal growth. EPA expects that any subsequent TMDL to address this impairment would establish loads for total nitrogen and/or total phosphorus. Please provide written confirmation with your list submission that EPA's expectation is correct. If that is not correct, please identify the pollutant(s) causing or expected to cause the condition of excess algal growth. This requirement (see 40 CFR 130.7(b)(4)) will inform TMDL development. As a general matter, identifying the pollutant(s) causing or expected to cause exceedance of the applicable narrative or numeric WQS is an iterative process that may span both the 303(d) listing and TMDL development process. States and authorized tribes may reassess and make refinements to the pollutant(s) causing or expected to cause a WQS exceedance each Section 303(d) reporting cycle or as more data and information is gained through the TMDL development process. Additionally, MDEQ may want to evaluate whether revised site-specific total nitrogen and/or total phosphorus criteria for the Gallatin River may be warranted.

COMMENT NO. 6: If the DEQ will not designate that excess nitrogen and phosphorus are degrading the rivers, the federal government should step in, and I am aware that the Environmental Protection Agency has these issues on their radar.

COMMENT NO. 7: Waterkeeper requests that DEQ’s final determination listing the middle segment Gallatin River as impaired by algal blooms clearly identify the causal relationship between unnatural nutrient loading and nuisance algal growth. DEQ’s designated uses and the diverse body of science underpinning Circular 12-A and Montana’s narrative nutrient criteria clearly identify how unnatural loading of nitrogen and/or phosphorus can create violations of water quality standards vis-à-vis nuisance algal growth. DEQ and EPA have consistently used nutrient TMDLs as the primary tool to address such nuisance algal growth in previous impairment decisions and EPA’s rules require clear attribution in impairment determinations. See 40 C.F.R. 130.7(b)(4). As DEQ knows, identifying the “pollutant(s)” giving rise to impairment, as opposed to identifying the “effect” of impairment, is critical to a meaningful and lawful 303d implementation process.

Therefore, DEQ should clearly attribute the undisputed science showing nutrient loading is a primary pollutant of concern in the Gallatin middle segment and that the Department intends to thoroughly assess nutrient loading as part of the requisite future TMDL process. We also encourage DEQ to consider, as part of the anticipated future nutrient TMDLs for the middle segment Gallatin, revisiting site-specific numeric nutrient criteria for this assessment unit based on the evidentiary record at-hand indicating the AU is more sensitive to nutrient loading than the ecoregional assumptions contained in Circular 12-A. DEQ is well-within its state authority and EPA rules and guidance to reassess and refine how pollutant(s) are causing or contributing to violations of water quality standards; such iterative refinement on the basis of best available science is highly desirable as both a technical completeness matter and as a matter of sound water policy.

COMMENT NO. 8: Multiple commentors stated: Widespread algal blooms over the past four summers are caused by excessive nutrient pollution, in particular nitrogen and phosphorus from inadequate wastewater treatment stemming from development in the Gallatin Canyon and Big Sky area. DEQ is encouraged to declare nitrogen and/or phosphorus as the key causal pollutants causing or contributing to the river's degradation. Nutrient pollution is the causal agent for algal blooms on the Gallatin, and we have the tools available to control and reduce the nutrient discharges that enter the river.

COMMENT NO. 9: Many comments supported the Category 5 impairment designation

COMMENT NO. 10: Many comments stated a TMDL will be a critical tool for reducing nutrient levels in the Gallatin, decreasing algal blooms, and restoring the health of the river.

COMMENT NO. 11: Many comments supported the DEQ's preliminary decision to list the middle segment of the Gallatin River as impaired by algal blooms and initiate the TMDL process to address the problem and reduce nutrient pollution.

COMMENT NO. 12: You claim that the algae in the Gallatin River below the Big Sky resort does not meet your thresholds and has been tested over 10 years.

RESPONSE to 5-12: An "impaired water body" means "a water body or stream segment for which sufficient credible data show that the water body or stream segment is failing to achieve compliance with applicable water quality standards." See § 75-5-103(13), MCA. Similarly, under 40 CFR 130.2(j), a "water quality limited segment" is any segment where it is known that water quality does not meet applicable water quality standards. Montana's numeric nutrient standards are not exceeded according to nitrogen and phosphorus statistical assessment provided in Montana's Wadable Stream Nutrient Assessment Method. Therefore, at this time, the middle segment of that Gallatin River cannot be deemed impaired for Total Nitrogen and Total Phosphorus. DEQ is listing the middle segment of the Gallatin River as impaired based on Excessive Algae Growth. Under ARM 17.30.637(1)(e), state surface waters must be free from substances that will create conditions that produce undesirable aquatic life. DEQ will continue to monitor algae and determine conditions that contribute to excessive growth, including total nitrogen and total phosphorus, dissolved nutrients, temperature, shade, discharge, and water clarity. DEQ will investigate natural background conditions and source areas. This will include a robust monitoring design and potentially include modeling efforts. Based on the outcome of the investigation DEQ will, in consultation with local conservation districts and watershed advisory groups, develop any necessary TMDLs to address the cause of impairment in accordance with the priority ranking established under § 75-5-702, MCA. See Response to Comment 4.

COMMENT NO. 13: I highly encourage DEQ to quickly and thoroughly determine the source of algal blooms. This condition is largely due to human actions. This must be corrected asap.

COMMENT NO. 14: Devastated to hear of widespread algal blooms caused by excessive nutrient pollution due to inadequate wastewater treatment. A TMDL is critical.

COMMENT NO. 15: We have learned and learned and learned that the best way to mitigate our damage to the environment is early response. BEFORE the damage turns in an expensive political football. Please act immediately to declare the Gallatin a Category 5 Impairment Designation.

RESPONSE to 13-15: DEQ is prioritizing TMDL development on the middle segment of the Gallatin River in consultation with the statewide TMDL advisory group pursuant to 75-5-702, MCA. See response to Comments 2 and 4.

COMMENT NO. 16: Many comments were received encouraging the DEQ to identify human-made pollution, particularly nitrogen and phosphorus, as the causal agents for Gallatin River's algal blooms and the pollutants of concern warranting the impairment designation. Unnatural levels of nitrogen in the river from the cumulative impacts of inadequately treated wastewater combined with sunlight, warm water temperatures, and low flows result in algal growth. Unlike sunlight and temperatures, DEQ has the ability to control nutrient discharges, and needs to recognize nutrients as the limiting factor for algal blooms on the Gallatin River

COMMENT NO. 17: As discussed at your public meeting in Big Sky, I understand that the nutrient levels have not exceeded thresholds, but their affect is likely amplified by temperature and possibly flows. I hope through your TMDL work you are better able to understand those interactions and with that understanding guide effective solutions.

COMMENT NO. 18: I believe an impairment designation for the middle segment of the Gallatin River that recognizes the growth-inducing effect of unnatural nutrient pollution and proposes a common-sense clean-up plan is precisely the type of meaningful, science-based planning effort that will create measurable progress in reducing pollution and protecting this priceless resource for years to come.

COMMENT NO. 19: DEQ must be a full partner in the effort to be forthcoming about the nutrient pollution causing the algae degradation. The most practical way to sustain the health of our rivers is to test them and mitigate or eliminate the sources of their pollution. Nothing should stand in the way of that.

COMMENT NO. 20: We strongly urge the DEQ to identify the root causes of the excess algal growth that has been documented for the past five consecutive years.

COMMENT NO. 21: I support efforts to fully determine the cause of the algal blooms so that complete plans can be made to clean up the river properly. This can only happen if ALL the causes can be determined and addressed.

COMMENT NO. 22: Nutrient pollution is the cause of algae blooms on the Gallatin River and we have the tools available to control and reduce the nutrient discharges that enter the river.

COMMENT NO. 23: Obviously the Gallatin River is in need of corrective action regarding the algae plumes. Just as obvious is the sources. Why DEQ has allowed this to happen? Why is DEQ just sticking their toe in the water?

Response 16-23: Nutrient levels detected in the middle segment of the Gallatin River were compared to DEQ -12A standards according to DEQ's assessment methods. Generally, Total Nitrogen and Total Phosphorus were detected at levels below DEQ-12A standards during the applicable growing season. Therefore, DEQ is proposing to list this segment of the Gallatin River as impaired due to "excessive algal growth" pursuant to ARM 17.30.637(1)(e). DEQ proposes to amend the 2020 Integrated Report, which contains the 303(d) list, with this impairment listing. This impairment will be a category 5 listing because the river segment has one or more applicable beneficial uses that are being impaired or threatened, and a TMDL is likely required to address the factors causing the impairment or threat. This impairment listing will spur a scientific analysis of physical and chemical causes affecting the biological response of excessive algae growth. Significant pollutant sources that influence these causal factors will be investigated and included in all necessary TMDLs. Also, see response to comments 2, 4, and 5-12.

COMMENT NO. 24: This statement covers nearly every river in the USA: nitrogen and/or phosphorus as the key causal pollutants causing or contributing to the river's degradation. Why on earth people are still using these toxins near rivers baffles me no end.

COMMENT NO. 25 My family of voters implores you to support a proposed river impairment listing of the Gallatin River, due to 5 years of UNNATURAL TOXIC GREEN ALGAE BLOOMS.

COMMENT NO. 26: Algal blooms kill.

RESPONSE to 24-26: At least 2/3 of stream/river miles in Montana do not have eutrophication problems. At levels found in the Gallatin River, nitrogen and phosphorus are not believed to be toxic (poisonous) to fish and associated aquatic life or to humans. Green algae do not produce toxins but are a nuisance to recreationalists and may affect aquatic life through shifts in habitat and changes to the aquatic food sources. Overgrowth of green algae may be considered “undesirable aquatic life” and creating conditions that produce undesirable aquatic life is prohibited. *See* ARM 17.30.637(1)(e). DEQ will further investigate the causes of algae overgrowth and whether conditions in the Gallatin River are causing overgrowth of blue/green algae (cyanobacteria). Some cyanobacteria produce toxins that pose a risk of harm to humans and animals.

COMMENT NO. 27: I support the war against the nitrogen and phosphorus pollution that is causing this alarming situation, and I encourage the DEQ to pull out the big guns to stop the degradation as soon as possible. Normally, I support as little government intrusion as possible, but I feel that this is definitely an area that government guidelines and regulations are not only in order but needed drastically.

RESPONSE: DEQ acknowledges this comment. See Responses to Comments 16 – 23 and 24 – 26.

COMMENT NO. 28: Many comments were received stating that noxious algal blooms, such as the ones plaguing the Gallatin, are caused in part by excessive human-made nutrient discharges from poorly treated wastewater in the Big Sky area and Gallatin Canyon. DEQ is encouraged to include nitrogen and/or phosphorus as causal pollutants for impairment, as algal blooms in the Gallatin wouldn't occur without unhealthy levels of nitrogen and/or phosphorus.

RESPONSE: See responses to comments 5-26.

COMMENT NO. 29: I hate to see what has happened to the Gallatin in the past 50 years. It seems that the recent algal blooms in the mid-section have a human cause. Although I am disappointed that the water quality in the Gallatin has been allowed to decline to that level, I am encouraged that DEQ has finally determined that the Gallatin warrants "impaired" stars. What a shame.

RESPONSE: The department acknowledges the comment. The impairment listing action will spur further scientific analysis of physical and chemical causes of excessive algae growth. Significant pollutant sources found to influence conditions causing undesirable aquatic life will be included in all necessary TMDLs. See response to comments 2, 4, and 5-12, and 16 - 23.

COMMENT NO. 30: I heartily support Montana DEQ's preliminary decision to list the middle segment of the Gallatin River as impaired by pollution entering the tributaries of the river and seen to the human eye as algal blooms - is long overdue because of lack of inspection, measurements, enforcement of all pollution entering the tributaries of the Gallatin River, thus the main river.

RESPONSE: DEQ developed TMDLs for the West Fork of the Gallatin River and other tributaries to the Gallatin River encompassing much of the Big Sky area. DEQ will list the middle segment of the Gallatin River as impaired by excessive algae growth. This will trigger more study and analysis which will include TMDL development for any significant pollutant sources found to influence production of undesirable aquatic life. TMDLs will allocate loads to pollutant sources and provide strategies to reduce pollutant loading to the river. See response to comments 2, 4, and 5-12, 16 – 23, and 29.

COMMENT NO. 31: I own approximately 2 miles along the Gallatin River and have watched the water quality continue to plummet the past 4-5 years. Pollution along with critically low stream flows are putting more stress on the fish and organisms they feed on than the river can handle.

RESPONSE: The department acknowledges the comment. See response to comments 2, 4, and 5-12, 16 – 23, 29, and 30.

COMMENT NO. 32: The Boyne-owned golf course is way over-irrigating, putting massive amounts of nitrogen into tributaries of the Gallatin. You have ignored the Big Sky Water Sewer plants effluent ponds and the Boyne Golf Course that was tested by an independent expert by sampling outflows in several different ponds and the West Gallatin Tributary that is immediately adjacent to the course and ponds. The same water samples were given to BSWS for them to have their experts do similar dye tests. There are numerous problems with the pond liners, the Chapel Spring Location, the non-working lysimeters that need to be corrected immediately and not wait until the new sewer plant is active in 2023-2024. There is proof that excess effluent and nitrogen are entering the West Gallatin Tributary.

COMMENT NO. 33: The Big Sky area has tons of inadequate septic systems and uncontrolled pollution into Gallatin.

COMMENT NO. 34: Please limit the amount N & P that the Big Sky area can dump into the river

COMMENT NO. 35: Please ask the boomtown community of Big Sky for higher standards of accountability in their contributions of pollutants to the river

COMMENT NO. 36: TMDL limits are being met by over development in and around Big Sky with no-good long-term solutions to eliminate the source of impacts

COMMENT NO. 37: Big Sky has been polluting the West Gallatin River for decades. Please don't make it any easier for them to pollute. They have the money and the resources to not pollute our river, so don't give them a loophole. They don't need it!

COMMENT NO. 38: The town of Big Sky and Gallatin County are chiefly responsible for the impairment of the Gallatin River by allowing the systematic over-development of the resort town. The only logical explanation for the degradation of the river is the rapid pace and tremendous intensity of development coupled with inadequate waste treatment. I am looking forward to the DEQ findings and hopeful that the root cause or causes of the Gallatin River algae bloom can be identified and corrective and preventive measures suggested and implemented quickly and efficiently.

COMMENT NO. 39: Big Sky rapacity is destroying the Gallatin and everyone downstream is paying the price.

COMMENT NO. 40: The guests and residents of Big Sky and surrounding communities can well afford to have a state-of-the-art water treatment facility. Apparently, the millionaires and billionaires with properties there are unaware of the pollution those communities are negligently leaking into our pristine river ways. The State of Montana has a responsibility to address these problems, not to look the other way.

COMMENT NO. 41: Subdivisions and other development of the Gallatin Canyon and Big Sky areas have resulted in nitrogen and phosphorus pollution flowing into the river from inadequate wastewater treatment and surface runoff into natural drainages.

COMMENT NO. 42: It has only been in the last few years that algal blooms have become a recurring issue. One can only conclude that the issue is directly related to the massive growth of the Big Sky Community!

COMMENT NO. 43: I think there should be an immediate halt to approving any additional septic or treated sewage discharge permits. Until the solution is found, an immediate moratorium should be put in place on all future development in the upper watershed.

COMMENT NO. 44: You need to place an immediate moratorium on all new development whether the property hooks up to the Big Sky Sewer system or has an on-site septic system.

COMMENT NO. 45: Plans to handle wastewater in the Gallatin River corridor are not working.

COMMENT NO. 46: Algal blooms on the Gallatin are just the sign of a problem so we need to look at the actual existing sources of pollution and get serous with laws, regulations, enforcement, regardless of the push back from wealthy developers and others.

COMMENT NO. 47: Can you stop this pollution and then prevent more of the same through permitting - requiring future large developments to connect to BSWSD treatment plant?

COMMENT NO. 48: The algal bloom situation on the Gallatin River, especially in the Canyon, has gotten out of hand. Development is threatening to ruin one of the most beautiful rivers in the world, which brought many of us, including myself, to the Bozeman area in the first place. It is my favorite place to fish, and I worry it is slowly dying.

COMMENT NO. 49: The developments along the Gallatin and in Big Sky are endangering the Gallatin with every footing dug, every septic spill, and landscape/golf course fertilizer runoffs. We already know the culprits. The State of Montana is at a turning point as to whether they act to conserve what we have left or let developers and their fat wallets sway the river designations and protections. The bull has left the barn on this one, and it's time to STOP the violators who know what they're doing and have no regard for generations to come who might want to enjoy the Gallatin River in all its glory. You can't unscramble an egg.

COMMENT NO. 50: It's no secret that a few years ago sewage was leaked into the river from Yellowstone Club and yet it was treated as a non-issue despite the fact the entire canyon smelled like an open sewer. I have very little faith that the state of Montana will slow the development of this God forsaken tourist town we know as Big Sky, but I do have some hope that rational minds will recognize this incredible loss of the Gallatin before it's too late.

COMMENT NO. 51: Development and inadequate waste treatment are primary contributors to the pollution.

RESPONSE to 32-51: Many comments were received about potential or hypothetical nutrient sources and suggested methods to control those sources in the Big Sky area. State and local laws govern development review and the actions DEQ and county governments take to control impacts from land use activities and sources of pollution which may include permitted point source discharges and nonpoint sources. Questions related to land use planning are reserved for local governments and are outside of DEQ's authority.

DEQ has included the following as probable sources in our final assessment record for the middle segment of the Gallatin River:

- Erosion from Derelict Land (Barren Land)
- Forest Roads (Road Construction and Use)
- Freshets or Major Flooding
- Golf Courses
- Highways, Roads, Bridges, Infrastructure
- (New Construction)
- Loss of Riparian Habitat
- Managed Pasture Grazing
- Municipal (Urbanized High Density Area)
- On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Other Recreational Pollution Sources
- Other Turf Management
- Rangeland Grazing
- Natural Sources
- Impervious Surface/Parking Lot Runoff
- Silviculture Activities
- Unspecified Urban Stormwater

Probable sources are those that are not verified by existing data but are present in a watershed. Until verified, there is no implied relationship between the listed causes and sources. Listing the middle segment of the Gallatin River as impaired by excessive algae growth will trigger more study, planning, and analysis. TMDLs will be developed for any significant pollutant sources that influence production of undesirable aquatic life including excessive algae. TMDLs are planning documents that allocate loads to pollutant sources and provide strategies to reduce pollutant loading to the river. See response to comments 2, 4, and 5-12, 16 – 23, and 29 - 31. TMDL development efforts will study sources and develop load and wasteload allocations which are assigned to all significant sources. DEQ encourages commentors to participate in future TMDL development project stakeholder meetings and public comment timeframes where source assessment and loading allocations will be evaluated and discussed.

One commentor also stated that a release of sewage had occurred from the Yellowstone Club and the commentor thought the State of Montana treated it as a non-issue. It appears the commentor is referencing the 2016 leak of treated wastewater to Second Yellow Mule Creek and is unaware that DEQ took a formal enforcement action to address the release. The release flowed into the West Fork of the Gallatin River and eventually into the mainstem of the Gallatin River. The enforcement action included penalties, reclamation, and monitoring to address environmental concerns. As part of the penalty provision, a supplemental environmental project was also conducted by the Yellowstone Club to address nutrients. The Yellowstone Club fully complied with the requirements and the case was closed.

COMMENT NO. 52: You are the ones that gave BSWS their permit 20 years ago, but you do minimal to no enforcement, cow-towing to the rich developers and corporations. They haven't done a Water Budget on a regular basis which should be required to calculate the inputs and outputs of the sewer system including ponds.

RESPONSE: DEQ is taking comment from the public on the Draft Water Quality Assessment for the Gallatin River, which was prepared in response to a petition requesting assessment of the Middle Segment of the Gallatin River (Assessment Unit (AU)# MT41H001_021) from the Yellowstone National Park Boundary to Spanish Creek. This comment does not pertain directly to the petition to list the Middle Segment of the Gallatin River. BSWS does not have a MPDES or Montana Groundwater Pollution Control System (MGWPCS) discharge permit. The BSWS facilities are approved to apply treated wastewater at agronomic rates.

COMMENT NO. 53: The biggest polluter is the Big Sky Water Sewer plant, allowed to use the same liners for twenty years and not being inspected, not preparing Water Budgets to know the pollution amounts.

RESPONSE: This comment does not pertain to the petition to list the middle segment of the Gallatin River. See Response to Comment 52.

COMMENT NO. 54: Montana Bureau of Mines did a report in the spring of 2022. You are not using their results. Recently released report from MBMG:
http://mbmg.mtech.edu/mbmgcat/public/FileDirector.asp?fn=3719& [mbmg.mtech.edu]

This report details the direct connection of surface water and ground water in the Big Sky Meadow Village and discusses why the Meadow Village Aquifer is ‘Especially Vulnerable’ to contamination.

Page 54:

MBMG report: Nitrate and chloride concentrations in groundwater are elevated in the Meadow Village development. Based on the location of the wells with high concentrations and the one sample MBMG collected of treated sewage effluent that is applied to the land surface, MBMG speculates that septic system effluent (rather than fertilizer or treated effluent) is a likely source of this contamination.

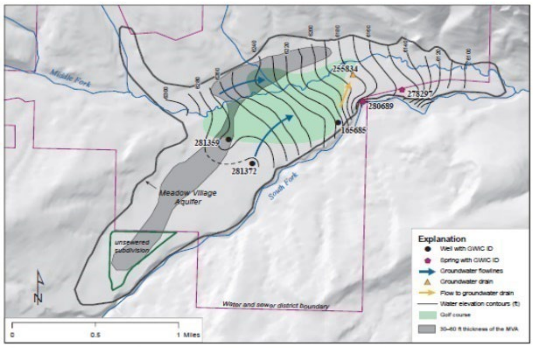

Figure 11. Potentiometric surface of the MVA groundwater generally flows west to east. The shaded area approximates a trough in the surface of the shale bedrock that forms the thickest part of the alluvial aquifer. Groundwater elevation contours are presented from Waren and others (2021).

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RESPONSE: DEQ is taking comment from the public on the Draft Water Quality Assessment for the Gallatin River, which was prepared in response to a petition requesting assessment of the Middle Segment of the Gallatin River (Assessment Unit (AU)# MT41H001_021) from the Yellowstone National Park Boundary to Spanish Creek. The MBMG "Hydrogeology and Groundwater Availability at Big Sky, Montana," 2022 Report by James Rose and Kirk Waren assessed groundwater resources in the Big Sky area and conducted surface-water sampling and monitoring on the West Fork Gallatin River (AU# MT41H005_040), Middle Fork West Fork Gallatin River (AU# MT41H005_050), South Fork West Fork Gallatin River (AU# MT41H005_060), and the North Fork West Fork Gallatin River (No Assessment Unit). While this information is valuable and may be used for future TMDL development, it is not pertinent to, and therefore was not considered in the initial assessment of the middle segment of the Gallatin River (AU# MT41H001_021). DEQ only considered data collected within assessment unit # MT41H001_021 that was collected in accordance with Montana's assessment methods.

COMMENT NO. 55: A recent report from MBMG details the Big Sky Meadow Village Aquifer and speculates that septic effluent from a large unsewered subdivision (Firelight) is a source of pollution to this shallow aquifer which is directly connected to the Middle fork stream (tributary to Gallatin mainstem). Firelight development is not connected to BSWSD sewer system but rather uses a failing onsite system with reported nitrate discharge exceedances for years 2016-2020. This failed system is permitted by MT DEQ. Is MT DEQ culpable for the pollution that has resulted from its permit at Firelight?

RESPONSE: This comment is not directly related to the petition to list the Middle Segment of the Gallatin River as impaired. The Firelight Meadows subdivision is sewered, and the collected wastewater from the subdivision is treated by a recirculating trickling sand filter designed to provide Level 2 treatment. The system's discharge to state ground water is authorized under Montana Ground Water Pollution Control System (MGWPCS) permit number MTX000129. The system has reported exceedances of the total nitrogen effluent limit in recent years and the wastewater treatment facility owner/operator is currently subject to an administrative order on consent (AOC) with DEQ's Enforcement Division.

COMMENT NO. 56: Elevated levels of nitrogen have been found consistently in ground water samples from Big Sky's Meadow Village Aquifer. A source water protection plan needs to be developed and implemented for the Big Sky Meadow Public water supply wells which pump from this shallow aquifer that is especially vulnerable to contamination and is connected to local streams. A source water protection plan needs to be developed and implemented for the Big Sky Meadow Public water supply wells due to elevated levels of nitrogen in Big Sky's Meadow Village Aquifer.

RESPONSE: This comment is not directly pertinent to the petition to list the Middle Segment of the Gallatin River as impaired. There is already a Source Water Protection Plan for the Meadow Village and Mountain Village (https://deq.mt.gov/files/Water/WPB/NRISReports/MT0002384.pdf). Updates to such plans are always possible but require local effort. Additional information on how to establish a source water protection plan and certification criteria is available from DEQ's Source Water Protection program within DEQ's Public Water Supply Bureau at (406) 444-4400. Additional information is available at: deq.mt.gov/water/Programs/dw-sourcewater.

COMMENT NO. 57: Does MT DEQ have a plan to expedite connecting Firelight's sewage to the BSWSD treatment plant and to stop issuing similar permits for large onsite systems moving forward?

RESPONSE: This question does not pertain to the request to list the Middle Segment of the Gallatin River as impaired. Big Sky Water and Sewer District (BSWSD) is planning upgrades of its wastewater treatment facility and is involved in planning a pipe system to transport treated wastewater from the Lower Gallatin Canyon to BSWSD for treatment. See: www.gallatincanyonwsd.com. DEQ has no specific information regarding the annexation of Firelight Meadows into the BSWSD. DEQ evaluates each application for a discharge permit to consider the planned facility operation; and to determine limits, conditions, and other requirements that will ensure protection of the receiving water and the facility's compliance with the Montana Water Quality Act (MWQA) and administrative rules adopted under authority of the MWQA.

COMMENT NO. 58: The river leaves Yellowstone National Park in pristine condition. The fact that it is impaired less than 30 miles downstream means that serious problems are occurring along its course.

RESPONSE: Natural sources associated with hot springs and geology in Yellowstone National Park may contribute to conditions that promote algae growth in the Middle Segment of the Gallatin River. Algae conditions measured near the park boundary are higher than many reference streams in southwest Montana. DEQ identifies both natural and human caused probable sources of the excessive algae growth within the beneficial use assessment. Probable sources are those that are present but not verified with data. TMDL development will further verify and quantify sources.

COMMENT NO. 59: I want to express my concern for the future of the Gallatin River as a place for enjoyment, employment, and intrinsic value. Anyone who has spent time along this stretch knows how special it is and I believe it deserves respect and attention to figure out how to stop the algae blooms.

RESPONSE: The department acknowledges this comment.

COMMENT NO. 60: I am quite concerned that the middle Gallatin is experiencing algal blooms as a result of upstream point source pollution. As a user of wilderness and rivers (hiking, backpacking, boating) I believe Montana's waterways should be maintained as clean as possible, not only for human uses, but for all the aquatic plant and animal species, including the microscopic ones (!) dependent on them.

RESPONSE: The department acknowledges this comment.

COMMENT NO. 61: More sampling and study are needed. Further testing will be necessary to determine sources and causes of the algae blooms and further study should open up the opportunity to better understand the requirements to preserve and maintain a high quality of aquatic habitat as well as nutrient thresholds in our local watershed, which supports our Blue-Ribbon trout populations and community recreation. I would strongly urge further study of the root causes of excessive nutrient loading into the Gallatin River, including recommendations to effectively mitigate future damage.

It appears that more detailed data of its source is required to eliminate any doubt as to the cause.

RESPONSE: The proposed action will trigger a scientific watershed planning effort to implement all appropriate TMDLs needed to restore recreational and aquatic life uses degraded by excessive algae growth. TMDLs identify sources of pollution in waterbodies and how much pollution can be sustained and still fully support beneficial uses. Successful implementation of TMDLs will need to include a combination of local, county and state actions.

COMMENT NO. 62: The Taylor's Fork also has an algae bloom. It is interesting to note that the algae bloom on the Taylors Fork STARTS where Wapiti Creek enters the Taylors Fork. The Taylor's Fork ABOVE Wapiti creek has NO algae bloom. Looking at what is upstream in Wapiti Creek is worth exploring.

RESPONSE: This comment does not directly pertain to the petition to list the Middle segment of the Gallatin River. We encourage your future involvement in TMDL planning that could help in scoping source assessments.

This bloom may be spurred by a groundwater influx in this location coming from the Madison Aquifer. This, along with upstream naturally eroding volcanic ash formed from prior eruptions of the Yellowstone caldera could be triggering algae in this location. Although an upstream look at Wapiti Creek is also worth exploring. Algae does not appear to be growing at nuisance levels in Wapiti Creek when DEQ has visited the area.

COMMENT NO. 63: Taking 2-6 years to determine TMDLs for the Gallatin River seems way too long. I urge DEQ to get this problem saved before 2 years have passed.

COMMENT NO. 64: The Gallatin River should be designated immediately as impaired as you already have five years of data, and anyone can see that there is a serious problem. You will not need "years of study" to determine the problem as it is obvious: the Big Sky Sewage District is not doing enough to prevent pollution of the river.

COMMENT NO. 65: You have a 6-year plan to correct the problems which is outrageous time period treatment of an outstanding Montana river, fishery, water sprots, etc. You need to hire expert technical contractors to get this ruination of our River and our reputation.

RESPONSE to 63-65: Identifying the pollutant(s) causing or expected to cause exceedance of the narrative WQS, at ARM 17.30.637(1)(e), prohibiting undesirable aquatic life is an iterative process. DEQ may assess, reassess, and make refinements to the pollutant(s) causing or expected to cause this WQS exceedance. Studying chemical and physical factors and linking them to biological responses, all while investigating sources, will require specific monitoring actions over multiple years. It's likely that water quality modeling will also be needed. TMDL development will require study and take time to complete necessary sampling and data and analysis.

Many restoration and mitigation actions are already identified in the West Fork Gallatin River TMDL document and GRTF local planning documents. These pollution reduction activities do not have to wait until completion of a TMDL for the Gallatin River.

COMMENT NO. 66: Future monitoring must be 1. extended beyond the current July 1 - September 31 window, to include shoulder seasons when nutrient pollution may be expected to be higher in concentration; 2. conducted more frequently; and 3. conducted during nighttime hours to account for diurnal impacts. Most importantly, expert scientists should be engaged to analyze changes in the macro- and micro-invertebrate community, given that changes are already being observed.

RESPONSE: DEQ acknowledges the suggestions. DEQ plans to monitor more frequently, beyond the growing season and potentially at night in future monitoring efforts. DEQ collected aquatic insects during 2022 field season and has sent them to a contracted professional laboratory for community analysis.

COMMENT NO. 67: I understand that DEQ has not yet identified nitrogen and phosphorus as causal agents of the Gallatin River's algal blooms and the pollutants of concern because water samples from the Gallatin show sub-threshold levels of these pollutants. This is likely because of when the samples are taken: during the day and during the summer season. During the day in the summer, when the algae is active, the algae blooms are taking up high levels of both nitrogen and phosphorous from the water column, reducing the levels that show up in the water samples. Sampling at night would likely show significantly higher levels of these pollutants, as would sampling in the fall when the algae is no longer photosynthetically active. I encourage you to expand your sampling regime to get at the true source of the algae problem.

RESPONSE: An intra-daily change in nutrient conditions applies much more to dissolved fractions which are easily taken in by algae. This intra-daily variation is, in part, why Montana has used total nutrient fractions for standards. Intra daily changes in total fractions occur to a much lesser extent and therefore daytime data is representative. Additionally, almost all water quality samples in MT have been collected during daylight conditions and the associated data to set standards relates to daytime conditions. The data analysis for the request to list the Gallatin River used total nitrogen, total phosphorus, and nitrate nitrite fractions. DEQ does not usually investigate intra-daily nutrient conditions but may incorporate detailed intra-daily nutrient collection for this project.

COMMENT NO. 68: Gallatin River Task Force members and volunteers are not qualified to measure water quality, but you rely on them. Measurements need to be done in the same manner in a prescribed methodology on a regular basis every month of the year and particularly during the irrigation season for the golf course.

COMMENT NO. 69: I am very concerned about the inadequacy of the monitoring and the sole reliance on volunteers from the Gallatin River Task Force for gathering data. Information on that organization's website appears to minimize the frequency of algal blooms on the river, ignores the role of pollution from the West Fork of the Gallatin, and theorizes almost exclusively on water temperature as a potential cause. I find this troubling, in that the segment of the river at issue is immediately downstream of the confluence of the very seriously impaired West Fork. Given the potential conflict of interest with development interests that fund the GRTF, DEQ must have a greater hands-on role in monitoring the river in order to conduct an accurate and transparent assessment.

RESPONSE to 68-69: DEQ developed a Sampling and Analysis Plan (SAP), in coordination with the Gallatin River Task Force (GRTF), which describes the monitoring in the upper Gallatin watershed: Sampling and Analysis Plan: Nutrient and Algae Monitoring in the Upper Gallatin Watershed. This SAP details the sampling locations, parameters, data collection methods, schedule, analytical requirements, quality control requirements, and other specifications. This SAP is reviewed, modified, and approved annually by DEQ, and is implemented by GRTF under contractual agreement with DEQ. DEQ staff have provided in-person field training and oversight for GRTF members and volunteers to ensure proper application of DEQ standard operating procedures. GRTF staff are proficient in sampling methods and provide annual training to members and volunteers who conduct monitoring. The resulting data is submitted to DEQ's water quality database and is evaluated for data quality upon receipt.

DEQ has a long history of supporting volunteer water quality monitoring efforts across Montana and administers a volunteer monitoring support program to ensure that participating volunteer monitoring programs produce data of known and documented quality. GRTF has participated in DEQ's volunteer monitoring support program since 2013 and has demonstrated their ability to successfully implement monitoring plans to fulfill contractual requirements.

COMMENT NO. 70: The Gallatin River Task Force's part in water collection sampling for the past two decades has contributed significantly to our ability to read the health of the Gallatin. We understand that this sampling is responsible for the data that has allowed the DEQ to make the preliminary determination that the middle segment of the Gallatin River is impaired by recurrent nuisance algal blooms, and support that it will lead us collaboratively and intentionally into a science-based planning effort and a clean-up plan that engages local organizations, state and federal agencies all working together towards a solution for a healthier Gallatin River well into the future.

RESPONSE: DEQ appreciates the Gallatin River Task Force's coordination, monitoring efforts and contributions. During the upcoming 303d update/TMDL project DEQ will engage local, state and federal agencies.

COMMENT NO. 71: Please list the Gallatin River as impaired by algal blooms. I have worked with the Gallatin River Task Force on monitoring the algae in the river and it is definitely a problem that needs to be addressed.

RESPONSE: The department acknowledges this comment.

COMMENT NO. 72: As a part time Big Sky resident of 30 years, and full time now for 3 years, I have seen personally the degradation of the river through the years. In spite of the great moisture we had this spring, I see the algal bloom starting earlier and stronger.

RESPONSE: The department acknowledges this comment.

COMMENT NO. 73: Efforts undertaken thus far have failed to prevent the heavy nutrient load in the river and significant detrimental algae blooms continue to occur. The frequency and durations of these blooms are increasing, and unless significant additional measures are taken the Gallatin may reach a point at which full recovery is impossible.

RESPONSE: During the applicable growing season, nutrient conditions are below DEQ -12A state standards according to DEQ's assessment methods. That is why DEQ is proposing to list the middle segment of the Gallatin River as impaired due to "excessive algal growth" pursuant to ARM 17.30.637(1)(e). Nutrients, temperature, and physical conditions will be further investigated. The proposed impairment listing will trigger a scientific watershed planning effort and appropriate TMDLs to address recreational and aquatic life uses degraded by excessive algae growth.

COMMENT NO. 74: We need to take better care of what is left of our environment, for wildlife, marine life, plant life and people.

RESPONSE: The department acknowledges this comment.

COMMENT NO. 75: I fear for the future of wild trout, given the implications of climate change and the reality of human pollution. I urge that we do all we can to learn negative impacts we are causing and reverse those. Therefore, I offer my voice in support of efforts to determine causes of pollution so we might do the essential work of protection and preservation.

RESPONSE: The department acknowledges this comment. The proposed impairment listing will trigger a scientific watershed planning effort and appropriate TMDLs to address pollutant sources impacting recreational and aquatic life uses degraded by excessive algae growth.

COMMENT NO. 76: Heavy algal blooms are decimating fish populations and contributing pollution must be eliminated.

RESPONSE: There is scientific evidence that aquatic insect communities are shifting toward pollutant tolerant species in this area. At this time, there is no scientific evidence that the fishery is affected by the algal blooms on the middle segment of the Gallatin River.

COMMENT NO. 77: The native fish supply is paramount to supporting other wildlife that depends on it for its food supply. Please act now and take the necessary steps to protect the rivers that serve the Grand Tetons and Yellowstone, and its wildlife food sources.

RESPONSE: Native fish in this region are stressed by many factors including competition with nonnatives, habitat degradation, stream flows, temperature and other water quality conditions. See Response to Comment No. 76.

COMMENT NO. 78: With this recent warm spell, the bloom has gotten extremely heavy to the point of making fishing hazardous and a noticeable decrease in aquatic activity.

RESPONSE: The department acknowledges this comment.

COMMENT NO. 79: I completely support the designation of the Gallatin River as "impaired" by algae blooms. I have fished in the Gallatin for nearly 30 years. The Gallatin is a beautiful wade fishing river and must be protected for decades to come and this designation is a great first step in ensuring the long-term health of the river over its entire length.

RESPONSE: The department acknowledges this comment.

COMMENT NO. 80: Climate change is having significant impacts on all environments. The Gallatin River needs extra support right now to become a healthy home for all aquatic species, especially those that are being threatened.

COMMENT NO. 81: With climate change and warming temperatures upon us and predicted decrease in snowpack, the Gallatin River, as well as many other rivers in the region, will likely experience continued, seasonal algae growth, lower flows, higher water temperatures, and a resultant loss in aquatic biodiversity. How can we maintain the water quality in our rivers and streams in the face of climate change and continued development along the shores of our rivers and streams?

RESPONSE to 80-81: Next steps in response to the impairment listing will include studying stream temperatures, shade, and channel conditions. DEQ will begin a watershed planning effort in response to the impairment listing and appropriate TMDLs will be developed in order of priority ranking established pursuant to § 75-5-702, MCA.

COMMENT NO. 82: Several comments were provided that the online portion of the July 14th presentation didn't work well. Audio problems persisted during the presentation. It was difficult to follow for online participants.

RESPONSE: The department acknowledges these comments and is working to improve public online meetings.

COMMENT NO. 83: I have cherished this river for more than seventy years, and it breaks my heart to see it so terribly degraded. The Gallatin is not just our neighborhood river, it is the headwaters for the largest watershed in the United States. The State of Montana has an obligation to protect its precious waters and the life that it supports.

COMMENT NO. 84: Clean water is the most basic and important thing needed for life.

COMMENT NO. 85: Montana DEQ is totally inept in timely, scientifically adequate management and enforcement that needs to change.

COMMENT NO. 86: Why did you ignore your required assessment of the Gallatin and then non-profit organizations had to present a Notice of Intent to List to get your attention!

COMMENT NO. 87: Through experience I've learned to follow the money usually through politicians. Your being watched closely and I hope your not a puppet of monied politicians supported by the development community. Please get aggressive and fair.

COMMENT NO. 88: If you're understaffed, then let's see what can be done about increasing your staff and budget.

COMMENT NO. 89: This is no ordinary river - it's cool, clear, and clean, home to millions of aquatic creatures and is the lifeblood of the entire ecosystem, not to mention the regional economy.

COMMENT NO. 90: For years I have watched the Gov't of California ruin our rivers and ecosystems… you are headed down a very similar path of destruction…

COMMENT NO. 91: Many commentors support the efforts of the DEQ in implementing a science-based pollution control plan for the Gallatin to reduce excessive nutrient levels that are contributing to nuisance algal growth and to start the efforts needed for improvements.

COMMENT NO. 92: Please take swift action to require that the Gallatin River be protected from development runoff and pollution.

COMMENT NO. 93: What a shame to see this Montana treasure so unjustly affected! Something has to be done to save one of the great naturally reproducing trout streams in Montana

COMMENT NO. 94: Algae growth has proliferated in, at least, the past five years.

COMMENT NO. 95: It is a disgrace to our great state to have this happen to one of our greatest rivers.

COMMENT NO. 96: I strongly support the draft water quality assessment for a segment of the Gallatin River. It’s essential to preserving that natural resource.

COMMENT NO. 97: This summer we are once again seeing a significant algae bloom on the Gallatin River. It is essential that we now complete the TMDL work to determine the critical pollution sources and begin work on eliminating or significantly limiting the sources.

COMMENT NO. 98: The waters in and around the Big Sky region, specifically those of South Fork West Fork Gallatin River, Middle Fork West Fork Gallatin River and West Fork Gallatin River have been known for decades to suffer from impairment due to nitrogen, phosphorus, suspended sediments, etc. As a result, these three streams have been declared water-quality impaired by DEQ. We all know that water flows downhill, in this case into the Gallatin River. It should be no surprise then that it was only a matter of time before the Gallatin River would suffer from the ill effects of upstream tributaries

RESPONSE to 82-97: The department acknowledges these comments.

COMMENT NO. 99: If the river is damaged, it also harms the tourist economy for the region.

COMMENT NO. 100: Dead ecosystems generate no income.

COMMENT NO. 101: Rivers like the Gallatin are the lifeblood of Montana, and specifically of our tourist industry. Growth and development must not undermine the quality of the Gallatin. Please do all in your power to protect it.

COMMENT NO. 102: In addition to damaging pristine wildlands that depend upon a healthy river, algal blooms harm the region's businesses that depend upon trout fishing and other recreational tourism on the river.

COMMENT NO. 103: People come to the Gallatin River from all over the world, including locals, for pure clean Montana water. Think of the environmental and economic impacts that will happen when the river becomes too compromised to even fish. Word is out and the clock is ticking.

COMMENT NO. 104: Many comments stated that the Gallatin River is the lifeblood of Gallatin County, providing world-class recreational opportunities and supporting countless local businesses, jobs, and a wild trout fishery.

COMMENT NO. 105: Many comments stated that the Gallatin River is vital to local jobs, the economy, and the wildlife in the area.

RESPONSE to 99-105: DEQ acknowledges the comments and understands that the economy of the area is dependent upon healthy aquatic resources that support fishing, boating and general enjoyment of the river. In response to the proposed impairment listing, DEQ will begin a watershed planning effort and appropriate TMDLs will be developed in order of priority ranking established pursuant to § 75-5-702, MCA.

COMMENT NO. 106: Many comments stated that the nutrient pollution has degraded recreational experiences, aquatic habitat and conditions, and the aesthetic value of the Gallatin River.

COMMENT NO. 107: Many comments stated that Algal blooms have plagued the mainstem Gallatin since 2018, negatively impacting recreationists, local businesses that rely on a healthy river, and the aquatic communities.

RESPONSE to 106-107: See Response to Comment 79 – 80 and 98-104.

COMMENT NO. 108: I have paddled the Gallatin River for over 30 years. All one has to do is look at the river and see the brown stains on all the rocks in the high-water lines. The smell and taste of the river is something that only a whitewater kayaker could attest to. The water goes in our ears and noses and makes us sick!

RESPONSE: Please report any suspected waterborne illnesses to your county health department.

COMMENT NO. 109: While Category 5 impairment designation is accurate, the DEQ must also declare nitrogen and/or phosphorus as the key causal pollutants causing or contributing to the river's degradation, and enact legislation to reduce dumping of these substances into the river by more rigorous water treatment and fining of polluters.

RESPONSE: As an administrative agency, DEQ does not enact legislation. See response to comments 5-12, 79-80, and 98-104.

COMMENT NO. 110: Here's another (pictures/video) with more documentation on the Gallatin middle segment's algal bloom, taken last Thursday 8/18/22. The bloom is at least as severe as 2018, and in my personal estimate 2022 is more severe than 2018 or 2020. We also took drone imagery on the middle segment upstream of the W Fork where the bloom is also evident. Take a look specifically at the drone MP4 files and their perspective - the one entitled UMW-22-0103 (Deer Cr and the Green Bridge) is particularly shocking. Looks like Saint Patty's Day in the river, visually bank to bank and definitely more than 300' downstream. Videos and photos submitted.

RESPONSE: Photos and videos of algae growth on this segment, along with testimonials of recreationalist and businesses that derive income based on recreation, were accepted and considered in the assessment of the middle segment of the Gallatin River.

COMMENT NO. 111: Describe the number of recent samples collected per year and analyze the data as appropriate against the applicable WQS, presented based on the applicable duration of the WQS (e.g., growing season average, annual average).

COMMENT NO. 112: Explain how the state reviewed, examined, and analyzed the petitioners' data to reach its attainment decision. The assessment record currently only includes the conclusory statement that "PHOTO/VIDEOS: Photos from 2018 to 2021 indicate widespread filamentous algae growth." EPA requests that MDEQ describe how visual information was evaluated and used to make decisions regarding excess algae growth. For example, EPA's visual evaluation of the photographs submitted by the petitioners suggests that the photographic evidence appears to exceed chlorophyll-a concentrations used by MDEQ as recreational thresholds due to aesthetic impacts. For example, petitioner photos from August 1, 2018, and August 5, 2020 appear to have similar or higher chlorophyll-a concentrations when compared to photo E (chlorophyll-a concentration of 202 mg/m2) and C (chlorophyll-a concentration of 404 mg/m2) used in MDEQ's "How Green is Too Green" study. The final assessment should document MDEQ's considerations of these photos and decision-making process used in evaluating whether the Gallatin was impaired for excess algae growth.

COMMENT NO. 113: It is assumed that that any monitoring activities conducted by MDEQ or the Gallatin River Task Force would have sampled for conventional parameters (e.g., DO, pH) and other biological indicators such as periphyton. However, no such data were mentioned in the assessment record. If data were available, please review and discuss how these data were considered in the attainment decision. If these data were not collected, please explain.

COMMENT NO. 114: DEQ has not adequately documented the grounds for its decision making, and in particular not provided a sufficiently detailed explanation of the factors and information it considered in reach its preliminary determination.

DEQ's proposed attainment record is a synopsis of general attainment conclusions. The summary does not, however, identify how DEQ reviewed available data and its procedures used to make the preliminary determination. This missing documentation creates transparency and accountability in Integrated Report processes generally, and as-applied here is important given the strong evidentiary record of photographs and drone media documenting nuisance algal conditions.

Please provide a discrete rationale supporting the impairment determination explaining how DEQ reviewed, examined, and analyzed the Petition's data to reach its preliminary determination of impairment. DEQ's response to the petition only includes the conclusory statement as regards photos/videos that "photos from 2018 to 2021 indicate widespread filamentous algae growth." EPA's requirements for data assessment and impairment determinations require a more detailed explanation of how the provided demonstrative evidence satisfies, for example, chlorophyll-a concentrations used by DEQ as recreational thresholds for designated use violations.

Providing the more discrete and probing analyses here is important to comply with requirements of the Clean Water Act, and also important to establishing a replicable precedent for how concerned members of the public can provide DEQ with on-the-ground data to inform waterway protection and restoration moving forward. This latter benefit is particularly important given DEQ's constrained budgets and the increasing capacity of water conservation organizations to perform waterway monitoring and thereby assist DEQ's workload and duty to assess waterway health and control harmful pollution.

RESPONSE to 111-114: DEQ has created a report of the data used for the analysis in response to the petition to list the middle segment of the Gallatin. The report is entitled *Existing Conditions Summary and beneficial Use Assessment for the Middle Segment of the Gallatin River* and is included as **Attachment 1** in this document.

COMMENT NO. 115: The Petition provided written testimony by several river-based business offering first-person descriptions of how narrative recreational and aquatic life criteria have been violated for the middle segment Gallatin. DEQ should explain how, under EPA's rules and implementing guidance, it considers written testimony averring harm to recreational and/or aquatic life uses of the middle segment Gallatin. Document MDEQ's review and consideration of testimony submitted by recreational users in its attainment record.

RESPONSE: DEQ considered written testimony provided with the petition as additional support for implementing assessment procedures according to our existing assessment methods and in accordance to *MCA 75-5-702, MCA*. DEQ may consider public testimony to justify program resources such as monitoring and staff time towards determining if beneficial uses are supported or impaired in the middle segment of the Gallatin River. DEQ also considered data to assess uses in accordance with our assessment methods. DEQ will ensure that the petition to list and appendices are documented in the assessment record and will add related data and information to our water quality library.

COMMENT NO. 116: Dr. Jim Elser, head of the Flathead Lake Biological station, is an expert on these matters, and his assistance would be very useful in assessing this problem. At a minimum I assume the DEQ has many longitudinal water samples that he might be in a good position to evaluate.

RESPONSE: The department acknowledges the comment.

COMMENT NO. 117: We are puzzled at DEQ's seemingly hesitation to blame the cause for algae blooms on nutrient overloading such as those from nitrogen or phosphorus. We question if DEQ and others are aware of the scientific paper by Kristin Gardner's dissertation entitled *"Spatial and Seasonal Variability of Watershed Response to Anthropogenic Nitrogen Loading in a Mountainous Watershed"*. Several excerpts from this paper may explain the rationale for the problem of nutrient loading in the Big Sky area and the Gallatin River.

From the Abstract:

"Anthropogenic activity has greatly increased watershed export of bioavailable

nitrogen. Escalating levels of bioavailable nitrogen can deteriorate aquatic ecosystems by promoting nuisance algae growth, depleting dissolved oxygen levels, altering biotic communities, and expediting eutrophication.

From Page 5:

"….high elevation ecosystems can have faster response times to anthropogenic N loading due to increased precipitation, steep slopes, limited vegetation, large areas of exposed bedrock, and shallow soils, often resulting in rapid hydrological flushing during snowmelt and rainfall [Williams et al., 1993; Forney et al., 2001; Kopacek et al., 2005]. Therefore, even modest levels of anthropogenic N loading can have disproportionately large effects on N dynamics in mountainous headwater ecosystems."

From Page 15, 17

"Human alteration of the patterns of land use/land cover (LULC) on the Earth surface is one of the most profound impacts on the functioning of natural ecosystems [Steffen et al., 2004]. Impacts on water quality, commonly viewed as an integrated environmental indicator of ecosystem function, are of particular concern in high elevation ecosystems due to the combined effects of increased precipitation, steep slopes, limited vegetation, large areas of exposed bedrock, and shallow soils, often resulting in rapid hydrological flushing during snowmelt and rainfall [Williams et al., 1993; Forney et al., 2001]."

"Although there can be substantial processing of N in streams, there may also be concentration and seasonal thresholds, that when exceeded, the system loses its ability to remove/retain dissolved inorganic N [Alexander et al., 2000; Dodds et al., 2002; Earl et al., 2006] similar to terrestrial environments [Aber et al., 1989]. Increased watershed N loading can lead to greater N export to the stream ecosystem with instream uptake velocity decreasing as the stream approaches N saturation [Earl et al., 2006], all leading to greater watershed N export. Shortest nutrient uptake lengths and highest uptake velocities generally occur in spring and summer [Simon, et al., 2005]."

From Page 18:

"The West Fork of the Gallatin River in the northern Rocky Mountains of southwestern Montana (Figure 2.1A) drains Big Sky, Moonlight Basin, Yellowstone Club, and Spanish Peaks resort areas (Figure 2.1B). The West Fork watershed (212 km2) is characterized by well-defined steep topography and shallow soils."

From Page 22:

"The West Fork watershed has steep slopes and predominately shallow soils with high hydraulic conductivities [USDA SCS, 1978; USDA SCS, 1982]. These conditions often promote shallow runoff pathways that can result in rapid NO3 - delivery to riparian zones and streams."

From Page 20:

"Big Sky Resort was established in the early 1970s and since then, the West Fork watershed has seen a rapid increase in growth with the addition of three new ski resorts and golf courses with associated residential development. Since resort development, streamwater N concentrations in the West Fork of the Gallatin River have followed a similar upward trend as development [NSF, 1976; Blue Water Task Force, and Big Sky Water and Sewer District, unpublished data]."

From Page 90:

"Annual NO3- exports within the West Fork watershed were higher in developed watersheds compared to undeveloped watersheds (Figure 3.7A). Higher NO3 – export with anthropogenic development has been well documented [Boyer et al., 2002; Whitehead et al., 2002; Groffman et al., 2004; U.S.G.S., 2006]. Since NO3- is highly soluble in water, additional inputs from anthropogenic development can be readily transported to streamwater [Gunderson et al., 1998]."

From Page 69:

"Mountainous watersheds can be particularly susceptible to N enrichment from resort development because of greater precipitation and the potential for increased loading of inorganic N in areas with shallow soils, steep talus/scree slopes, and limited potential for riparian buffering and N processing [Seastedt et al., 2004; Gardner and McGlynn, 2009]."

<u>RESPONSE</u>: Thanks for submitting this reference and summary information. The data associated with this analysis are older than guidance provided in Montana's assessment method (>10 years) and was not considered in response to the petition to list the middle segment of the Gallatin River as impaired for nutrients. However, the concepts and analyses may provide useful in future TMDL development. DEQ retains a copy of Kristen Gardner's Thesis in our water quality library. See also Response to Comments 5-12.

COMMENT NO. 118: GWA would like to add just a few more references with passages to fully help DEQ and the general public understand the conditions in which we find ourselves. We are in a condition with an exponential increase of anthropogenic activity. In another paper by Kristin Gardner entitled "*Quantifying watershed sensitivity to spatially variable N loading and the relative importance of watershed N retention"* first published in August 2011, there are these quotes. There needs to be a full understanding of the hydrology and hydrogeology by DEQ and the public.

"Modeling results revealed that small amounts of wastewater loading occurring in watershed areas with short travel times to the stream had disproportionately large impacts on watershed nitrate ($NO3^-$) export compared to spatially distributed N loading or localized N loading in watershed areas with longer travel times. In contrast, spatially distributed N inputs of greater magnitude (terrestrial storage release and septic systems) had little influence on $NO3^-$ export."

"Localized N loading occurring in watershed areas with fast travel times to the stream may have a disproportionately large effect on water quality. Under these conditions, the system's ability to retain $NO3^-$ is overwhelmed, resulting in excess $NO3^-$ readily exported from the system."

These conclusions are also verified by the statements found in a Technical Memorandum entitled "*Upper Gallatin Nutrient Assessment and Reduction Plan*" by Chris Allen, PhD., and Sarah Howell, scientist, dated October 17, 2020. On page 1 in the Executive Summary, we find this statement:

"Small increases in instream nutrients can have significant effects on aquatic organisms altering the aquatic food web, changing the ability of the river to support recreational activities, and promoting the growth of algae that can significantly impact fish populations. To maintain stream health in the region the Montana Department of Environmental Quality (DEQ) has set instream standards of 0.3 mg/l total

nitrogen as N and 0.03 mg/l total phosphorus as P during summer baseflow within wadable streams. Ongoing water quality monitoring performed by the Gallatin River Task Force (Task Force) indicates that portions of the West Fork of the Gallatin River have exceeded the threshold values for nitrogen (see Figure ES1)."

"Both nitrogen and phosphorus also dissolve into water as a result of rock weathering (Montana DEQ, 2013, Montross, 2013). The regional geology may play an outsized role in nutrient levels for some components of the watershed, especially in the headwaters where geology is influenced by geothermal activity. Even low concentrations of natural nitrogen can result in a large mass loading of nitrogen. During peak runoff the concentration of nutrients in the water is dominated by natural nutrient loads, primarily atmospheric deposition and rock weathering. The total mass of nitrogen added to the ecosystem because of human activity is relatively small compared to natural loading. However, anthropogenic sources of nitrogen from wastewater, domestic animals, and land disturbance have a substantial effect on nutrient concentrations during summer and winter base flow conditions."

RESPONSE: Thanks for submitting this reference and summary information. The data associated with this analysis is older than guidance provided in Montana's assessment method (>10 years) and was not considered in response to the petition to list the middle segment of the Gallatin River as impaired for nutrients. However, the concepts and analyses may provide useful in future TMDL development. DEQ retains a copy in our water quality library. See also Responses to Comments 5-12.

COMMENT NO. 119: In a publication entitled *"Hydrogeology and Groundwater Availability of Big Sky, Montana",* James Rose and Kirk Waren describe much of the known geology and hydrogeology of the Big Sky Region, certainly in more detail than what we've seen so far in any scientific publication. They make the following statement in the Executive Summary found on page 2 of that document.

"Research conducted by Montross and others (2013) in the Big Sky region showed that bedrock–groundwater interactions (that is, mineral dissolution) are not a significant source of nitrate to groundwater. Data collected by the MBMG and reported here indicate that anthropogenic contaminants contribute nitrate and chloride to groundwater and surface water in the study area. Naturally occurring nitrate levels in groundwater and springs are low (<0.8 mg/L), but concentrations ranged up to 6.6 mg/L in groundwater from the Meadow Village aquifer. Nitrate in groundwater was highest in wells upgradient of the Meadow Village Golf Course, suggesting that sources of nitrate other than golf course fertilizer and effluent application as irrigation water affect groundwater quality. Elevated nitrate and chloride in Meadow Village surface water and groundwater show that surface water and groundwater are both vulnerable to water-quality degradation from surface activities."

As we try to anatomize these last two summations, there seems to be some disparity in what each reference is stating as far as the quantity of nutrients entering the hydrologic system from natural causes vs that from anthropogenic activity. However, even the final statement from Chris Allen's Technical Memorandum states this factoid where both articles seem to come into agreement.

However, anthropogenic sources of nitrogen from wastewater, domestic animals, and land disturbance have a substantial effect on nutrient concentrations during summer and winter base flow conditions.”

RESPONSE: Thanks for submitting this reference and summary information. The data associated with this analysis do not spatially apply to the petition to list the middle segment of the Gallatin River as impaired for nutrients. However, the concepts and analyses may provide useful for future TMDL development. DEQ retains a copy in our water quality library. See also Responses to Comments 5-12.

COMMENT NO. 120: As DEQ and other governmental officials look at these principles and the respective science, those in power will hopefully have a better understanding of the geomorphology and hydrogeology of the region. Perhaps the answer is already known. We just have to accept it. Perhaps the communities and agencies in and around Gallatin County should take into consideration the fact that the Big Sky Region has been developed beyond its natural capacity to assimilate additional increases of nitrogen from anthropogenic activity.

Therefore, we ask DEQ to use the science. By doing so we believe the agency will find that nitrogen and phosphorus will be the causal pollutants for impairment. Again, the algae blooms are the symptom not the reason for impairment. We urge DEQ to do their job.

GWA recommends that if the state follows this path of impairment, they do so with an active plan. GWA would like to recommend a sound hydrologic monitoring program including the analyses of water quality in both surface and ground water as well as a continuous streamgaging monitoring program at key locations over multiple years during all stages of flow. Monitoring sites should be placed throughout the drainage system including the tributaries and the mainstem. These sites need to make hydrologic sense and one that could possibly capture point-source pollution.

The report by MBMG highlights the monitoring work done in the past, but many of the streamgaging data shown in the report are 6-8 years old. They are a dozen or so sites that collected hydrologic data primarily during the spring, summer, and some events in the autumn. We see this data as helpful, but not as concise as it should be. Data programs need to be continuous over multiple years over multiple hydrologic events before any real definite conclusions can be drawn from them. It is only then that we can understand the hydrology and hydrogeology of the system. Monitoring needs to be done in an unbiased, but scientific methodology using a neutral 3rd party with no claims of potential conflict of interest.

RESPONSE: Thanks for the summary of information. DEQ will consider existing data and reports to inform its future monitoring efforts for refining impairment listings and completing TMDLs. In response to the impairment listing, DEQ will create a project plan and sampling plans to implement a project that links causal variables to excessive algae growth and to determine sources within the watershed. See also Responses to Comments 5-12.

COMMENT NO.121: I have concerns that the unbridled development of Big Sky will forever impair our great river.

COMMENT NO. 122: GWA's hesitancy in the past to accept the impairment option as a method for river cleanup has been based upon skepticism and time. After declaring the mainstem of the Gallatin River impaired and TMDLs put in place; then what? It seems so many rivers and streams have traveled down that road only to remain designated with that stigma of "impairment" forever. GWA tried to research the recovery rate of designated rivers and streams that have been declared impaired in order to determine that elusive success rate. The best we could surmise is the following from our own research:

According to the DEQ 2020 Final Water Quality Integrated Report, 35% of Montana river and stream miles are designated as water-quality impaired due to nutrients. With the accepted fact there are 169,829 river miles in the state, that places 59,500 miles of impaired river miles from nutrients.

https://deq.mt.gov/files/Water/WQPB/CWAIC/Reports/IRs/2020/MT_2020_IR_Final.pdf

According to EPA, from 2008-2022, only 24 segments of rivers and streams have been improved in Montana during that time with a total of 170 river miles – not all of those designated from nutrients but they were so designated using TMDLs.

https://ordspub.epa.gov/ords/grts/f?p=109:191::::::#map

That leaves a success rate of nearly **0.3%** of designated rivers and streams in Montana having been improved through this process. If these facts are wrong, we wish to be corrected, but if they are right, one can understand our hesitation. We at GWA believe will need a much thorough and expedient recovery process than this.

This recovery data seems very hard to find. Perhaps DEQ would know or has better access to those records. But this does raise a few questions. Is a plan really going to be enforced? Who will do the enforcing? We ask because so far, we don't see DEQ stepping up to the plate? Is there going to be an effort to determine point-source pollution? We, at GWA do not have very high hopes there will be the necessary follow through. Whatever plan is going to be derived is going to have to have teeth for enforcement. We want DEQ to prove our skepticism wrong.

In Conclusion:

We want to state at the outset, that if DEQ decides to grant impairment status to the Gallatin River, it should do so and only do so under the Category 5 impairment classification. GWA wants to see action, a game plan if you will by the community at large to overcome the pollution of the Gallatin River and its tributaries. There may not be one action that will be the cure all, as it may take the actions of many for success. But we do know that the situation as it stands presently is not working. We believe the river can be returned to its native state, but it is going to take some regulation and enforcement. It is going to take something to change. The question is, what will that be?

First there needs to be an understanding of the science. DEQ and managing officials both inside and outside of government need to be on the same page with the science. Presently, we have no idea what other parameters may be at work within the Gallatin River, but we suggest DEQ sincerely study the anthropogenic amount of nutrients that are being applied within the Big Sky Region.

Second, there needs to be a monitoring network established in and around the Big Sky Region to survey the quality, quantity and sediment of the streamflow. This monitoring plan should even extend to include some groundwater monitoring to establish surface/ground water relationships. Water quality samples should be collected in both regimes, surface and ground water.

Finally, there needs to be an actual plan put in place with enforcement mechanisms when TMDLs are exceeded. We would not want to see the mainstem of the Gallatin River declared as water quality impaired with no plan in place to remove it from that designation. What effort is there going to be to determine point-source polluters? What are going to be the mitigation efforts on the tributaries?

There should be no collaboration to pollute or to decelerate improvement. There should be only collaboration to improve this iconic river of southwest Montana. We have seen too much collaboration failing already, hence why we are, where we are. We hope these comments will prove fruitful for future gains on the Gallatin River. There has to be an honest realization that perhaps we've exceeded the natural condition of these drainages. All of this should have been in the forefront of people's mind, knowing that these mountain communities have their own site-specific hydrology.

We have to remember, that the totality of flow in the Gallatin River is the summation of the flow from the drainages (tributaries) upstream. GWA doesn't see how you can clean up the mainstem without mitigating and improving conditions of those tributaries. We urge DEQ to arrive at a concise and scientific plan. As stated in our article in the Bozeman Chronicle, the Gallatin River is at an inflection point. The longer we wait to take positive action, the harder it will be to reach success.

RESPONSE to 121-122: Curbing algae growth can be difficult and costly. TMDLs are planning documents that set pollution reduction goals at a watershed scale. DEQ has previously developed TMDLs for the West Fork of the Gallatin River and some tributaries which encompasses much of the Big Sky area. DEQ will list the middle segment of the Gallatin River as impaired by excessive algae growth and DEQ will develop appropriate TMDLs, in accordance with the priority ranking established under § 75-5-702, MCA, and in consultation with local conservation districts, water quality advisory groups, and the statewide TMDL advisory group. DEQ will continue to investigate the relationships between nutrients, temperature, shade, discharge (hydrology), water clarity, and algae growth for the continuum of this assessment unit. This will include robust monitoring design and potential modeling efforts. Based on the outcome of the investigation DEQ will complete all necessary and appropriate TMDLs and update the 303d list for all verified causal variables.

A TMDL is based on the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant. Point source dischargers receive a waste load allocation (WLA), nonpoint sources receive a load allocation (LA). TMDLs must also account for a margin of safety (MOS) to account for uncertainty in predicting how well pollutant reductions will result in meeting water quality standards.. Participation from citizens, local businesses, local nonprofits, local government, county and the state will be necessary to reduce pollutant loads DEQ encourages continued broad public and private involvement to champion those efforts. Impairment listings and TMDL development can provide resources for environmental planning but are not the only planning efforts needed to protect and restore water quality. See also Responses to Comments 5-12.

ATTACHMENT 1 - Gallatin River Existing Conditions Summary and Beneficial Use Assessment

Existing Conditions Summary and Beneficial Use Assessment for the Middle Segment of Gallatin River

Authors: Gabrielle Metzner, Blake Towarnicki, and Chace Bell

Suggested Citation
Metzner, G., B. Towarnicki, and C. Bell, 2022. Gallatin River Existing Conditions Summary and Beneficial Use Assessment for the Middle Segment of Gallatin River. Helena, MT: Montana Department of Environmental Quality, Water Quality Planning Bureau.

Photo submitted by petitioners.

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1.0 BACKGROUND AND SUMMARY

The middle segment of the Gallatin River originates at the Yellowstone National Park boundary and flows 39.28 miles to its confluence with Spanish Creek. The river is in the Middle Rockies ecoregion and flows through sedimentary shale, sandstone, limestone, metamorphic gneiss, schist, and granite geology. The landscape in the middle and upper reaches is a mix of evergreen forest and open grassland areas with relatively low-intensity grazing; the middle reach borders some urbanized development around the Big Sky meadow and Highway 191 parallels the river for the entirety of the reach; the lower reach flows through a canyon area and is dominated by forested watershed with limited recreational based properties along the river. Sources of pollution identified in this watershed have not been verified except for those identified in the West Fork Gallatin River TMDL.

The Gallatin River Task Force (GRTF) has been monitoring water quality in the West Fork Gallatin River watershed for many years and included limited sites on this segment of the Gallatin River. GRTF began applying for DEQ's volunteer monitoring laboratory support funds in 2013. The Department of Environmental Quality (DEQ) received reports of increased algae growth on this segment of the Gallatin River beginning in 2018. In response, the State partnered with the GRTF to increase parameters sampled and increase the number of sites sampled and the frequency of sampling within this assessment unit.

On March 31, 2022, Montana Department of Environmental Quality (DEQ) received a petition under MCA § 75-5-702 and 33 U.S.C. § 1313(d)(1) to assess the middle segment of the Gallatin River (Yellowstone National Park to Spanish Creek) and determine if recurrent nuisance algal blooms require listing as an impaired water on Montana's 303(d) list.

The petitioner and other interested parties provided data and information supporting the request. DEQ determined there is sufficient credible data indicating the Gallatin River, from the Yellowstone National Park Boundary to Spanish Creek, is impaired due to excessive algae growth due to exceeding established thresholds for algae developed under ARM 17.30.637(1)(e). Nutrient, algae measurements (chl a/algae dry weight), and macroinvertebrate data were analyzed to update the 2020 303(d) list for this assessment unit regarding aquatic life and primary contact recreation beneficial uses. Data and information obtained for this assessment includes all existing and readily available data collected by DEQ through internal monitoring activities, secondary data that was submitted to DEQ by other interested parties according to our call for data requirements or Montana Code, and any other accessible data in public databases that meets QA/QC requirements. This report reviews the DEQ data analysis and the decisions that DEQ came to in addressing the petition to list the Gallatin River.

2.0 METHODS

Data was provided with the petition to list this segment and from the National Water Quality Portal over the past 10 years, 2011-2021. The petition provided photos and videos of algae growth on this segment along with testimonials of recreationalist and businesses that derive income based on recreation. This visual information can be used in a particular pathway for listing called overwhelming evidence when there is not enough chemistry and biological data for the usual, more robust, scientific assessment method routine. Other data was readily available via DEQs data systems via contract from the Gallatin River Task Force and from direct DEQ monitoring. Once data was obtained, it was pared down to only include information collected on the middle segment of the Gallatin River (AU#

MT41H001_021) and within the growing season (July 1- September 30). After data was paired down to the segment and season, a limited amount of total phosphorus (TP) and ortho phosphorus (ORP) were rejected for use in DEQ's assessment because the ORP results were higher than the TP results. The rejected data and rationale are documented in DEQ's assessment records. No other quality assurance issues were encountered during data quality review.

All credible data was included in an analysis described by Montana's Nutrient Assessment Method for Wadable Streams and summarized in **Table 1** (Suplee and Sada, 2016). Water chemistry data were evaluated against numeric standards for total nitrogen (TN), TP, and recommended Nitrite + Nitrate (NO_{2+3}) nutrient criteria for the middle Rockies ecoregion (TN=0.30mg/L; TP=0.03mg/L; NO_{2+3}=0.1mg/L). Benthic algae samples were evaluated against the recommended thresholds of chlorophyll *a* (120mg/m^2) and ash-free dry weight (35g/m^2). A macroinvertebrate (aquatic insect) community Hilsenhoff Biotic Index (HBI) metric threshold of 4 was used to determine if aquatic insects are showing indications of eutrophication.

Table 1. Overview of data used and thresholds for Montana's nutrient assessment method

Nutrient Assessment Framework (Middle Rockies)

Level 1 Assessment
• Nutrient Water Chemistry (Total Nitrogen, Nitrite + Nitrate, Total Phosphorus)
    • TN threshold – less than or equal to 0.3 mg/L
    • NO_{2+3} threshold – less than or equal to 0.1 mg/L
    • TP threshold – less than or equal to 0.03 mg/L
• Benthic Algae (Chlorophyll-*a* and Ash Free Dry Weight)
    • Chl-*a* threshold – less than or equal to 120 mg Chl *a*/m^2
    • AFDW threshold – less than or equal to 35 g AFDW/m^2
    • Algae photos and videos as supportive information (not in existing framework but used)
Level 2 Assessment
• Macroinvertebrate HBI Score
    • HBI threshold – less than or equal to 4.0
Overwhelming Evidence (if other data is not sufficient)
• Algae photos and videos indicate persistent widespread growth

Although not part of Montana's Nutrient Assessment Method for Wadable Streams (Suplee and Sada, 2016), DEQ also reviews dissolved oxygen and pH data in this report to address public comments. DEQ also provides further review of eutrophication parameters over space and time.

3.0 RESULTS

3.1 Beneficial Use Assessment

Sufficient data was available to take the more robust, scientific approach from Montana's Nutrient Assessment Method for Wadable Streams (Suplee and Sada, 2016), which uses chemical and biological data. Montana methods indicate an overwhelming visual evidence approach should be taken only if minimum data requirements are not met. Yet, the submitted photos, videos and testimonials were used as supporting evidence to the measured conditions, that algae were growing at levels affecting beneficial uses. Of all samples collected (n=69 for TN; n=76 for TP; n=87 for NO_{2+3}), one sample exceeded the TN threshold, one sample exceeded the NO_{2+3} threshold, and three samples exceed the TP threshold; all nutrients passed binomial and t-test statistical tests outlined in the DEQ's assessment method. Of all the benthic algae samples analyzed (n=46), no samples exceeded the chlorophyll *a* threshold and 11 (24%) samples exceed the ash-free dry weight threshold. **Table 1,** below**,** summarizes the nutrient assessment information. Exceedances of the ash-free dry weight thresholds and the photo, video and testimonial evidence of widespread and excessive algae growth provided by the petitioners are the basis for the excessive algal growth impairment to recreation decision. Hilsenhoff Biotic Index (HBI) results support a decision to link excessive algal growth to shifts in aquatic life. These shifts likely affect the intensity and types of aquatic insect hatches. The fish community does not appear to be affected at this time.

Table 2. Assessment Summary

	Total Nitrogen (mg/L)	**Total Phosphorus (mg/L)**	**Nitrite + Nitrate (mg/L)**	**Chlorophyll *a* (mg/m²)**	**Ash-Free Dry Weight (g/m²)**	**Macroinvertebrates (HBI Score)**
Data Currency	2011-2021	2011-2021	2011-2021	2018-2021	2018-2021	2017-2020
n	69	76	87	46	46	16
# Non-Detect	1	0	65	*N/A*	*N/A*	*N/A*
Criteria	0.3mg/L	0.03mg/L	0.1mg/L	120mg/m²	35g/m²	4 HBI
Exact Binomial (α=0.25)						
Exceedances (allowed)	17	18	21	*N/A*	*N/A*	*N/A*
Beta	0.0241	0.0123	0.0109			
Exceedances (actual)	1	3	1			
Student's t-test (α=0.25)						
NumObs	69.000	76.000	87.000	*N/A*	*N/A*	*N/A*
Mean	0.076	0.015	0.013			
Std Dev	0.092	0.009	0.020			
Std Err	0.011	0.001	0.002			
p value (abs)	0.000	0.000	0.000			
t value (abs)	20.173	14.647	41.167			
PASS or FAIL	PASS	PASS	PASS	PASS (0 of 46)	FAIL (11 of 46)	FAIL (13 of 16)

N/A = Not Applicable

3.2 Spatial and Temporal Summary

Water Chemistry

Total nitrogen data was available over the span of 2017 – 2021 for all sampling locations in the middle segment of the Gallatin River, with mean TN of 0.08mg/L and a minimum value below detection limit of 0.04 mg/L. The maximum value was 0.80mg/L. All but one TN result remained below the TN threshold of 0.30mg/L. **Figures 1 and 2** show results for each sampling location over time as well as a box and whisker plot for all sampling locations within the middle segment of the Gallatin River, respectively. The red line on each figure depicts the Total Nitrogen threshold of 0.30mg/L. Results for Nitrite + Nitrate (NO_{2+3}) concentrations from 2014 – 2021 include a mean of 0.01mg/L and a maximum of 0.12mg/L. Minimum results were below detection limit of 0.01mg/L. Non-detect values were converted to 50% of reported detection limit. **Figures 3 and 4** show NO_{2+3} results for each sampling location over time as well as a box and whisker plot for all sampling locations within the middle segment of the Gallatin River, respectively. The red line on each figure depicts the Nitrite + Nitrate numeric threshold of 0.1mg/L.

Total phosphorus results for the middle segment spanned a period from 2013 – 2021. TP mean, minimum, and maximum are 0.01mg/L, 0.004mg/L, and 0.07mg/L, respectively. Three TP samples exceeded the numeric standard of 0.03mg/L. **Figures 5 and 6** below show TP results for each sampling location over time as well as a box and whisker plot for all sampling locations within the middle segment of the Gallatin River, respectively. The red line on each figure depicts the Total Phosphorus numeric standard of 0.03mg/L. Ortho phosphorus results include data from 2019 – 2021. The mean for ORP is 0.011mg/L and the maximum value is 0.058mg/L. ORP results of each sampling location from 2019 - 2021 is included in **Figure 7** and a box and whisker plot of each sampling location is depicted in **Figure 8**.

Total nitrogen samples demonstrate higher results in 2021 than in past years at a few locations, mostly sites located upstream of the West Fork Gallatin River confluence. NO_{2+3} results on the middle segment of the Gallatin River demonstrated higher concentrations upstream and downstream of West Fork Gallatin River confluence. At many sites, NO_{2+3} results were observed at levels below detection limits (75%). In sampling locations where NO_{2+3} results were observed to be higher (**Figure 4**), total phosphorus results were found to be lower (**Figure 6**). Ortho phosphorus concentrations appear to be lessening over the measured timeframe from 2019-2021, although no trend analysis has been completed at this time.

3.3 Biological Responses

Both chlorophyll *a* and ash-free dry weight (AFDW) data were sampled from 2018 – 2021. The mean chlorophyll *a* condition is 24.118mg/m^2 and the maximum result is 115.0mg/m^2. Chlorophyll *a* concentrations were observed at levels lower than the benthic algae assessment threshold of 120mg/m^2. **Figure 9** depicts chlorophyll *a* results over this timeframe and a box and whisker plot of chlorophyll *a* results for each sampling location is shown in **Figure 10.** The red line on **Figures 9 and 10** depicts the chlorophyll *a* threshold of 120mg/m^2.

Figures 11 and 12 show ash free dry weight results for each sampling location from 2018 - 2021 as well as a box and whisker plot for all sampling locations within the middle segment of the Gallatin River, respectively. The red line on each figure depicts the ash free dry weight numeric standard of 35g/m^2. 11 of 46 samples results exceeded the 35g/m^2 AFDW threshold. AFDW mean, minimum, and maximum results are 26.249g/m^2, 3.070g/m^2, and 99.50g/m^2, respectively. Aquatic macroinvertebrate data was acquired through Blue Water Task Force and Gallatin River Task Force reports prepared by Rhithron Associates Inc. Thirteen of sixteen aquatic macroinvertebrate sample results (81%) exceeded the assessment threshold of 4 on the Hilsenhoff Biotic Index (**Figure 17**).

AFDW and Chlorophyll *a* results were observed at higher levels in 2021 compared to previous years' results. Most AFDW exceedances were observed at sampling sites located just upstream and downstream of the West Fork Gallatin River confluence, but moderate growth was consistently observed along the whole segment of the Gallatin River. Data from 2018 was not collected, which was reported as a high growth year.

3.4 Other Potential Physical Responses

Although these responses are not part of Montana's current Nutrient Assessment Method for Wadable Streams, at times they may be affected by eutrophication.

Discrete dissolved oxygen (DO) and pH data that were collected were evaluated within the growing period (July 1 – September 30). The minimum DO result observed in this dataset was 7.17 mg/L while the mean was 10.22 mg/L. DO results of each sampling location from 2019 - 2021 is included in **Figure 13** and a box and whisker plot of each sampling location is depicted in **Figure 14**. As for pH, the minimum result was 7.8, the maximum result was 9.10, and the mean was 8.54. **Figures 15 and 16** show pH results for each sampling location from 2019 - 2021 as well as a box and whisker plot for all sampling locations within the middle segment of the Gallatin River, respectively. These parameters are affected by the time of day and amount of respiration and photosynthesis that occurs within the stream. They are generally higher during the day.

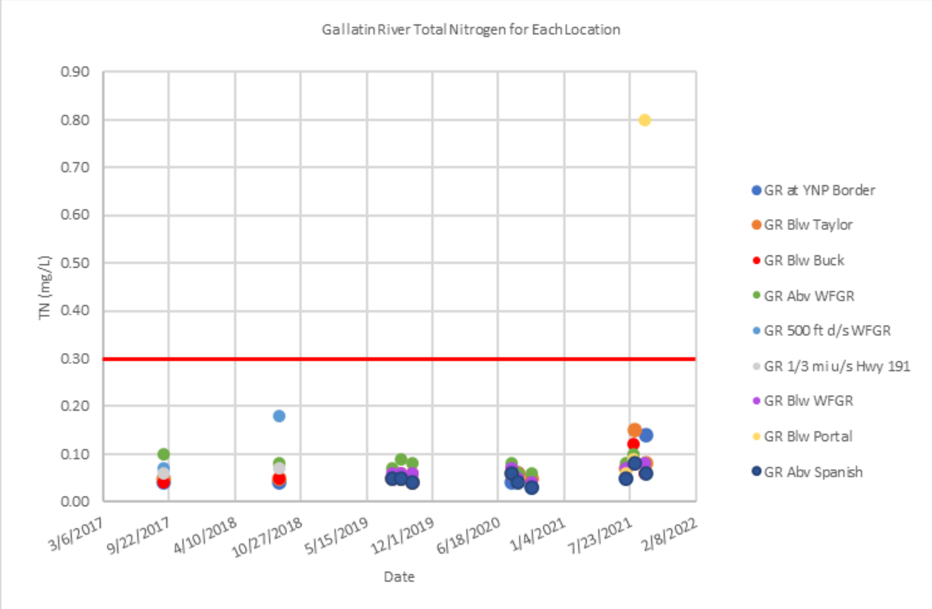

Figure 1. Gallatin River total nitrogen results for each sampling location from 2017-2021. The red line indicates the total nitrogen numeric standard of 0.30 mg/L.

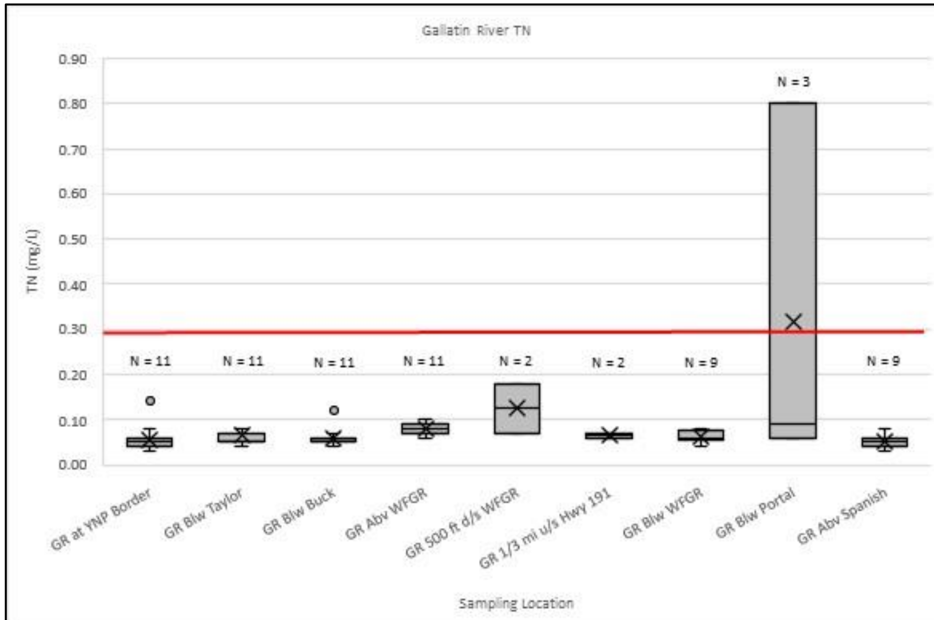

Figure 2. Box and Whisker Plot of Gallatin River total nitrogen results for each sampling location, upstream and downstream. The red line indicates the total nitrogen numeric standard of 0.30 mg/L.

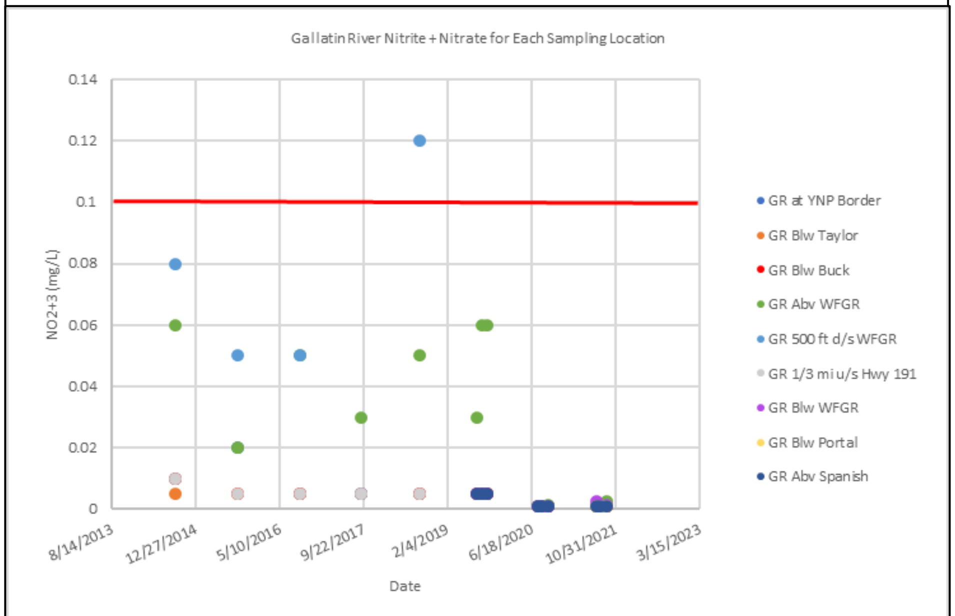

Figure3. Gallatin River nitrite + nitrate results for each sampling location from 2014 – 2021. The red line indicates the nitrite + nitrate numeric criteria of 0.1 mg/L.

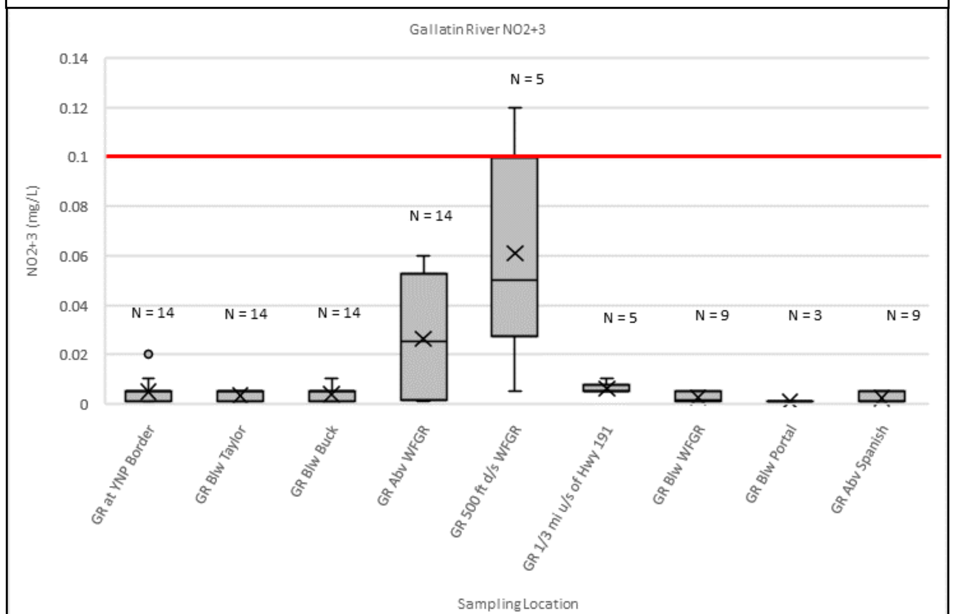

Figure 4. Box and Whisker Plot of Gallatin River nitrite + nitrate results for each sampling location, upstream and downstream. The red line indicates the nitrite + nitrate numeric criteria of 0.1 mg/L.

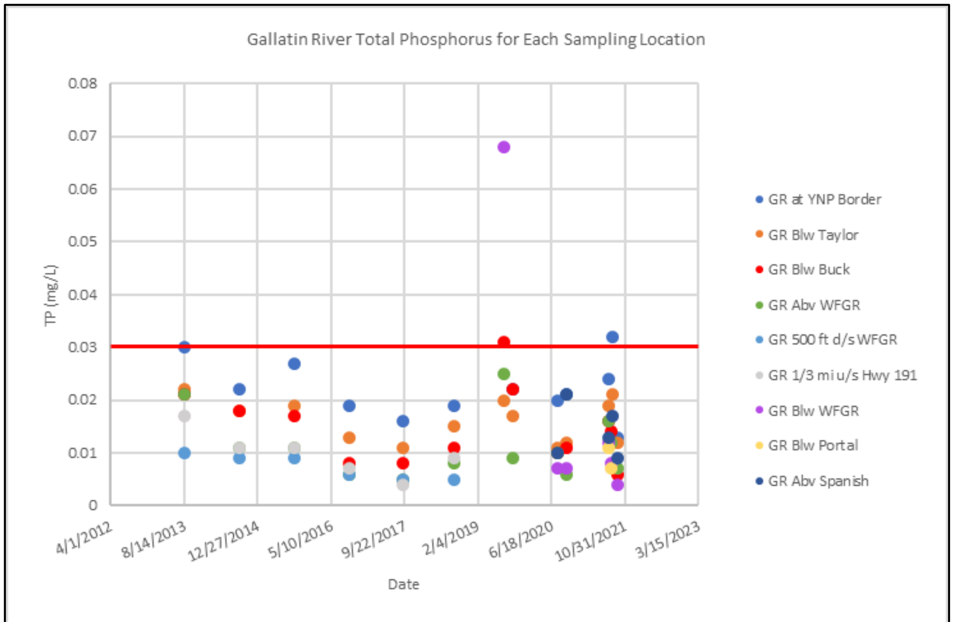

Figure 5. Gallatin River total phosphorus results for each sampling location from 2013 – 2021. The red line indicates the total phosphorus numeric standard of 0.03 mg/L.

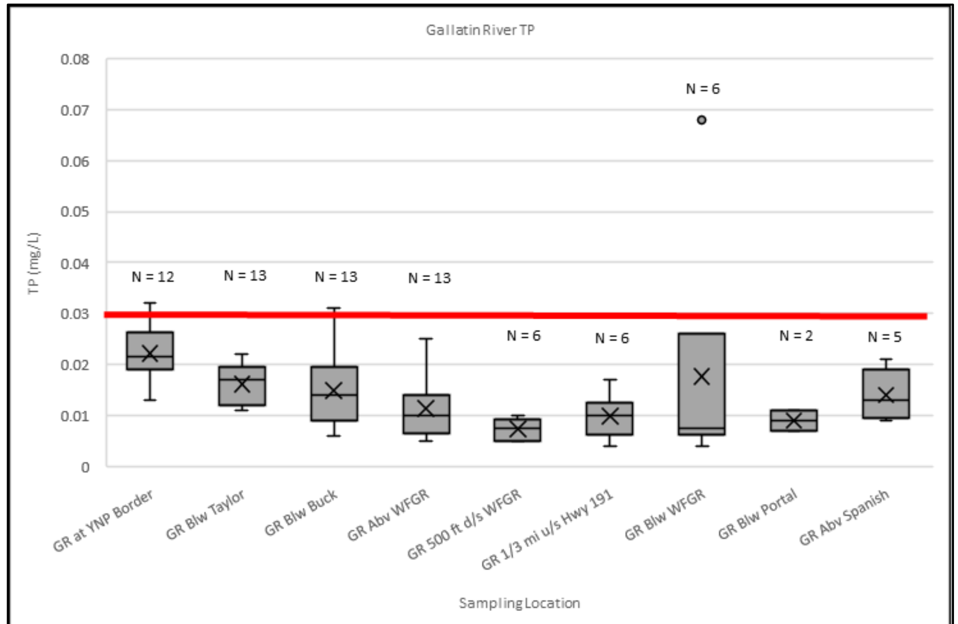

Figure 6. Box and Whisker Plot of Gallatin River total phosphorus results for each sampling location, upstream and downstream. The red line indicates the total phosphorus numeric standard of 0.03 mg/L.

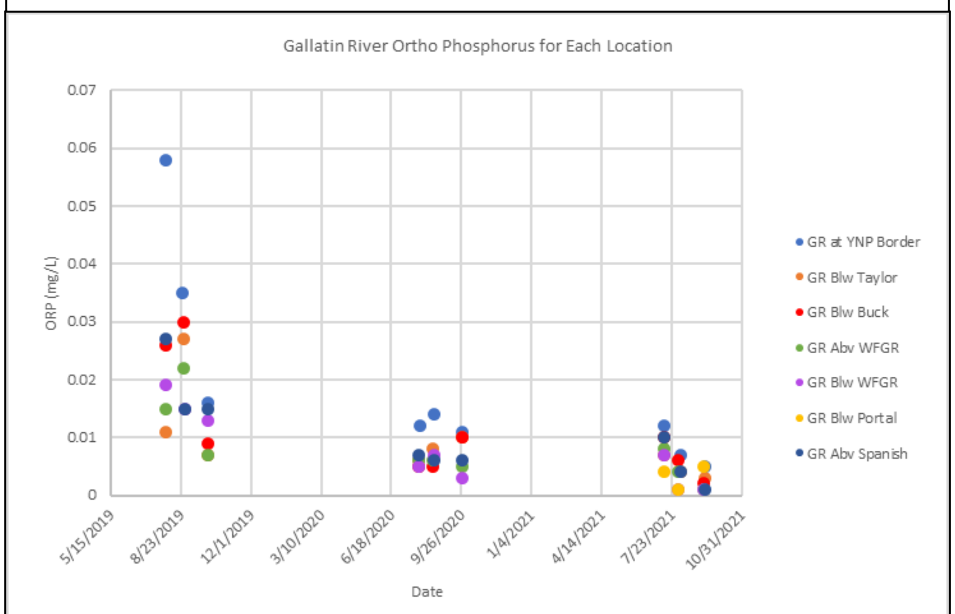

Figure 7. Gallatin River ortho phosphorus results for each sampling location from 2019 – 2021.

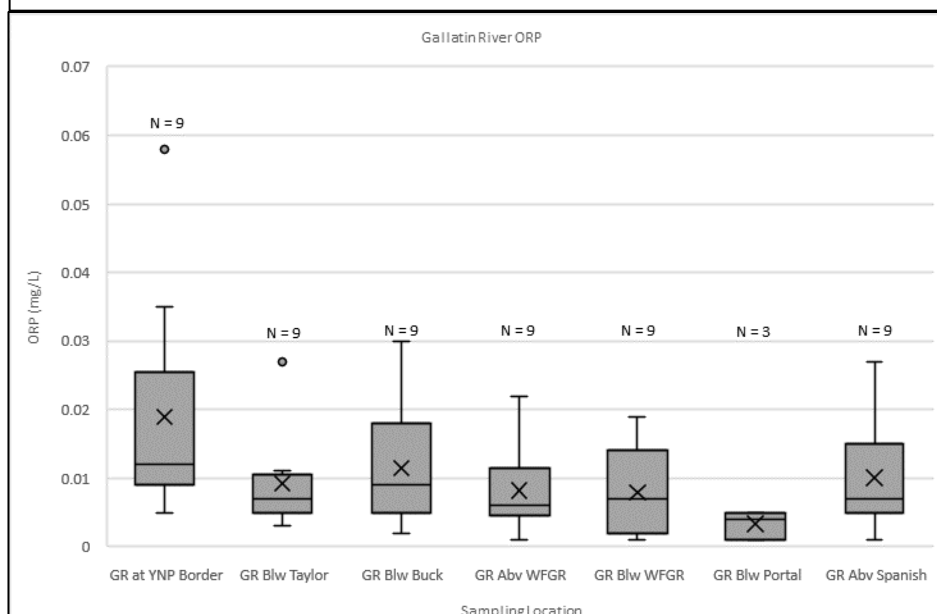

Figure 8. Box and Whisker Plot of Gallatin River ortho phosphorus results for each sampling location, upstream and downstream.

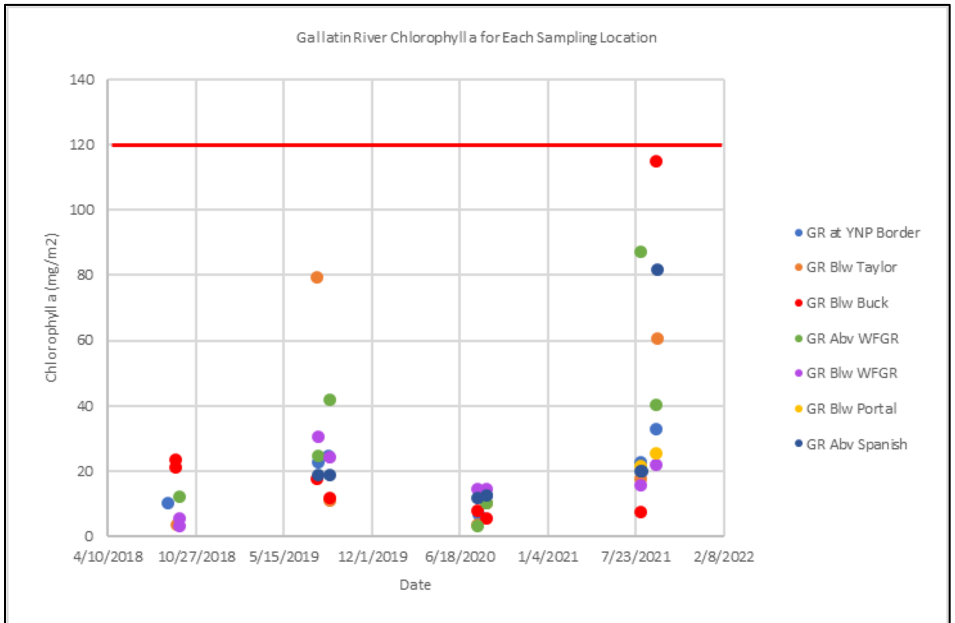

Figure 9. Gallatin River chlorophyll a results for each sampling location from 2018 - 2021. The red line indicates the chlorophyll a threshold of 120 mg/m^2.

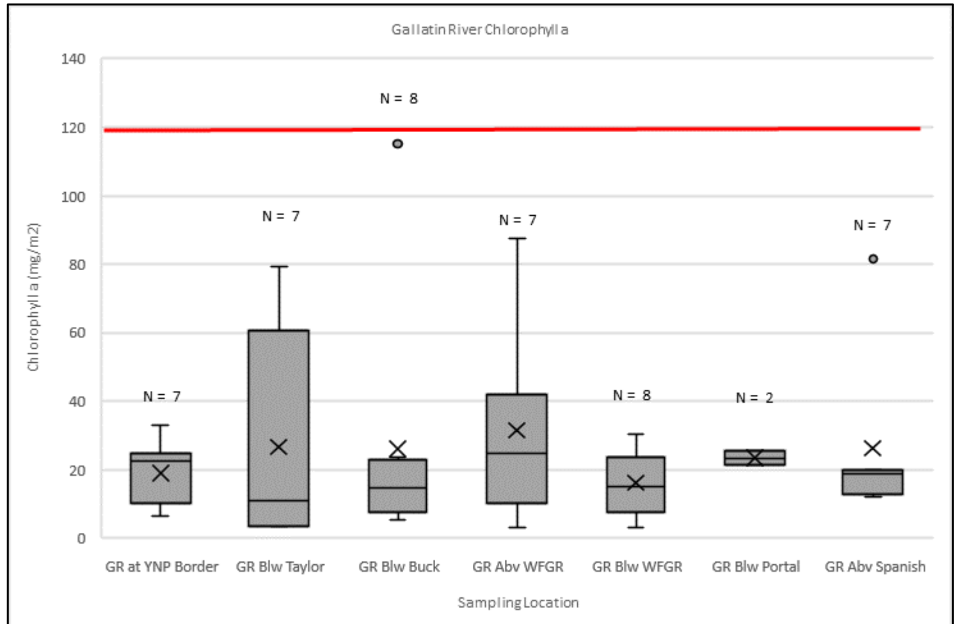

Figure 10. Box and Whisker Plot of Gallatin River chlorophyll a results for each sampling location, upstream and downstream. The red line indicates the chlorophyll a threshold of 120 mg/m^2.

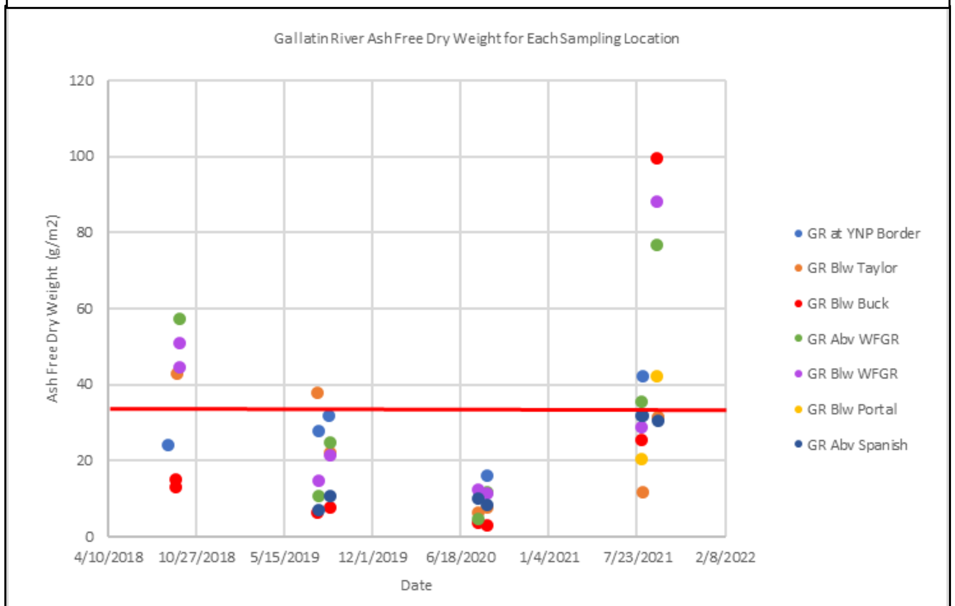

Figure 11. Gallatin River ash free dry weight results for each sampling location from 2018 - 2021. The red line indicates the ash-free dry weight threshold of 35 g/m^2.

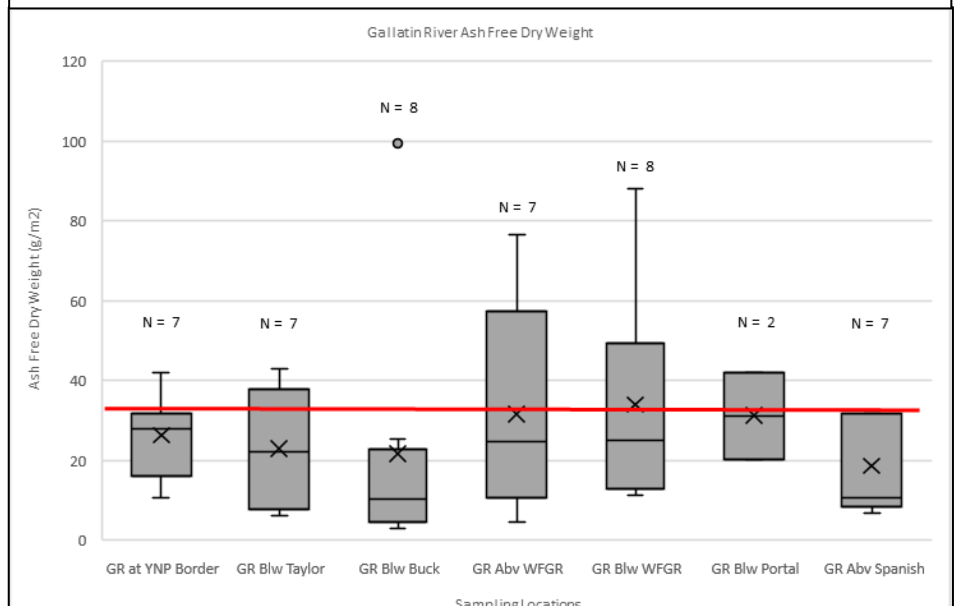

Figure 12. Box and Whisker Plot of Gallatin River ash free dry weight results for each sampling location, upstream and downstream. The red line indicates the ash free dry weight threshold of 35 g/m^2.

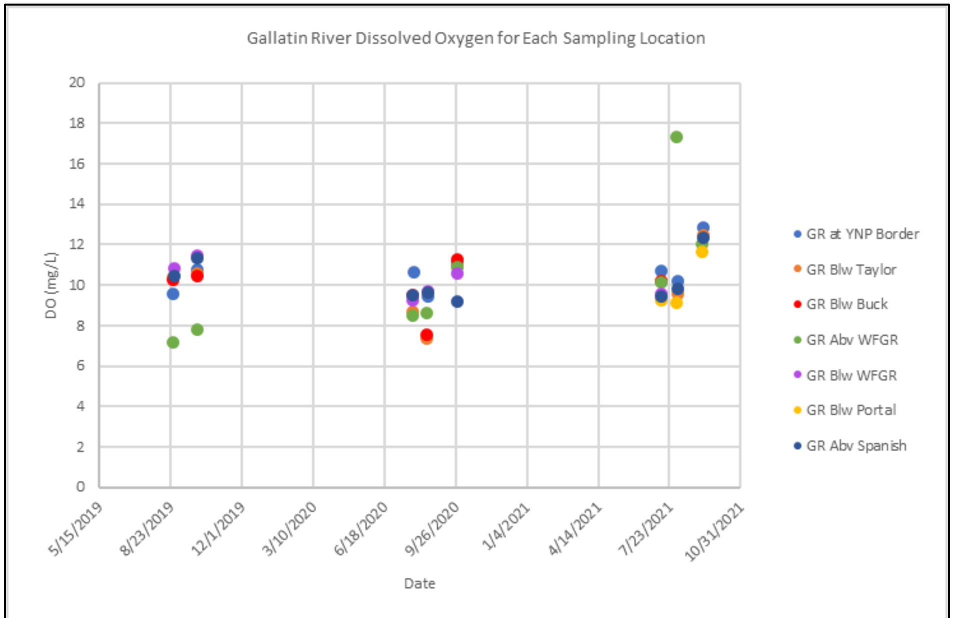

Figure 13. Gallatin River dissolved oxygen results for each sampling location from 2019 – 2021.

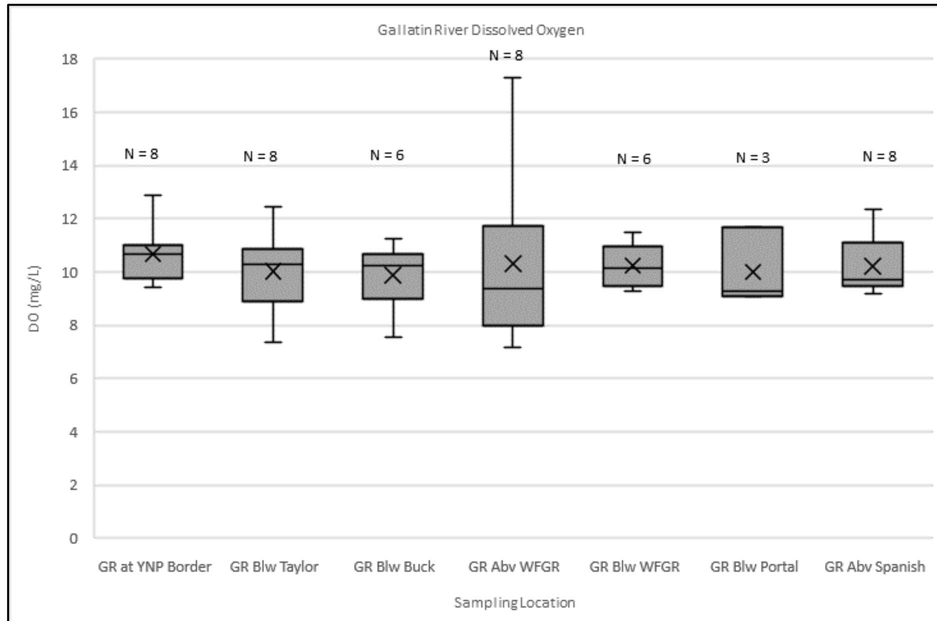

Figure 14. Box and Whisker Plot of Gallatin River dissolved oxygen results for each sampling location, upstream to downstream.

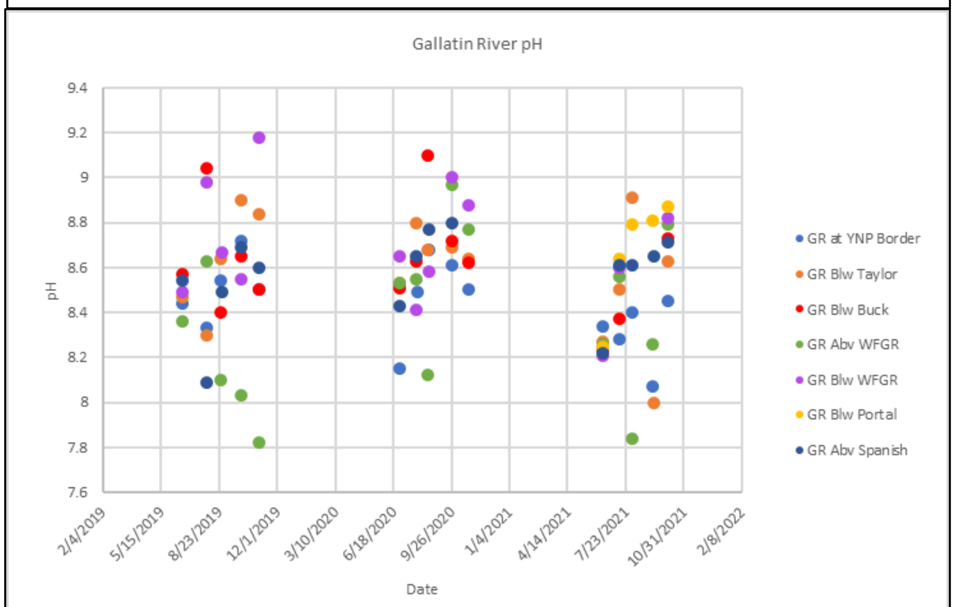

Figure 15. Gallatin River pH results for each sampling location from 2019 – 2021.

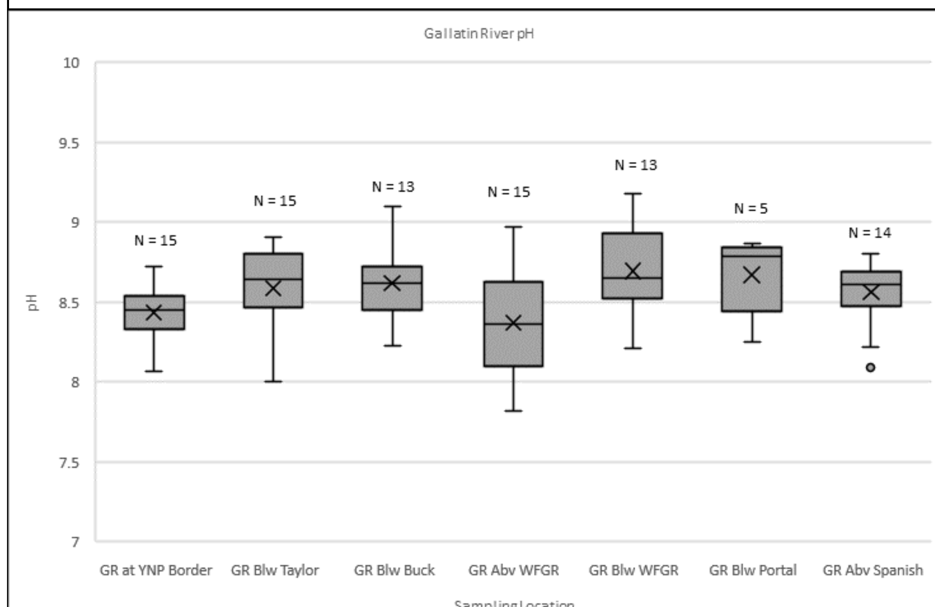

Figure 16. Box and Whisker Plot of Gallatin River pH results for each sampling location, upstream to downstream.

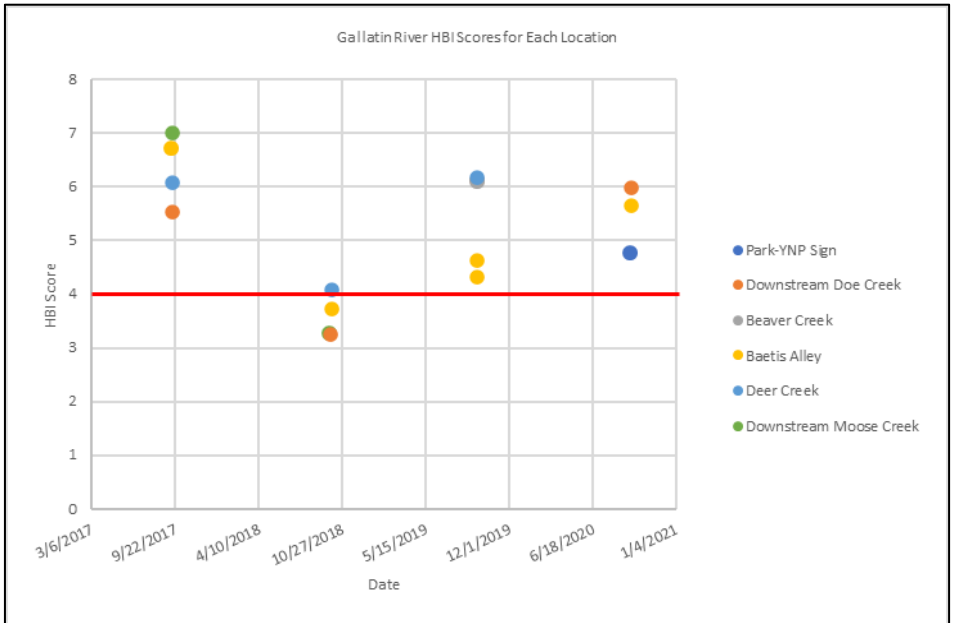

Figure 17. Gallatin River HBI results for each sampling location from 2017 – 2020. The red line indicates the assessment threshold of 4 on the Hilsenhoff Biotic Index.

4.0 CONCLUSION

Because numeric nutrient standards were not exceeded, nutrient listings are not pursued at this time. Alternatively, excessive algae growth is occurring and affecting beneficial uses and thus exceeds narrative standards that state, *"State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will:(e) create conditions which produce undesirable aquatic life."* Montana will list this segment of the Gallatin River for Excessive Algae Growth as a category 5 listing in an addendum to the 2020 Integrated Report. A category 5 listing means 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. Montana DEQ will investigate nutrient, discharge, stream channel structure, turbidity/light penetration, stream shading and temperature conditions to further determine appropriate TMDL development and identify the factors causing the impairment for future 303d listing. TMDL studies depend on appropriate scale, intensity and parameter monitoring and modeling. They require sufficient time to collect, compile, analyze and make recommendations for protection and restoration activities. TMDL development to control excessive algae will be prioritized as a medium priority in the addendum to the IR which generally means TMDLs are prioritized to be completed within 2-6 years. DEQ must coordinate this TMDL prioritization with the Statewide TMDL Advisory Group and may consider feedback during future Integrated Report updates.

Nutrient Assessment Framework (Middle Rockies)

Level 1 Assessment

- Nutrient Water Chemistry (Total Nitrogen, Nitrite + Nitrate, Total Phosphorus)
    - TN threshold – less than or equal to 0.3 mg/L
    - NO_{2+3} threshold – less than or equal to 0.1 mg/L
    - TP threshold – less than or equal to 0.03 mg/L
- Benthic Algae (Chlorophyll-*a* and Ash Free Dry Weight)
    - Chl-*a* threshold – less than or equal to 120 mg Chl a/m^2
    - AFDW threshold – less than or equal to 35 g AFDW/m^2
    - Algae photos and videos as supportive information (not in existing framework but used)

Level 2 Assessment

- Macroinvertebrate HBI Score
    - HBI threshold – less than or equal to 4.0

Overwhelming Evidence (if other data is not sufficient)

- Algae photos and videos indicate persistent widespread growth

5.0 REFERENCES

Suplee, M.W., and R. Sada, 2016. Assessment Methodology for Determining Wadeable Stream Impairment Due to Excess Nitrogen and Phosphorus Levels. Helena, MT: Montana Dept. of Environmental Quality.