WATER QUALITY INTEGRATED REPORT

FOR

MONTANA

2004

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Prepared by:
Water Quality Planning Bureau

Montana Department of
ENVIRONMENTAL QUALITY

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2004 Montana Water Quality Integrated Report

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Introduction

This report provides an overview of the water quality status for surface waters in Montana. The information it presents reflects water quality assessments conducted by the Montana Department of Environmental Quality (DEQ) as of December 2003, and represents a "snapshot" of the ongoing water quality assessment work being conducted by the Department. This "Integrated Report" presents in a single document material, which in recent years were presented in two separate reports, the "303(d) List" and the "305(b) Report." The 303(d) Lists contained specific information relating to waters assessed as having one or more of their beneficial uses impaired or threatened by human activities. The 305(b) Report provided a more general view including waters where all applicable beneficial uses had been found to be fully supported as well as waters in the assessment "system" for which there was not sufficient data to make use support determinations.

Both the federal Clean Water Act (CWA) and the Montana Water Quality Act require an ongoing program of water quality assessments and reporting as part of a process intended to protect and improve the quality of rivers, streams, and lakes in the State. The fundamental goal of the CWA is to "*restore and maintain the chemical, physical, and biological integrity of the Nation's waters*." While the Act "*recognizes, preserves, and protects"* state responsibility for water quality protection and planning, it assigns overall administration of the Act to the United States Environmental Protection Agency (EPA). The change from having separate 303(d) and 305(b) reports to publishing a single Integrated Report is made in response to new guidance from EPA.

The Clean Water Act requires states to adopt standards for the protection of surface water quality. Montana's standards are designed to maintain water quality that will support the beneficial uses identified by the Montana Water-Use Classification System. Classifications assigned by this system require waters to support some or all of the following uses: drinking and food processing; bathing, swimming and contact recreation; growth and propagation of fish and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply. The water quality standards employed to maintain these uses address such parameters as coliform, dissolved oxygen, pH, turbidity, temperature, color, toxics, and other harmful substances.

Figure 1. Designated beneficial uses by waterbody class

Beneficial Uses	Water Use Class:							
	A-Closed	**A-1**	**B-1**	**B-2**	**B-3**	**C-1**	**C-2**	**C-3**
Aquatic Life	X	X	X	X	X	X	X	X
Fisheries (Salmonid)	X	X	X	X		X	X	
Fisheries (Non-Salmonid)					X			X
Agriculture	X	X	X	X	X	X	X	
Industry	X	X	X	X	X	X	X	
Drinking Water (Human Health)	X	X	X	X	X			
Recreation	X	X	X	X	X	X	X	X

When water quality monitoring data reveal changes to natural conditions that exceed those allowed by the State standards, the water is determined impaired (i.e. does not fully meet standards) or

threatened (i.e. is likely to violate standards in the near future). More precisely, the specific beneficial uses, which are protected by the exceeded standard(s), are determined impaired or threatened. Under the requirements of Sections 208 and 303(e) of the federal Clean Water Act, any water found to have one or more threatened or impaired uses must be placed on a list of waters for which "water quality management plans" must be developed to correct the causes of the identified impairments. In those cases where the impairment involves the need to reduce the load (amount or concentration) of specific pollutants in the water, the water quality management planning process must include the identification of a "total maximum daily load" (TMDL) for each pollutant causing any standards exceedances.

Under Section 303(d) of the Clean Water Act, states have been required to submit their lists of impaired or threatened waters to the EPA every two years. A schedule for the development of water quality management plans (including a schedule for developing TMDLs, where necessary) has been a required element of these "303(d) Lists." The submission to EPA of "305(b) Reports" providing a more general overview of water quality status has also been required every two years.

Now, at EPA's direction, the two separate reports are being combined into this "Integrated Report." This is being done by adopting a scheme for categorizing all waters in each state's water quality monitoring and assessment system based on assessment status. Five categories are used as follows:

Category 1: Waters for which all applicable beneficial uses have been assessed and all uses are determined to be fully supported.

Category 2: Waters for which those beneficial uses that have been assessed are fully supported, but some applicable uses have not been assessed.

Category 3: Waters for which there is insufficient data to assess the use support of any applicable beneficial use, so no use support determinations have been made.

Category 4: Waters where one or more beneficial uses have been assessed as being impaired, fully supporting but threatened, all TMDLs are completed but impaired beneficial uses have not yet achieved fully supporting status, or impaired and TMDLs are not required:

> Subcategory 4A: All TMDLs needed to rectify all identified threats or impairments have been completed and approved.
>
> Subcategory 4B: Waterbodies are on lands where "*other pollution control requirements required by local, State, or Federal authority"* [see 40 CFR 130.7(b)(1)(iii)] are in place, are expected to address all waterbody-pollutant combinations, and attain all water quality standards in a reasonable period of time. These control requirements act "in lieu of" a TMDL, thus no actual TMDLs are required.
>
> Subcategory 4C: Identified threats or impairments result from pollution categories such as dewatering or habitat modification and, thus, the calculation of a Total Maximum Daily Load (TMDL) is not required.

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

Montana's Assessment Process

Montana water quality law requires that the listing of waters as impaired or threatened must be supported by "sufficient credible data" to ensure that such listings are justified. This sufficient credible data threshold applies both to the reassessment of waters listed on previously published lists and to the consideration of any additional waters for listing.

DEQ uses a two-step process to assess waters in compliance with the requirements of state law. First, DEQ searches out the available data for a waterbody and evaluates whether there are sufficient credible data to make a valid and reliable determination of beneficial use support. Then, if the data are adequate, DEQ compares the data with the applicable water quality standards to make a beneficial use-support determination. The following paragraphs provide an overview of this process. Readers wanting a detailed explanation of the process, along with the tables and criteria used in making the sufficient credible data assessments and beneficial use determinations, will find these in Appendix A.

Identification of Available Water Quality Data

In recent years, DEQ's water quality monitoring data along with information from other selected sources have been incorporated into computerized water quality databases. These records and databases provided a foundation, which is updated as new monitoring data is collected by DEQ or obtained from others sources. Then, at the beginning of each reassessment cycle, DEQ sends out requests for information to several hundred individuals, organizations, and agencies involved in water quality monitoring and management. Responses to these requests provide much useful information as well as references to additional materials available from other sources. The data and information obtained from outside sources are combined with the results derived from DEQ's ongoing monitoring efforts to provide the basis for water quality assessments.

Sufficient Credible Data (SCD) Assessment

Montana law defines sufficient credible data (SCD) as "*chemical, physical, or biological monitoring data, alone or in combination with narrative information, that supports a finding as to whether a water body is achieving compliance with applicable water quality standards*" (75-5-103 MCA). This definition is consistent with a model developed by EPA for assessing the beneficial uses of streams based on a combination of physical (habitat), biological, and chemical monitoring. For example, EPA recommends that monitoring for aquatic life use support include the collection of habitat and community-level biological data as well as the measurement of chemical parameters in water and sediment.

Montana DEQ drew on the EPA model to develop sufficient credible data criteria and decision tables to evaluate data adequacy for streams, lakes, and wetlands. Methods and criteria are specified to evaluate SCD for the Montana Water-Use Classification System beneficial uses. These uses are: 1) drinking, culinary use, and food processing; 2) aquatic life support for fishes, associated aquatic life, waterfowl, and furbearers; 3) bathing, swimming, and recreation; 4) agriculture supply; and, 5) industrial supply.

The sufficient credible data review focuses on four components that contribute to data validity and reliability for water quality assessment:

- Technical soundness of methodology
- Spatial/temporal coverage
- Data quality
- Data currency

In most cases a finding that there is sufficient credible data will result when several types of data have been collected over a period of time using sound technical methods and there are no indications of recent changes to the water body that would invalidate previously obtained results.

Aquatic Life and Fisheries Support SCD – The Montana Water-Use Classification System requires that all waters support the "*growth and propagation of fishes and associated aquatic life, waterfowl, and furbearers*" (ARM 17.30.604-624). Based on this requirement, the "aquatic life" assessment considers fish, invertebrates, aquatic plants, and associated wildlife. Therefore, the aquatic life sufficient credible data assessment entails an evaluation and scoring of the following data categories:

> **Habitat/physical** – includes qualitative and/or quantitative riparian and aquatic vegetation information, and hydrogeomorphic characteristics and functions.
>
> **Biology** – includes chlorophyll *a* data; and aquatic biological community data such as fish, macroinvertebrates and algae; and wildlife community characteristics.
>
> **Chemistry/toxicity** – includes bioassay, temperature and total suspended sediment data and chemistry data such as toxicants, nutrients, and dissolved oxygen.

Ideally, SCD for aquatic life would include data pertaining to all three categories; but very strong evidence relating to two data categories can constitute SCD for an aquatic life and fisheries beneficial use-support determination.

Drinking Water and Contact Recreation SCD – For drinking water and contact recreation uses, evaluation of multiple data categories is not necessary. Data are simply rated as sufficient or insufficient for these uses based on tables that apply the four general components of data adequacy to the specific standards underlying drinking water and contact recreation use support.

Agricultural and Industrial Water Supply SCD – Generally, if there are sufficient credible data for drinking water, contact recreation, and aquatic life beneficial use-support determinations, there are also sufficient data to make agriculture and industry beneficial use-support determinations. However, additional salinity and toxicity information may be required for agriculture supply use-support determinations.

Beneficial Use-support Determination (BUD)

Once it is ascertained that sufficient credible data are available for a waterbody, the assessment process moves to determine the level of beneficial use support. The degree of support for each beneficial use is rated using four categories:

- Full support
- Partial support
- Non-support
- Threatened

A use is fully supported when all water quality standards applicable to that use are met. When one or more standards are not met due to human activities, the water body is either "not supporting" or "partially supporting" the beneficial use tied to that standard. A use that is currently fully supported but for which observed trends or proposed new sources of pollution indicate a high probability of future impairment may be rated as "threatened." Because the standards for determining use support are different for each use, the use-support determinations for the various uses of a waterbody are often not the same. Only those beneficial uses that apply to the particular water-use classification of a waterbody are evaluated for that waterbody.

Beneficial Use Determination: Aquatic Life and Fisheries – Making aquatic life and fisheries use-support determinations can be a complex process because of the amount and variety of information that may bear on the decision. In some cases the reviewer will evaluate, compare, and weigh many bits of physical, biological, chemical, and habitat data in reaching the aquatic life and fisheries use-support determinations for a waterbody. In other cases clear evidence of use support or impairment or is provided from only one or two of the aquatic life data categories (habitat/physical, biology, and chemistry). Where no single data element by itself supports a conclusion, the assessor follows a process that leads to a determination based on the overall weight of evidence. A slightly different process is followed when data are not available for all the categories, yet there is clear evidence to support a particular determination. Whatever the process used, data showing that aquatic life and fisheries uses are "moderately impaired" result in a "partially supporting" determination. Data indicating that aquatic life and fisheries uses are "severely impaired" result in the waterbody being listed as "not supporting" these uses.

Beneficial Use Determination: Other Uses – Beneficial use determinations for the drinking water, contact recreation, agriculture supply, and industrial supply uses are relatively straightforward. Available data for a waterbody are evaluated using the criteria derived from water quality standards to make a use-support determination. Some determinations will result from clear evidence of support or impairment associated with one or two criteria; others may be derived from indications of water quality derived from the entire set of applicable criteria.

Assessment Determination Categorization – Upon completion of the SCD/BUD assessments for a waterbody, the use support determinations for that water are reviewed and the water is assigned to one of the five assessment categories described previously on Page 2.

Quality Assurance Review

For the 2004 Reporting cycle, systematic review of water quality assessments was initiated and documented. This review covered both administrative and technical components of water quality assessments employing three steps.

- Staff responsible for performing the assessment (assessors) initiated the first stage of quality control by using a checklist to review their own work and ensure that they had properly documented their assessment determinations on the Assessment Record Sheets. This checklist was prepared for 100 % of assessments/reassessments performed.
- Detailed technical review was performed randomly on 10% of the assessments by management and senior technical staff. This review was recorded on a Technical Review Checklist.
- A final technical and documentation review was carried out during the entry of the assessment determinations into the actual Water Quality Assessment database. This

review evaluated both the technical validity and the documentation adequacy of all assessments before keying them into the system.

Assessment Documentation

The full record of DEQ's water quality assessments consists of three parts:

1. The Water Quality Assessment Determinations section of this report, as it appears on the "EnviroNet" Internet site http://nris.state.mt.us/wis/environet/, is Montana's "official" report of state water quality status. Because it would require at least several hundred pages to print out the information provided on the web site, any hardcopy version of this report reflects at least some condensation and abridgement of the version posted on the EnviroNet website.

2. Hardcopy data files for each waterbody segment evaluated during the "sufficient credible data/beneficial use determination" assessment. These files may contain water quality data, maps, photographs, references to relevant documents, and references to electronic information sources. They may be reviewed at the office of the DEQ, Water Quality Planning Bureau.

3. Sufficient Credible Data/Beneficial Use Determination Assessment Record Sheets for each waterbody segment. The assessment of each waterbody is documented on an Excel spreadsheet. These spreadsheets display the data sources used in the assessment, the factors considered, and how those factors were used to reach the determinations. A hard copy of the record sheet for each waterbody segment is included in the segment files described above. Electronic copies of these record sheets also are linked to the EnviroNet interactive database "full report" pages.

Monitoring, Assessment, and Reassessment of State Waters: 2000 - 2004

When DEQ first applied the "sufficient credible data" methodology to develop the 2000 303(d) List, it found that sufficient data were not available to make use support determinations for approximately 500 waters which had appeared on previous 303(d) Lists. In accordance with the requirements of the 1997 amendments, these waters were placed on a list of waters to be reassessed as soon as practicable. Appendix B of this report provides, in it's entirety, the original year 2000 "Waters to be Monitored and Reassessed" (Table 3-E, 2000 303(d) List). The table in Appendix B also provides the year in which the waterbody has been reassessed, allowing the public to track the fate of each waterbody segment.

The Department staff conducted monitoring and/or a use-support assessment on 86 waterbody segments from the 2000 "Reassessment List" prior to the publication of the year 2002 303(d) List. Of these 86 waterbodies, 55 segments were determined impaired and added to the 2002 303(d) List and 12 segments were determined as fully supporting all beneficial uses. The remaining 19 waterbody segments remained on the Reassessment List in 2002 with about one third of these waters being portions split off of larger segments because monitoring data revealed that the original segment was not a homogeneous unit.

Since publication of the 2002 303(d) List, the Department has conducted monitoring and/or a use-support assessment on another 114 waterbody segments (Appendix C). Twenty-eight of these waterbodies were from the Appendix B reassessment List. Of these twenty-eight reassessment waters, 12 were determined to be impaired for one or more uses, while 16 were determined to be fully supporting all beneficial uses.

In all, 23 of the 114 waterbody segments assessed for the 2004 Integrated Report were found to be fully supporting all beneficial uses (new category 1 listings, Table 1). A total of 13 waterbody segments were added to the list of impaired waters (new categories 4C or 5 listings, Table 2). Assessments completed during this cycle also resulted in refinement of listed probable causes of impairments on 42 segments (Appendix D), and changes to use support designations on 26 waterbody segments (Appendix E).

The remaining 388 waterbody segments on the original Reassessment List will be monitored and/or assessed by DEQ prior to the 2006 Integrated Report submission. The list of waters scheduled for monitoring and/or assessment appears in Appendix F.

A complete listing of all impaired waters in categories 4A, 4C, and 5 is provided in the Sub-Basin Reports Section of this document. A report from the Assessment Database was run for each of Montana's 4th code USGS HUCs, or sub-basins, which contained an impaired waterbody and includes a sub-basin map, a listing of each waterbody segment, its use support designations, causes and sources of impairments, and the list category.

Table 1. Year 2002 303(d) listed waterbodies that were determined to be fully supporting (Category 1) in Final 2004 Integrated Report based on new sufficient credible data.

HUC	Planning Area	ID Number	Segment Name - Description
10020003	Ruby	MT41C002_060	CURRANT CREEK, Headwaters to mouth (Ramshorn Cr) T4S, R4W, S35
10020003	Ruby	MT41C002_070	MILL GULCH, Tributary to Granite Cr-Alder Cr from Forest Boundary to Headwaters T5S, R2W, S10
10020003	Ruby	MT41C002_120	HARRIS CREEK, tributary to California Cr from Forest Boundary to Headwaters T5S, R3W
10020003	Ruby	MT41C003_070	NORTH FK GREENHORN CR from headwaters to confluence with South Fk
10020003	Ruby	MT41C003_080	WEST FORK RUBY RIVER from headwaters to mouth (Ruby R)
10020003	Ruby	MT41C003_140	HAWKEYE CREEK headwaters to mouth (MF Ruby R)
10020003	Ruby	MT41C003_150	SHOVEL CREEK, headwaters to mouth (Cabin Cr - Middle Fork Ruby R)
10020007	Upper Madison	MT41F004_030	BEAVER CREEK from headwaters to the mouth (Quake Lake)
10020008	Lower Gallatin	MT41H002_032	SOUTH COTTONWOOD CREEK, Headwaters to the Middle Cr Assoc Ditch diversion
10030205	Teton	MT41O002_080	CLARK FORK OF MUDDY CREEK, Headwaters to mouth (Muddy Cr)
10040101	Bullwhacker-Dog	MT41T002_010	BULLWHACKER CREEK Headwaters to the mouth (Missouri R)
10040101	Bullwhacker-Dog	MT41T002_030	EAGLE CREEK from Dog Cr to mouth (Missouri River)
10040101	Bullwhacker-Dog	MT41T002_040	EAGLE CREEK from headwaters to Dog Cr
10040106	Big & Little Dry	MT40D004_010	LITTLE DRY CREEK, Headwaters to the mouth (Big Dry Cr)
10070002	Boulder - Big Timber	MT43B004_143	EAST BOULDER RIVER from headwaters to the NF boundary
10100005	O'fallon	MT42L001_020	SANDSTONE CREEK from headwaters to the mouth (O'Fallon Cr)
10100005	O'fallon	MT42L001_031	O'FALLON CREEK from the mouth (Yellowstone R) to Mildred
10100005	O'fallon	MT42L001_033	O'FALLON CREEK headwaters to Fallon/Carter Co. line.

Table 1. Year 2002 303(d) listed waterbodies that were determined to be fully supporting (Category 1) in Final 2004 Integrated Report based on new sufficient credible data.

HUC	Planning Area	ID Number	Segment Name - Description
17010202	Rock	MT76E002_010	ROCK CREEK mainstem from headwaters to mouth (Clark Fork)
17010206	Flathead Headwaters	MT76Q001_010	NORTH FORK FLATHEAD RIVER from the Canadian Border to the Mouth
17010207	Flathead Headwaters	MT76I001_010	MIDDLE FORK FLATHEAD RIVER, Headwaters to mouth
17010213	Lower Clark Fork	MT76N002_010	NOXON RESERVOIR
17010213	Thompson	MT76N004_010	THOMPSON RIVER from headwaters to mouth (Clark Fork)

Table 2. Year 2004 identified impaired waterbodies (i.e., new listings to Categories 4C or 5)

HUC	TPA	ID Number	Segment Name - Description	Size / Units	List Category
10040103	Big Springs	MT41S004_010	BIG SPRING CREEK from East Fork Big Spring Cr to Casino Cr	1.9 Mi	5
10040101	Bullwhacker-Dog	MT41T002_020	DOG CREEK from Cutbank Cr to the mouth (Missouri R)	25.3 Mi	5
10070006	Clarks Fork Yellowstone	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Cr to mouth (Yellowstone R)	41.3 Mi	5
10040103	Judith - Arrow	MT41S002_100	LAST CHANCE CREEK headwaters to mouth (Moccasin Cr)	5.4 Mi	5
10050009	Landusky	MT40I001_050	LODGE POLE CREEK headwaters to Fort Belknap Reservation boundary	4.2 Mi	5
10070002	Paradise	MT43B004_062	TOM MINER CREEK from0.3 mi below Skully Cr to Tepee Cr.	6.7 Mi	4C
17010213	Prospect Creek	MT76N003_021	ANTIMONY CREEK DRAINAGE headwaters to mouth (Prospect Creek)	2 Mi	5
17010213	Prospect Creek	MT76N003_022	COX GULCH headwaters to mouth (Prospect Cr)	3 Mi	5
10020003	Ruby	MT41C002_090	CALIFORNIA CREEK tributary of Ruby R T-5S R-4W	10.9 Mi	5
10020003	Ruby	MT41C002_100	GARDEN CREEK, Headwaters to mouth at Ruby Reservoir	7.3 Mi	5
10020003	Ruby	MT41C003_020	COAL CREEK from headwaters to mouth (Middle Fork Ruby R)	8.3 Mi	5
10020003	Ruby	MT41C003_050	WARM SPRINGS CREEK from headwaters to mouth (Ruby River)	8.6 Mi.	5
17010213	Thompson	MT76N005_010	FISHTRAP CREEK from headwaters to the mouth (Thompson R)	19.8 Mi	5

Prioritization for TMDL Development

In compliance with the provisions of the Montana Water Quality Act, DEQ adopted in 2000 a new methodology for scheduling waters for TMDL development. This methodology was developed with the assistance of the Statewide TMDL Advisory Group. It employed a weighted scoring system, based on the 13 prioritization criteria mandated by the Montana Water Quality Act, to assign a high, moderate, or low planning priority to each water. DEQ then identified 91 watersheds in the state as appropriate "planning areas" for water quality management planning and TMDL development. Each planning area was then scheduled for plan development based upon factors including the individual water body prioritization scores, grouping waters having similar or interrelated problems, availability of data, and the degree of public interest and support.

This schedule was also compiled in response to a June 2000 United States District Court order requiring EPA and DEQ to adopt a schedule which would assure the development by May 5, 2007 of all necessary TMDLs for waters on the 1996 303(d) List. To avoid having two separate TMDL planning schedules in effect at the same time, DEQ adopted a single schedule addressing waters appearing on either the 1996 or the 2000 list, and published this schedule in the 2000 Montana 303(d) List. When the 2002 303(d) List was published, an appeal of the court order was underway, so DEQ did not attempt a full prioritization update. Only some minor rescheduling, allowable within the limits of the court order, was done.

Since publication of the schedule in the 2000 303(d) List, two factors have substantially changed the landscape with respect to exactly which waters must have TMDLs established to address water quality impairments in Montana. The first of these factors is a change or clarification of EPA guidance. The other is an appeals court ruling on the 2000 court order.

On July 23, 2001, EPA notified DEQ that it would continue to approve or disapprove TMDLs for waters impaired by "pollutants," but would no longer take action to approve or disapprove TMDLs for waters impaired solely by "pollution." "Pollutants" include specific substances such as nutrients, sediment, or metals, while "pollution" is a water quality problem created by conditions such as flow alterations or habitat degradation. EPA expanded on this policy change in its guidance for 2004 Integrated Report preparation. Under this guidance waters impaired only by pollution are listed separately as "Category 4C" waters, while waters impaired by pollutants are listed as "Category 5" waters. Since the calculation of TMDLs only appropriate where the impairing factor is an excessive pollutant load, TMDLs are required only for Category 5 waters.

On July 25, 2003, the United States Court of Appeals for the Ninth Circuit ruled on EPA's appeal of the District Court order. The ruling found that the district court did have the authority to require EPA and DEQ to establish and follow a schedule for developing TMDLs, but did not have the discretion to refuse to permit modifications to 1996 list of impaired waters.

The court order schedule allows flexibility for DEQ and EPA to respond to contingencies – so long as the pace of TMDL development is maintained. TMDLs for some planning areas may be delayed, if others are accelerated to maintain the pace. In its 2002 list update DEQ made several such schedule modifications. Since the publication of the 2002 list, consultations between DEQ and EPA have identified additional rescheduling needs and allocated lead responsibility for development of specific TMDLs to either DEQ or the EPA Montana Office staff. These proposed schedule modifications and workload allocations were presented for consideration by the Statewide TMDL Advisory Group on September 16, 2003. The advisory group provided positive comments on the changes and encouraged DEQ to complete the TMDLs as expeditiously as possible.

In 2003 the Montana State Legislature extended the original 10-year date for completing TMDLs for waters listed in 1996 by an additional five years. Given this legislative extension of time provided in statute, DEQ intends, at an appropriate time, to request similar schedule relief from the Court. If the Court grants schedule relief, DEQ and EPA will have until May 5, 2012 to complete all necessary TMDLs that were originally listed in 1996.

Table 3 displays the planning areas scheduled for TMDL development from 2004 through 2006. The list of Category 5 (TMDLs required) waters located within each of these planning areas appears in Appendix G.

During the past reporting cycle, the Montana DEQ has received EPA approval for 59 waterbody-pollutant TMDLs in five (5) TMDL planning areas. The complete list of EPA-approved non-point source TMDLs in Montana, along with a brief synopsis of each, is provided in Appendix H.

Table 3: TMDL Planning Areas Scheduled for Completion through Year 2006

Scheduled Completion Year*	TMDL Schedule From 2002 List	Planning Area	Lead Agency
2004	2004	Big & Little Dry	DEQ
2004	2003	Big Spring	DEQ
2004	2003	Bitterroot headwaters	DEQ
2004	2002	Blackfoot headwaters	DEQ
2004	2003	Bobtail Cr. (part of Kootenai)	DEQ
2004	2003	Bullwhacker - Dog (excludes Missouri mainstem)	DEQ
2004	2003	Dearborn	EPA
2004	2003	Flathead headwaters	EPA
2004	2005	Grave Cr. (part of Tobacco)	DEQ
2004	2003	Ninemile	DEQ
2004	2002	Tongue	DEQ/EPA
2004	2002	Powder	DEQ/EPA
2004	2007	Rosebud (Rosebud Cr. drainage of Yellowstone-Rosebud)	DEQ/EPA
2004	2002	Sun	DEQ
2004	2002	Swan	DEQ
2004	2004	Yaak	EPA
2005	2004	Big Hole, North Fork	DEQ
2005	2004	Big Hole, upper	DEQ
2005	2004	Boulder/Big Timber	DEQ
2005	2003	Cut Bank - Two Medicine	EPA
2005	2004	Flatwillow-Boxelder	DEQ
2005	2004 & 2005	Fort Peck Reservoir and Lower Missouri	EPA
2005	Na	Missouri mainstem (Ft. Peck to N. Dakota)	EPA
2005	2003	Lake Helena	EPA
2005	2005	Lake Mary Ronan (part of Flathead - Stillwater)	EPA

Table 3: TMDL Planning Areas Scheduled for Completion through Year 2006

Scheduled Completion Year*	TMDL Schedule From 2002 List	Planning Area	Lead Agency
2005	2004	Little Missouri	DEQ
2005	2004	O'Fallon	DEQ
2005	2004	Prospect Creek (part of Lower Clark Fk.)	DEQ
2005	2005	Redwater (Missouri tributaries only)	DEQ
2005	2003	Ruby	DEQ
2005	2005	Shields	DEQ
2005	2003	St. Regis	DEQ
2006	2006	Beaverhead	DEQ
2006	2003	Benton Lake	EPA
2006	2004	Blackfoot, middle	DEQ
2006	2005	Flathead - Stillwater	DEQ
2006	2005	Ashley Creek (part of Flathead - Stillwater)	DEQ
2006	2005	Haskill Basin (part of Flathead - Stillwater)	DEQ
2006	2005	Stillwater River (part of Flathead - Stillwater)	DEQ
2006	2005	Swift Creek (part of Flathead - Stillwater)	DEQ
2006	2005	Whitefish River (part of Flathead - Stillwater)	DEQ
2006	2005	Whitefish Lake (part of Flathead - Stillwater)	DEQ
2006	2003	Madison, upper	EPA
2006	2006	Marias - Willow	DEQ
2006	2005	Nevada Cr.	DEQ
2006	2005	Tobacco (includes Therriault)	DEQ

***** Year in Bold indicates TMDL schedule is revised from the year 2002 303(d) schedule.

Public and Agency Consultation

Consultation Actions

Background

Both federal and state law require DEQ to engage in extensive consultation with the public when it develops procedures or processes for assessing water quality and setting priorities for TMDL planning. The 2004 Integrated Water Quality Report underwent a 63-day Public review beginning January 9, 2004 and ending March 12, 2004. Additionally, a public Integrated Water Quality Report open house was held at the DEQ offices in Helena, MT on February 26, 2004. Although the 2004 Integrated Report was formatted differently by combining the previously separate 303(d) list and 305(b) report and uses categorization to identify the status of waterbody segments, the procedures for assessment and beneficial use support determination remained largely unchanged from the procedures that underwent public and agency consultation during the 2000 and 2002 reporting cycles.

Montana's 2004 Integrated Water Quality Report (hereinafter Integrated Report or IR) reflects guidance given by EPA in a July 21, 2003 Memorandum from Diane Regas, Director of the EPA's Office of Wetlands, Oceans, and Watersheds which includes "Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act; TMDL-01-03." This guidance document details the requirements for using a categorization system to better identify the status of surface waters in state to the public, cooperating agencies, EPA, and congress.

The use of listing categories did not result in the removal of any waterbodies. In fact, the categories track all waterbodies regardless of their status. This prevents the apparent disappearance of waterbodies from the 303(d) List or 305(b) report by "de-listing." The categories were designed to track all waterbodies in a state's water quality assessment system as they progress from unassessed to partially assessed as full support (Categories 3 & 2, respectively), from impaired by either pollution or pollutants (Categories 4C or 5), to TMDLs completed and approved or other control regulations identified (Categories 4A or 4B), and finally to waters fully supporting all beneficial uses (Category 1).

2004 List Development Consultation

Montana's Water Quality Assessment Methodology

The 2000 303(d) List was the first to be developed using procedures adopted to respond to the 1997 amendments to state water quality law. These procedures, especially the state's proposed assessment methodology received close public review. During its development, DEQ obtained assistance and reviews from a wide array of state, regional, and national water quality assessment experts; consulted the statewide TMDL advisory group; and discussed the proposals with a number of stakeholder groups around the state. This Water Quality Assessment Methodology (Appendix A) has not been altered since the 2000 public review and was used for the assessments that resulted in this 2004 Integrated Report.

Congress and the Montana legislature recognize challenge of determining the extent of non-point source water quality impairments in both 40 CFR part 130.7(5) and MCA 75-5-701(2). In recognizing this, federal and state law require DEQ to *assemble and evaluate* all existing and readily available water quality-related data and information as an efficient means of augmenting the data collected under the DEQ ambient water quality monitoring program.

In compliance with this requirement, DEQ sent out over 600 letters to stakeholders (local watershed groups, federal, state, and local agencies, private groups, and individuals with water quality interests) in May 2003 requesting any water quality information they might have which could be used to update the assessments included in this Integrated Report. Many of these stakeholders had provided information during the 2000 or 2002 reporting cycles while others provide data to DEQ on a continuing basis. The DEQ monitoring and assessment staff also receives data from many of these entities by means of regular working contacts.

Information received up to September 1, 2003 was included in assessments for the 2004 reporting cycle. After assembling both internal, and the aforementioned external data, an intense period of water quality assessments ran up to December 3, 2003. At that time, the Assessment Database (ABD) was closed to new entries for the 2004 reporting cycle (this allowed time for compilation and internal review of the draft 2004 Integrated Report for the public comment period beginning January 9, 2004).

Publication of the Draft 2004 Integrated Report initiated a 63-day comment period (from January 9, 2004 to March 12, 2004) to obtain public review of DEQ's updated listing determinations and planning schedule. Legal notices placed in five major newspapers around the state provided formal notice of this comment opportunity. A news release announcing the comment period was also issued to most of Montana's media outlets, mailed to approximately 600 water quality stakeholders, and noticed on NewLinks and the Montana Watershed Listserve hosted by the Montana Watercourse.

The 2004 Integrated Report materials that Montana submits to the EPA consist of an electronic database, text, GIS map files, and electronic version of assessment files. Recognizing that few members of the public would have all the computer software needed to read all these files, the DEQ has developed an interactive website, EnviroNet, with the assistance of the Montana State Library's Natural Resource Information System (NRIS). The draft list was published by the Montana State Library on the Internet at http://nris.state.mt.us/wis/environet/2004Home.html. This site is readable using any computer with Internet access.

All of the comment period announcements, as well as the NRIS site, identified both a standard mailing address and an email address for submitting comments on the draft list to DEQ.

Public Comment/DEQ Response

Public and Agency comments received were logged in, copied for the Record of Comments, reviewed, and distributed to the DEQ staff best able to address and/or respond to the comment content. Response and actions taken on these comments are divided into two sections:

1. Public Comment describing specific waterbodies
2. Comments addressing the water quality assessment method, state water quality standards, and/or Montana law

The first DEQ response section includes comments related to the assessment of specific waters. These comments were forwarded to the monitoring staff responsible for assessments in the major basin where the segment is located. Monitors considered any information in the comment that indicated an error or disputed decision and reviewed the assessment record to verify the information. Comments seeking clarification on the assessment of specific segments are addressed in a detailed response.

The second DEQ response section addresses general comments related to the assessment process itself, state water quality standards, EPA policy, Montana law, and comments related to the Integrated Reporting format and categorization. These comments were directed to the appropriate party within the data management section, water quality standards section, Bureau Chief, or DEQ legal staff.

Following the two response sections, a summary of all changes resulting from these public comments is given.

Public Comment describing specific waterbodies

Comment Number: 1
Waterbody Addressed: Main Stem Missouri, Toston Dam - Headwater

Comment: I am interested in the water quality assessment of a portion of the Upper Missouri River, in particular, that stretch between the Missouri headwaters and Toston Dam (MT41I001_011). After searching the databases I have found that it appears that this segment has not yet been assessed, although both the waters above and the waters below have already been assessed. It is possible that there is a mistake in the database, that the assessment for this waterbody was inadvertently omitted? If not, why has this portion not yet been assessed when all the surrounding waters have been completed?

DEQ Response: Comment #1
Missouri River, Segment MT41I001_011, from headwaters to Toston Dam

This segment of the Missouri River is scheduled for assessment by DEQ staff for the 2005 field season. The assessment requires the collection of several types of data in order to fill data gaps and obtain sufficient credible data (SCD) for beneficial use support determinations.

Some other Missouri River segments had considerably more data available to the DEQ from other agencies, hence SCD was achieved and use support determinations could be made without the need for further fieldwork. Additional data may be collected for source assessment purposes at a later time. Source assessments provide the information used for load allocation and target-setting processes for the pollutants for which TMDLs are written.

There are several other waterbodies in this TMDL planning area that require the collection of more data before beneficial use determinations can be made for them. Those waters are scheduled for reassessment in the 2005 field season as well.

This comment does not prompt a change to the SCD/BUD status of this waterbody.

Comment Number: 2
Waterbody Addressed: Marias below Tiber Res./ Lack of assessment for drinking water and partial assessment.

Comment: In the draft 2004 report, the Marias River below Tiber Dam is listed as partially supported in the areas of Aquatic Life Support, and Cold and Warm Water Fishery, with the probable cause listed as flow alteration and other habitat alterations. It is not assessed for Drinking Water Supply quality.

In Tiber Reservoir and above, it is listed as fully supported for agriculture and industrial uses, and not assessed for any other use, including Drinking Water Supply.

This lack of assessment for Drinking Water supply is unacceptable for a number of reasons.

Reason 1—In the 2002 305(b) and 2002 303(d) reports, the area below Tiber Dam is listed as partially supported for Aquatic Life Support, and Cold and Warm Water Fishery, with Probable Causes listed as Mercury and Metals, among other causes.

Reason 2—In the 2000 303(d) report, the area below Tiber Dam is listed as partially supported for Aquatic Life support and Cold Water fishery, and NOT SUPPORTED for Drinking Water Supply, with Probable Causes listed as Mercury and Metals, among other causes, with probable Sources listed as "Source Unknown".

Reason 3—The 1995 Montana fish Consumption Advisory by the Mont Dept of Public Health and Human Services document high levels of Methyl Mercury contamination in fish from Tiber Reservoir and advise that no fish be eaten on an annual basis by women or children because of such mercury contamination.

Reason 4—The Rocky Boy/North Central Montana Regional Water system is in the process of designing and implementing a very large scale regional municipal water system that will draw water from the Marias River drainage and distribute it to a very large number of Northern Montana consumers with only a limited purification system.

One question begs answering; what happened to the analysis in past years that a number of uses, including Drinking Water Supply quality, have been not supported due to mercury contamination? Has this factor magically disappeared?

DEQ Response: Comment #2 – Marias Below Tiber Re: Lack of assessment for drinking water Beneficial Use

For this comment, it is best to look at the history of the Marias River downstream of Tiber.

The drinking water beneficial use for the Marias River has not been "overlooked" by the DEQ for the 303(d) list. Stated in the data matrix and impairment status worksheets in the Marias River Assessment Record Sheets is the rational used for "not assessing" the drinking water beneficial use. The files show that sufficient credible data are lacking to make any decisions for drinking water based on the current data known to DEQ. Hard copies of the assessment are available at DEQ, at the DEQ website http://www.deq.state.mt.us/wqinfo/303_d/303d_information.asp or on EnviroNet http://nris.state.mt.us/wis/environet/index.html. Select: waterbody name | Full Report | Assessment Record Sheet.

For the 2000 list, the Marias River downstream of Tiber was listed as only one reach (MT waterbody ID: MT41P001_020). In 2002, because of a classification change, the Marias River was split into two segments downstream of the dam; the first reflects the cold tail-out water released from the dam (MT41P001_021, B-1 for 10.8 miles) and the other reflects warmer water toward the mouth (MT41P001_022, B-2 for 70 miles). Data that was used for the 2000 drinking water impairment listing of the Marias River downstream of Tiber came from only two sampling locations where metals were collected. When the segment was split into two, the lower segment had only one set of metals data (collected in 1974). This data included a mercury value reported as "below detection" and the detection level reported by the lab was not low enough to determining human health criteria for drinking water. Therefore, for this lower segment of the Marias, sufficient credible data were not available to make a drinking water beneficial use determination.

Data for the upper segment of the Marias (cold-water fishery just downstream of Tiber) included several years of metals data collected by the USGS. Following are direct statements from DEQ's most current assessment record for the Marias River, just downstream of the dam summarizing these data: "*Metals collected several times per year from 77-86, includes either or both total recoverable or filtered; 1 total recoverable Cu (6-30-82) & 2 total recoverable Pb (5-21-81 & 3-14-79) samples met or exceeded calc State chronic standards for aquatic life, based on hardness; 3 filtered Hg samples exceeded drinking water standards (0.1 ug/L on 8-26-80, 0.2 ug/L on 10-17-84, 0.1 on 9-25-85); no Hg exceedences for aquatic life*" (Reference: DEQ Assessment Record Sheet - Data Matrix, Water Chemistry Section, 13ME). Important considerations for the preceding statement are: 1) the current human health standard (HHS) for Mercury in surface water is 0.05 µg/L and the reported values are only slightly higher; and 2) the lack of constancy or availability by the data to suggest a pattern in the mercury detection. The very low values of mercury detection lend some speculation as to if the detection is "real" or an error (analytical detection limits for mercury were in the 0.1-0.2 ug/L range in the early 80's). Dust can carry trace levels of metals, including mercury. Also, if equipment is not flushed properly, trace amounts may be detected.

DEQ does not view mercury as a metal to be taken lightly, nor should the data be omitted from our files or assessments. The following is a direct statement taken from the Use Impairment section of the most current DEQ Assessment Record Sheet for the Marias River: *"…drinking water cannot be assessed for Hg because of number of samples and relative "age" (of the samples); a more recent suite of filtered metals should be collected to ascertain Hg (and other) for HHS…*" The reason why metals and mercury are shown on the 2002 list for both reaches of the Marias River downstream of Tiber Dam is because DEQ cannot, by law, simply remove previously listed probable causes of impairment. Data must accompany any listing or delisting of impairments. The situation with the Marias was one of reassessing data that was already used for an impairment listing. No new data was provided and the probable cause remains on the list.

At present, the upper Marias River (MT41P001_010), upstream of Tiber Reservoir, lacks sufficient and credible data to make any beneficial use determinations. Providing municipal drinking water is regulated process. If the Rocky Boy/North Central Montana Regional Water system obtains its source water from the Marias River, they must characterize it and apply the appropriate treatment technology to deliver a drinking water product meeting National Primary Drinking Water Standards, by law. Data included in water quality reports must to be made available to DEQ in order to be used in the beneficial use determination process. DEQ routinely solicits agencies and local parties for water quality data.

Fish consumption advisories are considered in primary recreational beneficial uses. Many reservoirs in Montana currently have advisories based on mercury or PCB contamination. The extent of the data made available to DEQ for these reservoirs will determine what, if any, other

beneficial uses can be assessed. Tiber Reservoir, at present, lacks sufficient and credible data to make beneficial use determinations for drinking water, contact recreation, aquatic life, and fisheries. Data to satisfy our listing needs is scheduled to be collected in the summer 2004.

These comments did not include new data.

Comment Number: 4
Waterbody Addressed: Redwater River; Timber, Nelson, Horse, Prairie, Elk and Sand Creeks

Comment: Water body MT40P001_014 Redwater River-57.7—on the Spatial Layout of Data – Habitat there is a mistake in the 2000 report. There was a habitat assessment completed on site 3H. Our records show that the assessment was completed with a score of 75%. In the final report of the Redwater assessment draft report this was over looked.

Pasture Creek MT40P002-30 is not in McCone County that creek is in Dawson County. That part of Redwater where Pasture Creek flows into the Redwater is all in Dawson County.

Assessments were done on Timber Creek, Nelson Creek, Horse Creek, Prairie Elk and Sand Creek the summer of 2003. DEQ, McCone Conservation District and NRCS have done these assessments. DEQ has the assessments that were done and also the McCone Conservation District have the assessments. The district feels what the Timber, Nelson, Prairie Elk, Sand and Horse Creeks are listed for is incorrect and the information gathered to list these streams is very old data. A lot of the land practices have changed since the 1970's.

DEQ Response: Comment #4 – Redwater River; Timber, Nelson, Horse, Prairie Elk, and Sand Creeks

The comment for the Redwater River did have data; the tributary comments did not.

In the current Assessment Record Sheet for the Redwater River (MT41P001_014), a statement was made regarding the lack of a habitat assessment at site (3H) visited during the Redwater River Stream Corridor Assessment (2000 final report, NRCS). The statement found in the assessment record is correct, as far as the current final NRCS report shows. Although assessment data sheets were made available to DEQ along with this comment, edits in the final NRCS report were not. This data may be used to update the Assessment Record Sheets but any changes would be reflected in the next 303(d) list (2006).

The comment from the local conservation district is appreciated; however, unless new data is provided, the current 303(d) listed impairments will remain for Nelson, Horse, Prairie Elk, and Sand Creeks. Data collected during the 2003 field season will be included in the updated assessments of the aforementioned streams. Most of the data collaborates, not refutes, with historical data and current 303(d) impairment determinations. Data used to make beneficial use determinations are put through a rigorous process to determine how sufficient and credible the data are. "Old" data is usually included in beneficial use determination; but if only old data are present, DEQ recognizes the need to collect more current data. For the streams in question, though, DEQ used data that was collected during the mid-late 1990's for the beneficial use determinations. Data collected over the past field season was used to strengthen impairment listings. Also, current land uses were noted and documented; many of the streams flowed through areas of intense, summer-long continuous grazing (not a recognized BMP).

Comment Number: 5
Waterbody Addressed: Pasture Creek (MT40P002-030)

Comment: I want you to know that the creek listed in McCone County have a creek that is on the list that is incorrect. Pasture Creek MT40P002-030 38.9 miles is not in McCone County. That creek is in Dawson County.

DEQ Response: Comment #5 – Pasture Creek (MT40P002-030) There are two Pasture Creeks in the Redwater drainage. Pasture Creek MT40P002-030 38.9 miles is a tributary to the Redwater River and is, in fact, located in Dawson County. Correction made 03/26/04.

Comment Number: 8
Waterbody Addressed: General streams in Little Rocky Mountains

Comment: With the Zortman and Landusky mining complex in our Little Rocky Mountains, it was noted that Montana-DEQ staff did not complete a through assessment of all streams originating from the Little Rocky Mountains, which drain into the Milk River in the north and the Missouri River in the south.

With the Zortman and Landusky mines operating without a Montana Pollution Discharge Elimination System Permit, it is the Fort Belknap Tribes priority of monitoring the drainages against Acid Mine Drainage.

DEQ Response: Comment #8 – General streams in the Little Rocky Mountains

Streams originating from the Little Rocky Mountains that are currently on Montana's 303(d) list of impaired streams include:

- Fort Peck HUC (10040104)
  - Alder Gulch (MT40E002_050)
  - Ruby Creek (MT40E002_060)
  - Ruby Gulch (MT40E002_070)
  - Rock Creek (MT40E002_090)
  - Mill Gulch (MT40E002_100)
  - Montana Gulch (MT40E002_010)
- Peoples HUC (10050009)
  - King Creek (MT40I001_040)
  - Big Horn Creek (MT40I001_030)

All of the above listed streams have recent chemical, biological, and/or physical data that allow beneficial uses to be determined, and if impaired, will be listed on the 303(d) list. Streams that are not listed above, but were found on the 1996 303(d) list of impaired streams and currently lack data to make beneficial use determinations include Sullivan Creek (MT40E002_110, HUC: 10040104) and Beaver Creek, from the reservation boundary to the headwaters (MT40M001_011, HUC: 10050014). The State of Montana is required to reassess streams that were found on the 1996 list but that do not have enough data to assess the beneficial uses for the current list. DEQ will reassess waterbodies when either or both of the following occur:

1) New data is made available to DEQ, from another agency or local interested parties; or
2) DEQ collects field measurements following standard operating procedures and evaluates the laboratory results.

By law, DEQ is required to reassess streams that were on the 1996 list but lacking sufficient and credible data for the current 303(d) list *as soon as possible*. With the current workload and scheduling, streams in the Little Rocky Mountains will be monitored by DEQ field staff in Summer 2005.

These comments did not contain any new data.

Comment Number: 11
Waterbody Addressed: N. Fork Smith and General Smith Watershed Comments

Comment: In Report 2 of 2, Table I. Sufficient Data – Source Checklist, the Data Source with the assigned number 2 "Laboratory Reports for samples collected during the 1999 North Fork Smith River assessment." We believe this date should be recorded as 1998.

It appears to be correctly sited in Table II. Beneficial Use-Support Determination: Data Matrix. In this table it is identified as 9/14/1998 data.

DEQ Response: Comment #11 - North Fork Smith River

The year indicated in the waterbody Assessment Record Sheet for the collection of water chemistry data was changed to 1998, to be consistent with the collection date (9/14/1998) recorded in the chemistry report. The report indicates that DEQ collected this suite of samples. Also, a notation was made on the CD line in the Data Source Checklist to include the CD in the data collection and reassessment effort in 1998.

Field notes indicate that a macroinvertebrate kick net sample was collected by DNRC for the assessment. One other macroinvertibrate sample was collected at another site by DEQ, according to the macroinvertibrate report.

The aquatic life and fishery scoring table comments for the Habitat section indicates that habitat data was collected during the 1998 assessment by the NRCS and the DEQ.

This comment does not prompt a change to the SCD/BUD status of this waterbody.

Comment Number: 12
Waterbody Addressed: Bair Reservoir

Comment: Bair Reservoir now appears on the Query Summary For Water bodies in Meagher County. The report shows there is "Insufficient data to assess any use". Bair Reservoir was not on the 1998 or 2002 303d list. How was Bair reservoir added to the 2004 303d list without Credible and Sufficient Data to support adding it? No information on this water body was available in the Web database.

This Query also lists Bair Reservoir's size as 271.8 acres. How was this size arrived at? Aerial photography shows that Bair Reservoir at a size of 150 acres to 163 acres.

DEQ Response: Bair Reservoir (Comment 12)

Bair Reservoir does not appear on the 2004 303d List or any previous 303d List. There is no waterbody file or Assessment Record Sheet for this reservoir. The reservoir name may be brought up in the 303d List

database, but it states that there is insufficient data to assess any of the beneficial uses (Category 3). Please note that the database also includes waterbodies that are determined to be fully supporting of all beneficial uses (e.g.: Miner Creek, in the upper Big Hole drainage)

This comment does not prompt a change to the use support status of this waterbody. Bair Reservoir size indicated in National Hydrography Dataset (USGS) is 228 acres. Correction to ADB made 03/26/04.

Comment Number: 15
Waterbody: 26 Waterbodies in Flathead National Forest, Available Data, Categorization.

DEQ Response: Response for categorization is given in column next to comments. Notes from the Regional Monitoring Coordinator follow the tables.

North Fork Watershed: 17010206

Segment Name Waterbody #	Water Type/Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
North Fork Flathead River* MT76Q001-010	River / 57.5 mi.	3	3	Report 1 not available. No Assessment Record Sheet available. The USGS, NPS, Flathead Basin Commission Biennial Reports and 208 Project provide ample data.	DEQ reviewed suggested data. SCD available. All uses fully supported. Water listed in Cat. 1.
Trail Creek* MT76Q002-010	River / 8.3 mi.	3	4B	Inconsistent application of guidelines. Nothing listed for Probable Cause or Probable Sources.	Cat. 3 is correct. 4B is for impaired waters. Not known if water is impaired - lack of SCD.
Red Meadow Cr. MT76Q002-020	River / 13.9 mi.	5	4B	Most current data not used in assessment. Inconsistent application of guidelines.	DEQ/USFS determining proper use of Cat. 4B. Cat. 5 for 2004 IR.
Whale Creek MT76Q002-030	River / 21.3 mi.	5	4B	Most current data not used in assessment. Inconsistent application of guidelines.	DEQ/USFS determining proper use of Cat. 4B. Cat. 5 for 2004 IR.
South Fork Coal MT76Q002-040	River / 8.1 mi.	5	4B	Most current data not used in assessment. Inconsistent application of guidelines.	DEQ/USFS determining proper use of Cat. 4B. Cat. 5 for 2004 IR.
Upper Coal Creek MT76Q002-70	River / 9 mi.	5	4B	Most current data not used in assessment. Inconsistent application of guidelines.	DEQ/USFS determining proper use of Cat. 4B. Cat. 5 for 2004 IR.
Coal Creek MT76Q002-80	River / 10 mi.	5	4B	Most current data not used in assessment. Inconsistent application of guidelines.	DEQ/USFS determining proper use of Cat. 4B. Cat. 5 for 2004 IR.
Cyclone Creek* MT76Q002-090	River / 8.5 mi.	3	1	Nothing listed for Probable Cause or Probable Sources. Assessment Record Sheet not available. Inconsistent application of guidelines.	Water lacks SCD and will remain in Cat. 3 until information is available to make a beneficial use support determination.

*Added to the 2002 list. (**DEQ note**: These waters were included in the Assessment Database in 2002, but were not added to the 303(d) list.)

Middle Fork Watershed: 17010207

Segment Name Waterbody #	Water Type/ Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
Middle Fork Flathead River* MT76I001-010	River / 87 miles	3	4B below Bear Creek	Report 1 not available. No Assessment Record Sheet. The USGS, NPS, FBC Biennial Reports and 208 Project provide ample data. Segment above Bear Creek is Wilderness, should be Cat 1.	DEQ reviewed suggested data. SCD available. All uses fully supported. Water listed in Cat. 1.
Granite Creek MT76I002-010	River / 8.2 miles	5	4B above wilderness boundary	Most current data not used in assessment. Inconsistent application of guidelines: not assessed for any use except Aquatic Life and Coldwater Fishery but Challenge (headwaters of Granite) fully supports all uses except drinking water. Lower sections within wilderness boundaries should be Cat 1.	DEQ/USFS working to determine proper use of Cat. 4B. Remains in Cat. 5 for 2004 IR. Debate on whether wilderness waters will default to Cat. 1 is on going.
Skyland Creek MT76I002-020	River / 5.5 miles	2	4B	Reassessed August 2002. Most current data not used. Inconsistent application of guidelines.	EPA is lead on this waterbody. Assessment will be updated 10/04. Cat. 2 waters fully supporting assessed uses but not complete. Cat. 4B is an impaired water category. Cat. 2 correct until updated.
Ole Creek* MT76I002-030	River / 17.2 miles	3	1	Page 3, 2004 Montana Water Quality Atlas states waters within NPS, USFS, and BIA lands removed from MDEQ water quality management. Nothing listed for Probable Causes or Probable Sources. Assessment Record Sheet not available for download.	Waters referred to in the Atlas section of the Draft Report were USFS wilderness areas, **not all** USFS managed lands. **All** waters within Montana, with the exclusion of those on tribal lands, are of primary concern to DEQ as per the Montana Water Quality Act. No SCD, Cat 3 is correct.
Challenge Creek* MT76I002-040	River / 4.3 miles	2	1	Not listed in 2002. Inconsistent application of guidelines. Assessment Record Sheet not available for download.	Challenge Creek not assessed for drinking water, Cat. 2 is correct.
Morrison Creek MT76I002-050	River / 14.8 miles	5	4B	Most current data not used. Inconsistent application of guidelines.	DEQ/USFS working to determine proper use of category 4B. Remains in Cat. 5 for 2004 IR.

*Added to the 2002 list. (**DEQ note**: These waters were included in the Assessment Database in 2002, but were not added to the 303(d) list.)

South Fork Flathead Watershed: 17010209

Segment Name Waterbody #	Water Type / Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
South Fork Flathead River MT76J001-010	River / 5.1 miles	4C	4B	BLM changed management of discharges from hungry Horse Dam based on study done by MFWP to reduce flow alteration and temperature fluctuations harmful to trout.	Management of the Hungry Horse Dam is under the authority of the US Bureau of Reclamation not the BLM. DEQ is actively working with the BOR regarding dam operations. Water will remain in Cat. 4C for 2004 IR.
South Fork Flathead River* MT76J001-020	River / 59.6 miles	2	4B from wilderness boundary to HH reservoir	Page 3, 2004 Montana Water Quality Atlas states waters within NPS, USFS, and BIA lands removed from MDEQ water quality management. Headwaters to wilderness boundary should be Category 1 due to inclusion in wilderness areas.	No need to assume it is impaired (4B) until fully assessed. Water may be fully supporting (Cat. 1). Currently, all uses fully supporting except DW, which has higher numeric limits than ALUS. Cat. 2 is correct until chemistry data is available.
Hungry Horse Reservoir* MT76J002-010	Freshwate r Lake / 21999 ac	2	4B	Inconsistent application of guidelines.	Ibid.
Sullivan Creek MT76J003-010	River / 15.3 miles	2	4B	Reassessed August 2002. Most current data not used. Inconsistent application of guidelines.	Ibid.
Emery Creek* MT76J003-030	River / 7.7 miles	3	4B	Inconsistent application of guidelines: fully supporting all uses except Agriculture and Industry. Flows parallel to Margaret, Tiger, and Hungry Horse into HH Reservoir.	Correction made. This water body has no information to support a fully supporting Ag or Industry designation. No uses have been assessed due to lack of SCD. Cat. 3 is correct.
Margaret Creek* MT76J003-040	River / 4.8 miles	3	4B	Inconsistent application of guidelines: fully supporting all uses except Agriculture and Industry. Flows parallel to Emery, Tiger, Hungry Horse into HH Reservoir.	Correction made. This water body has no information to support a fully supporting Ag or Industry designation. No uses have been assessed due to lack of SCD. Cat. 3 is correct.
Hungry Horse Creek* MT76J030-060	River / 6.1 miles	2	4B	Inconsistent application of guidelines: fully supporting all uses except drinking water. Flows parallel to Margaret, Tiger, Emery into HH Reservoir.	No need to assume it is impaired (4B) until fully assessed. Water may be fully supporting (Cat. 1). All uses fully supporting except DW. Cat. 2 is correct.
Tiger Creek* MT76J003-070	River / 4.0 miles	3	4B	Inconsistent application of guidelines: fully supporting all uses except Agriculture and Industry. Flows parallel to Margaret, Emery, Hungry Horse into HH Reservoir.	Correction made. This water body has no information to support a fully supporting Ag or Industry designation. No uses have been assessed due to lack of SCD. Cat. 3 is correct.

*Added to the 2002 list. (**DEQ note**: These waters were included in the Assessment Database in 2002, but were not added to the 303(d) list.)

Swan Watershed: 17010211
Lion Creek and Squeezer Creek (monitoring and assessment) are scheduled for Assessment Completion by 2006 –**We believe the appropriate date for the assessment and TMDL approval was to be 2003.**

Swan Lake, Jim Creek, both segments of Goat Creek and the lower segment of Piper Creek are scheduled for TMDL completion by 2006. **We believe the appropriate date for the assessment and TMDL approval was to be 2003.**

Segment Name Waterbody #	Water Type/ Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
Swan River* MT76K001-010	River / 14.2 miles	3	4B	Not sure if this segment is downstream from Swan Lake? If so I believe that the Bio Station has done some studies on ground water influences on nutrients.	Category 4B is for impaired waters. Cat. 3 appropriate until an assessment is done.
Swan River* MT76K001-020	River / 54.4 miles	3	4B	Several complete studies on the Swan River above Swan Lake – Bio-station has published info on nutrient and sediment trends and Land and Water has conducted road surveys in preparation of the Swan TMDL.	Category 4B is for impaired waters. Final Information from Swan TMDL was not available at 12/05/03 cutoff date. Cat 3 appropriate until an assessment is done.
Swan Lake MT76K002-010	Freshwater Lake / 2680 ac	5	4B	Draft available, final TMDL is over due. A Technical Advisory Group has already started working on monitoring strategy.	Final Information from Swan TMDL was not available at 12/05/03 cutoff date. Waterbody "Threatened" for ALUS and fisheries due to siltation. 4B may be appropriate when the TMDL is implemented. Cat. 5 correct for 2004 IR.
Jim Creek MT76K003-010	River / 3.8 miles	5	4B	Part of Swan Lake TMDL, due in 2003. See comment above. All species of trout have had drastic drop in population and Bull trout redd numbers have decreased. FNF questions if this linked to management given the historic trends within basin. Inconsistent application of guidelines: Threatened vs. Partially supporting??	Final Information from Swan TMDL was not available at 12/05/03 cutoff date. Waterbody "Partial support" for ALUS and fisheries due to siltation. DW not assessed. Decline in populations indicate that waterbody is beyond "threatened" and is presently "partially" impaired. 4B may be appropriate when the TMDL is implemented. Cat. 5 correct for 2004 IR.

Segment Name Waterbody #	Water Type/ Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
Goat Creek MT76K003-031	River / 9.0 miles	5	4B	Part of Swan TMDL, due in 2003. Over-due as part of Swan Lake TMDL. There are many years of data, summarized in Flathead Basin Commission Biannual Reports. Most data collected and analyzed by Yellow Bay Biological Station and paid for by USFS or Friends of the Wild Swan. There was also an in-depth study conducted by Plum Creek. Inconsistent application of guidelines: Threatened vs. Partially supporting??	Final Information from Swan TMDL was not available at 12/05/03 cutoff date. Waterbody "Partial support" for ALUS and fisheries due to nutrients and Suspended Solids. DW not assessed. Assessment record indicates minor impairment so "partially" supporting is appropriate. 4B may be appropriate when the TMDL is implemented. Cat. 5 correct for 2004 IR.
Goat Creek MT766K003-032	River / 0.8 miles	5	4B	Part of Swan Lake TMDL, due in 2003. See comment above. Inconsistent application of guidelines: Threatened vs. Partially supporting??	Final Information from Swan TMDL was not available at 12/05/03 cutoff date. Waterbody "Partial support" for ALUS and fisheries due to habitat alterations and siltation. DW not assessed. Assessment record indicates moderate impairment near the mouth from habitat alterations. "Partially" supporting is appropriate. 4B may be appropriate when the TMDL is implemented. Cat. 5 correct for 2004 IR.
Elk Creek MT76K003-040	River / 4.0 miles	4C	4B	Bio-station has collects years of data, as has FWP. Overdue as part of the Swan Lake TMDL. There are many years of data, summarized in the Flathead Basin Commission Biannual Reports. Most data collected and analyzed by Yellow Bay Biological Station and paid for by USFS or Friends of the Wild Swan. There was also an in-depth study conducted by Plum Creek. Years of redd count data by FWP, investigations by Yellow Bay. Previously sampled extensively by R1-R4 surveys by USFS. Inconsistent application of guidelines: Threatened vs. Partially supporting??	4C waters are impaired or threatened waters due to pollution. Pollution under Cat. 4C must be addressed in a watershed management or restoration plan, which can be developed and implemented by any type of organization. Cat. 4B is similar but adds the element of jurisdictional authority and oversight of the "other pollution control measures" used to restore impaired beneficial uses. DEQ and USFS are working together to understand the implications of listing segments under category 4B. 4C is correct until this is resolved.

Segment Name Waterbody #	Water Type/ Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
Lion Creek MT76K003-050	River / 14.6 miles	2	4B	Are the uses not assessed appropriate for this stream? There are many years of data, summarized in the Flathead Basin Commission Biannual Reports. Most data collected and analyzed by Yellow Bay Biological Station and paid for by USFS or Friends of the Wild Swan. There was also an in-depth study conducted by Plum Creek. Inconsistent application of guidelines: Threatened vs. Partially supporting?? Fully supporting all uses except drinking water	Yes, waters in the B-1 class must support the beneficial use of DW supply. There is a lot of chemistry data (temp., flow, pH sediment, etc.) but is extremely limited in heavy metals, which DEQ uses to assess DW beneficial use vs. human health criteria in state WQ standards. 4B is for impaired waters and this water could go to Cat. 1 fully supporting when chemistry data is either forwarded to DEQ or DEQ reassesses it. Cat. 2 is appropriate for now.
Piper Creek MT76K003-062	River / 3.7 miles	5	4B	Part of Swan TMDL, due in 2003. See comment above. Overdue as part of the Swan TMDL. Abundant information collected by Land and Water Consulting as preliminary to TMDL.	Final Information from Swan TMDL was not available at 12/05/03 cutoff date. Waterbody "Partial support" for ALUS and fisheries due to other habitat alterations and siltation. Assessment Record Sheet indicates minor impairment due to forest harvest in riparian area. "Partially" supporting is appropriate. Cat. 4B may be appropriate once TMDL is approved. Cat. 5 correct for 2004 IR.
Squeezer Creek MT76K003-070	River / 9.0 miles	2	4B	Are the uses not assessed appropriate for this stream? Inconsistent application of guidelines: fully supporting all uses except drinking water.	Yes, waters in the B-1 class must support the beneficial use of DW supply. No heavy metals data to assess DW beneficial use. 4B is for impaired waters and this water could go to Cat. 1 fully supporting when chemistry data either is forwarded to DEQ or DEQ reassesses it. Cat. 2 is appropriate for now.

*Added to the 2002 list. (**DEQ note**: These waters were included in the Assessment Database in 2002, but were not added to the 303(d) list.)

Stillwater Watershed: 17010210

Segment Name Waterbody #	Water Type/ Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
Logan Creek MT76P001-030	River / 19.2 miles	2	1	Most current data not used in assessment.	DEQ received information for Logan Creek from USFS by deadline for submittal of data for this report. As a result, the assessment was completed 03/19/04 by DEQ staff. Final 2004 IR includes this new assessment. Partial support of ALUS and CW fisheries determined. DW not assessed, due to age of metals chemistry data and changes that have occurred since samples were taken. Cat. 5 for 2004 IR.
Hand Creek MT76P001-060	River / 5.3 miles	3	4B	Most current data not used in assessment.	1994 little wolf fire rendered much of the historical data unusable. Insufficient data to assess any use. Cat. 4B is for waters impaired by anthropogenic impacts. Forest fires are natural, salvage timber harvest are not. Cat. 4B may be appropriate but an assessment must be completed to determine this. Cat. 3 correct for 2004 IR.
Swift Creek MT76P003-010	River / 16.5 miles	5	4B	Swift Creek Coalition currently developing TMDL report and gathering current data.	Note: Whitefish River is MT76P003_010. Swift Creek is MT76P003_020. DEQ/USFS working to determine proper use of category 4B. Remains in Cat. 5 for 2004 IR.
Haskill Creek MT76P003-070	River / 8.0 miles	3		Watershed group currently developing TMDL report and gathering current data.	Cat. 3 correct
Haskill Creek MT76P003-071	River / 2.5 miles	3		Watershed group currently developing TMDL report and gathering current data.	Cat. 3 correct
Whitefish Lake* MT76P004-010	Freshwater Lake / 3349.9 ac	5		YBBS recently completed WQ report submitted to Whitefish Water and Sewer District December 9, 2003.	Cat. 5 correct

*Added to the 2002 list. (**DEQ note**: These waters were included in the Assessment Database in 2002, but were not added to the 303(d) list.)

Flathead watershed: 17010208

Segment Name Waterbody #	Water Type/ Size Units	Current WQ Category	Suggested WQ Category	Comments	DEQ Categorization Response
Ashley Creek MT76O002-010	River / 14.8 miles	3		FBC through the Volunteer Nutrient Reduction Program has collected data.	Cat. 3 correct
Ashley Creek MT76O002-020	River / 13.4 miles	4C		Ashley Creek Watershed Group, developed with FBC has current data.	Cat. 4C correct
Ashley Creek MT76O002-030	River / 11.8 miles	2		Ashley Creek Watershed Group, developed with FBC has current data.	Cat. 2 correct
Fish Creek MT76O002-050	River / 2.4 miles	5	4B	USFS will implement forestry and road BMPs as funding becomes available.	DEQ/USFS determining proper use of category 4B. Remains in Cat. 5 for 2004 IR.
Flathead Lake MT76O003-010	Freshwater Lake 126007 ac	5		TMDL report completed 2001.	Nitrogen and Phosphorus TMDLs completed. Until all required TMDLs are completed it must remain in Cat. 5.

Additional DEQ Response: Comment # 15

- Flathead Lake TMDL submitted in 2001 has not been updated at this time due to time constraints.
- Swan Lake TMDL has been updated at this time but due to cut-off date (December 5, 2003) for 303(d) list preparation, the updates were not included on the 2004 list.
- Threatened vs. Partially supporting is concluded by the assessor when information is showing causes of impairment it is "Partial" support, when there is a declining trend shown and there is reason to believe the waterbody may be impaired in the near future it is "Threatened".
- Information was submitted for Logan Creek by the September 2003 deadline and was incorporated into the Beneficial Use Determination. Subsequent meeting with the Forest Service provided us with the final EIS so Logan Creek will be incorporated into the Final 2004 Integrated Report.
- Flathead Headwaters Planning Area has not been updated at this time. EPA is the lead on this TMDL. EPA requested that DEQ not upgrade the Assessment Record Sheets until all the information collected by EPA has been provided to DEQ. Expected time is 2004.
- The technical review was completed on 10% of all waterbody file updates for all four major basins in MT. The list of files that underwent technical review is included in the section "Public Comments related to: Assessment methodology, State WQ Standards, and Montana Law."
- North Fork Flathead River (MT76Q001_010) and Middle Fork Flathead River (MT76I001_010) were updated in November 14, 2003, and November 18, 2003, respectively. These updates will appear on the 2004 Final Integrated Report.
- Trail Creek (MT76Q002_010), Cyclone Creek (MT76Q002_090), Ole Creek (MT76I002_030), Emery Creek (MT76J003_030), Margaret Creek (MT76J003_040), and Tiger Creek (MT76J003_070) were assessed as fully supporting all uses except for industry and agriculture on the Draft 2004 Integrated Report. This is incorrect. In researching the subject, the only information found in these waterbody files is an October, 1989 Non-point source assessment. There is no water chemistry or biology collected on

these waterbodies so we don't have sufficient credible data. These creeks were not listed on any 303(d) list and have never had an Assessment Record Sheet completed. All uses should be listed as not assessed. There are no impairments documented so there should not be any probable causes or sources listed.

- Red Meadow Creek (MT76Q002_020), Whale Creek (MT76Q002_030), South Fork Coal Creek (MT76Q002_040), Upper Coal Creek (MT76Q002_070), Coal Creek (MT76Q002_080), Granite Creek (MT76I002_010), Skyland Creek (MT76I002_020), Challenge Creek (MT76I002_040), and Sullivan Creek (MT76J003_010) have not been updated at this time. EPA is the lead on this TMDL. EPA requested that DEQ not upgrade the Assessment Record Sheets until all the information collected by EPA has been provided to DEQ.
- Challenge Creek (MT76I002_040) was listed as supporting all beneficial uses except drinking water because there was sufficient credible data for these uses, including water chemistry. The drinking water beneficial use was not assessed because the water chemistry data did not include enough metals parameters to support assessing that use. Granite Creek (MT76I002_010) was listed as only assessed for aquatic life and cold-water fisheries beneficial uses due to a lack of chemical data. There is thorough habitat and biological data resulting in a sufficient credible data score of 6, which is enough to evaluate the aquatic life and cold-water fisheries uses. Because of the lack of any water chemistry data the industry, agriculture, and primary contact (recreation) uses could not be assessed. These will all be covered in the Flathead Headwaters TMDL and will be updated to reflect that document when submitted to DEQ.
- South Fork Flathead River (MT76J001_010) – The US Bureau of Reclamation, not the BLM, manages the Hungry Horse Dam and DEQ is actively working with the BOR regarding the operation of the dam.
- Hungry Horse Creek (MT76J003_060) is supporting of all beneficial uses except for drinking water because there isn't a sufficient data set of metals to determine if it is fully supporting. Reassessment is scheduled for summer 2004. Margaret, Tiger, and Emery flow that flow parallel have no chemistry and should be listed as not assessed for all uses (see other comments).
- Hungry Horse Reservoir (MT76J002_010) Assessment Record Sheet is scheduled for updating in May of 2004.
- Hand Creek was not assessed because there was not enough information supplied to complete sufficient credible data.
- Flathead Stillwater TMDL is still in preliminary phase and those associated Assessment Record Sheets will be updated when the data is collected, and the information is provided to us.

Comment Number: 21
Waterbody Addressed: Bitterroot NF Streams-Document used for Assessment?

DEQ Response: Included in Table provided by commenter

Stream	Number	Comments	DEQ Response
Buck Creek	MT76H003-070	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Deer Creek	MT76H003-030	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Ditch Creek	MT76H003-060	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.

Stream	Number	Comments	DEQ Response
EF Bitterroot	MT76H002-010	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Gilbert Creek	MT76H002-080	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Hughes Creek	MT76H003-040	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Laird Creek	MT76H002-070	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Martin Creek	MT76H002-050	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Meadow Creek	MT76H002-030	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Moose Creek	MT76H002-040	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Nez Perce Fork	MT76H003-020	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Overwhich Creek	MT76H003-050	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Reimel Creek	MT76H002-020	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
WF Bitterroot	MT76H003-010	Included in the Headwaters TMDL, Draft for Public Review to be released in March 2004.	See Response following this table from DEQ monitor.
Bear Creek-wild bndry to mouth	MT76H004-030	**Change Reach: Forest Service Boundary to Mouth** – Flow alterations are occurring below the forest boundary. The uppermost ditch is approx. 1.5 mi. below the forest boundary (1958 water resource survey for Ravalli County). Above the forest boundary, the basin is road less.	The convention used by DEQ for splitting segments does not provide for adjustments based solely on ownership or impairment status. Upper section provides an important "internal" reference condition for this relatively short waterbody.
Blodgett Creek-wild bndry to mouth	MT76H004-050	**Change Reach: Forest Service Boundary to Mouth** – Flow alterations are occurring below the forest boundary. The uppermost ditch is Approx. 0.5 mi. below the forest boundary (1958 water resource survey for Ravalli County). Above the forest boundary, the basin is primarily road less.	The convention used by DEQ for splitting segments does not provide for adjustments based solely on ownership or impairment status. Upper section provides an important "internal" reference condition for this relatively short waterbody.

Stream	Number	Comments	DEQ Response
Kootenai Creek-wild bndry to mouth	MT76H004-020	**Change Reach: Forest Service Boundary to Mouth -** Flow alterations are occurring below the forest boundary. The uppermost ditch is below the forest boundary (1958 water resource survey for Ravalli County). There are approx 2 mi. of stream between the forest boundary and the wilderness boundary that flows through a steep rocky canyon. The stream fully supports all uses. There is an abandoned USGS gauge just downstream from the forest boundary. Habitat alteration not noted above the forest boundary during a 2003 stream survey by the forest service (data and protocols available). Kootenai Creek is a B3 with a bank full width 26.9. Sediment <2mm and <6 where found to be less than 5%. Above the forest boundary the basin is primarily road less.	The convention used by DEQ for splitting segments does not provide for adjustments based solely on ownership or impairment status. Upper section provides an important "internal" reference point for this relatively short waterbody.
Lost Horse	MT76H004-070	**Change Reach: RM 5.5 (Bitterroot irrigation ditch diversion) to mouth –** Flow alterations occurring at the Bitterroot irrigation supply ditch at approx. RM 5.5 (Sec. 16, T4N, R21W [1958 Water Resources survey for Ravalli County]). This stream is listed as partially supporting swimming. Probable causes are flow alteration due to agriculture. There is some minor flow alteration in the headwaters due to the small dam on twin lakes, however, this dam increases flow in the late summer months, which would increase swimming potential. However, we question the determination that this stream is partially impaired for swimming when the DEQ apparently feels that it fully supports cold-water aquatic life. (Also refer to the report: Non-point nutrient and sediment assessment projection in a portion of the Bitterroot River drainage. A preliminary study of the selected tributaries to the Bitterroot River in Ravalli County, MT). **We request that the determination that the stream is partially impaired for swimming be removed, at least on national forest lands.**	Currently, Appendix A, Table 12 provides the following guidance for moderately impaired "Water body is partially dewatered and discourages recreation." In contrast, Table 9 - ALUS and fisheries support decision table does not specifically consider dewatering as an independent data category. DEQ is reviewing this inconsistency in its assessment methodology tables. Also, DEQ is considering the best use of water "quantity" information from other agencies. Note: Chronic dewatering noted in the FWP dewatered streams list but the DEQ Assessment Record for the segment indicates ful support for ALUS and fisheries based on habitat and biological data.
Mill Creek-wild bndry to mouth	MT76H004-040	Flow alterations, the 4 uppermost ditches are on FS system lands (1958 Water Resources survey for Ravalli County). Habitat Alterations not noted above the forest boundary, RM 6.0 (Trailhead) during a 2003 stream survey by the forest service (data and protocols available). Mill Creek is a B3 with Bfw 13.8. Sediment <2 mm and <6mm were found to be less than 2% above the forest boundary (trailhead). The basin is road less.	This Cat. 5 water requires a TMDL for thermal modifications (pollutant). DEQ requests a copy of the recent 2003 stream survey data and protocols. This may be very useful information for DEQ to consider when preparing the TMDL.
Roaring Lion	MT76H004-060	Assessment needed. Recommended reach; RM 4.5 to mouth. Roaring Lion Creek (FS system land) was surveyed by the Forest Service in 2003. The creek is a B2, Bfw 22.4, with <2mm and <6mm sediment levels less than 6%. Uppermost diversion is at the forest boundary.	Scheduled for monitoring in 2004 field season.

Stream	Number	Comments	DEQ Response
Skalkaho Creek	Mt76H004-100	**Change reach: RM 15 to mouth** Flow alteration, the uppermost ditch is located on private land, sec.28, approx. RM 15 (1958 Water Resources survey for Ravalli County).	Cat. 5 due to Mercury detection of 0.1 ug/l in 1980, which will prompt a TMDL. DEQ monitoring in 2004 to confirm Mercury & Flow issues.
Sleeping Child Creek	MT76H004-090	**Change Reach: RM 9.0 to mouth** Flow alteration, the uppermost ditch is located on private land below the forest service boundary. The central section of this stream flows through a road less area.	Cat. 5 due to Nutrients, Siltation, and Thermal Modifications, which require a TMDL. Flow alteration not listed as probable cause but likely adds to issue of Thermal Modifications.
Threemile Creek	MT76H004-140	Flow alteration, the uppermost ditch is located on private land below the forest service boundary (1958 Water Resources survey for Ravalli County). This stream is included in the Ambrose-Threemile Watershed Project (Tri-State WQ Council).	This segment is from Headwaters to Quigley Ranch Res. Cat. 2, full support for recreation, no other uses assessed.
Tin Cup-wild bndry to mouth	MT76H004-080	This stream is listed as partially supporting swimming. Probable causes are flow alteration due agriculture. There is some flow alteration in the headwaters due to the Tin Cup dam, which is upstream from the wilderness boundary. This dam increases flows in the late summer months, which would increase swimming potential use. There are about 2.5 miles of stream between the forest boundary and the wilderness boundary that flows through a steep rocky canyon with cliffs. All diversions of Tin Cup water occur downstream from the forest boundary. We question the determination that this stream is partially impaired for swimming between the forest boundary and the wilderness boundary when the DEQ apparently feels that if fully supports cold water aquatic life, also refer to the report: Non-point nutrient and sediment assessment projection in a portion of the Bitterroot River drainage. A preliminary study of the selected tributaries to the Bitterroot River in Ravalli County, MT). **We request that the determination that the stream is partially impaired for swimming be removed, at least on national forest lands.**	DEQ is considering the best use of water "quantity" information from other agencies. Also, DEQ is monitoring this segment in 2004 to get assessment data for the other beneficial uses.
Sweathouse Creek	MT76H004-210	**Change Reach: RM 5.0 to mouth** Flow alteration, the uppermost ditch is located on National Forest near the forest boundary, approx. RM 5 (1958 Water Resources survey for Ravalli County). The basin above the forest boundary is not roaded.	TMDL required for phosphorus. The convention used by DEQ for splitting segments does not provide for adjustments based solely on ownership or impairment status. Upper section provides an important "internal" reference condition for this relatively short waterbody.

Additional DEQ Response: Comment # 21

- Non-Point Nutrient and Sediment Assessment Project in a Portion of the Bitterroot River Drainage. A Preliminary Study of Selected Tributaries to the Bitterroot River in Ravalli

County, Montana. Has been added to the DEQ library and is currently being used in the relevant Assessment Record Sheet updates.

- The waterbodies included in the Bitterroot Headwaters TMDL are in the process of being updated with most current information. They are scheduled for completion by May 2004.

Comment Number: 25
Waterbody Addressed: Cameron, Guide, Camp and W. Fork Camp Creeks SCD Available

Comment: While we have not had time to cross-reference the lists for all the 2004 categories in order to track the disposition of each individual Bitterroot stream listed on the 1996 303d list, the following are examples of problems at various scales:

Reimel Creek has been disappeared off the 1996 303d list only to show up on Category 3 list "Insufficient data to assess any use". Reimel Creek is listed as 'sensitive' ("possibly at or near watershed thresholds") in the Bitterroot National Forest Sensitive Watershed Analysis (Decker, 1991). That report specifically notes the availability of field data.

The fact that we are asked to comment on this Integrated Report while the concurrent draft Upper Bitterroot TMDL Plan has not yet been released makes it difficult to track the status of certain upper Bitterroot streams. It would be good to have that draft Plan in hand before commenting on the Integrated Report.

We believe there is sufficient credible data to support listing Cameron, Guide, Camp and West Fork Camp Creek on the Category 5 (303d) list. These streams are in the Upper Bitterroot and should have been included in the Upper Bitterroot TMDL Plan.

Camp Creek, in particular, deserves quick attention because it has been impacted in the past several years by highway construction, ski area expansion and a failed Montana Department of Transportation 'wetland mitigation' project that is resulting in downcutting of the stream channel, bank erosion and wetland draining.

Cameron Creek, Guide Creek and West Fork Camp Creek are listed as 'High Risk' in the Bitterroot national Forest Sensitive Watershed Analysis (Deckre, 1991). High Risk means there is a "distinct possibility that these watersheds are well over watershed thresholds". This analysis was well grounded in credible data.

DEQ Response: Comment # 25

No information was provided with the comment. The Decker, 1991 report is in the DEQ Reference Library, but on its own, is insufficient to meet requirements of sufficient credible data to complete a beneficial use assessment for waterbodies mentioned.

Regarding the exclusion of the reference waterbodies from the Bitterroot Headwaters TMDL planning effort, DEQ has been directed by court order to establish all necessary TMDLs for waterbodies listed on the state's 1996 303(d) list by 2007. To satisfy this order the department needs to focus its available resources on those waters identified on the 1996 and the most recently approved subsequent list (i.e. 2002 303(d) list). DEQ acknowledges that other waters likely exist that do not fully support all beneficial uses, both in the Bitterroot watershed and others statewide, and will seek to make use support determinations on these waters, as well, as staff time and

resources allow. The streams mentioned above will be added to the list a waters that are of interest or concern to the citizens of Montana (see also the table near the end of this comment section).

Public Comments related to: Assessment methodology, State WQ Standards, and Montana Law

A number of public comments were received that expressed views or opinions regarding DEQ and EPA policies or guidance, Montana law, Montana's assessment methodology, and state water quality standards issues. Similar to the 2002 303(d) listing, several comments addressed the same or similar subjects. Where this occurred, the response from DEQ addresses the subject rather than individual comments.

Subject: Valid justification for Montana using Integrated Report format. Comparability of 305(b) Report and 303(d) List to 2004 Integrated Report Format. Comments: 9, 22

DEQ Response: The Integrated Report Format was included in the 2002 reporting cycle guidance documents from EPA. Montana used the 305(b) Report - 303(d) List format for the 2002 reporting cycle and made the move to the Integrated Report format for the 2004 reporting cycle according to, "Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(B) of the Clean Water Act, July 21, 2003, USEPA."

The 2004 Integrated Report is the 305(b) report to congress. What was previously the 303(d) list (a subset of the 305(b) report), are now either:

- Category 4A waters (impaired, all TMDLs completed).
- Category 4B waters (impaired, State must demonstrate that "other pollution control requirements are required by local, State or Federal authority that are expected to address all water-pollutant combinations and attain all WQSs in a reasonable period of time),
- Category 4C waters (impaired by pollution only, TMDL not applicable), or
- Category 5 water (impaired by pollutant, TMDL required).

In addition, waters removed from the 1996 303(d) list requiring additional data to meet the SCD requirement in Montana law and were previously included as Appendix F in previous 303(d) lists are now listed in Category 3. Appendix B of the 2004 IR provides the original 2000 303(d) list Reassessment List (Table 3-E "Waters to be Monitored and Reassessed") in its entirety with the "Assessed Year" noted. This affords interested parties the opportunity to track waters that were "removed" from the 2000 303(d) list due to the lack of sufficient credible data.

Subject: Poor public accessibility of Draft 2004 Integrated Report through NRIS site. Comments: 7,9,14,19,22, and 23

DEQ Response: DEQ feels that publishing the Draft 2004 Integrated Report through a website operated by the Montana State Library allows greater public access to water quality information rather than limiting or restricting it. Computers with Internet connection are commonplace even in rural communities through schools, libraries, and private ownership. The majority of the public are interested in a subset of the information contained in the Integrated Report, most commonly, the previously named "303(d)" list or a portion thereof. The website allows users to look at those waterbodies specifically, without DEQ printing out a hardcopy of all information for all interested parties.

For the 2000 reporting cycle, 100 copies of the 303(d) list were prepared for an expected influx of requests for the document, which never materialized. Publishing the document on-line eliminates this waste.

Some website users noted that not all Assessment Record Sheets were available for download through the EnviroNet database site. DEQ reviewed the waterbodies that were noted as not having Assessment Record Sheets available and found that all were available. There were several comments that the Environet site was not accessible because the server was not available. This primarily occurred in the first week for public comment and was addressed quickly by the staff at NRIS upon notification.

Subject: Issues surrounding the use of category 4C for identifying Water Quality Limited Segments (WQLS) impaired by "pollution". Distinction between "Pollution" and "Pollutants" where temperature is the impairment. Flow and dewatering related comments. Comments: 9, 10, 16

Background from DEQ: EPA 2004 Guidance Document, Part E (6), *Which waters belong in Category 4C?"* EPA gave the following instruction:

> Waters should be listed in this subcategory when an impairment is not caused by a pollutant. States should schedule these segments for monitoring to confirm that there continues to be no pollutant-caused impairment and to support water quality management actions necessary to address the cause(s) of the impairment.
>
> Pollution, as defined by the CWA, is "the man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of water" (Section 502(19)). In some cases, the pollution is caused by the presence of a pollutant and a TMDL is required. In other cases, pollution does not result from a pollutant and a TMDL is not required. Elevated temperatures that result from *man-made thermal discharges* (emphasis added) does require a temperature TMDL based on the protection or propagation of a balanced indigenous population of shellfish, fish and wildlife.
>
> …Actions that modify the landscape and may result in the introduction of sediment into a water constitute pollution when sediment (which is a pollutant) results in an alteration of the chemical, physical, biological or radiological integrity of the water. TMDLs would have to be established for each of these waters.
>
> EPA does not believe flow, or lack of flow, is a pollutant as defined by CWA Section 502(6). Low flow can be a man-induced condition of surface water (i.e., a reduced volume of water), fitting the definition of pollution. Lack of flow sometimes leads to the increase of the concentration of a pollutant (e.g., sediment) in surface water. In the situation where a pollutant is present a TMDL, which may consider variations in flow, is required for that pollutant.

Comment #16 describes how the lack of flow becomes its own source of a pollutant (temperature) where these reduced flows result in diminished assimilative capacity.

DEQ Response: This statement may ultimately prove to be true for some flow impaired waters. Many of the segments listed for flow alterations or dewatering have limited temperature data to also make a temperature impairment determination. Listing dewatered segments in category 4C

allows for any pollutant issues arising from pollution impairments to be defined when they are monitored as suggested in the first paragraph of the guidance shown above.

Comment #10 stated, "Our comments focus on an issue that was brought to our attention last week – that any stream listed in DEQ's 2002 reports as impaired solely by dewatering has been dropped from the 2004 report".

DEQ Response: This is not true. No streams were "dropped" from the 2002303(d) list for the 2004 Integrated Report. DEQ decided not to make a mass addition of at least 232 *additional* streams into category 4C of the 2004 Integrated Report using a dewatered streams list from another agency under the "overwhelming evidence" of the state's EPA approved assessment methodology (Appendix A of 2004 Integrated Report).

DEQ used the dewatered streams list under the weight-of-evidence and independent evidence approaches of the state's EPA approved assessment methodology. In doing this, DEQ met all of the requirements of; 40 CFR Part 130.7, *readily available data*; MCA 75-5-702(2) *sufficient credible data to modify support modifications of the list*; and the Quality system policies of the USEPA Office of Water and DEQ Quality Management Plan. "Mass listing" under "overwhelming evidence" would have been in conflict with DEQ's assessment methodology and the quality system policies of EPA & DEQ.

In the EPA Office of Water's Quality Management Plan (QMP) and further reflected in the DEQ's draft QMP, the following statements regarding data quality are made:

- ✓ The quality of any environmental data or information used by the Bureau must be assessed (known) and documented, regardless of source. Managers and decision makers are responsible for ensuring that data quality is considered in the decision-making process.

- ✓ All environmental decisions made by the Bureau must be evaluated relative to the quality of the underlying data and information. Where the quality of the data or information cannot be controlled by the user (e.g., data from sources outside the Bureau) or does not meet the objectives set during the planning phase, the decision will be adjusted accordingly. Evaluations and adjustments will be documented.

The comment above resulted from a misunderstanding between DEQ and the state agency that produces the dewatered streams list of the terminology within the assessment methodology. It was incorrectly assumed that DEQ's decision not to use the dewatered streams list under the "overwhelming evidence" approach to mass list also meant that waters previously listed (under "weight-of-evidence" or "independent" evidence approaches), would be taken off the list. This did not occur.

The dewatered streams list is based on field observations by staff biologists of the other agency and includes categories of chronic dewatering and periodic dewatering to describe the waterbody condition. To use the overwhelming evidence approach, the reliability of the information must be evaluated as noted in the quality policies of the EPA and DEQ. The first step in evaluating certainty is determining whether the information was collected using a reproducible method (this could be as simple as a checklist for field observations). DEQ is interested in establishing greater certainty for this dewatered streams list for use in the next reporting cycle by working cooperatively with this state agency to develop a checklist to document the field observations of their staff biologists. Documentation of field observations will greatly improve the dewatered streams list's water quality assessment value.

Subject: Failure to assemble and evaluate all readily available data. De-listing or not including waterbodies on the 303(d) list due to lack of sufficient credible data.
Comments: 10, 15, 16, 22, 23

Background from DEQ - In May of 2003, DEQ sent out over 600 letters to stakeholders (local watershed groups, federal, state, and local agencies, private groups, and individuals with water quality interests) requesting any water quality-related information they might have which could be used to update assessments and, subsequently the listing categories.

Comment # 16 gives a detailed background on the types of "readily available data" that must be considered by the Clean Water Act and makes the claim that these requirements are not being met by DEQ due to the requirement in Montana Code for sufficient credible data to be used for listing. Also, the commenter states that the requirement for sufficient credible data is restrictive and exclusionary rather than expansive and inclusive of the types of information that must be considered under the CWA.

DEQ Response: DEQ does not exclude information within the determination of sufficient credible data and if anything, includes more *types* of information within its data assessment tool than it was originally designed to accommodate.

The SCD evaluation tool scores, using an ordinal scale, the overall assessment value of the various types of data that comprise "readily available data." This information varies from DEQ's own monitoring data to data from other agencies, excerpts of Lewis and Clark's journals, conversations with landowners, large sets of chemistry data from USGS, GIS maps and models from environmental organizations, EA's, EIS's and chemical monitoring reports submitted by industries. The process of determining SCD looks at this collection of data and evaluates if the (whole) contents provide the technical components, spatial coverage, QA/QC, and data currency requirements necessary to make a beneficial use support determination with a high degree of certainty that any resulting impairment/non-impairment determination will be correct.

Achieving a known level of data that allows for a reasonable certainty in making beneficial use determinations is discussed in EPA's 305(b) guidance document[1] that the sufficient credible data process was designed around. Within this 305(b) Guidance document, Section 3.2, Aquatic Life Use Support (ALUS) notes under the subsection*, Level of Information:*

> In 1994, the 305(b) Consistency Workgroup concluded that descriptive information characterizing the level of information, or rigor, in the method is needed to more fully define an assessment of use support. Documenting this information is important because users often need to know the basis of the underlying information. The workgroup recommends that *assessment quality information become a part of State assessment databases*. (Emphasis added) Consequently, the Workgroup has developed guidance for evaluating the level of information of methods used in making ALUS.
>
> Data types are grouped into four categories: biological (Table 3-1), habitat (Table 3-2), toxicological (Table 3-3)[2] and physical/chemical (Table 3-4). A hierarchy of methods

[1] Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(B) Reports) and Electronic Updates: Supplement September 1997, USEPA.
[2] Montana did not use the toxicological table that assesses the level of quality associated with Whole Effluent Toxicity (WET) type testing. WET testing was prohibitively expensive for the targeted sampling design used

corresponding to each data type and ordered by level of information is summarized in the tables. The rigor of a method within each data type is dictated by its technical components, spatial/temporal coverage, and data quality (precision and sensitivity). In the data type tables, Level 4 data are of highest quality for a data type and provide relatively high certainty. Level 1 data represent less rigorous approaches and thus provides a level of information with greater degree of uncertainty. However, in situations where severe conditions exist, a lower level of assessment quality will be adequate. For example, a severely degraded site can be characterized as impaired with a high level of confidence based on a cursory survey of biota or habitat, as in the case of repeated fish kills or severe sedimentation from mining. Data in Levels 1 through 4 vary in strengths and limitations, and along with site-specific conditions, *should be evaluated carefully for use in assessments*. Data not adequate for ALUS determinations should be excluded from the assessment.

There are obvious pieces of information that are cannot be used to make determinations. DEQ added the component of data currency to its data assessment tables to allow assessors to eliminate data that is not relevant to the current water quality status. For example, data from a pre-ecosystem altering activity (e.g., new subdivision or, conversely, post-mining remediation) may severely restrict its use for assessing present conditions. Regardless, old data is not removed altogether from the Assessment Record file. It may become very useful in determining changes that have (or should have) occurred for certain waterbodies over time.

Comments #16 & 23 brought up the issue of the delisting that occurred in 2000.

Comment #16 specifically quoted EPA's National Clarifying Guidance for 1998 Listing Decisions extensively in their commentary included the two instances for de-listing prior to TMDL development.

1. if such waterbody is meeting all applicable water quality standards (including numeric and narrative criteria and designated uses) or is expected to meet these standards in a reasonable timeframe as a result of implementation of required pollutant controls; or
2. if, upon re-examination, the original basis for listing is determined to be inaccurate.

DEQ Response to #16: The TMDL requirement for waters de-listed in 2000 is the subject of litigation in American Wildlands vs. EPA and will not be addressed here.

DEQ Response to #23: DEQ is not presently in the business of de-listing or, as noted previously, mass listing. The waters that were de-listed in 2000 are in the process of being reassessed with completion expected prior to the next listing cycle. Reassessment waters completed between the 2002 and 2004 reporting cycles confirmed impairment in just under half of the segments. The remainder, (more than half) indicated full support of all beneficial uses. The SCD requirement in Montana Code was added to increase the certainty that impairment calls are accurate, thereby focusing resources to those waters with scientifically documented threats and impairments rather than waters fully supporting all beneficial uses. The current schedule of waters to be monitored and/or assessed between 2004 and 2006 is provided in Appendix C of this report.

Subject: State Water Quality Standards; Reference Condition, Threatened waterbody considerations. Comments: 16, 19, 22

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by DEQ and few external data sources had WET testing data readily available. Montana's versions of these tables are Tables 1-8 of Appendix A for this 2004 Integrated Report.

Comment 22 indicated that "reference condition" should be pre-settlement conditions as a goal rather than a "waterbody's greatest potential for water quality given historic land use activities."

Comment 19 notes that a(n), "…apparent lack of baseline data demonstrates the notion that the perception of 'Natural Conditions' as being 'Pristine Conditions' is not realistic." Comment references accounts from Lewis & Clark's journals regarding the dysentery and sickness that the men of the voyage of discovery came down with from drinking surface waters by dipping their cups into the river. Further accounts from "Journal of a Trapper" by Osborne Russell describing the conditions of the habitat at the confluence of the Yellowstone and Clark's Fork near what is presently Laurel, "*The bottoms along these rivers are heavily timbered with Sweet Cottonwood and our horses and mules are very fond of the bark which we strip from the limbs and give them every night as the Buffaloe have entirely destroyed the grass throughout this part of the country." And, "The bottoms along the Powder River were crowded with buffaloe insomuch that it was difficult keeping them from among the horses who fed upon Sweet Cottonwood bark as the buffaloe had consumed everything in the shape of grass along the river*."

DEQ Response: The removal of buffalo and beaver are an anthropogenic impact on natural conditions.

The concept of comparing a waterbody's condition to a reference condition is implicit in Montana's water quality standards (ARM17.30.620 – 657) and explicit in MT DEQ guidance documents like Appendix A of the Integrated Report. Reference sites and data have been used for many years, however the MT DEQ has used the term "reference" rather loosely and it has become clear that without an exacting definition its meaning is often different to different people.

The MT DEQ had recognized this problem and is currently developing a "Narrative Standards Guidance Document". This document will provide the definitions of terms such as reference, minimally impacted, severely impaired, etc. It will also describe the type of physical and biological conditions one would expect to see at each of those levels, and will provide an approach to selecting the appropriate reference for the waterbody against which comparisons are being made.

As part of the development of the Narrative Standards Guidance Document the definition of reference cited in Appendix A of the Integrated Report is being modified. "Reference" will probably be defined in the new guidance document as natural, or essentially the same as natural (pre-settlement). This definition is in accordance with a nationally recommended approach by EPA. However, the document will also detail approaches for situations when there exists no comparable waterbody that fits the definition of reference. The MT DEQ hopes to have an internal draft of this document ready by early 2005.

Comment 16 provided an extensive comment related to the definition of "Threatened Waterbody" in Montana Code (MCA 75-5-103). The commentor's main point is that the State's definition of "threatened waterbody" does not comply with [40 CFR referenced] EPA regulations, severely restricting the streams that can be considered as threatened. This limits both the 305(b) list and, therefore, the 303(d) list. Also, the commenter maintains that Montana's restrictive definition of "threatened waterbody" violates the Montana Constitution.

DEQ Response: DEQ is required to use the current legally recognized definition of "threatened waterbody" when making beneficial use determinations. "Threatened" is not often used in the preliminary characterization of waterbodies for the Integrated Report because the resource

limitations of the WQ Planning Bureau, coupled with the sheer size of Montana have lead to the use of a targeted sampling design using the summer season as the index period.

With only one or two site visits, determining trends is very difficult. Data from external sources often supplies the only data with sufficient temporal coverage to establish a trend. These external methods have limited information to assess the quality (bias, precision & accuracy) and purpose for collecting the data. A GIS Map or model produced by a conservation organization may make a great case for conservation value (and therefore is a valuable tool for DEQ to use when considering a monitoring design), yet does not provide the ambient water quality measurements needed to assess a waterbody's current beneficial use support.

Subject: Monitoring - What waters assessed between 2002 and 2004? Requests for additions to monitoring schedule; What Changes occurred from 2002 to 2004?
Comments: 6, 9, 16, 17, 23, and 25

DEQ Response: One hundred eleven (111) waters were assessed between the 2002 listing cycle and the draft 2004 Integrated Report. Four (4) other segments were assessed as a result of information from these public comments bringing the total to one hundred and fifteen (115). The results of these assessments are reflected in the Tables 1 and 2 for this overview (Pages 7 & 8, respectively) and in Appendix E of this 2004 Integrated Water Quality Report.

Several comments included requests for monitoring of specific waterbodies. The DEQ is undertaking an enormous data collection effort to monitor and/or assess the remaining 350+ waters on the reassessment schedule by the 2006 reporting cycle. To accomplish this, two field crews from EPA Region VII in Denver will assist five field crews from DEQ. There is very little room for additional monitoring within the planned monitoring activities in the next two years due to a court ruling in 2000 that requires TMDLs to be completed for the 1996 303(d) list by 2007.

Some of the best indicators of water quality impairment (or non-impairment, as the case may be) come from these public and agency comments. Further, where there is interest, there is a higher probability that an organization will work cooperatively with the DEQ to implement water quality restoration activities to address any problems that may be identified. DEQ acknowledges the following waterbodies of special concern to the people of Montana and will attempt to include them in monitoring schedule, as staffing resources are available.

Major Basin	Watershed	Segment	Current Status	Comment
Columbia	Bitterroot	Tolan Creek	Not in ADB	
Columbia	Bitterroot	Cameron Creek	Not in ADB	
Columbia	Bitterroot	Guide Creek	Not in ADB	
Columbia	Bitterroot	Camp Creek	Not in ADB	
Columbia	Bitterroot	W.F. Camp Creek	Not in ADB	
Columbia	Flint-rock	Cinnamon Bear Creek	Not in ADB	
Columbia	Flint-rock	Hogback Creek	Not in ADB	
Columbia	Lower Clark Fork	McKay Creek	Not in ADB	
Columbia	Lower Clark Fork	Rock Creek	Cat. 4C	MT76N003_190
Columbia	Middle Clark Fork	Deerlick Creek	Not in ADB	
Columbia	Middle Clark Fork	Harrision Creek	Not in ADB	

Major Basin	Watershed	Segment	Current Status	Comment
Columbia	Middle Clark Fork	Lincoln Creek	Not in ADB	
Columbia	Middle Clark Fork	Lodgepole Creek	Not in ADB	
Columbia	Middle Clark Fork	Long Creek	Not in ADB	
Columbia	Middle Clark Fork	Wallace Creek	Not in ADB	
Missouri	Beaverhead	Frying Pan Creek	Not in ADB	
Missouri	Big Hole	Bryant Creek	Not in ADB	
Missouri	Big Hole	French Creek	Cat. 5	MT41D003_050
Missouri	Big Hole	Nez Perce Creek	Not in ADB	
Missouri	Big Hole	Rock Creek	Cat. 5	MT41D004_120
Missouri	Big Hole	Seymour creek	Cat. 1	MT41D003_140
Missouri	Big Hole	Stanley Creek	Not in ADB	
Missouri	Big Hole	Swamp Creek	Cat. 4C	MT41D004_110
Missouri	Big Hole	Willow Creek	Not in ADB	
Missouri	Boulder	Brady Creek	Not in ADB	
Missouri	Gallatin	Cascade Creek	Not in ADB	
Missouri	Gallatin	Daly Creek	Not in ADB	
Missouri	Gallatin	Deer Creek	Not in ADB	
Missouri	Gallatin	Porcupine Creek	Cat. 2	MT41H005_070
Missouri	Madison	Beartrap Creek	Not in ADB	
Missouri	Madison	Sheep Creek	Not in ADB	
Missouri	Madison	Trail Creek	Not in ADB	
Missouri	Red Rock	Big Beaver Creek	Not in ADB	
Missouri	Red Rock	Mud Creek	Not in ADB	
Missouri	Red Rock	Sage Creek	Not in ADB	
Missouri	Red Rock	Trail Creek	Not in ADB	
Missouri	Ruby	Divide Creek	Not in ADB	
Missouri	Ruby	Sage Creek	Not in ADB	
Missouri	Ruby	Swamp Creek	Not in ADB	
Missouri	Smith	Rock Creek	Not in ADB	
Missouri	Smith	Tenderfoot Creek	Not in ADB	
Missouri	Upper Mo.	Avalanche Creek	Cat. 4C	MT41I002_010
Missouri	Upper Mo.	Little Muddy Creek	Not in ADB	
Missouri	Upper Mo.	Wolf Creek	Not in ADB	
Yellowstone	Clark Fork Ystone	Jack Creek	Not in ADB	
Yellowstone	Lower Bighorn	Grapevine Creek	Not in ADB	
Yellowstone	Lower Bighorn	Two Leggins Creek	Not in ADB	
Yellowstone	Pryor	Indian Creek	Not in ADB	
Yellowstone	Upper Ystone	Buffalo Creek	Not in ADB	

Major Basin	Watershed	Segment	Current Status	Comment
Yellowstone	Upper Ystone	Duck Creek	Cat. 3	MT43F002_010
Yellowstone	Upper Ystone	Mission Creek	Not in ADB	

Subject: Quality Assurance (QA) & Technical Review. Comment #14

DEQ Response: Assessments used for the 2004 Integrated Report were reviewed for documentation (100%) and Technical Merit (10%). The WQPB QA Officer performed reviews for completeness prior to acceptance for entry into the Assessment Database (ADB) for all assessments. Technical Reviews were performed (randomly) on 10% of the assessments by a senior member of the staff to determine if the assessment procedure was being applied accurately and consistently. At the request of the commenter, the list of waterbodies that underwent technical review is provided below.

TPA	HUC	Waterbody Segment ID	Waterbody Segment	Technical Review
Flint-Rock	17010202	MT76E003_012	FLINT CREEK from Boulder Cr to mouth (Clark Fork)	11/10/03
Stillwater	17010210	MT76P003_030	*LOGAN CREEK, from the headwaters to the mouth	03/17/04
Big Hole	10020004	MT41D001_020	BIG HOLE RIVER between Divide Cr and Pintlar Cr	11/10/03
Madison	10020007	MT41F004_030	BEAVER CREEK from headwaters to the mouth (Quake Lake)	11/10/03
Bullwhacker-Dog	10040101	MT41T002_020	DOG CREEK from Cutbank Cr to the mouth (Missouri R)	10/22/03
Judith	10040103	MT41S004_030	BEAVER CREEK from headwaters to the mouth (Cottonwood Cr)	11/03/03
Up. Yellowstone	10070002	MT43B004_071	MILL CREEK, National Forest boundary to mouth (Yellowstone R)	10/22/03
Pryor	10070008	MT43E001_010	PRYOR CREEK, Crow Indian Res. Boundary to the mouth (Yellowstone R)	10/22/03
O'Fallon	10100005	MT42L001_032	O'FALLON CREEK from Mildred to the Fallon/Carter Co. line	11/04/03

*Logan Creek was assessed as a result of public and agency comment.

In addition to being used for immediate feedback and corrective actions during the assessment period, the information collected from the technical reviews will be used for continuing process improvement and assessment training for the 2006 listing cycle.

Summary of Changes resulting from public and agency comments

There are four (4) waterbody segments in the 2004 Final Report that had assessments performed following publication of the draft for public comment. The public comments that resulted in these assessments being performed came from agencies that had submitted water quality data prior to the September 1, 2003 cut off date for submittal of "readily available data". These are:

Logan Creek (MT76P001_030) – Logan Creek was determined to be impaired for Aquatic Life use support and Cold Water Fisheries due to the probable causes of "Flow Alterations", "Other Habitat Alterations", and "Siltation." Logan Creek is listed as a *Category 5* water (impaired, TMDL needed).

Middle Fork of Flathead River (MT76I001_010) was determined to be fully supporting all beneficial uses. Water is listed as *Category 1*.

North Fork of Flathead River (MT76Q001_010) was determined to be fully supporting all beneficial uses. Water is listed as *Category 1*.

North Creek (MT76H005_080) the basis for the previous impairment determination (other habitat alterations, siltation) was data related to other streams within the basin. Recent data directly attributable to North Creek included a habitat assessment. Based on this information; North Creek was determined to be "reference" for the watershed in the Upper Lolo TMDL. However, North Creek has no chemistry data and only a single assemblage of biology (fish populations) therefore lacking sufficient credible data to perform a complete beneficial use support assessment. DEQ placed North Creek in *Category 3* for the final 2004 Integrated Report and included it in the waters to be reassessed in the 2004 field season.

During the public open house and in the public comments received herein, 11 waters were identified as incorrectly categorized (Category 2 or 3), described, or located. These were:

Tiger Creek - (MT76J003_070) was listed as Category 2 with agriculture and industry listed as fully supporting but no other uses assessed. This was incorrect. No beneficial use support assessment has been performed for this waterbody by DEQ. Waterbody corrected to *Category 3*.

Margaret Creek – (MT76J003_040) was listed as Category 2 with agriculture and industry listed as fully supporting but no other uses assessed. This was incorrect. No beneficial use support assessment has been performed for this waterbody by DEQ. Waterbody corrected to *Category 3*.

Emery Creek - (MT76J003_030) was listed as Category 2 with agriculture and industry listed as fully supporting but no other uses assessed. This was incorrect. No beneficial use support assessment has been performed for this waterbody by DEQ. Waterbody corrected to *Category 3*.

Trail Creek – (MT76Q002_010) was listed as Category 2 with agriculture and industry listed as fully supporting but no other uses assessed. This was incorrect. No beneficial use support assessment has been performed for this waterbody by DEQ. Waterbody corrected to *Category 3*.

Cyclone Creek – (MT76Q002_090) was listed as Category 2 with agriculture and industry listed as fully supporting but no other uses assessed. This was incorrect. No beneficial use support assessment has been performed for this waterbody by DEQ. Waterbody corrected to *Category 3*.

Porcupine Creek – (MT41H005_070) was listed in Category 3, insufficient data to assess any use. This is incorrect. All uses except Agriculture and Industry are assessed and show full support. Segment corrected to *Category 2*.

Bair Reservoir – (MT40A005_040) shown as a 270-acre waterbody. A review of the National Hydrography Dataset (NHD) shows the waterbody is 228 acres. Area corrected.

Pasture Creek – (MT40P002_030) shown in McCone County. Waterbody is in Dawson County. County corrected.

Hungry Horse Creek – (MT76J003_060) described as headwaters to the mouth at Hungry Horse Reservoir. Upon review, the segment does not include the portion in the wilderness, which is a class A-1 water according to state standards. Segment description for the class B-1portion water redefined as "Wilderness Boundary to mouth at Hungry Horse Reservoir".

Granite Creek(s) – (MT41I006_230 & MT41I006_179) There are two Granite Creeks in the Seven Mile Creek drainage. This has caused confusion for other agencies assisting DEQ with the reassessment of the Granite Creek that was on the 1996 303 (d) list for impairment due to metals (Arsenic and Cadmium).

- Granite Creek (MT41I006_179), from the headwaters to the mouth at Austin Creek, Tributary to Greenhorn, which flows into Seven Mile Creek, is fully supporting all beneficial uses. A *Category 1* water.
- Granite Creek (MT41I006_230), from headwaters to the mouth at Seven Mile Creek, is not supporting the beneficial use of drinking water supply and is included in *Category 5*.

In the 2002 303(d) list only one Granite Creek was listed in this drainage, MT41I006_170. The data that resulted in the 1996 303(d) listing for metals came from the Granite Creek that flows into Seven Mile Creek. However, the waterbody was mapped (latitude and longitude) incorrectly and other data included in the Assessment Record Sheet that was from the Granite Creek further up the drainage. DEQ decided that these segments needed to be distinguished from each other and the previous Segment ID retired to prevent any additional confusion.

Correction of Lake acres impaired by Salinity/TDS/sulfates - In the Water Quality Atlas section of the 2004 draft Integrated Report, Table 5: Draft Integrated Report Causes of Impairment indicated that five lakes with a total of 48,722 acres are impaired for Salinity/TDS/sulfates. This is incorrect. There are five lakes with a total of 4,872 acres. This error was a transcription error entered when the table was made. Acreage corrected for 2004 Final Integrated Report. This error was not reflected in the total lake acres impaired.

EPA Approval Review

DEQ submitted the Final 2004 Integrated Report to EPA on May 5, 2004. EPA performed a detailed technical review on a subset of the 115 water quality assessments completed by DEQ. The subset reviewed included ten water quality assessment records that were completed from the Appendix F (reassessment) list along with several randomly selected assessments that were newly

assessed waters. These reviews targeted streams with changes from a previous listing (primarily 1996 listings) and focused on how the probable cause "sediment" was handled by DEQ.

EPA recommended that DEQ review the comments resulting from their review and address six specific segments prior to approval of the 2004 Integrated Report. These were:

- Warm Springs Creek (MT41C003_050)
- Little Missouri River (MT39F001_021)
- Eagle Creek (MT41T002_030)
- Dog Creek (MT41T002-020)
- Fishtrap Creek (MT76N005_010)
- Mol Heron Creek (MT43B004_120)

DEQ Response:

Warm Springs Creek (MT41C003_050) – In the Final 2004 IR submitted to EPA for approval, Warm Springs Creek was listed as a *Category 4C* water with the causes of impairment of Riparian Degradation and Bank Erosion. In 1996, Flow Alteration, Other Habitat Alteration, and Siltation were listed as probable causes of impairment for this waterbody.

"Riparian Degradation" and "Bank Erosion" replace "Flow Alterations" as probable causes of impairment from the 1996 impairment record[3]. DEQ also reviewed the results from a recent sediment model which estimated that 14.7% of the sediment loading for Warm Springs Creek was due to man-caused activities. Based on the evidence from the model, *siltation* was once again listed as a probable cause of impairment in the assessment record changing the impairment category from 4C to 5.

- Warm Springs Creek is listed in this Final Integrated Report as a *Category 5* water (impaired, TMDL needed).

Little Missouri River (MT39F001_021) – The Little Missouri River was incorrectly listed in the Final 2004 IR submitted to EPA for approval as a *Category 1* water. The assessment records for this water, dating back to 2000, indicate that the recreational beneficial use has *not* had sufficient credible data to assess the use.

In addition, the assessment records for 2000, 2002, and the 2004 draft Integrated Report do not account for the Little Missouri River being split into two assessment units (MT39F001_021 and MT39F001_022) following a revision to Montana's segment number convention in 1996. Upon review of the data *specific* to the segment "Little Missouri River (MT39F001_021)" it does not constitute sufficient credible data.

- Little Missouri River (MT39F001_021) is listed in this Final Integrated Report as *Category 3* (insufficient information to assess any use)

Eagle Creek (MT41T002_030) – In the Final 2004 IR submitted to EPA for approval, Eagle Creek was listed as a *Category 4C* water due to impairment of the aquatic life and warm water fisheries beneficial uses from "Riparian Degradation" and "Cause Unknown." In 1996, Eagle

[3] DEQ's assessment record for Warm Springs Creek (MT41C003_050) will not have "Other Habitat Alterations" listed but the ADB will. "Other Habitat Alterations" comes along for the ride, so to speak, because it is an impairment cause group heading for "Riparian Degradation" in ADB version 1.14. This also occurs when probable sources are selected, (e.g., the source "Logging Road Construction/Maintenance" brings along the major source header "Silviculture").

creek was listed as impaired (aquatic life and fisheries) by flow alterations and siltation. It was assessed by DEQ during the 2002 and 2003 field seasons, no evidence of human caused flow alterations were found. Biological indicators (macroinvertebrates and periphyton) indicated least or non-impairment in the stream. Chemistry indicated no impairments based on nutrients, common ions, EC, TDS, and TSS data. The upper sampling site is considered at its potential and the TSS data, turbidity (visual observation), and sediment deposition (visual observations) did not change throughout the stream. A series of photographs taken over the length of the stream document that the riparian zone is in good shape with a few exceptions, where overgrazing is evident. Habitat Assessments (average score of 74%) suggest a system moderately impaired or at risk. Throughout the stream there are no indications of siltation based in the riparian assessment and channel morphology. No pebble count data is available since this system is a typical prairie stream dominated by pools. The basis for the original (1996) listing was in error based on more recent data that was determined to be sufficient and credible using the state's Water Quality Assessment method. This data was assessed using the weight of evidence approach (two show no impairment, one shows moderate impairment).

- Eagle Creek (MT41T002_030) is listed in this Final Integrated Report as *Category 1* (all beneficial uses fully supported).

Dog Creek (MT41T002_020) – In the Final 2004 IR submitted to EPA for approval, Dog Creek was listed as a *Category 4C* water due to impairment of the aquatic life and warm water fisheries beneficial uses from "Riparian Degradation." In 1996, the stream was listed as impaired (aquatic life and warm water fisheries) by "other inorganics" and "TDS/Salinity/Chlorides." The 1996 listing was primarily based on a 1975 DEQ report, Water Quality Inventory & Management Plan: Middle Missouri River Basin. Since 1996, Dog creek has been monitored by several state and federal agencies (including four times by DEQ). Current data indicate that the specific conductance data is relatively low when compared to other prairie streams originating from K-sed rocks. Dry land cropping occurs in the basin but is not a likely source since the fields are located far away from the stream. Comparisons between the historical values and recent data indicate little change over the span of 30 years further indicating a steady, natural source of this pollutant. K-sed rock formations are likely a large natural contributor of TDS and Chlorides. Macroinvertebrate data indicate moderate impairment due to organic pollution with a sub-optimal habitat. Periphyton results from 2003 indicate severe impairment from sedimentation resulting in a "non-support" determination for the aquatic life use (either independent or overwhelming evidence tests). Depressed diatom diversity and a large number of pollutant tolerate algae indicated moderate impairment for organic matter and nutrients. Chemistry data indicated high NO3+NO2 for a prairie stream. Filamentous algae coverage did not exceed the recommended criteria (30%), possibly due to the limitation on light penetration. Habitat assessments based on PFC (57-79%) indicated functioning at risk; DEQ assessments (51-89%) indicated the stream was at risk as well, with a trend in recovery indicated in field notes.

- Dog Creek (MT41T002_020) is listed in this Final Integrated Report as *Category 5* (impaired, TMDL needed for siltation and nutrients)

Fishtrap Creek (MT76N005_010) – In the Final 2004 IR submitted to EPA for approval, Fishtrap Creek was listed as a *Category 4C* water with the aquatic life and fisheries beneficial use impaired by "Other Habitat Alterations". In 1996, this waterbody was listed as impaired by "Flow Alterations", "Siltation", "Thermal Modifications", "Other Habitat Alterations", and "Suspended Solids." There are two factors that make this a difficult assessment. First, the information used to make the impairment determination in 1996 is spotty making it difficult to determine the original basis for the listing, and particularly, the impairment causes. Second, the current data set limited even though it meets "sufficient credible data" using DEQ's assessment method. The current data does include some limited temperature data, which does not indicate a problem. There was no

information indicating what the 1996 "Flow Alteration" call was based upon. Although limited, current information does not indicate an issue with flow alterations. "Sedimentation" and "Suspended Solids" do not appear to be impacting fish to the extent that an impairment call should be made. However, the potential for a siltation or sedimentation problem is a possibility based on information proving that "Other Habitat Alterations" exist and impair the aquatic life and fisheries beneficial uses. To be protective, "Other Habitat Alterations" and "Siltation" will remain as probable causes of impairment. Information from a 2004 DEQ sampling event will be available for a reassessment of Fishtrap Creek in September 2004.

- Fishtrap Creek (MT76N005_010) is listed in this Final Integrated Report as *Category 5* (impaired, TMDL needed for siltation)

Mol Heron Creek (MT43B004_120) - In the Final 2004 IR submitted to EPA for approval, Mol Herron Creek was listed as a *Category 4C* water with the aquatic life and fisheries beneficial uses impaired by "Flow Alterations" and "Other Habitat Alterations". In 1996, this waterbody was listed as "Fully Supporting – Threatened" for the cold water fisheries beneficial use from "other habitat alterations" and "suspended solids". The threatened listing was not based on a documented adverse trend in water quality; instead it was based on anecdotal information and reports received from local residents who objected to land development activities in the watershed. In fact, the reports were not verified or supported by monitoring data taken in 1985 and 1986. The 1986 report showed that suspended sediment and sediment discharge quantities in Mol Heron Creek were actually ranked near the bottom of the list for eight Upper Yellowstone waterbodies measured both during runoff and summertime. In the years following, the land development activities in the watershed near Mol Heron Creek ceased. Thus, the perceived threat to Mol Heron Creek no longer exists and probably should not have been used as the basis for a threatened listing in the first place.

The assessment from 2002 included a non-priority organics listing based on data documenting a diesel spill. Follow-up sampling of biology (macroinvertebrates, periphyton) and chemistry indicated no impairment to aquatic life. The chemistry data indicated that the spill dissipated relatively quickly.

The current assessment record includes photos of flow alterations from irrigation withdrawals.

- Mol Heron Creek (MT43B004_120) remains in this Final Integrated Report as *Category 4C* (impaired, Flow Alterations addressed by watershed restoration plan)

Other issues noted by EPA

Prospect Creek (MT76N003_020) – TDS/Salinity/Sulfates is an errant listing. This impairment cause has never been listed in any assessment record but appeared in the ADB in 2000, 2002, and the 2004 submittal. Remove this errant listing.

Other issues noted by DEQ

Verify use classifications listed in ADB for select streams in Lower Missouri - B-1 streams and lakes that should be B-3:

- Bullhook Creek (MT40J002_020)
- Beaver Creek (MT40M001_011 and MT40M001_012)
- Flat Creek (MT40M002_010)
- Nelson Reservoir (MT40M003_020)

EPA approved TMDLs listed since publishing of draft Integrated Report.

There were 11 additional waterbody segments listed in Category 4A, for which all required TMDLs have been completed and approved by the EPA, since publication of the draft Integrated Report. These TMDLs were all subject to public review and comment prior to their approval by EPA. These waterbodies have also been added to the list of EPA-Approved TMDLs in Appendix H.

Previous Category	New Category	WB Segment ID	Segment Name	TMDL Planning Area
5	4A	MT40O002_070	Lone Tree Cr.	Lower Milk River Tribs
5	4A	MT41O001_010	Teton River	Teton River Mainstem
5	4A	MT41O001_020	Teton River	Teton River Mainstem
5	4A	MT41O001_030	Teton River	Teton River Mainstem
5	4A	MT41O002_010	Willow Creek	Teton River Tributaries
5	4A	MT41O002_020	Deep Creek	Teton River Tributaries
5	4A	MT41O002_060	Teton Spring Cr.	Teton River Tributaries
5	4A	MT41O002_070	Teton Spring Cr.	Teton River Tributaries
5	4A	MT41O004_020	Priest Butte Lake	Priest Butte Lake
5	4A	MT43B002_040	Miller Creek	Yellowstone Headwater Tribs
5	4A	MT76N003_060	Elk Cr.	Lower Clark Fork Tribs

Glossary of Terms

303(d) List – A compilation of impaired and threatened waterbodies in need of water quality restoration, which is prepared by DEQ and submitted to EPA for approval. This list is commonly referred to as the "303(d) List" because it is prepared in accordance with the requirements of section 303(d) of the federal Clean Water Act of 1972. **Note:** In response to new guidance from EPA the 303(d) List and the 305(b) Report have been combined into a single document – the Integrate Water Quality Report.

305(b) Report – A general overview report of state water quality conditions, which DEQ prepares and submits to EPA in accordance with the requirements of section 305(b) of the federal Clean Water Act of 1972. **Note:** In response to new guidance from EPA the 303(d) List and the 305(b) Report have been combined into a single document – the Integrate Water Quality Report.

Anthropogenic impacts – Human caused changes leading to reductions in water quality.

Assessment – A complete review of waterbody conditions using chemical, physical, or biological monitoring data alone or in combination with narrative information, that supports a finding as to whether a waterbody is achieving compliance with applicable water quality standards.

Basins – For water quality planning purposes, Montana is divided into four hydrologic basins or regions: the **Columbia Basin** (west slope waters draining to the Columbia River), the **Upper Missouri Basin** (all Missouri River drainages above the Marias River confluence), the **Lower Missouri Basin** (Missouri River drainages including and downstream of the Marias River, and a segment of the Saskatchewan drainage in Glacier National Park), and the **Yellowstone Basin** (waters draining into the Yellowstone and the Little Missouri rivers).

Beneficial uses – The uses that a waterbody is capable of supporting when all applicable water quality standards are met. What standards apply to a particular waterbody depend on its classification under the Montana Water-Use Classification System.

Beneficial use determination -- A finding, based on sufficient credible data, that a state water is – or is not – achieving compliance with the water quality standards for its applicable beneficial uses.

Best Management Practices (BMPs) – Those activities, prohibitions, maintenance procedures, or other management practices used to protect and improve water quality. BMPs may or may not be sufficient to achieve water quality standards and protect beneficial uses.

Biological data – Chlorophyll *a* data, aquatic biology community information (including fish, macroinvertebrates, and algae), and wildlife community characteristics.

Chemistry and toxicity data – Includes bioassay, temperature and total suspended sediment data and information relating to such factors as toxicants, nutrients, and dissolved oxygen.

Communities – Organisms of a biologically related group (i.e. fish, wildlife, macroinvertebrates or algae).

Data categories – Chemistry/physical, habitat, and biological data packages used for assessing the availability of sufficient credible data for making aquatic life and fisheries beneficial use-support determinations.

Data quality objectives – Quality control elements of a water quality monitoring plan, intended to ensure that the data obtained will be sufficient to fulfill the purpose for which it is being collected.

Degradation – A change in water quality that lowers the quality of high quality waters for a parameter. The term does not include those changes in water quality determined to be nonsignificant pursuant to 75-5-301(5)(c). [75-5-103(5) MCA]

Full support – A beneficial use determination, based on sufficient credible data, that a waterbody is achieving all the water quality standards for the use in question.

Habitat data – See physical and habitat data.

Hydrogeomorphology – The science relating to the geographical, geological, and hydrological aspects of waterbodies, and to changes to these aspects in response to flow variations and to natural and human-caused events, such a heavy rainfall or channel straightening.

Hydrologic units (HUCs) – A standardized mapping system devised by the US Geologic Survey for the hydrology of the United States. The system employees four basic levels of designation or mapping: regions, subregions, accounting units, and cataloging units. Each level is assigned a two-digit code so that a cataloging unit has an eight-digit unique identifier, or code. In Montana, there are 100 "8-digit" or "4th code" HUCs.

Impaired waterbody – A waterbody or stream segment for which sufficient credible data shows that the waterbody or stream segment is failing to achieve compliance with applicable water quality standards (nonsupport or partial support of beneficial uses). [75-5-103(11) MCA]

Independent evidence – An approach used to make aquatic life use-support determinations when a limited array of chemistry/physical, habitat or biological data provide clear evidence that is sufficient to make a beneficial use-support determination.

Integrated Water Quality Report (or Integrated Report) – A report providing an overview of the status of state water quality monitoring and planning programs. It combines in one document the information previously submitted to the EPA in separate 303(d) List and 305(b) Report documents.

Macroinvertebrates – Animals without backbones that are visible to the human eye (insects, worms, clams, and snails).

Montana Water-Use Classification System – Montana State regulations [ARM 17.30.606 - 614] assigning state surface waters to one of nine use classes. The class to which a waterbody is assigned defines the beneficial uses that it should support.

Naturally occurring – Water conditions or material present from runoff or percolation over which humans have no control or from developed land where all reasonable land, soil, and water conservation practices have been applied. [75-5-306(2) MCA]

Nonpoint source – Source of pollution, which originates from diffuse runoff, seepage, drainage, or infiltration. [ARM 17.30.602(18)] Nonpoint source pollution is generally managed through best management practices or a water quality restoration plan.

Nonsupport – A beneficial use determination, based on sufficient credible data, that a waterbody is not achieving all the water quality standards for the use in question, and the degree of water quality impairment is relatively severe.

Overwhelming evidence – Information or data from only one data category that, by itself, constitutes sufficient credible data for making an aquatic life use-support determination.

Parameter – A physical, biological, or chemical property of state water when a value of that property affects the quality of the state water. [75-5-103(22) MCA]

Partial support – A beneficial use determination, based on sufficient credible data, that a waterbody is not achieving all the water quality standards for the use in question, but the degree of impairment is not severe.

Pathogens – Bacteria or other disease causing agents that may be contained in water.

Physical and habitat data – Narrative and photo documentation of habitat conditions, habitat surveys and function rankings, direct measurements of riparian or aquatic vegetation communities, and other measures of hydrogeomorphic characteristics and function.

Point source – A discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, or vessel or other floating craft, from which pollutants are or may be discharged. [75-5-103(24) MCA]

Pollution – Defined by Montana law [75-5-103(25) MCA] as:

1. Contamination or other alteration of the physical, chemical, or biological properties of state waters that exceed that permitted by Montana water quality standards, including but not limited to standards relating to changes in temperature, taste, color, turbidity or odor; or,
2. The discharge, seepage, drainage, infiltration, or flow of liquid, gaseous, solid, radioactive, or other substance into state water that will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, or welfare, to livestock, or to wild animals, bird, fish or other wildlife, or
3. Discharge, seepage, drainage, infiltration, or flow that is authorized under the pollution discharge permit rules of the board is not pollution under this chapter. Activities conducted under the conditions imposed by the department in short-term authorizations pursuant to 75-5-308 MCA are not considered pollution under this chapter.

Prioritization – A ranking of impaired waterbodies conducted by DEQ in consultation with the statewide advisory group using established criteria to rank waterbodies as high, moderate, or low priority for preparing water quality restoration plans (specifically TMDL plans).

Reasonable land, soils, and water conservation practices – Methods, measures, or practices that protect present and reasonably anticipated beneficial uses. These practices include but are not limited to structural and nonstructural controls and operation and maintenance procedures. Appropriate practices may be applied before, during, or after pollution producing activities. [ARM 17.30.602(21)]

Reference Condition – The condition of a waterbody capable of supporting its present and future beneficial uses when all reasonable land, soil, and water conservation practices have been applied. Reference conditions include natural variations in biological communities, water chemistry, soils, hydrology, and other natural physiochemical variations.

Region – See Basin.

Riparian area – Plant communities contiguous to and affected by surface and subsurface hydrologic features of natural waterbodies. Riparian areas are usually transitional between streams and upland.

Segment – A defined portion of a waterbody.

State water – A body of water, irrigation system, or drainage system, either surface or underground (excludes water treatment lagoons or irrigation waters, which do not return to state waters).

Sub-major basin – The aggregation of several watersheds or HUCs into a larger drainage system. The US Geological Survey has defined 16 sub-major basins (subregion) in Montana with at least two in each of the Montana basins (regions).

Sufficient credible data – Chemical, physical, or biological monitoring data, alone or in combination with narrative information, that supports a finding as to whether a waterbody is achieving compliance with applicable water quality standards. [75-5-103(30) MCA]

Suspended solids – Materials such as silt that may be contained in water and do not dissolve.

Threatened waterbody – A waterbody for which sufficient credible data and calculated increases in loads show that the water body or stream segment is fully supporting its designated uses but threatened for a particular designated use because of:

(a) proposed sources that are not subject to pollution prevention or control actions required by a discharge permit, the nondegradation provisions, or reasonable land, soil, and water conservation practices; or

(b) documented adverse pollution trends. [75-5-103(31) MCA]

Total Maximum Daily Load (TMDL) – The sum of the individual waste load allocations for point sources and load allocations for both nonpoint sources and natural background sources established at a level necessary to achieve compliance with applicable water quality standards. [75-5-103(32) MCA] In practice, TMDLs are water quality restoration targets for both point and nonpoint sources that are contained in a water quality restoration plan or in a permit.

Toxicant – A toxic agent.

Waterbody – A lake, reservoir, river, stream, creek, pond, marsh, wetland, or other body of water above the ground surface.

Water Quality Assessment Categories – A system mandated by EPA guidance for classifying the water quality status based on the waters' assessment status. The five categories included in this system are:

Category 1: Waters for which all applicable beneficial uses have been assessed and all uses have been determined to be fully supported.

Category 2: Waters for which those beneficial uses that have been assessed are fully supported, but some applicable uses have not been assessed.

Category 3: Waters for which there is insufficient data to assess the use support of any applicable beneficial use, so no use support determinations have been made.

Category 4: Waters where one or more beneficial uses have been assessed as being impaired or threatened, however, either all necessary TMDLs have been completed or are not required:

Subcategory 4A: All TMDLs needed to rectify all identified threats or impairments have been completed and approved.

Subcategory 4B: Waterbodies are on lands where "*other pollution control requirements required by local, State, or Federal authority"* [see 40 CFR 130.7(b)(1)(iii)] are in place, are expected to address all waterbody-pollutant combinations, and attain all water quality standards in a reasonable period of time. These control requirements act "in lieu of" a TMDL, thus no actual TMDLs are required.

Subcategory 4C: Identified threats or impairments result from pollution categories such as dewatering or habitat modification and, thus, the calculation of a Total Maximum Daily Load (TMDL) is not required.

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

Water quality limited segment (WQLS) – A body of water that is not fully supporting its beneficial uses (an impaired waterbody). If there is no water quality restoration plan with an approved TMDL for a waterbody, it is listed on the 303 (d) List of impaired waters.

Water quality management plan - A plan to improve water quality to achieve state water quality standards. Such a plan may also be referred to as a "TMDL plan" if it addresses the eight criteria used by the EPA to approve TMDL plans.

Water quality standards – the standards adopted in ARM 17.30.601 *et seq*. and WQB-7 to conserve water by protecting, maintaining, and improving suitability and usability of water for public water supplies, wildlife, fish and aquatic life, agriculture, industry, contact recreation, and other beneficial uses.

Weight of evidence – An approach used to make aquatic life use-support determinations when there are high levels of information from all three data categories (chemistry/physical, habitat and biological), including two biological communities.

Acronyms & Abbreviations

ADB	Assessment Database
ALUS	Aquatic Life Use Support
ARM	Administrative Rules of Montana
BMP	Best Management Practice
BUD	Beneficial Use Determination
CW	Cold Water (fisheries)
CWA	Clean Water Act
DEQ	Montana Department of Environmental Quality
DFWP	Montana Department of Fish, Wildlife, and Parks
DQO	Data quality objectives
DW	Drinking Water
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency.
EQC	Montana Environmental Quality Council
FBC	Flathead Basin Commission
FNF	Flathead National Forest
HHS	Human Health Standard
HUC	Hydrologic Unit Code
IR	Integrated Report
MCA	Montana Code Annotated
MPDES	Montana Pollutant Discharge Elimination System
NHD	National Hydrography Dataset
NPS	Non-point source pollution
PS	Point source pollution
SCD	Sufficient Credible Data
TPA	TMDL Planning Area
TMDL	Total Maximum Daily Load
QA/QC	Quality Assurance / Quality Control
WQB-7	Circular WQB-7, Montana Water Quality Standards
WQPB	Water Quality Planning Bureau (DEQ)
WQS	Water Quality Standards
WW	Warm Water (fisheries)
YBBS	Yellow Bay Biological Station (Univ. of Montana)

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Montana Water Quality Atlas

Surface Waters of Montana

Montana is the fourth largest state in the Union with 145,552 square miles of land area. Its population of 902,195 (2000 census) produces a sparse population density of 6.2 persons per square mile. Populations, and population growth, are concentrated in the valleys of the western and southwestern portion of the state. Population increased by 12.9% during the 1990s.

Glaciated plains and northwestern Great Plains ecoregions characterize the eastern portion of the state. These give way to a mountain valley and foothill prairie region along the Rocky Mountain Front and the lower elevations of the Missouri and Yellowstone River headwaters. The western third of the state lies within the middle and northern Rocky Mountain ecoregions.

Montana contains headwater streams of the Clark Fork-Pend Oreille-Columbia, Missouri-Yellowstone-Mississippi, and St. Mary-Saskatchewan-Nelson watersheds. For administrative purposes the Montana Department of Environmental Quality (DEQ) has identified four administrative basins in the state:

- Columbia – all Montana's west-draining waters, including the Clark Fork, Flathead, and Kootenai Rivers.
- Upper Missouri – the Missouri River drainage downstream to the confluence with the Marias River.
- Lower Missouri – the remaining Missouri River drainage in the state, including the Marias, Musselshell and Milk rivers. The Montana headwaters of the St. Mary drainage are also included in this basin.
- Yellowstone – all waters of the Yellowstone River in Montana. Waters of the Little Missouri drainage in Montana are also included.

Efforts to improve the accuracy of the inventory of waters of the United States have been continuing for a number of years. The USGS and EPA, with assistance from other federal and state entities, produced first the River Reach File (RF3) and then, in the last few of years, the National Hydrography Dataset (NHD). The NHD is the source of the stream and lake size estimates used in this report. Because the primary data source used to develop the RF3 and NHD were USGS topographical maps that were produced over a period of decades, the coverage detail and accuracy varies across the state. The consistency and accuracy of the coverage for perennial streams and the larger lakes is excellent, but there is variability with respect to ephemeral and intermittent streams and the small ponds and wetlands. Fortunately, it is the perennial streams and the larger lakes and reservoirs that are the focus of water quality issues and management in the state. Montana's water quality assessment effort concentrates on these larger waterbodies unless specific factors, such as the presence of likely causes of pollution, draws attention to particular intermittent or ephemeral streams or to individual ponds or wetlands.

Table 1 displays size estimates for waters in the four administrative basins. The figures shown for streams, ditches, and canals include all linear waters in the NHD dataset. The size estimates for perennial streams, ditches and canals are relatively solid estimates, while those for intermittent and ephemeral streams are more tenuous. Review of the various dataset editions intended to list all lakes, reservoirs, ponds, and wetlands in the state revealed substantial variation in their waterbody number and total size estimates. For this reason, the size estimates for these waters displayed by the table are based on named waters having an area of at least 5 acres.

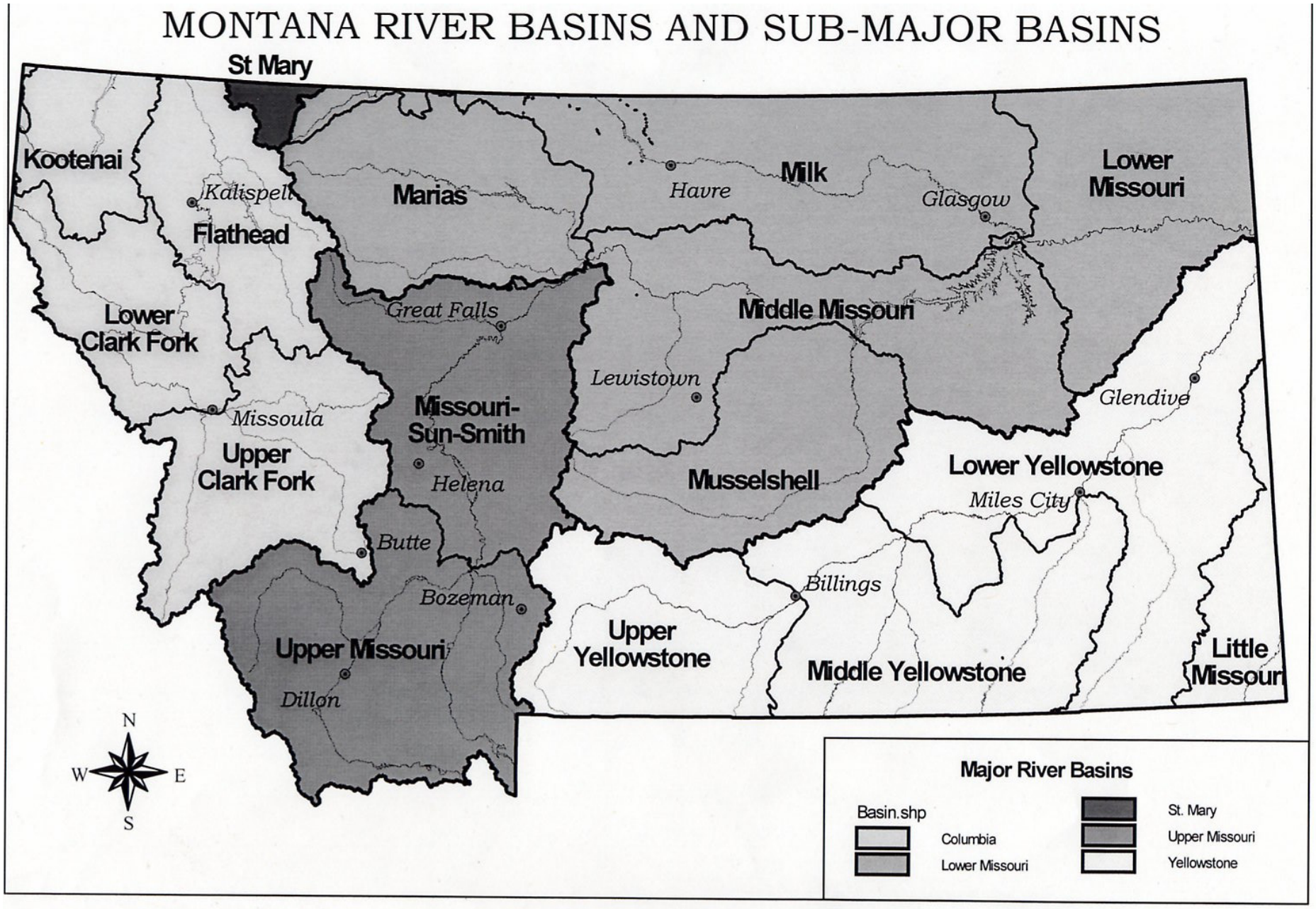
MONTANA RIVER BASINS AND SUB-MAJOR BASINS
St Mary
Kootenai
Kalispell
Flathead
Marias
Havre
Milk
Glasgow
Lower Missouri
Lower Clark Fork
Great Falls
Middle Missouri
Lewistown
Missoula
Missouri-Sun-Smith
Glendive
Upper Clark Fork
Helena
Musselshell
Lower Yellowstone
Miles City
Butte
Billings
Bozeman
Upper Yellowstone
Upper Missouri
Middle Yellowstone
Little Missouri
Dillon
N
W
E
S
Major River Basins
Basin.shp
Columbia
Lower Missouri
St. Mary
Upper Missouri
Yellowstone

Table 1: Montana Surface Waters				
RIVER BASINS	**Perennial Streams** (Miles)	**Intermittent & Ephemeral Streams** (Miles)	**Ditches & Canals** (Miles)	**Lakes, Reservoirs & Wetlands***** (Acres)
Columbia	16,997	12,522	1,002	223,986
Upper Missouri	14,603	17,858	2,504	101,613
Lower Missouri	8,872	47,713	1,637	344,163
Yellowstone	9,171	38,972	1,951	22,064
Montana Total	**49,643**	**117,065**	**7,094**	**691,826**

*** Named Waters at least 5 acres in area.

Size estimates derived from National Hydrography Dataset

The State of Montana's water quality management program does not have authority over all of the waters in Table 1. The US Environmental Protection Agency has assumed responsibility for developing TMDLs for all waters located entirely within Indian Reservations. In addition, waters that are within National Parks and Wilderness Areas are not subject to management activities that are known to deliver pollutants or create conditions that may lead to use support impairments. For that reason, subtracting those waters from the totals listed in Table 1 provides a clearer picture of the waters that the Montana water quality management program has as its primary focus (Table 2). However, with the sole exception of waters on Tribal lands, the Montana water quality management program takes a direct and vested interest in the quality of all waters in the state.

Table 2: State Waters Exclusive of Tribal lands, National Parks, and Wilderness Areas				
RIVER BASINS	**Perennial Streams** (Miles)	**Intermittent & Ephemeral Streams** (Miles)	**Ditches & Canals** (Miles)	**Lakes, Reservoirs & Wetlands***** (Acres)
Columbia	13,389	977	548	193,449
Upper Missouri	13,686	17,532	2,504	100,185
Lower Missouri	6,973	41,999	1,223	318,904
Yellowstone	6,778	35,342	1,812	26,928
Montana Total	**40,825**	**104,646**	**6,088**	**639,466**

*** Named Waters at least 5 acres in area.

Size estimates derived from National Hydrography Dataset

Water Quality Assessment Summary

Assessment Process

The water quality assessment of streams, lakes, and wetlands is an important step in a process intended to ensure that all waterbodies in the state will have water quality adequate to support all of their intended beneficial uses. The process has been developed and shaped by legal mandates, water quality standards, the tools and techniques of water quality monitoring, the availability of information, and the funds and administrative resources that can be devoted to assessment efforts. The process involves several components.

Beneficial-Use Classification

Montana waterbodies are classified according to the present and future beneficial uses that they normally would be capable of supporting. The state Water-Use Classification System (ARM 17.30.604-629) identifies the following beneficial uses:

- Drinking, culinary use, and food processing
- Aquatic life support for fishes and associated aquatic life, waterfowl, and furbearers
- Bathing, swimming, recreation and aesthetics
- Agriculture water supply
- Industrial water supply

The current use classification of each waterbody in Montana was assigned on the basis of its actual or anticipated uses initially in 1955. The system has had modifications over the ensuing years**.** Waterbodies are classified primarily by: 1) the level of protection that they require; 2) the type of fisheries that they support (warm water or cold water) or; 3) their natural ability to support use for drinking water, agriculture etc. Generally cold-water streams are expected to support all of the uses listed above, while many warm-waters located primarily on the eastern plains are naturally not suited for some drinking, agriculture, or industrial uses.

Water Quality Standards

Montana water quality standards include both use-specific components and general provisions. Standards may be either numerical or narrative. The use-specific standards vary depending on the water-use classification, whereas the general provisions apply to all state waters. Narrative standards provide a minimum level of protection to state water and may be used to limit the discharge of pollutants, or the concentration of pollutants in state waters not covered under numerical standards.

Numerical water quality standards relate to:

- Chronic and acute factors affecting aquatic life,
- Human health,
- Fecal coliform levels,
- Changes in pH, turbidity, color, and temperature.

Some standards can be specified in absolute, numerical terms, such as "acute aquatic life standards," or “chronic aquatic life standards” which limit the average concentration of a toxic over a period of time. Many others, however, are defined in terms of change from what would naturally exist, such as "*no increase above naturally occurring condition*" or "*Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 8.5 must be less than 0.5 pH units.*"

Narrative standards encompass two basic concepts:

- Activities which would result in nuisance aquatic life are prohibited,
- No increases are allowed above naturally occurring conditions of sediment, settleable solids, oils or floating solids, which are harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife.

Identification of Available Water Quality Data

In recent years DEQ's water quality monitoring data along with information from other selected sources have been incorporated into computerized water quality databases. These records and databases provide a basic foundation, which is updated as new monitoring data is collected by DEQ or obtained from others sources. Then, early in each two-year assessment cycle, DEQ sends out requests for information to several hundred individuals, organizations, and agencies involved in water quality monitoring and management. Responses to these requests provide much useful information as well as references to additional materials available from other sources. The data and information obtained from these outside sources are combined with the results obtained from DEQ's ongoing monitoring efforts to provide the basis for water quality assessments.

Sufficient Credible Data (SCD) Assessment

Montana law defines sufficient credible data (SCD) as "*chemical, physical, or biological monitoring data, alone or in combination with narrative information, that supports a finding as to whether a water body is achieving compliance with applicable water quality standards.*" This definition is consistent with a model developed by EPA for assessing the beneficial uses of streams on the basis of a combination of physical (habitat), biological, and chemical monitoring

Montana's sufficient credible data review processes focuses on four components that contribute to data validity and reliability for water quality assessment:

- Technical soundness of methodology
- Spatial/temporal coverage
- Data quality
- Data currency.

In most cases a finding that there is sufficient credible data will result when several types of data have been collected over a period of time using sound technical methods and there are no indications of recent changes that would invalidate previously obtained results.

Beneficial Use-support Determination (BUD)

Once it is ascertained that sufficient credible data are available for a waterbody, the assessment process moves to determine the level of beneficial use support. The degree of support for each beneficial use is rated using four categories:

- Full support
- Partial support
- Non-support
- Threatened

A use is fully supported when all water quality standards applicable to that use are met. When one or more standards are not met due to human activities, the water body is either "not supporting" or "partially supporting" the beneficial use tied to that standard. A use that is currently fully supported but for which observed trends or proposed new sources of pollution indicate a high probability of future impairment may be rated as "threatened." Because the standards for determining use support are different for each use, the

use-support determinations for the various uses of a waterbody are often not the same. Only those beneficial uses that apply to the particular water-use classification of a waterbody are evaluated for that waterbody.

Assessment Status Categorization

Once to beneficial use assessment of a waterbody is complete it is assigned to one of five assessment categories based on the assessment results. The five categories are:

Category 1: Waters for which all applicable beneficial uses have been assessed and all uses have been determined to be fully supported.

Category 2: Waters for which those beneficial uses that have been assessed are fully supported, but some applicable uses have not been assessed.

Category 3: Waters for which there is insufficient data to assess the use support of any applicable beneficial use, so no use support determinations have been made.

Category 4: Waters where one or more beneficial uses have been assessed as being impaired or threatened, however, either all necessary TMDLs have been completed or are not required:

> Subcategory 4A: All TMDLs needed to rectify all identified threats or impairments have been completed and approved.
>
> Subcategory 4B: Waterbodies are on lands where "*other pollution control requirements required by local, State, or Federal authority"* [see 40 CFR 130.7(b)(1)(iii)] are in place, are expected to address all waterbody-pollutant combinations, and attain all water quality standards in a reasonable period of time. These control requirements act "in lieu of" a TMDL, thus no actual TMDLs are required.
>
> Subcategory 4C: Identified threats or impairments result from pollution categories such as dewatering or habitat modification and, thus, the calculation of a Total Maximum Daily Load (TMDL) is not required.

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

Assessment Results Summary

The interactive database portion of this report provides detailed information about the assessment status of more than 1,000 waters included in the Montana assessment database. For each waterbody the assessment determinations, maps, and the documentation supporting the assessment determinations may be accessed via EnviroNet at http://nris.state.mt.us/wis/environet/. Readers interested in reviewing the status of specific waters should use that section of this report. The tables on the next few pages of this text section of the report provide a statewide summary of the current water quality status of Montana surface waters.

Table 3: 2004 Integrated Report Assessment Categories

Category	Category Description	Streams & Rivers		Lakes, Reservoirs & Wetlands	
		Segments	Miles	Segments	Acres
1	All uses fully supported.	65	199	3	13,503
2	Assessed uses fully supported, but not all uses assessed	103	1,928	7	46,265
3	Insufficient Data to assess any uses	338	7,523	27	56,925
4A	One or more uses impaired but all required TMDLs done	27	493	1	300
4B	No TMDLs required: other pollution control requirements are in place.	0	0	0	0
4C	One or more uses impaired by "pollution" only -- no TMDL needed	105	1,727	2	32,850
5	One or more uses impaired by "pollutants" --TMDL needed	388	7,606	24	456,432
	All Waters in Database*	1,026	19,476	64	606,275

*** Totals reflect only waters in the Assessment Database, NOT all waters in the state.**

Table 4: 2004 Integrated Report Beneficial Use Support Summary

Rivers & Streams

Beneficial Use	Segments Assessed	Miles Assessed	Miles Fully Supporting	Miles Threatened	Miles Partially Supporting	Miles Not Supporting
Aquatic Life Support	570	10,794.2	2,409.7	0.0	6,409.1	1,975.4
Cold Water Fishery	496	7,472.0	1,197.4	8.1	4,294.2	1,972.3
Warm Water Fishery	84	3,790.1	1,179.8	0.0	2,470.5	139.8
Primary Contact (Recr)	497	8,842.4	5,031.6	135.9	3,116.7	558.2
Drinking Water Supply	395	7,189.2	4,376.1	0.0	248.6	2,564.5
Agriculture Supply	534	9,538.4	866.7	0.0	774.0	100.7
Industrial Supply	541	9,527.2	8,584.7	0.0	774.8	167.7

Lakes, Reservoirs & Wetlands

Beneficial Use	Segments Assessed	Acres Assessed	Acres Fully Supporting	Acres Threatened	Acres Partially Supporting	Acres Not Supporting
Aquatic Life Support	37	287,683.3	85,380.9	7,549.9	188,019.4	6,733.1
Cold Water Fishery	23	254,177.6	202,947.8	7,549.9	36,708.8	6,971.1
Warm Water Fishery	11	34,389.4	17,007.7	0.0	17,081.7	300.0
Primary Contact (Recr)	29	519,242.3	206,277.8	0.0	274,452.4	38,512.1
Drinking Water Supply	26	478,427.1	175,374.3	0.0	953.0	302,099.8
Agriculture Supply	30	290,671.9	237,999.9	0.0	48,753.0	3,919.0
Industrial Supply	29	294,776.6	287,079.6	0.0	3,778.0	3,919.0

Table 5: 2004 Integrated Report Causes of Impairment

Cause/Sub-Cause Category	Streams and Rivers				Lakes, Reservoirs, & Wetlands			
	Segments Impaired	% of Tot. Impaired Segments	Miles Impaired	% of Tot. Impaired Miles	Water-bodies Impaired	% of Tot. Impaired Waterbodies	Acres Impaired	% of Tot. Impaired Acres
Pesticides					1	3.7%	3,800	0.8%
Priority organics	2	0.4%	45	0.5%				
PCB's	5	1.0%	72	0.7%	2	7.4%	129,357	26.4%
Metals	183	35.2%	3,421	34.8%	15	55.6%	437,822	89.4%
Arsenic	37	7.1%	392	4.0%	3	11.1%	36,789	7.5%
Cadmium	39	7.5%	479	4.9%				
Copper	58	11.2%	1,128	11.5%				
Chromium	1	0.2%	1	0.0%	1	3.7%	3,781	0.8%
Lead	65	12.5%	1,134	11.5%	2	7.4%	246,600	50.4%
Mercury	43	8.3%	1,236	12.6%	6	22.2%	418,837	85.5%
Selenium	9	1.7%	92	0.9%	5	18.5%	13,575	2.8%
Zinc	41	7.9%	611	6.2%				
Unionized Ammonia	3	0.6%	127	1.3%	1	3.7%	35,180	7.2%
Cyanide	2	0.4%	11	0.1%				
Sulfates	2	0.4%	19	0.2%	2	7.4%	9,100	1.9%
Nutrients	113	21.7%	2,911	29.6%	7	25.9%	178,049	36.4%
Phosphorus	18	3.5%	505	5.1%				
Nitrogen	16	3.1%	244	2.5%	1	3.7%	5,600	1.1%
Nitrate	14	2.7%	277	2.8%				
Other nutrients	1	0.2%	106	1.1%	2	7.4%	3,861	0.8%
pH	14	2.7%	106	1.1%	1	3.7%	20	0.0%
Siltation	216	41.5%	3,743	38.1%	5	18.5%	135,369	27.6%
Organic enrichment/Low DO	6	1.2%	199	2.0%	2	7.4%	129,807	26.5%
Salinity/TDS/chlorides	4	0.8%	96	1.0%	1	3.7%	3,500	0.7%
Salinity/TDS/sulfates	11	2.1%	578	5.9%	5	18.5%	4,872	1.0%
Thermal modifications	54	10.4%	1,458	14.8%				
Flow alteration	204	39.2%	4,249	43.2%	7	25.9%	43,874	9.0%
Dewatering	102	19.6%	1,954	19.9%	1	3.7%	3,781	0.8%
Water level fluctuations					4	14.8%	36,084	7.4%
Other habitat alterations	345	66.3%	6,608	67.3%	4	14.8%	8,465	1.7%
Bank erosion	88	16.9%	1,823	18.6%				
Channel incisement	21	4.0%	339	3.4%				
Riparian degradation	130	25.0%	3,389	34.5%				
Fish habitat degradation	96	18.5%	1,533	15.6%	1	3.7%	3,781	0.8%
Pathogens	14	2.7%	434	4.4%				
Radiation	1	0.2%	81	0.8%				
Oil and grease	1	0.2%	24	0.2%				
Suspended solids	21	4.0%	408	4.2%				
Noxious aquatic plants	2	0.4%	13	0.1%	4	14.8%	289,280	59.1%
Algal Grwth/Chlorophyll a	16	3.1%	381	3.9%	3	11.1%	131,027	26.8%
Total toxics	1	0.2%	8	0.1%				
Turbidity	10	1.9%	108	1.1%				
State Total Impaired*	**520**		**9,826**		**27**		**489,582**	

* These totals are **not a sum** of the columns above. They represent the total number and size of segments impaired by one or more cause, and includes the sum of all Category 4A, 4B, 4C, and 5 waters

Table 6: 2004 Integrated Report Sources of Impairment

Source/Sub-Source Category	Streams and Rivers				Lakes, Reservoirs, & Wetlands			
	Segments Impaired	% of Tot. Impaired Segments	Miles Impaired	% of Tot. Impaired Miles	Water- bodies Impaired	% of Tot. Impaired Waterbodies	Acres Impaired	% of Tot. Impaired Acres
Industrial Point Sources	9	1.7%	187	1.9%				
Municipal Point Sources	14	2.7%	442	4.5%	2	7.4%	161,187	32.9%
Domestic Wastewater Lagoon					1	3.7%	3,500	0.7%
Agriculture	311	59.8%	6,982	71.1%	18	66.7%	315,386	64.4%
Crop-related Sources	113	21.7%	3,369	34.3%	8	29.6%	22,877	4.7%
Grazing related Sources	222	42.7%	5,220	53.1%	3	11.1%	4,852	1.0%
Intensive Animal Feeding Operations	12	2.3%	232	2.4%				
Aquaculture	1	0.2%	2	0.0%				
Silviculture	97	18.7%	1,218	12.4%	5	18.5%	137,357	28.1%
Harvesting, Restoration, Residue Mngt	3	0.6%	61	0.6%				
Forest Management					1	3.7%	3,800	0.8%
Logging Road Construction/Maintenance	43	8.3%	459	4.7%	2	7.4%	6,030	1.2%
Construction	56	10.8%	1,159	11.8%	4	14.8%	38,544	7.9%
Highway/Road/Bridge Construction	38	7.3%	695	7.1%	3	11.1%	3,364	0.7%
Land Development	17	3.3%	448	4.6%	1	3.7%	35,180	7.2%
Urban Runoff/Storm Sewers	8	1.5%	161	1.6%	1	3.7%	126,007	25.7%
Resource Extraction	178	34.2%	2,520	25.6%	7	25.9%	291,090	59.5%
Surface Mining	3	0.6%	8	0.1%				
Subsurface Mining	11	2.1%	102	1.0%				
Placer Mining	15	2.9%	162	1.7%	1	3.7%	5,500	1.1%
Dredge Mining	12	2.3%	108	1.1%		0.0%		
Petroleum Activities					1	3.7%	9	0.0%
Mill Tailings	21	4.0%	345	3.5%				
Mine Tailings	37	7.1%	390	4.0%				
Acid Mine Drainage	57	11.0%	710	7.2%	3	11.1%	40,561	8.3%
Abandoned mining	130	25.0%	1,787	18.2%	6	22.2%	291,081	59.5%
Inactive mining	1	0.2%	38	0.4%				
Land Disposal	11	2.1%	123	1.3%	1	3.7%	35,180	7.2%
Wastewater	1	0.2%	15	0.2%				
Onsite Wastewater Systems (Septic Tanks)	1	0.2%	29	0.3%				
Hydromodification	166	31.9%	4,211	42.9%	9	33.3%	175,739	35.9%
Channelization	58	11.2%	1,366	13.9%				
Dredging	2	0.4%	22	0.2%				
Dam Construction	15	2.9%	544	5.5%				
Upstream Impoundment	7	1.3%	233	2.4%	1	3.7%	126,007	25.7%
Flow Regulation/Modification	87	16.7%	2,276	23.2%	7	25.9%	143,389	29.3%
Bridge Construction	9	1.7%	181	1.8%				
Habitat Modification (other than Hydromod.)	114	21.9%	2,579	26.2%	1	3.7%	3,781	0.8%
Removal of Riparian Vegetation	49	9.4%	1,290	13.1%				
Bank or Shore Modification/Destabilization	58	11.2%	1,296	13.2%				
Erosion from derelict land	1	0.2%	11	0.1%				
Atmospheric Deposition	4	0.8%	58	0.6%	3	11.1%	376,507	76.9%
Highway Maintenance and Runoff	41	7.9%	502	5.1%				
Unpaved Road Runoff	15	2.9%	128	1.3%				
Spills	1	0.2%	26	0.3%				
Contaminated Sediments	21	4.0%	234	2.4%				
Debris and bottom deposits	1	0.2%	1	0.0%	2	7.4%	250,500	51.2%
Internal nutrient cycling (lakes)					1	3.7%	35,180	7.2%
Sediment resuspension	2	0.4%	48	0.5%				
Recreation/Tourism Activities	1	0.2%	12	0.1%				
Groundwater Loadings	1	0.2%	37	0.4%				
Other	4	0.8%	57	0.6%				
Source Unknown	18	3.5%	379	3.9%	4	14.8%	138,657	28.3%
State Total Impaired*	**520**		**9,826**		**27**		**489,582**	

* These totals are **not a sum** of the columns above. They represent the total number and size of segments impaired by one or more cause, and includes the sum of all Category 4A, 4B, 4C, and 5 waters

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	10020003	Ruby
	10020004	Big Hole
	10020005	Jefferson
	10020006	Boulder
	10020007	Madison
	10020008	Gallatin
Missouri-Sun-Smith	10030101	Upper Missouri
	10030102	Upper Missouri-Dearborn
	10030103	Smith
	10030104	Sun
	10030105	Belt
St. Mary	10010001	Belly
	10010002	St. Mary
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	10030203	Marias
	10030204	Willow
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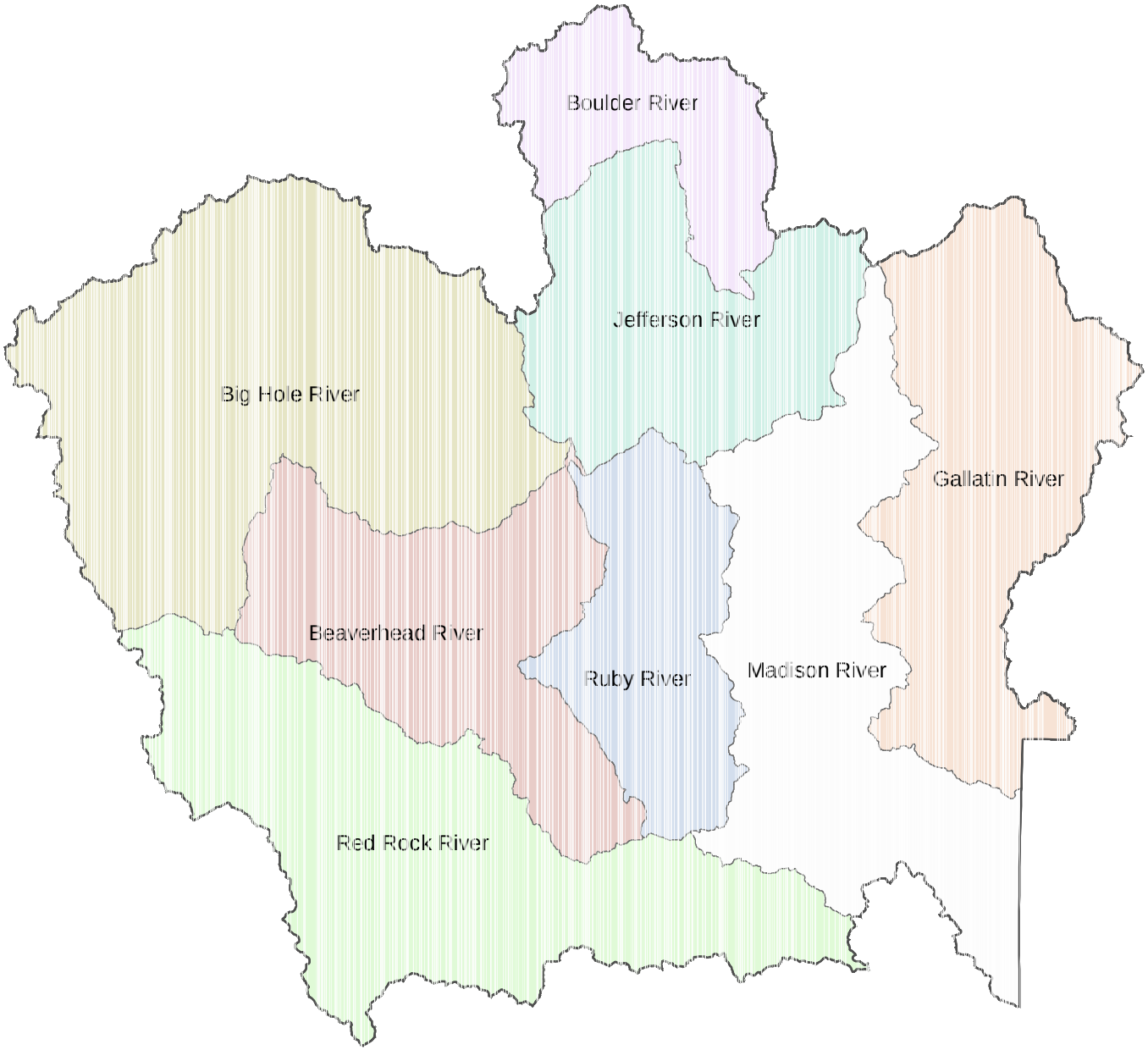
	17010212	Lower Flathead
	17010213	Lower Clark Fork

Sub-Basin Report Key

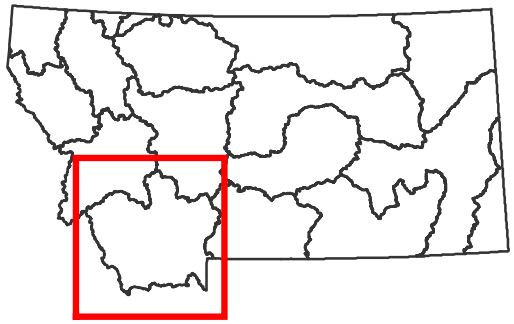
A	Acres
F	Full Support
M	Miles
N	Not Supported
P	Partial Support
T	Threatened
X	Not Assessed

Upper Missouri Sub-Major Basin

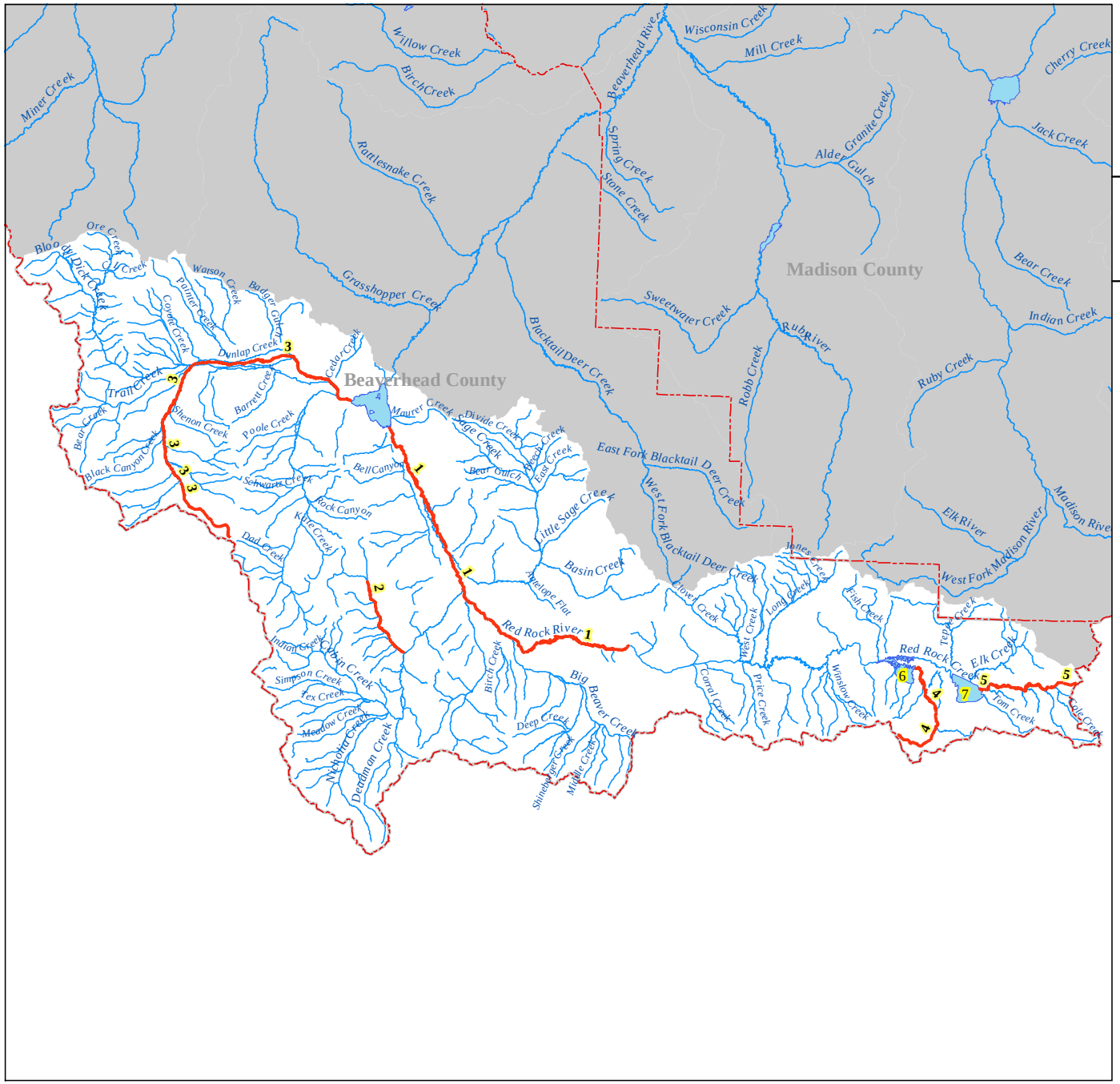
Missouri River Basin



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



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

RED ROCK

USGS HUC: 10020001

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Hydrologic Unit Code 10020001 Watershed RED ROCK

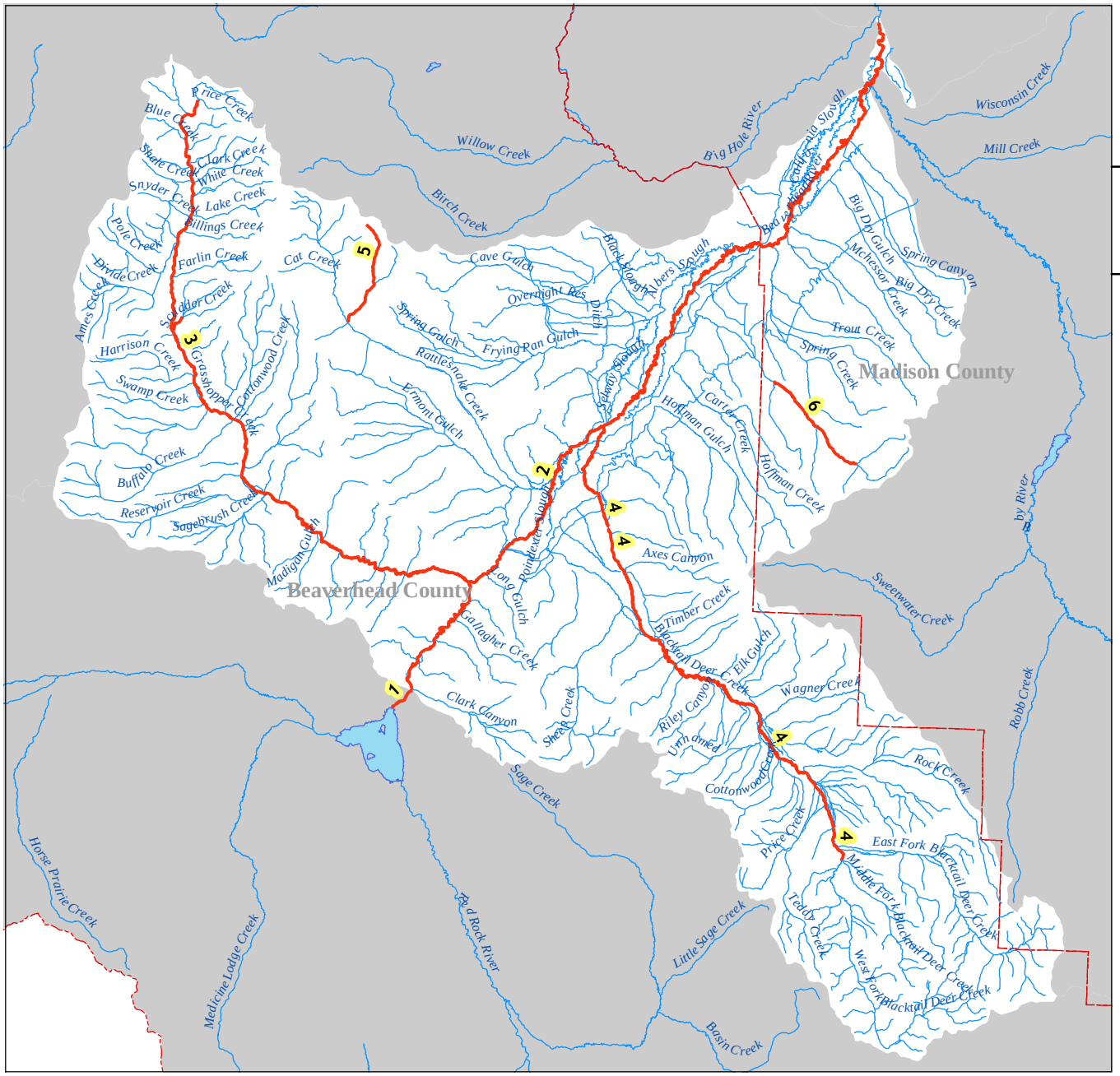
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41A001_010	RED ROCK RIVER from Lima Dam to Clark Canyon Reservoir	5	48.6 M	B-1	N	N		N	P	F	F	Lead Zinc Siltation Dewatering Bank erosion Fish habitat degradation Metals Flow alteration Other habitat alterations	Grazing related Sources Abandoned mining Removal of Riparian Vegetation Agriculture Crop-related Sources Resource Extraction Habitat Modification (other than Hydromodification)
2	MT41A003_020	MUDDY CREEK from headwaters to mouth (Sheep Cr-Red Rock R) T13S R10W	5	9.3 M	B-1	P	P		F	P	F	F	Turbidity	Grazing related Sources Agriculture
3	MT41A003_090	HORSE PRAIRIE CREEK from headwaters to mouth (Clark Canyon Res)	5	41.4 M	B-1	N	N		N	P	F	F	Metals Dewatering Flow alteration	Abandoned mining Agriculture Crop-related Sources Resource Extraction
4	MT41A004_080	O'DELL CREEK from headwaters to mouth (Lower Red Rock Lake)	5	14.3 M	B-1	N	N		F	P	F	F	Bank erosion Turbidity Other habitat alterations	Agriculture Grazing related Sources
5	MT41A004_110	RED ROCK CREEK Headwaters to the mouth (Upper Red Rock Lake)	5	13.7 M	B-1	P	P		X	X	X	X	Bank erosion Turbidity Other habitat alterations	Grazing related Sources Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020001 Watershed RED ROCK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT41A005_020	LOWER RED ROCK LAKE	5	1126 A	B-1	N	N		X	N	X	X	Siltation Water level fluct Flow alteration	Agriculture Grazing related Sources
7	MT41A005_030	UPPER RED ROCK LAKE	5	2206.1 A	B-1	N	N		X	N	X	X	Siltation Water level fluct Flow alteration	Agriculture Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BEAVERHEAD

USGS HUC: 10020002

Waters Assessed as not fully supporting one or more beneficial uses.

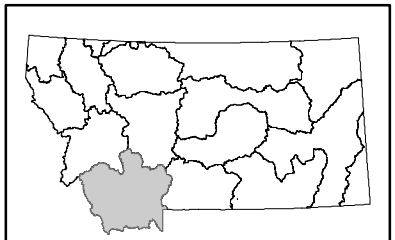
County Boundary

Indian Reservation

N

0 3.5 7 14

Miles



Submajor Basin: Upper Missouri

Hydrologic Unit Code 10020002 Watershed BEAVERHEAD

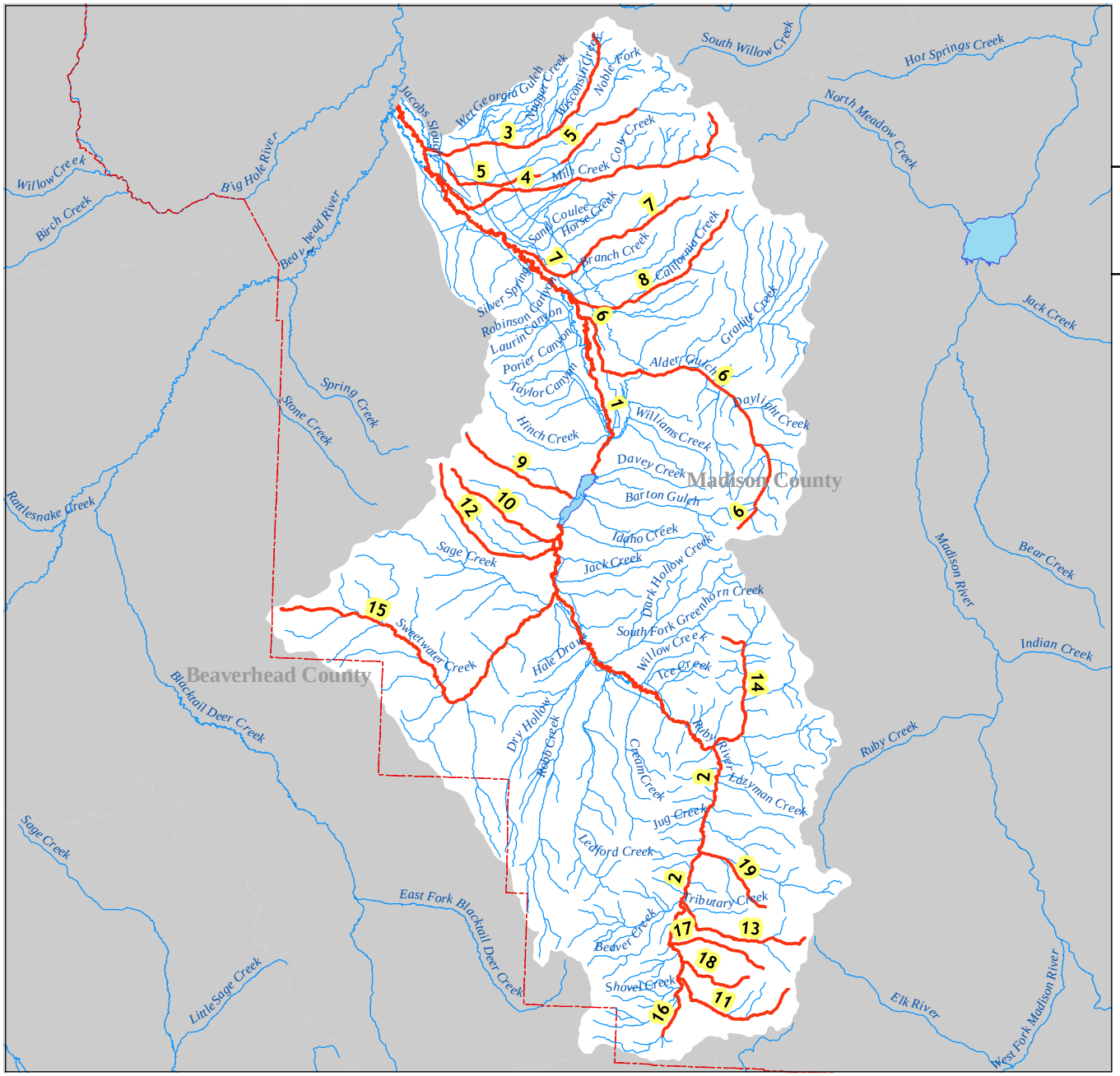
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41B001_010	BEAVERHEAD RIVER from Clark Canyon Dam to Grasshopper Cr	5	11.8 M	B-1	N	N		N	P	F	F	Lead Dewatering Bank erosion Metals Flow alteration Other habitat alterations	Agriculture Abandoned mining Crop-related Sources Resource Extraction
2	MT41B001_020	BEAVERHEAD RIVER from Grasshopper Cr to mouth (Jefferson R)	5	62.7 M	B-1	N	N		F	N	F	F	Siltation Dewatering Bank erosion Flow alteration Other habitat alterations Fish habitat degradation Riparian degradation Thermal modifications	Grazing related Sources Removal of Riparian Vegetation Agriculture Crop-related Sources Habitat Modification (other than Hydromodification) Construction Land Development
3	MT41B002_010	GRASSHOPPER CREEK from headwaters to the mouth (Beaverhead R)	5	47.7 M	B-1	P	P		F	P	F	F	Metals Dewatering Bank erosion Flow alteration Other habitat alterations	Grazing related Sources Mine Tailings Bank or Shoreline Modification/Destabilization Agriculture Crop-related Sources Resource Extraction Habitat Modification (other than Hydromodification)

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020002 Watershed BEAVERHEAD

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT41B002_030	BLACKTAIL DEER CREEK from headwaters to mouth (Beaverhead R)	5	39.9 M	B-1	N	N		F	N	F	F	Siltation Flow alteration Dewatering Bank erosion Channel incisement Riparian degradation Fish habitat degradation Other habitat alterations	Grazing related Sources Land Development Channelization Flow Regulation/Modification Removal of Riparian Vegetation Agriculture Crop-related Sources Construction Hydromodification Habitat Modification (other than Hydromodification) Highway Maintenance and Runoff
5	MT41B002_100	FRENCH CREEK from headwaters to mouth (Rattlesnake Cr-Beaverhead R)	5	6.5 M	B-1	N	N		X	X	X	X	Siltation Other habitat alterations Channel incisement Fish habitat degradation	Agriculture Grazing related Sources Resource Extraction Placer Mining
6	MT41B002_132	STONE CREEK above confluence with unnamed creek in NE, S34, T6S, R7W	5	7 M	B-1	P	P		F	N	F	F	Nutrients Nitrate Siltation Flow alteration Dewatering Other habitat alterations Riparian degradation Turbidity	Agriculture Crop-related Sources Grazing related Sources Construction Highway/Road/Bridge Construction Highway Maintenance and Runoff

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

RUBY

USGS HUC: 10020003

Waters Assessed as not fully supporting one or more beneficial uses.

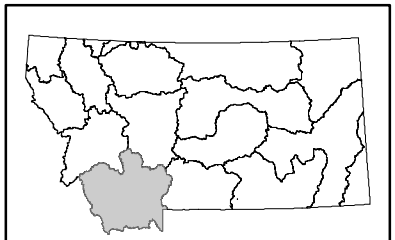
County Boundary

Indian Reservation

N

0 3 6 12

Miles



Submajor Basin: Upper Missouri

Hydrologic Unit Code 10020003 Watershed RUBY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41C001_010	RUBY RIVER from Ruby Dam to the mouth (Beaverhead R)	5	47.9 M	B-1	P	P		F	P	F	F	Siltation Thermal modifications Flow alteration Dewatering Other habitat alterations Riparian degradation Fish habitat degradation Channel incisement	Grazing related Sources Flow Regulation/Modification Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Bank or Shoreline Modification/Destabilization Agriculture Hydromodification Crop-related Sources
2	MT41C001_020	RUBY RIVER from the East and West Forks to Ruby Reservoir	5	37.9 M	B-1	P	P		F	F	F	F	Siltation Bank erosion Channel incisement Riparian degradation Fish habitat degradation Other habitat alterations	Grazing related Sources Removal of Riparian Vegetation Bank or Shoreline Modification/Destabilization Agriculture Habitat Modification (other than Hydromodification) Highway Maintenance and Runoff
3	MT41C002_010	WISCONSIN CREEK from headwaters to mouth (Leland Slough)	5	13.8 M	B-1	P	P		F	P	F	F	Siltation Flow alteration Dewatering Other habitat alterations Riparian degradation Fish habitat degradation Metals Arsenic Lead	Agriculture Hydromodification Channelization Flow Regulation/Modification Bridge Construction Resource Extraction Mine Tailings

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020003 Watershed RUBY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT41C002_020	MILL CREEK from headwaters to mouth (Ruby R)	5	19.6 M	B-1	P	P		F	P	F	F	Dewatering Other habitat alterations Riparian degradation Metals Flow alteration Lead Zinc	Acid Mine Drainage Abandoned mining Removal of Riparian Vegetation Agriculture Resource Extraction Habitat Modification (other than Hydromodification) Crop-related Sources
5	MT41C002_030	INDIAN CREEK from headwaters to mouth (Mill Cr-Ruby R)	4C	11.3 M	B-1	P	P		F	F	F	F	Flow alteration Dewatering Other habitat alterations Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources
6	MT41C002_040	ALDER GULCH from headwaters to mouth (Ruby R)	5	18.8 M	B-1	N	N		N	P	F	F	Metals Other habitat alterations Riparian degradation Fish habitat degradation Siltation Copper Mercury	Acid Mine Drainage Abandoned mining Resource Extraction Placer Mining Silviculture Mine Tailings Hydromodification Channelization Highway Maintenance and Runoff Unpaved Road Runoff

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Hydrologic Unit Code 10020003 Watershed RUBY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
7	MT41C002_050	RAMSHORN CREEK from headwaters to mouth (Ruby R)	5	11.8 M	B-1	P	P		F	F	F	F	Dewatering Flow alteration Siltation Metals Lead	Agriculture Crop-related Sources Highway Maintenance and Runoff Unpaved Road Runoff Resource Extraction Mine Tailings
8	MT41C002_090	CALIFORNIA CREEK tributary of Ruby R T-5S R-4W	5	10.9 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations Bank erosion	Resource Extraction Dredge Mining Erosion from derelict Land
9	MT41C002_100	GARDEN CREEK, Headwaters to mouth at Ruby Reservoir	5	7.3 M	B-1	P	P		F	F	F	F	Other habitat alterations Bank erosion Riparian degradation	Agriculture Grazing related Sources
10	MT41C002_110	MORMAN CREEK, Headwaters to mouth (Upper end of Ruby R Reservoir)	5	7.8 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Grazing related Sources
11	MT41C003_020	COAL CREEK from headwaters to mouth (Middle Fork Ruby R)	5	8.3 M	B-1	P	P		F	F	F	F	Thermal modifications Other habitat alterations Bank erosion Riparian degradation	Agriculture Grazing related Sources

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Hydrologic Unit Code 10020003 Watershed RUBY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
12	MT41C003_030	COTTONWOOD CREEK from headwaters to mouth (Ruby R)	5	10.4 M	B-1	P	P		F	F	F	F	Siltation Flow alteration Dewatering Other habitat alterations Riparian degradation	Agriculture Crop-related Sources Grazing related Sources Highway Maintenance and Runoff Unpaved Road Runoff
13	MT41C003_040	EAST FORK RUBY RIVER from headwaters to mouth (Ruby R)	4C	8.3 M	B-1	P	P		F	F	F	F	Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources
14	MT41C003_050	WARM SPRINGS CREEK from headwaters to mouth (Ruby R)	5	8.6 M	B-1	P	P		F	F	F	F	Other habitat alterations Bank erosion Riparian degradation Siltation	Agriculture Grazing related Sources Pasture grazing - Riparian Highway Maintenance and Runoff Unpaved Road Runoff
15	MT41C003_060	SWEETWATER CREEK from headwaters to mouth (Ruby R)	5	23 M	B-1	P	P		F	P	F	F	Nutrients Siltation Flow alteration Dewatering Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources

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Hydrologic Unit Code 10020003 Watershed RUBY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
16	MT41C003_090	MIDDLE FORK RUBY RIVER from Divide Cr to mouth (Ruby R)	5	10.5 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources Highway Maintenance and Runoff Unpaved Road Runoff
17	MT41C003_110	POISON CREEK, Headwaters to mouth (Ruby R) T11S, R3W	5	5.3 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations Bank erosion Riparian degradation	Agriculture Grazing related Sources
18	MT41C003_120	BASIN CREEK, Headwaters to mouth (Middle Fork Ruby R) T11S, R3W	5	4.5 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations Bank erosion Riparian degradation	Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Highway Maintenance and Runoff Unpaved Road Runoff
19	MT41C003_130	BURNT CREEK, Headwaters to mouth (Ruby R) T10S, R3W	5	5 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations Bank erosion	Agriculture Grazing related Sources Highway Maintenance and Runoff Unpaved Road Runoff

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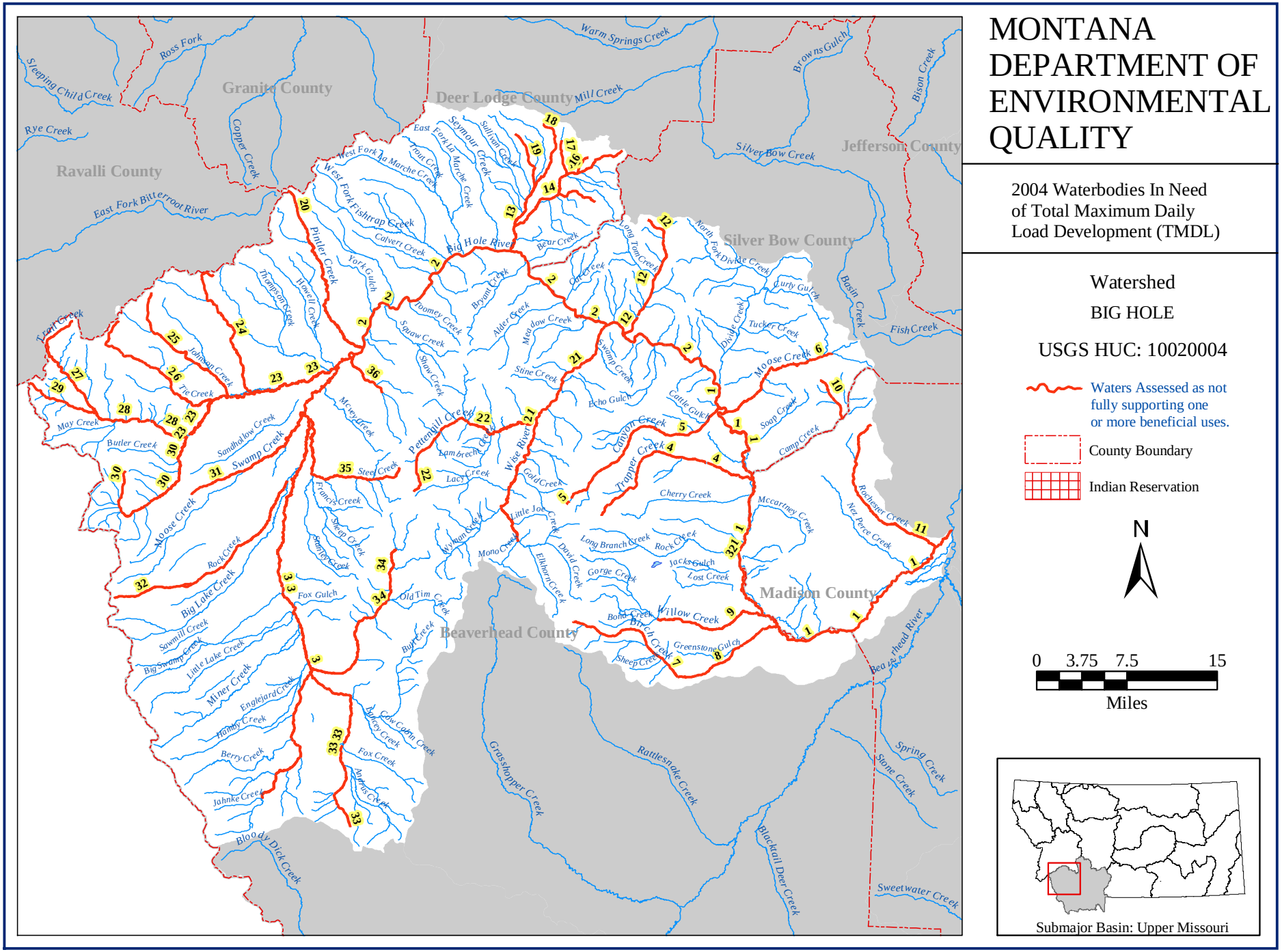

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BIG HOLE

USGS HUC: 10020004

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41D001_010	BIG HOLE RIVER from Divide Cr to the mouth (Jefferson R)	5	51.4 M	B-1	N	N		N	P	F	F	Cadmium Copper Lead Zinc Thermal modifications Dewatering Other habitat alterations Fish habitat degradation Metals Flow alteration	Acid Mine Drainage Abandoned mining Dam Construction Habitat Modification (other than Hydromodification) Agriculture Crop-related Sources Grazing related Sources Resource Extraction Hydromodification Construction Highway/Road/Bridge Construction
2	MT41D001_020	BIG HOLE RIVER between Divide Cr and Pintlar Cr	5	43.8 M	A-1	N	N		N	P	F	F	Copper Lead Thermal modifications Dewatering Riparian degradation Fish habitat degradation Metals Flow alteration Other habitat alterations	Agriculture Acid Mine Drainage Abandoned mining Crop-related Sources Grazing related Sources Resource Extraction

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
3	MT41D001_030	BIG HOLE RIVER above Pintlar Cr.	5	55.5 M	A-1	P	P		F	P	F	F	Thermal modifications Flow alteration Other habitat alterations	Agriculture Removal of Riparian Vegetation Crop-related Sources Grazing related Sources Habitat Modification (other than Hydromodification) Construction Highway/Road/Bridge Construction
4	MT41D002_010	TRAPPER CREEK from headwaters to mouth (Big Hole R)	5	17.4 M	B-1	N	N		N	P	F	F	Copper Lead Zinc Siltation Dewatering Bank erosion Fish habitat degradation Metals Flow alteration Other habitat alterations	Mine Tailings Acid Mine Drainage Abandoned mining Channelization Flow Regulation/Modification Agriculture Crop-related Sources Construction Resource Extraction Hydromodification Highway Maintenance and Runoff
5	MT41D002_030	CANYON CREEK from headwaters to mouth (Big Hole R)	4C	17.8 M	B-1	X	X		X	P	X	F	Dewatering Flow alteration	Agriculture Crop-related Sources
6	MT41D002_050	MOOSE CREEK, Headwaters to mouth (Big Hole R at Maiden Rock)	4C	12.3 M	B-1	X	X		X	P	X	F	Dewatering Flow alteration	Agriculture Crop-related Sources

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
7	MT41D002_090	BIRCH CREEK headwaters to the National Forest Boundary	5	12.8 M	B-1	P	P		F	F	F	F	Siltation Flow alteration Dewatering Other habitat alterations Riparian degradation Fish habitat degradation	Agriculture Crop-related Sources Grazing related Sources Hydromodification Flow Regulation/Modification Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
8	MT41D002_100	BIRCH CREEK from National Forest Boundary to mouth (Big Hole R)	5	10.4 M	B-1	N	N		F	N	F	F	Dewatering Other habitat alterations Channel incisement Riparian degradation Fish habitat degradation Flow alteration	Hydromodification Channelization Flow Regulation/Modification Agriculture Crop-related Sources
9	MT41D002_110	WILLOW CREEK from headwaters to mouth (Big Hole R) T4S R9W	4C	21 M	B-1	X	X		X	P	X	X	Dewatering Flow alteration	Agriculture Crop-related Sources
10	MT41D002_120	WICKIUP CREEK Tributary to Camp Cr (Big Hole R) T1S R8W	5	4.1 M	B-1	N	N		N	X	X	X	Metals Bank erosion Other habitat alterations	Placer Mining Abandoned mining Resource Extraction

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
11	MT41D002_160	ROCHESTER CREEK from headwaters to mouth (Big Hole R) T3S R7W	5	15.7 M	B-1	P	P		N	F	F	F	Metals Siltation Other habitat alterations Bank erosion Mercury	Agriculture Grazing related Sources Resource Extraction Subsurface Mining Abandoned mining
12	MT41D003_020	JERRY CREEK from headwaters to mouth (Big Hole R)	5	12.3 M	A-1	N	N		N	P	F	F	Copper Lead Dewatering Bank erosion Riparian degradation Fish habitat degradation Algal Grwth/Chlorophyll a Metals Flow alteration Other habitat alterations	Agriculture Grazing related Sources Silviculture Land Development Acid Mine Drainage Abandoned mining Crop-related Sources Construction Resource Extraction Land Disposal
13	MT41D003_040	DEEP CREEK from headwaters to mouth (Big Hole R)	5	7.9 M	A-1	P	P		F	F	F	F	Siltation Flow alteration Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
14	MT41D003_050	FRENCH CREEK from headwaters to mouth (Deep Cr)	5	9.4 M	A-1	X	X		N	X	X	F	Arsenic Metals	Acid Mine Drainage Abandoned mining Atmospheric Deposition Contaminated Sediments Resource Extraction
15	MT41D003_070	CALIFORNIA CREEK from headwaters to mouth (French Cr-Deep Cr)	5	7.9 M	A-1	N	N		N	P	N	P	Metals Arsenic Siltation Dewatering Bank erosion Riparian degradation Fish habitat degradation Flow alteration Other habitat alterations	Grazing related Sources Silviculture Placer Mining Abandoned mining Contaminated Sediments Agriculture Crop-related Sources Resource Extraction Highway Maintenance and Runoff

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
16	MT41D003_080	OREGON CREEK, Headwaters to mouth (California Cr - French Cr - Deep Cr)	5	1.8 M	A-1	N	N		N	F	N	F	Arsenic Copper Lead Siltation Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation Metals	Grazing related Sources Silviculture Logging Road Construction/Maintenance Highway/Road/Bridge Construction Dredge Mining Mine Tailings Acid Mine Drainage Abandoned mining Channelization Bank or Shoreline Modification/Destabilization Agriculture Crop-related Sources Construction Resource Extraction Hydromodification Habitat Modification (other than Hydromodification) Highway Maintenance and Runoff
17	MT41D003_090	SIXMILE CREEK from headwaters to mouth (California Cr)	5	3.1 M	A-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Grazing related Sources Silviculture Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Highway Maintenance and Runoff Unpaved Road Runoff

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
18	MT41D003_110	SEVENMILE CREEK from headwaters to mouth (Deep Cr)	5	6.3 M	A-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
19	MT41D003_130	CORRAL CREEK from headwaters to mouth (Deep Cr)	5	5.1 M	A-1	P	P		F	F	F	F	Siltation Other habitat alterations Bank erosion	Agriculture Grazing related Sources Silviculture
20	MT41D003_170	PINTLAR CREEK from headwaters to mouth (Big Hole R)	5	18 M	A-1	P	P		F	P	F	F	Thermal modifications Flow alteration Dewatering Fish habitat degradation Other habitat alterations	Grazing related Sources Flow Regulation/Modification Agriculture Crop-related Sources Hydromodification
21	MT41D003_200	WISE RIVER from headwaters to mouth (Big Hole R)	4C	25.7 M	A-1	P	P		F	P	F	F	Dewatering Other habitat alterations Bank erosion Fish habitat degradation Flow alteration	Agriculture Grazing related Sources Highway/Road/Bridge Construction Channelization Flow Regulation/Modification Removal of Riparian Vegetation Crop-related Sources Construction Hydromodification Habitat Modification (other than Hydromodification)

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
22	MT41D003_210	PATTENGAIL CREEK from headwaters to mouth (Wise R)	5	18.8 M	A-1	P	P		F	F	F	F	Siltation Other habitat alterations Fish habitat degradation	Construction Highway/Road/Bridge Construction Hydromodification Dam Construction
23	MT41D004_010	NORTH FORK BIG HOLE RIVER, Headwaters to mouth (Big Hole R)	4C	23 M	A-1	X	X		F	N	F	F	Dewatering Flow alteration	Agriculture Crop-related Sources
24	MT41D004_020	MUSSIGBROD CREEK, Headwaters to mouth (North Fork Big Hole R)	5	12.7 M	A-1	N	N		N	P	F	F	Lead Dewatering Bank erosion Riparian degradation Fish habitat degradation Metals Flow alteration Other habitat alterations	Agriculture Grazing related Sources Acid Mine Drainage Abandoned mining Flow Regulation/Modification Removal of Riparian Vegetation Crop-related Sources Resource Extraction Hydromodification Habitat Modification (other than Hydromodification)

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
25	MT41D004_030	JOHNSON CREEK, Headwaters to mouth (North Fork Big Hole R)	5	13.9 M	A-1	N	P		N	P	F	F	Copper Lead Dewatering Riparian degradation Fish habitat degradation Metals Flow alteration Other habitat alterations	Silviculture Acid Mine Drainage Abandoned mining Agriculture Crop-related Sources Grazing related Sources Resource Extraction
26	MT41D004_060	TIE CREEK from headwaters to mouth (North Fork Big Hole R)	5	15.2 M	A-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Grazing related Sources Silviculture Highway Maintenance and Runoff Unpaved Road Runoff
27	MT41D004_070	TRAIL CREEK from headwaters to Joseph Cr	5	11.5 M	A-1	N	N		F	F	F	F	Siltation Fish habitat degradation Other habitat alterations	Grazing related Sources Silviculture Logging Road Construction/Maintenance Dredge Mining Channelization Agriculture Resource Extraction Hydromodification Highway Maintenance and Runoff

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
28	MT41D004_080	TRAIL CREEK from Joseph Cr to mouth (North Fork Big Hole R)	5	10.1 M	A-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Grazing related Sources Silviculture Resource Extraction Abandoned mining Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
29	MT41D004_090	JOSEPH CREEK, Headwaters to mouth (Trail Cr-North Fork Big Hole R)	5	6.8 M	A-1	P	P		N	F	F	F	Metals Other habitat alterations	Resource Extraction Abandoned mining Hydromodification Channelization Bridge Construction
30	MT41D004_100	RUBY CREEK from headwaters to mouth (North Fork Big Hole R)	5	13.8 M	A-1	P	P		F	P	F	F	Siltation Dewatering Bank erosion Riparian degradation Fish habitat degradation Flow alteration Other habitat alterations	Silviculture Logging Road Construction/Maintenance Dredge Mining Flow Regulation/Modification Removal of Riparian Vegetation Agriculture Crop-related Sources Grazing related Sources Resource Extraction Hydromodification Habitat Modification (other than Hydromodification) Highway Maintenance and Runoff

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
31	MT41D004_110	SWAMP CREEK from headwaters to mouth (Big Hole R)	4C	15.9 M	A-1	X	X		X	N	X	X	Dewatering Flow alteration	Agriculture Crop-related Sources
32	MT41D004_120	ROCK CREEK from headwaters to mouth (Big Hole R)	5	20.5 M	A-1	P	P		F	F	F	F	Nutrients Siltation Flow alteration Dewatering Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation	Agriculture Crop-related Sources Grazing related Sources Hydromodification Flow Regulation/Modification
33	MT41D004_150	GOVERNOR CREEK, Headwaters to mouth (Big Hole R - So. of Jackson)	5	17.5 M	A-1	N	F		F	P	F	F	Copper Dewatering Bank erosion Riparian degradation Fish habitat degradation Metals Flow alteration Other habitat alterations	Grazing related Sources Flow Regulation/Modification Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Agriculture Crop-related Sources Hydromodification
34	MT41D004_180	WARM SPRINGS CREEK, Headwaters to the mouth (Big Hole R - Near Jackson)	4C	17.3 M	A-1	X	X		X	P	X	X	Flow alteration Dewatering	Agriculture Crop-related Sources

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Hydrologic Unit Code 10020004 Watershed BIG HOLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
35	MT41D004_190	STEEL CREEK from headwaters to mouth (Big Hole R)	5	15.3 M	A-1	N	N		N	P	F	F	Cadmium Copper Nutrients Dewatering Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation Metals Flow alteration	Grazing related Sources Acid Mine Drainage Abandoned mining Flow Regulation/Modification Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Agriculture Crop-related Sources Resource Extraction Hydromodification
36	MT41D004_220	DOOLITTLE CR tributary to the Big Hole R T1S, R14W	5	4.9 M	A-1	N	N		X	X	X	X	Other habitat alterations Channel incisement Fish habitat degradation Suspended solids Siltation	Agriculture Grazing related Sources Construction Highway/Road/Bridge Construction

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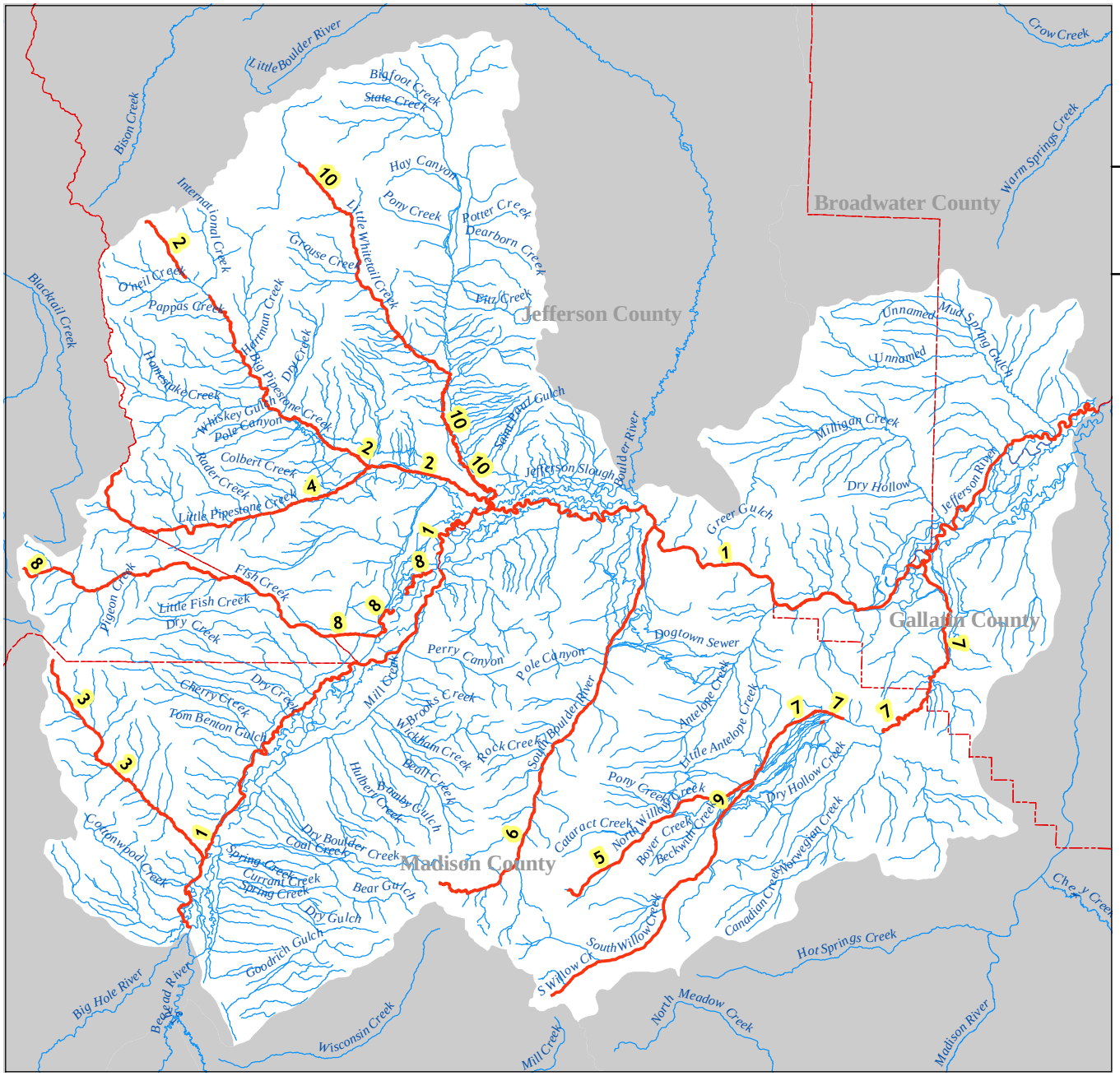


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

JEFFERSON

USGS HUC: 10020005

Waters Assessed as not fully supporting one or more beneficial uses.

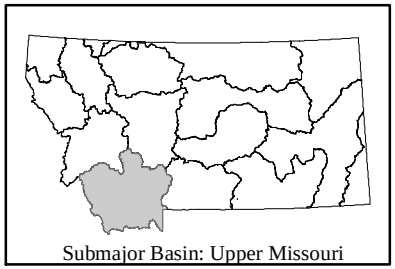
County Boundary

Indian Reservation

N

0 2.5 5 10

Miles



Submajor Basin: Upper Missouri

Hydrologic Unit Code 10020005 Watershed JEFFERSON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41G001_010	JEFFERSON RIVER from headwaters to mouth (Missouri R)	5	83.6 M	B-1	N	N		N	P	F	P	Copper Lead Siltation Thermal modifications Dewatering Fish habitat degradation Suspended solids Metals Flow alteration Other habitat alterations	Abandoned mining Dam Construction Flow Regulation/Modification Removal of Riparian Vegetation Bank or Shoreline Modification/Destabilization Agriculture Crop-related Sources Resource Extraction Hydromodification Habitat Modification (other than Hydromodification)
2	MT41G002_010	BIG PIPESTONE CREEK from headwaters to mouth (Jefferson R)	5	24.4 M	B-1	P	P		F	P	F	P	Nutrients Thermal modifications Other habitat alterations Bank erosion Channel incisement Riparian degradation Fish habitat degradation Suspended solids	Municipal Point Sources Grazing related Sources Logging Road Construction/Maintenance Highway/Road/Bridge Construction Hydromodification Channelization Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Sediment resuspension Agriculture Silviculture Construction Highway Maintenance and Runoff

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Hydrologic Unit Code 10020005 Watershed JEFFERSON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
3	MT41G002_030	HELLS CANYON CREEK from headwaters to mouth (Jefferson R)	5	13.2 M	B-1	P	P		F	P	F	F	Siltation Dewatering Fish habitat degradation Flow alteration Other habitat alterations	Silviculture Hydromodification Agriculture Crop-related Sources Grazing related Sources Highway Maintenance and Runoff
4	MT41G002_040	LITTLE PIPESTONE CREEK, Headwaters to mouth (Big Pipestone Cr)	5	16.2 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations Bank erosion Riparian degradation	Agriculture Grazing related Sources Hydromodification Channelization
5	MT41G002_050	NORTH WILLOW CREEK from headwaters to mouth (Willow Cr)	5	10.8 M	B-1	N	N		N	P	F	F	Flow alteration Metals Lead Dewatering Other habitat alterations Bank erosion Channel incisement Mercury	Agriculture Crop-related Sources Grazing related Sources Resource Extraction Hydromodification Subsurface Mining Abandoned mining Channelization

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020005 Watershed JEFFERSON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT41G002_060	SOUTH BOULDER RIVER from headwaters to mouth (Jefferson R)	5	21.8 M	B-1	P	P		F	P	F	F	Metals Arsenic Copper Lead Mercury Phosphorus Flow alteration Nutrients	Mine Tailings Acid Mine Drainage Abandoned mining Flow Regulation/Modification Contaminated Sediments Resource Extraction Hydromodification
7	MT41G002_080	WILLOW CREEK, North and South Fork confluence to mouth (Jefferson R)	5	17.6 M	B-1	N	F		F	P	F	F	Zinc Thermal modifications Flow alteration Metals	Acid Mine Drainage Abandoned mining Hydromodification Agriculture Crop-related Sources Resource Extraction
8	MT41G002_100	FISH CREEK from headwaters to mouth (Jefferson R)	5	26.6 M	B-1	X	X		N	F	X	X	Cadmium Metals	Acid Mine Drainage Abandoned mining Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020005 Watershed JEFFERSON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
9	MT41G002_130	SOUTH WILLOW CREEK from headwaters to mouth (Willow Cr)	5	14.8 M	B-1	N	N		F	P	F	F	Siltation Dewatering Bank erosion Riparian degradation Algal Grwth/Chlorophyll a Flow alteration Other habitat alterations Metals Zinc	Grazing related Sources Agriculture Crop-related Sources Highway Maintenance and Runoff
10	MT41G002_140	WHITETAIL CREEK tributary of the Jefferson R T3N R5W	5	24 M	B-1	P	P		X	P	F	F	Siltation Flow alteration Dewatering Other habitat alterations Riparian degradation	Agriculture Grazing related Sources Flow Regulation/Modification Crop-related Sources Hydromodification

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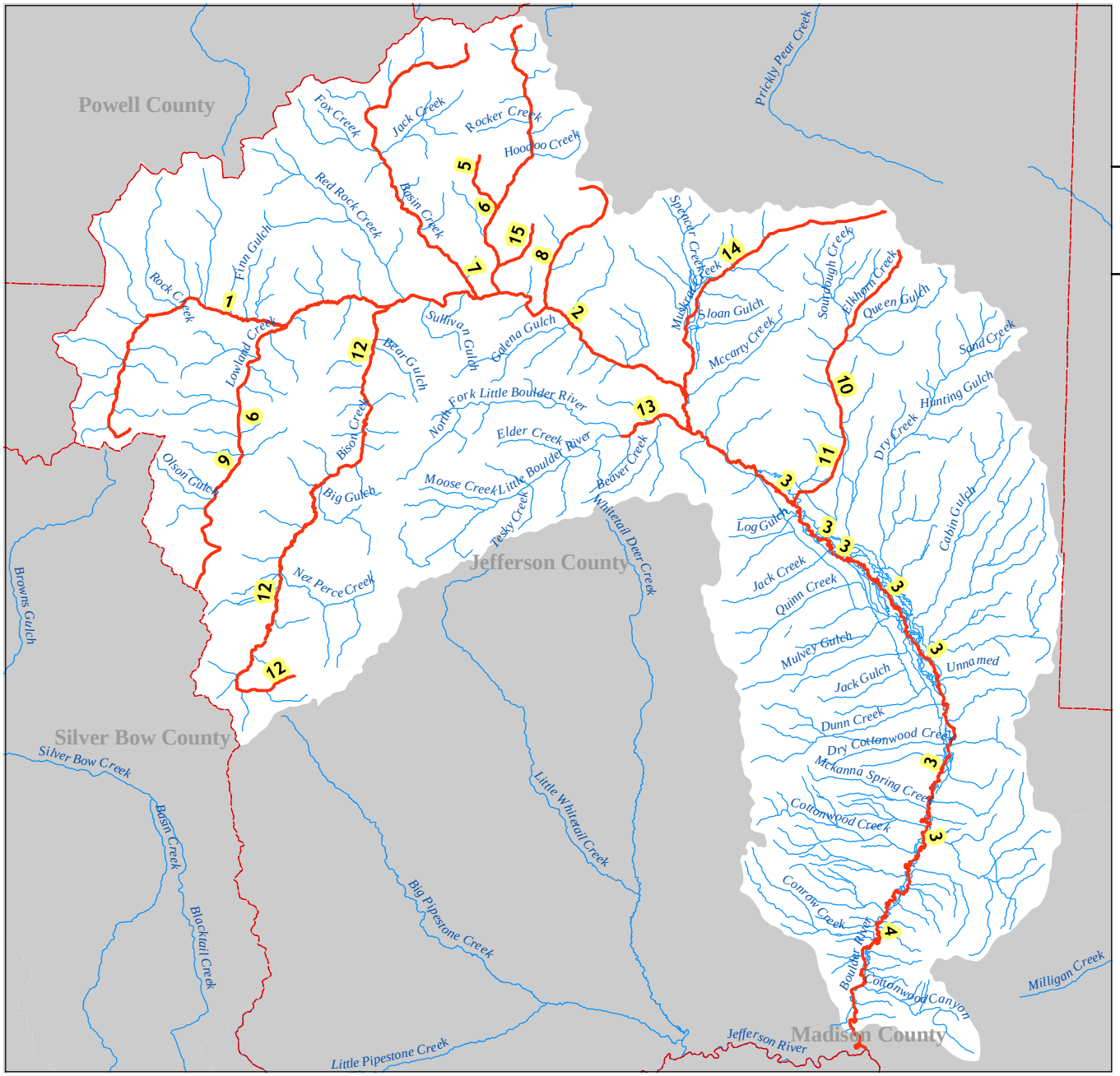


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BOULDER

USGS HUC: 10020006

Waters Assessed as not fully supporting one or more beneficial uses.

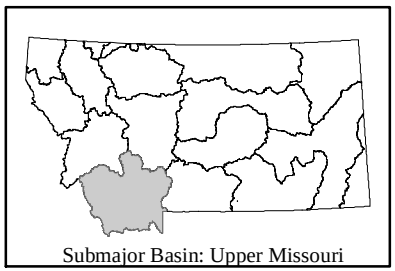
County Boundary

Indian Reservation

N

0 2.5 5 10

Miles



Submajor Basin: Upper Missouri

Hydrologic Unit Code 10020006 Watershed BOULDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41E001_010	BOULDER RIVER from headwaters to Basin Cr	5	22.2 M	B-1	P	F		N	F	F	F	Copper Metals Mercury	Acid Mine Drainage Abandoned mining Resource Extraction
2	MT41E001_021	BOULDER RIVER from Basin Cr to Town of Boulder	5	9.5 M	B-1	N	N		N	F	P	F	Metals Arsenic Cadmium Copper Lead Other habitat alterations	Highway/Road/Bridge Construction Mill Tailings Mine Tailings Acid Mine Drainage Abandoned mining Channelization Habitat Modification (other than Hydromodification) Contaminated Sediments Construction Resource Extraction Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020006 Watershed BOULDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
3	MT41E001_022	BOULDER RIVER from Town of Boulder to Cottonwood Cr	5	32.9 M	B-1	N	N		N	P	P	F	Metals Copper Lead Zinc Siltation Thermal modifications Flow alteration Other habitat alterations	Acid Mine Drainage Abandoned mining Flow Regulation/Modification Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Contaminated Sediments Agriculture Crop-related Sources Grazing related Sources Resource Extraction Hydromodification
4	MT41E001_030	BOULDER RIVER from Cottonwood Cr to the mouth (Jefferson R)	5	12.7 M	B-1	N	N		N	P	P	F	Arsenic Cadmium Copper Lead Zinc Siltation Thermal modifications Flow alteration Other habitat alterations Metals	Logging Road Construction/Maintenance Highway/Road/Bridge Construction Mill Tailings Acid Mine Drainage Abandoned mining Flow Regulation/Modification Contaminated Sediments Agriculture Crop-related Sources Grazing related Sources Silviculture Construction Resource Extraction Hydromodification

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Hydrologic Unit Code 10020006 Watershed BOULDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
5	MT41E002_010	UNCLE SAM GULCH from headwaters to the mouth (Cataract Cr)	5	2.6 M	B-1	N	N		N	F	P	P	Arsenic Cadmium Copper Lead Zinc Nutrients Siltation Flow alteration Other habitat alterations Metals	Agriculture Silviculture Logging Road Construction/Maintenance Subsurface Mining Acid Mine Drainage Abandoned mining Habitat Modification (other than Hydromodification) Resource Extraction
6	MT41E002_020	CATARACT CREEK from headwaters to the mouth (Boulder R)	5	12.2 M	B-1	N	N		N	F	P	F	Arsenic Cadmium Copper Lead Mercury Zinc Nutrients Siltation Metals	Silviculture Harvesting, Restoration, Residue Management Logging Road Construction/Maintenance Mine Tailings Acid Mine Drainage Abandoned mining Removal of Riparian Vegetation Contaminated Sediments Agriculture Grazing related Sources Resource Extraction Habitat Modification (other than Hydromodification)

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020006 Watershed BOULDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
7	MT41E002_030	BASIN CREEK from headwaters to the mouth (Boulder R)	5	15.5 M	A-1 above Basin WSI (location unknown) B-1 below Basin WSI	N	N		N	F	P	F	Arsenic Copper Lead Mercury Zinc Siltation Other habitat alterations Metals	Silviculture Harvesting, Restoration, Residue Management Logging Road Construction/Maintenance Mine Tailings Acid Mine Drainage Abandoned mining Removal of Riparian Vegetation Contaminated Sediments Agriculture Grazing related Sources Resource Extraction Habitat Modification (other than Hydromodification)

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Hydrologic Unit Code 10020006 Watershed BOULDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
8	MT41E002_040	HIGH ORE CREEK from headwaters to the mouth (Boulder R)	5	6.6 M	B-1	N	N		N	F	P	P	Arsenic Cadmium Copper Lead Mercury Zinc Siltation Thermal modifications Other habitat alterations Suspended solids Metals	Silviculture Logging Road Construction/Maintenance Highway/Road/Bridge Construction Mine Tailings Acid Mine Drainage Abandoned mining Channelization Removal of Riparian Vegetation Contaminated Sediments Agriculture Grazing related Sources Construction Resource Extraction Hydromodification Habitat Modification (other than Hydromodification)
9	MT41E002_050	LOWLAND CREEK from headwaters to the mouth (Boulder R)	5	13.6 M	B-1	N	N		F	F	F	F	Metals Copper Other habitat alterations	Dredge Mining Abandoned mining Channelization Dredging Bank or Shoreline Modification/Destabilization Resource Extraction Hydromodification Habitat Modification (other than Hydromodification)

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Hydrologic Unit Code 10020006 Watershed BOULDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
10	MT41E002_061	ELKHORN CREEK from headwaters to Wood Gulch	5	8 M	B-1	N	N		N	P	P	F	Cadmium Copper Lead Zinc Siltation Flow alteration Other habitat alterations Metals	Grazing related Sources Acid Mine Drainage Abandoned mining Channelization Dredging Habitat Modification (other than Hydromodification) Agriculture Resource Extraction Hydromodification
11	MT41E002_062	ELKHORN CREEK from Wood Gulch to the mouth (Boulder R)	5	4.2 M	B-1	N	N		N	N	P	F	Cadmium Copper Lead Zinc Siltation Flow alteration Metals	Grazing related Sources Acid Mine Drainage Abandoned mining Flow Regulation/Modification Agriculture Crop-related Sources Resource Extraction Hydromodification
12	MT41E002_070	BISON CREEK from headwaters to the mouth (Boulder R)	5	23.1 M	B-1	N	N		F	F	F	F	Metals Copper Nutrients Other habitat alterations	Agriculture Construction Highway/Road/Bridge Construction Abandoned mining Channelization Bridge Construction Resource Extraction Hydromodification

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Hydrologic Unit Code 10020006 Watershed BOULDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
13	MT41E002_080	LITTLE BOULDER RIVER from the North Fork to the mouth (Boulder R)	5	3.5 M	B-1	N	N		F	P	F	F	Copper Zinc Metals Other habitat alterations Riparian degradation Fish habitat degradation	Dredge Mining Abandoned mining Resource Extraction Agriculture Grazing related Sources Construction Highway/Road/Bridge Construction
14	MT41E002_100	MUSKRAT CREEK from headwaters to the mouth (Boulder R)	5	12.7 M	B-1	N	N		N	F	F	F	Copper Lead Other habitat alterations Metals	Abandoned mining Agriculture Grazing related Sources Resource Extraction
15	MT41E002_140	BIG LIMBER GULCH from headwaters to mouth (Cataract Cr-Boulder R)	5	2.4 M	B-1	X	X		N	X	F	F	Lead Mercury Metals	Acid Mine Drainage Abandoned mining Resource Extraction

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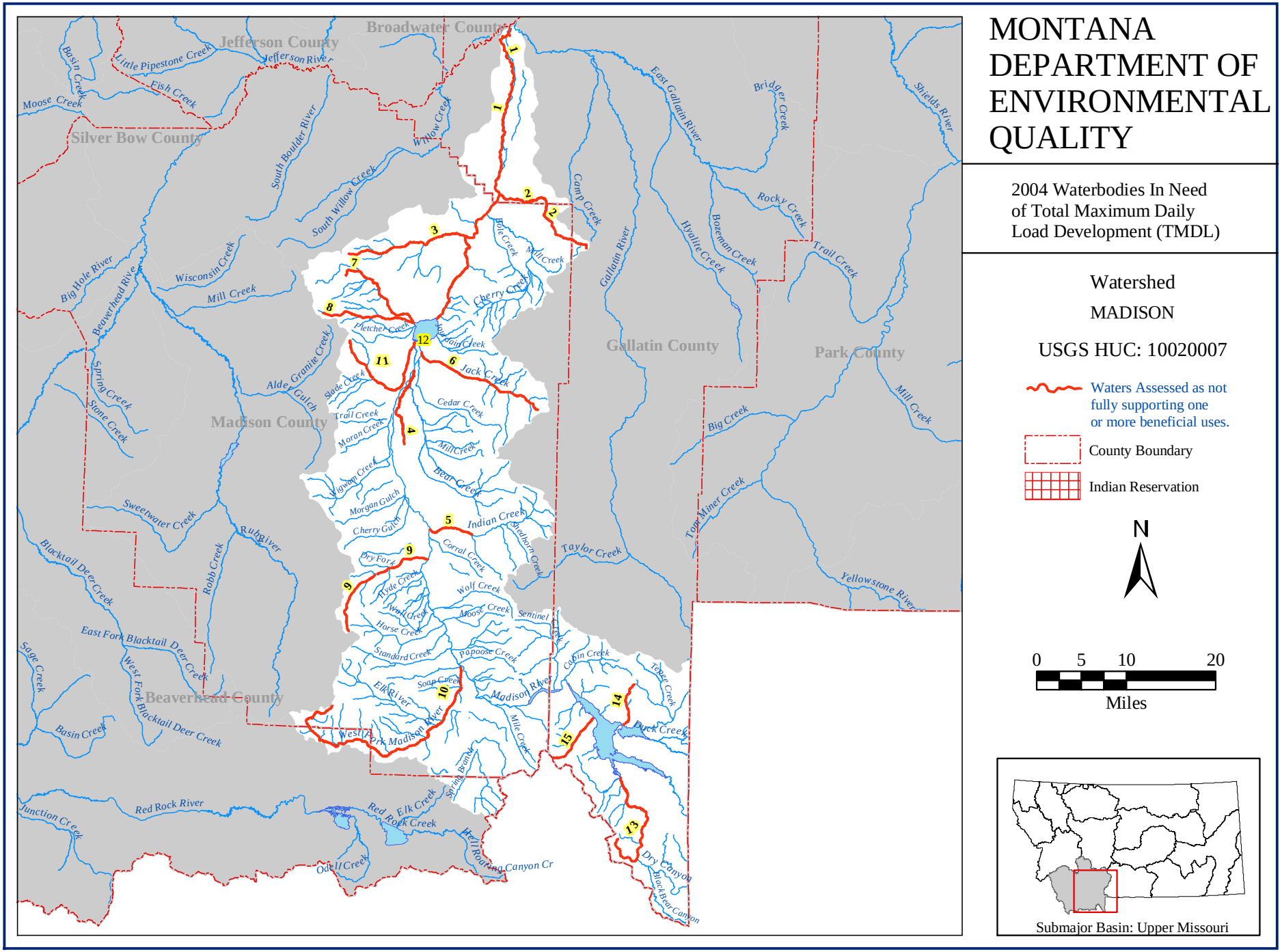

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

MADISON

USGS HUC: 10020007

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

N

0 5 10 20

Miles

Submajor Basin: Upper Missouri

Hydrologic Unit Code 10020007 Watershed MADISON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41F001_010	MADISON RIVER from Ennis Dam to the mouth (Missouri R)	5	45.8 M	B-1	P	P		N	F	F	F	Copper Lead Siltation Thermal modifications Riparian degradation Metals Other habitat alterations	Agriculture Abandoned mining Upstream Impoundment Flow Regulation/Modification Resource Extraction Hydromodification
2	MT41F002_020	ELK CREEK from headwaters to the mouth (Madison R)	5	15.9 M	B-1	N	N		F	N	F	P	Nutrients Phosphorus Nitrate Siltation Thermal modifications Bank erosion Riparian degradation Fish habitat degradation Turbidity Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Intensive Animal Feeding Operations
3	MT41F002_030	HOT SPRINGS CREEK from headwaters to the mouth (Madison R)	5	15.2 M	B-1	X	X		N	N	X	F	Arsenic Dewatering Metals Flow alteration	Acid Mine Drainage Abandoned mining Hydromodification Flow Regulation/Modification Agriculture Crop-related Sources Resource Extraction

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Hydrologic Unit Code 10020007 Watershed MADISON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT41F004_020	0'DELL SPRING CREEK from headwaters to the mouth (Madison R)	5	12.3 M	B-1	P	P		N	F	F	F	Arsenic Flow alteration Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation Metals	Agriculture Grazing related Sources Channelization Flow Regulation/Modification Habitat Modification (other than Hydromodification) Crop-related Sources Hydromodification
5	MT41F004_040	INDIAN CREEK, Lee Metcalf Wilderness boundary to the mouth (Madison R)	4C	5.5 M	B-1	P	P		F	P	F	F	Dewatering Flow alteration	Flow Regulation/Modification Agriculture Crop-related Sources Hydromodification
6	MT41F004_050	JACK CREEK from headwaters to the mouth (Madison R)	5	16.4 M	B-1	P	P		F	P	F	F	Siltation Dewatering Bank erosion Channel incisement Flow alteration Other habitat alterations	Grazing related Sources Agriculture Crop-related Sources

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Hydrologic Unit Code 10020007 Watershed MADISON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
7	MT41F004_060	NORTH MEADOW CREEK from headwaters to the mouth (Enis Lake)	5	12.2 M	B-1	F	F		F	P	F	F	Siltation Dewatering Channel incisement Flow alteration Other habitat alterations Nutrients Phosphorus	Channelization Bank or Shoreline Modification/Destabilization Agriculture Crop-related Sources Hydromodification Habitat Modification (other than Hydromodification)
8	MT41F004_070	SOUTH MEADOW CREEK from headwaters to the mouth (Enis Lake)	5	11.1 M	B-1	N	N		F	P	F	F	Lead Channel incisement Noxious aquatic plants Algal Grwth/Chlorophyll a Metals Other habitat alterations	Grazing related Sources Abandoned mining Agriculture Crop-related Sources Resource Extraction
9	MT41F004_080	RUBY CREEK from headwaters to the mouth (Madison R)	4C	15.1 M	B-1	P	P		F	P	F	F	Dewatering Flow alteration	Flow Regulation/Modification Agriculture Crop-related Sources Hydromodification

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Hydrologic Unit Code 10020007 Watershed MADISON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
10	MT41F004_100	WEST FORK MADISON RIVER, Headwaters to the mouth (Madison R)	5	33.3 M	B-1	N	N		N	P	F	F	Arsenic Cadmium Lead Thermal modifications Dewatering Bank erosion Riparian degradation Fish habitat degradation Metals Flow alteration Other habitat alterations	Grazing related Sources Harvesting, Restoration, Residue Management Logging Road Construction/Maintenance Hydromodification Flow Regulation/Modification Agriculture Crop-related Sources Silviculture Highway Maintenance and Runoff
11	MT41F004_130	MOORE CREEK from springs to mouth (Ennis Lake).	5	15.2 M	B-1	X	X		N	N	F	F	Arsenic Pathogens Metals	Agriculture Grazing related Sources Acid Mine Drainage Abandoned mining Resource Extraction
12	MT41F005_030	ENNIS LAKE	5	3780.8 A	B-1	P	P		N	P	F	F	Chromium Other Dewatering Other habitat alterations Fish habitat degradation Metals Nutrients Flow alteration	Acid Mine Drainage Abandoned mining Flow Regulation/Modification Habitat Modification (other than Hydromodification) Resource Extraction Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020007 Watershed MADISON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
13	MT41F006_010	SOUTH FORK MADISON RIVER from headwaters to Hebgen Lake	5	17.5 M	B-1	F	F		N	F	F	F	Arsenic Metals	
14	MT41F006_020	RED CANYON CREEK from headwaters to the mouth (Hebgen Lake)	5	5.6 M	B-1	P	P		F	P	F	F	Siltation Dewatering Bank erosion Riparian degradation Flow alteration Other habitat alterations	Grazing related Sources Silviculture Agriculture
15	MT41F006_030	WATKINS CREEK from headwaters to the mouth (Hebgen Lake)	4C	7.1 M	B-1	N	N		F	N	F	F	Flow alteration Dewatering Other habitat alterations Bank erosion Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources Removal of Riparian Vegetation Habitat Modification (other than Hydromodification)

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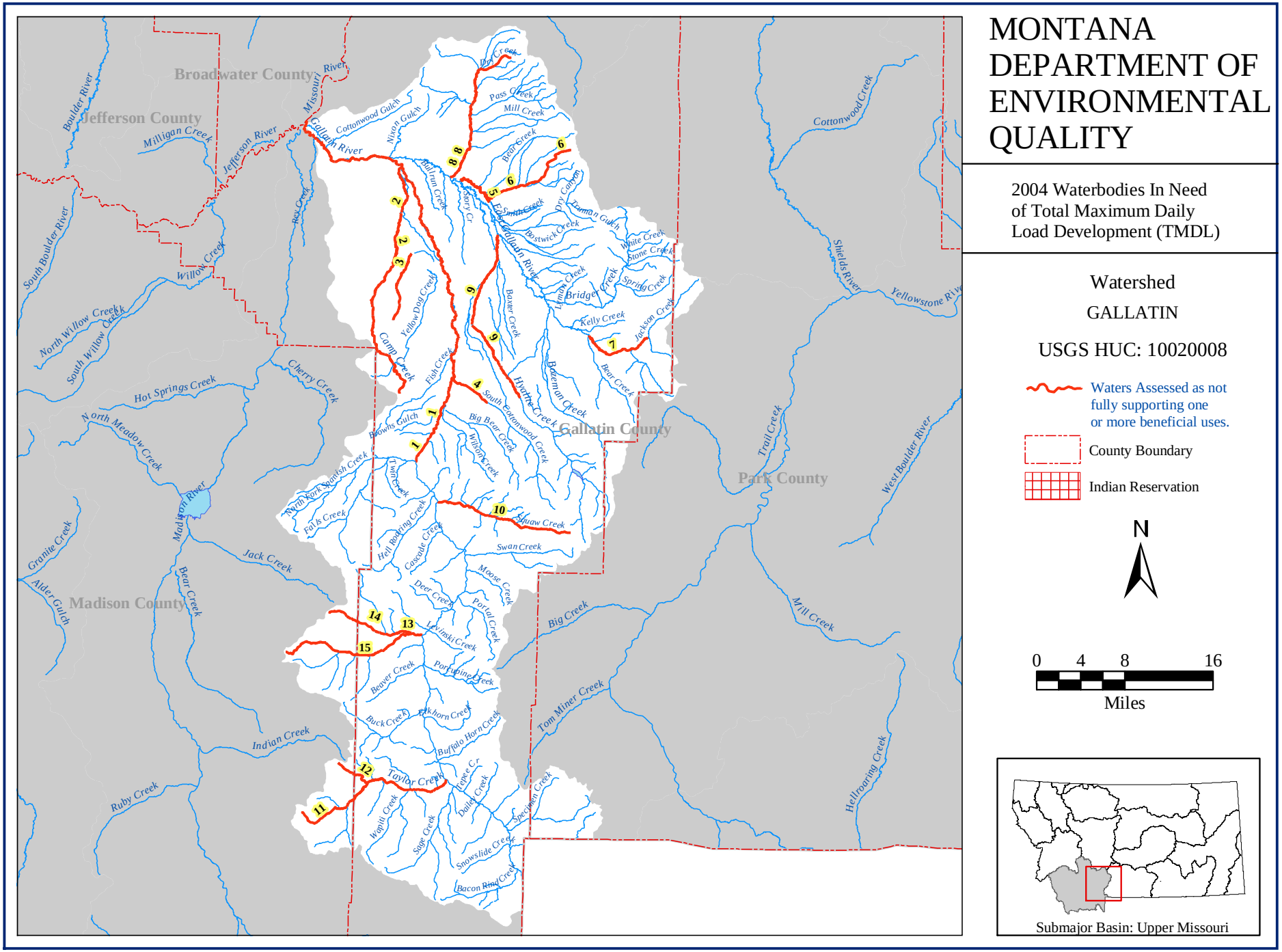
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
GALLATIN
USGS HUC: 10020008
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 4 8 16
Miles
Submajor Basin: Upper Missouri
Broadwater County
Jefferson County
Madison County
Gallatin County
Park County
Missouri River
Gallatin River
Jefferson River
Madison River
Boulder River
South Boulder River
Willow Creek
North Willow Creek
South Willow Creek
Hot Springs Creek
North Meadow Creek
Cherry Creek
Granite Creek
Alder Gulch
Jack Creek
Bear Creek
Indian Creek
Ruby Creek
Milligan Creek
Cottonwood Gulch
Nixon Gulch
Dry Creek
Pass Creek
Mill Creek
Bear Creek
Bull Run Creek
Story Cr
Dry Canyon
Tuman Gulch
Smith Creek
Hapstwick Creek
White Creek
Stone Creek
Spring Creek
Bridger Creek
Lyman Creek
Kelly Creek
Jackson Creek
Baxter Creek
Bozeman Creek
Bear Creek
Hyalite Creek
South Cottonwood Creek
Big Bear Creek
Wilson Creek
Brownis Gulch
Fish Creek
Camp Creek
Yellow Dog Creek
Roy Creek
Cottonwood Creek
Shields River
Yellowstone River
Trail Creek
West Boulder River
Mill Creek
Big Creek
Tom Miner Creek
Hellroaring Creek
Twin Creek
North Fork Spanish Creek
Falls Creek
Hell Roaring Creek
Cascade Creek
Swan Creek
Shaw Creek
Moose Creek
Deer Creek
Portal Creek
Lavinski Creek
Porcupine Creek
Beaver Creek
Buck Creek
Elkhorn Creek
Buffalo Horn Creek
Taylor Creek
Teepee Cr
Daily Creek
Specimen Creek
Wapiti Creek
Sage Creek
Snowslide Creek
Bacon Rind Creek
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Hydrologic Unit Code 10020008 Watershed GALLATIN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41H001_010	GALLATIN RIVER from Spanish Cr to the mouth (Missouri R)	4C	50.5 M	B-1	P	N		F	N	F	P	Flow alteration Dewatering	Agriculture Crop-related Sources
2	MT41H002_010	CAMP CREEK Headwaters to the mouth (Gallatin R)	5	26.9 M	B-1	P	P		F	P	F	F	Nutrients Siltation Bank erosion Channel incisement Riparian degradation Fish habitat degradation Other habitat alterations Flow alteration Dewatering Nitrogen Pathogens	Agriculture Channelization Crop-related Sources Intensive Animal Feeding Operations Hydromodification Grazing related Sources
3	MT41H002_020	GODFREY CREEK from headwaters to White Ditch	5	7.2 M	B-1	P	P		F	N	P	F	Nutrients Siltation Bank erosion Fish habitat degradation Pathogens Algal Grwth/Chlorophyll a Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources Intensive Animal Feeding Operations
4	MT41H002_031	SOUTH COTTONWOOD CREEK, Middle Cr Assoc Ditch diversion to the mouth (Gallatin R)	4C	6.2 M	B-1	P	P		F	P	F	F	Dewatering Flow alteration	Agriculture Crop-related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020008 Watershed GALLATIN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
5	MT41H003_060	SMITH CREEK from headwaters to the mouth (Bear Cr)	5	7.5 M	B-1	P	P		X	N	F	F	Nutrients Siltation Bank erosion Riparian degradation Fish habitat degradation Pathogens Other habitat alterations	Agriculture Grazing related Sources
6	MT41H003_070	REESE CREEK from headwaters to the mouth (Smith Cr)	5	10.4 M	B-1	P	P		F	N	F	F	Nutrients Pathogens Suspended solids	Agriculture
7	MT41H003_080	ROCKY CREEK from headwaters to the mouth (East Gallatin R)	5	7.5 M	B-1	P	P		X	F	F	F	Siltation Bank erosion Channel incisement Riparian degradation Fish habitat degradation Other habitat alterations	Agriculture Highway/Road/Bridge Construction Channelization Construction Hydromodification
8	MT41H003_100	DRY CREEK from headwaters to the mouth (East Gallatin R)	5	16.3 M	B-1	P	P		F	N	F	F	Nutrients Siltation Bank erosion Riparian degradation Fish habitat degradation Other habitat alterations	Agriculture Grazing related Sources Channelization Hydromodification

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Hydrologic Unit Code 10020008 Watershed GALLATIN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
9	MT41H003_132	HYALITE CREEK, Bozeman water supply intake to the mouth (E. Gallatin R)	4C	20.4 M	B-1	X	X		X	P	X	X	Dewatering Flow alteration	Agriculture Crop-related Sources
10	MT41H005_010	SQUAW CREEK from headwaters to the mouth (Gallatin R)	5	13.7 M	B-1	P	P		X	F	F	F	Bank erosion Fish habitat degradation Other habitat alterations Nutrients Phosphorus	Silviculture Logging Road Construction/Maintenance
11	MT41H005_020	TAYLOR CREEK, Lee Metcalf Wilderness boundary to the mouth (Gallatin R)	5	17.4 M	B-1	P	P		X	F	X	P	Siltation Fish habitat degradation Suspended solids Other habitat alterations	Silviculture Land Development Construction
12	MT41H005_030	CACHE CREEK from headwaters to the mouth (Taylor Fork)	5	3.9 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations Suspended solids	Grazing related Sources Silviculture Logging Road Construction/Maintenance Agriculture
13	MT41H005_040	WEST FK GALLATIN RIVER, Confluence Mid & N Fks West Gallatin to mouth (Gallatin R)	5	3.7 M	B-1	P	P		F	N	F	F	Nutrients Siltation Algal Grwth/Chlorophyll a	Silviculture Land Development Construction Land Disposal

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10020008 Watershed GALLATIN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
14	MT41H005_050	MIDDLE FK OF WEST FK GALLATIN RIVER, Headwaters to mouth (West Fk Gallatin R)	5	6 M	B-1	P	P		F	P	F	F	Nutrients Bank erosion Pathogens Suspended solids Other habitat alterations	Highway/Road/Bridge Construction Agriculture Intensive Animal Feeding Operations Construction Urban Runoff/Storm Sewers Land Disposal
15	MT41H005_060	SOUTH FK OF WEST FK GALLATIN RIVER, Headwaters to mouth (West Fk Gallatin R)	5	13.8 M	B-1	P	P		F	P	F	F	Nutrients Siltation Bank erosion Fish habitat degradation Algal Grwth/Chlorophyll a Other habitat alterations	Silviculture Logging Road Construction/Maintenance Land Development Construction Land Disposal

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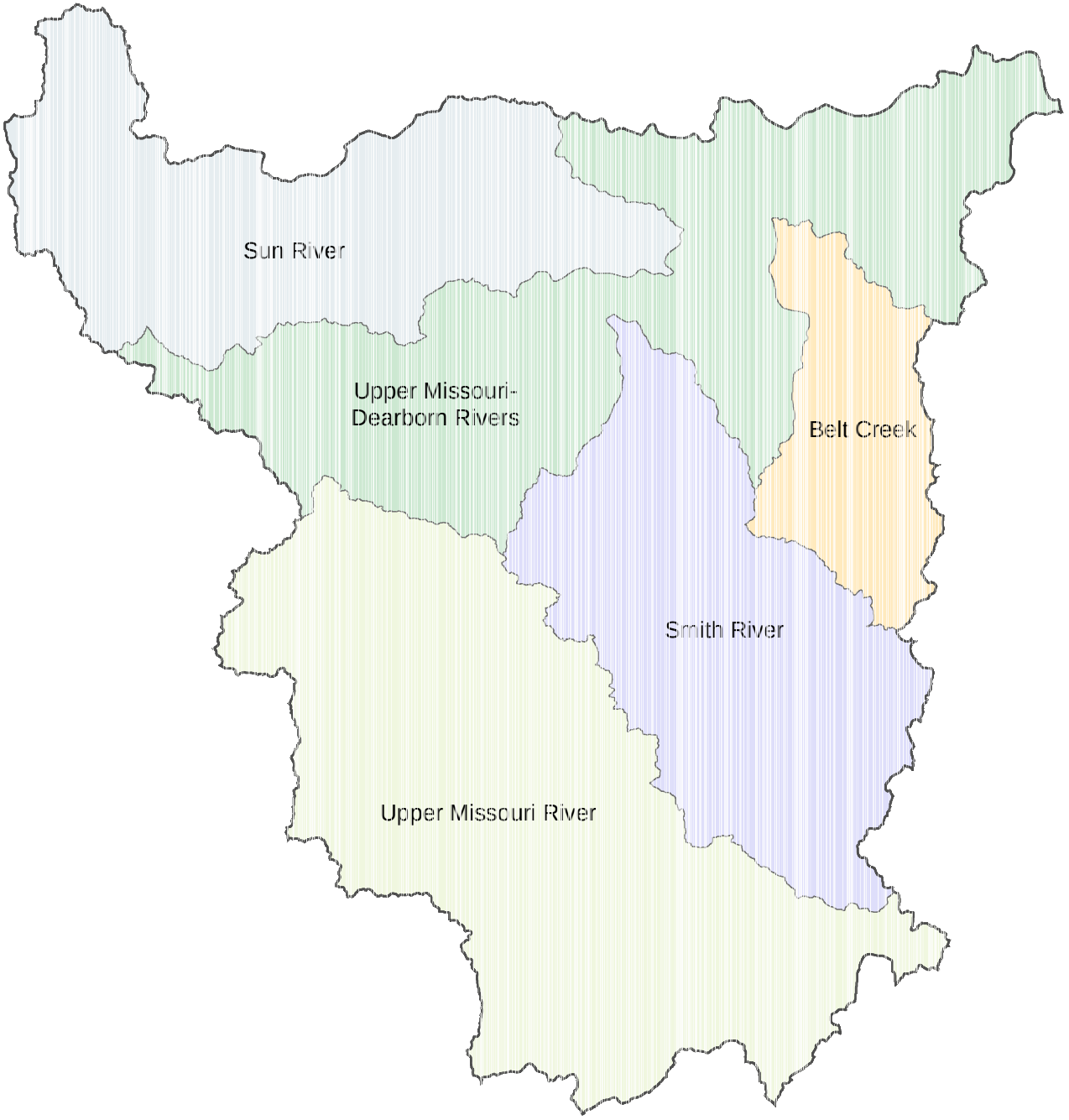
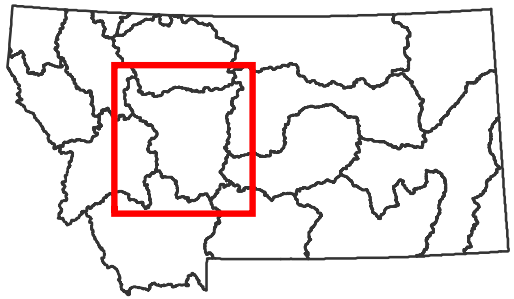
Missouri-Sun-Smith Sub-Major Basin

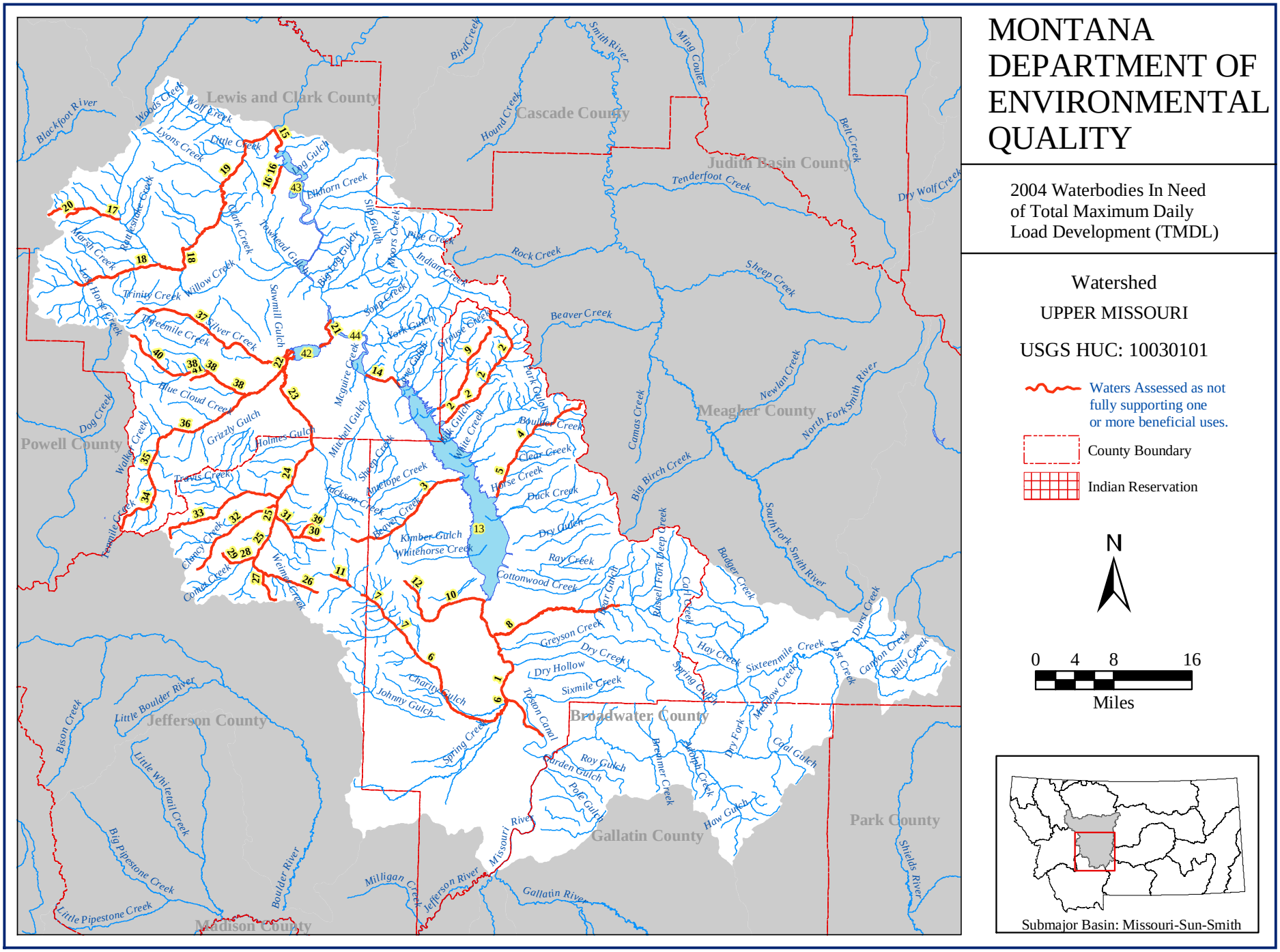
Missouri River Basin



USGS HUC	HUC NAME
10030101	Upper Missouri River
10030102	Upper Missouri-Dearborn Rivers
10030103	Smith River
10030104	Sun River
10030105	Belt Creek



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER MISSOURI

USGS HUC: 10030101

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

N

0 4 8 16

Miles

Submajor Basin: Missouri-Sun-Smith

Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41I001_012	MISSOURI RIVER from Toston Dam to Canyon Ferry Reservoir	5	24.4 M	B-1	P	P		N	F	F	P	Cadmium Copper Lead Siltation Dewatering Riparian degradation Metals Flow alteration Other habitat alterations	Grazing related Sources Abandoned mining Agriculture Crop-related Sources Resource Extraction
2	MT41I002_010	AVALANCHE GULCH from headwaters to mouth (Canyon Ferry Res)	4C	16.5 M	B-1	X	X		X	P	X	P	Flow alteration Dewatering	Agriculture Crop-related Sources Hydromodification
3	MT41I002_030	BEAVER CREEK from headwaters to the mouth (Canyon Ferry Reservoir)	5	14.4 M	B-1	N	N		N	P	F	P	Metals Nutrients Dewatering Flow alteration	Agriculture Abandoned mining Crop-related Sources Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT41I002_041	CONFEDERATE GULCH from headwaters to Hunter Gulch	5	9.8 M	B-1	N	N		X	P	F	F	Metals Nitrate Other habitat alterations Nutrients Flow alteration Fish habitat degradation	Highway/Road/Bridge Construction Dredge Mining Abandoned mining Channelization Construction Resource Extraction Hydromodification Agriculture Grazing related Sources
5	MT41I002_042	CONFEDERATE GULCH, Hunter Gulch to the mouth (Canyon Ferry Res)	5	5.1 M	B-1	N	N		X	N	X	N	Phosphorus Nitrate Flow alteration Other habitat alterations Nutrients	Agriculture Dredge Mining Abandoned mining Crop-related Sources Resource Extraction
6	MT41I002_050	CROW CREEK from the National Forest boundary to the mouth (Missouri R)	5	16.2 M	B-1	N	N		F	N	N	N	Nutrients Siltation Flow alteration Other habitat alterations	Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Crop-related Sources
7	MT41I002_060	CROW CREEK from Crow Cr Falls to the National Forest boundary	5	7.9 M	B-1	P	P		F	F	F	F	Metals Other habitat alterations	Placer Mining Abandoned mining Channelization Resource Extraction Hydromodification

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
8	MT41I002_070	DEEP CREEK from the National Forest Boundary to the mouth (Missouri R)	4A	18.1 M	B-1	P	P		F	F	F	F	Siltation Flow alteration Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Bank or Shoreline Modification/Destabilization
9	MT41I002_090	HELLGATE GULCH from headwaters to the mouth (Canyon Ferry Res)	5	11.5 M	B-1	N	N		N	X	F	F	Metals Mercury Other habitat alterations Bank erosion Channel incisement Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources Silviculture Construction Highway/Road/Bridge Construction Resource Extraction Mine Tailings Recreation and Tourism Activities (other than Boating - see 7900)
10	MT41I002_100	INDIAN CREEK from headwaters to the mouty (Missouri R)	5	7.9 M	B-1	X	X		N	X	N	F	Metals Arsenic Cadmium Lead Mercury	Resource Extraction Dredge Mining Mine Tailings Acid Mine Drainage Abandoned mining Agriculture Grazing related Sources

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
11	MT41I002_140	WILSON CREEK 3.3 Miles above the mouth to the mouth (Crow Cr)	5	3.3 M	B-1	X	X		N	X	X	X	Mercury Metals	Abandoned mining Resource Extraction
12	MT41I002_170	EAST FORK INDIAN CREEK from headwaters to mouth (Indian Cr)	5	4.7 M	B-1	X	X		N	X	X	X	Arsenic Cadmium Lead Mercury Metals	Resource Extraction Acid Mine Drainage Abandoned mining
13	MT41I003_010	CANYON FERRY RESERVOIR	5	35180 A	B-1	F	F		N	N	P	F	Metals Arsenic Mercury Unionized Ammonia Nutrients Noxious aquatic plants	Municipal Point Sources Agriculture Land Development Acid Mine Drainage Abandoned mining Internal nutrient cycling (primarily lakes) Construction Resource Extraction Land Disposal
14	MT41I004_010	MISSOURI RIVER from Canyon Ferry Dam to Hauser Lake	5	3.8 M	B-1	P	P		F	F	F	F	Nutrients Organic enrichment/Low DO	Dam Construction Source Unknown Municipal Point Sources Agriculture Grazing related Sources Land Disposal Hydromodification

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
15	MT41I004_030	MISSOURI RIVER from Holter Dam to Little Prickly Pear Cr	5	2.9 M	B-1	P	P		F	F	F	F	Flow alteration Nutrients Siltation	Hydromodification Upstream Impoundment Municipal Point Sources Agriculture Grazing related Sources Land Disposal
16	MT41I005_030	FALLS GULCH, Headwaters to mouth (Holter Lake) T14N, R3W, Sec. 29	5	3.3 M	B-1	N	N		N	X	F	X	Mercury Metals	Abandoned mining Resource Extraction
17	MT41I005_040	VIRGINIA CREEK from headwaters to the mouth (Canyon Cr)	5	8.2 M	B-1	P	P		N	F	F	F	Copper Lead Zinc Metals	Abandoned mining Resource Extraction
18	MT41I005_051	LITTLE PRICKLY PEAR CREEK, North and South Fks toClark Cr	5	20 M	B-1	P	P		F	F	F	F	Siltation Thermal modifications Flow alteration Other habitat alterations	Grazing related Sources Silviculture Logging Road Construction/Maintenance Hydromodification Removal of Riparian Vegetation Agriculture Habitat Modification (other than Hydromodification)

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
19	MT41I005_052	LITTLE PRICKLY PEAR CREEK, Clark Cr to the mouth (Missouri R)	5	16.1 M	B-1	N	N		F	F	F	F	Thermal modifications Flow alteration Other habitat alterations	Highway/Road/Bridge Construction Hydromodification Channelization Bridge Construction Removal of Riparian Vegetation Construction Habitat Modification (other than Hydromodification)
20	MT41I005_060	FOOL HEN CREEK, Headwaters to mouth (Virgina Cr-Canyon Cr- Little Prickly Pear Cr)	5	1.7 M	B-1	N	N		N	X	N	X	Metals	Subsurface Mining Mill Tailings Resource Extraction
21	MT41I006_010	PRICKLY PEAR CREEK from Lake Helena to Hauser Lake	5	4.1 M	B-1	X	X		N	X	X	X	Arsenic Metals	Mine Tailings Acid Mine Drainage Abandoned mining Atmospheric Deposition Contaminated Sediments Resource Extraction

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
22	MT41I006_020	PRICKLY PEAR CREEK from Helena WWTP Discharge Ditch to Lake Helena	5	9.1 M	I	N	N		N	P	F	P	Metals Unionized Ammonia Nutrients Siltation Thermal modifications Dewatering Bank erosion Fish habitat degradation Flow alteration Other habitat alterations	Industrial Point Sources Agriculture Acid Mine Drainage Abandoned mining Flow Regulation/Modification Contaminated Sediments Municipal Point Sources Grazing related Sources Resource Extraction Hydromodification
23	MT41I006_030	PRICKLY PEAR CREEK from Highway 433 (Wylie Dr.) Crossing to Helena WWTP Discharge	5	6.1 M	I	N	N		N	P	P	P	Metals Nutrients Siltation Thermal modifications Dewatering Riparian degradation Fish habitat degradation Flow alteration Other habitat alterations	Industrial Point Sources Acid Mine Drainage Abandoned mining Habitat Modification (other than Hydromodification) Contaminated Sediments Agriculture Crop-related Sources Grazing related Sources Resource Extraction Land Disposal

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
24	MT41I006_040	PRICKLY PEAR CREEK from Lump Gulch to Montana Highway 433 (Wylie Dr.) Crossing	5	10.6 M	B-1	N	N		N	F	P	F	Metals Siltation Other habitat alterations Fish habitat degradation	Industrial Point Sources Highway/Road/Bridge Construction Acid Mine Drainage Abandoned mining Channelization Contaminated Sediments Construction Resource Extraction Hydromodification
25	MT41I006_050	PRICKLY PEAR CREEK from Spring Cr to Lump Gulch	5	7 M	B-1	N	N		N	F	P	F	Metals Siltation Other habitat alterations Bank erosion Fish habitat degradation	Resource Extraction Placer Mining Mine Tailings Acid Mine Drainage Abandoned mining Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
26	MT41I006_060	PRICKLY PEAR CREEK from headwaters to Spring Cr	5	8.7 M	B-1	N	P		N	F	P	F	Metals Other habitat alterations Fish habitat degradation	Highway/Road/Bridge Construction Placer Mining Acid Mine Drainage Abandoned mining Bank or Shoreline Modification/Destabilization Construction Resource Extraction Habitat Modification (other than Hydromodification)
27	MT41I006_070	GOLCONDA CREEK, Headwaters to the mouth (Prickly Pear Cr) T 7N, R3W	5	3.7 M	B-1	N	N		N	X	F	F	Metals	Resource Extraction Subsurface Mining Mine Tailings
28	MT41I006_080	SPRING CREEK from Corbin Cr to the mouth (Prickly Pear Cr)	5	1.7 M	B-1	N	N		N	P	N	P	Metals Dewatering Other habitat alterations Riparian degradation Fish habitat degradation Flow alteration	Grazing related Sources Mine Tailings Acid Mine Drainage Abandoned mining Channelization Contaminated Sediments Agriculture Resource Extraction Hydromodification

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
29	MT41I006_090	CORBIN CREEK from headwaters to the mouth (Spring Cr)	5	2.5 M	B-1	N	N		N	N	P	P	Metals pH Thermal modifications Suspended solids Other habitat alterations	Agriculture Resource Extraction Mill Tailings Mine Tailings Hydromodification
30	MT41I006_100	MIDDLE FK WARM SPRINGS CREEK, Headwaters to mouth (Warm Springs Cr - Prickly Pear Cr)	5	2.7 M	B-1	N	N		N	F	F	F	Metals Siltation Other habitat alterations Arsenic Copper Mercury Zinc	Mine Tailings Abandoned mining Resource Extraction Highway Maintenance and Runoff Unpaved Road Runoff
31	MT41I006_110	WARM SPRINGS CREEK from the Middle Fork to the mouth (Prickly Pear Cr)	5	3 M	B-1	P	P		N	F	F	F	Metals Siltation Arsenic Cadmium Lead	Abandoned mining Resource Extraction Agriculture Grazing related Sources Mine Tailings Highway Maintenance and Runoff Unpaved Road Runoff

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
32	MT41I006_120	CLANCY CREEK from headwaters to the mouth (Prickly Pear Cr)	5	11.6 M	B-1	N	N		N	F	F	F	Siltation Other habitat alterations Channel incisement Metals Arsenic Lead Mercury	Resource Extraction Acid Mine Drainage Abandoned mining Contaminated Sediments Agriculture Grazing related Sources Intensive Animal Feeding Operations Highway Maintenance and Runoff Unpaved Road Runoff
33	MT41I006_130	LUMP GULCH from headwaters to the mouth (Prickly Pear Cr)	5	14.5 M	B-1	N	N		N	X	F	F	Cadmium Mercury Metals Copper Lead Zinc	Acid Mine Drainage Abandoned mining Resource Extraction
34	MT41I006_141	TENMILE CREEK, headwaters to the Helena PWS intake above Rimini	5	6 M	A-1	P	P		N	F	F	F	Metals Other habitat alterations Siltation Arsenic Cadmium Copper Lead Mercury Zinc	Logging Road Construction/Maintenance Acid Mine Drainage Abandoned mining Silviculture Resource Extraction Highway Maintenance and Runoff Mine Tailings

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
35	MT41I006_142	TENMILE CREEK From the Helena PWS intake above Rimini to the Helena WT plant.	5	7.7 M	B-1	N	N		N	N	N	N	Metals Arsenic Cadmium Copper Lead Zinc Flow alteration Siltation	Acid Mine Drainage Abandoned mining Flow Regulation/Modification Resource Extraction Hydromodification Highway Maintenance and Runoff
36	MT41I006_143	TENMILE CREEK from the Helena WT plant to the mouth (Prickly Pear Cr)	5	15.9 M	B-1	P	P		N	P	F	F	Siltation Flow alteration Other habitat alterations Metals Nutrients Arsenic Cadmium Copper Lead Mercury Zinc	Highway/Road/Bridge Construction Land Development Acid Mine Drainage Abandoned mining Channelization Flow Regulation/Modification Habitat Modification (other than Hydromodification) Agriculture Crop-related Sources Construction Resource Extraction Hydromodification

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Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
37	MT41I006_150	SILVER CREEK from headwaters to the mouth (Lake Helena)	5	21.6 M	B-1	N	N		N	P	F	P	Priority organics Metals Flow alteration Other habitat alterations	Agriculture Resource Extraction Subsurface Mining Dredge Mining Mill Tailings Crop-related Sources
38	MT41I006_160	SEVENMILE CREEK from headwaters to the mouth (Tenmile Cr)	5	7.8 M	B-1	P	P		F	F	F	F	Metals Nutrients Siltation Flow alteration Other habitat alterations Riparian degradation	Agriculture Grazing related Sources Resource Extraction Abandoned mining Hydromodification Channelization
39	MT41I006_180	NORTH FK WARM SPRINGS CREEK, Headwaters to mouth (Warmsprings Cr - Prickly Pear)	5	3.5 M	B-1	F	P		F	F	F	X	Metals Arsenic Siltation Organic enrichment/Low DO Other habitat alterations Bank erosion Fish habitat degradation	Agriculture Grazing related Sources
40	MT41I006_220	SKELLY GULCH tributary of Greenhorn Cr-Sevenmile Cr T10N R5W Sec 2	5	7.7 M	B-1	P	P		F	F	F	F	Metals Siltation	Resource Extraction Abandoned mining Highway Maintenance and Runoff Unpaved Road Runoff

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10030101 Watershed UPPER MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
41	MT41I006_230	GRANITE CREEK from headwaters to the mouth (Sevenmile Cr)	5	2 M	B-1	X	X		N	X	X	X	Metals Arsenic Cadmium	Resource Extraction Abandoned mining Acid Mine Drainage
42	MT41I007_010	LAKE HELENA	5	1600 A	B-1	X	X		N	X	F	F	Arsenic Lead Metals	Acid Mine Drainage Abandoned mining Flow Regulation/Modification Agriculture Crop-related Sources Resource Extraction Hydromodification
43	MT41I007_020	HOLTER LAKE (Missouri R Mainstem Reservoir.)	5	5500 A	B-1	F	F		X	P	X	F	Mercury Metals	Placer Mining Abandoned mining Debris and bottom deposits Source Unknown Resource Extraction Atmospheric Deposition
44	MT41I007_040	HAUSER LAKE	5	3800 A	B-1	P	P		X	F	X	F	Pesticides Mercury Organic enrichment/Low DO Metals	Crop-related Sources Forest Management (pumped drainage, fertilization, pesticide application) Flow Regulation/Modification Source Unknown Agriculture Silviculture Hydromodification

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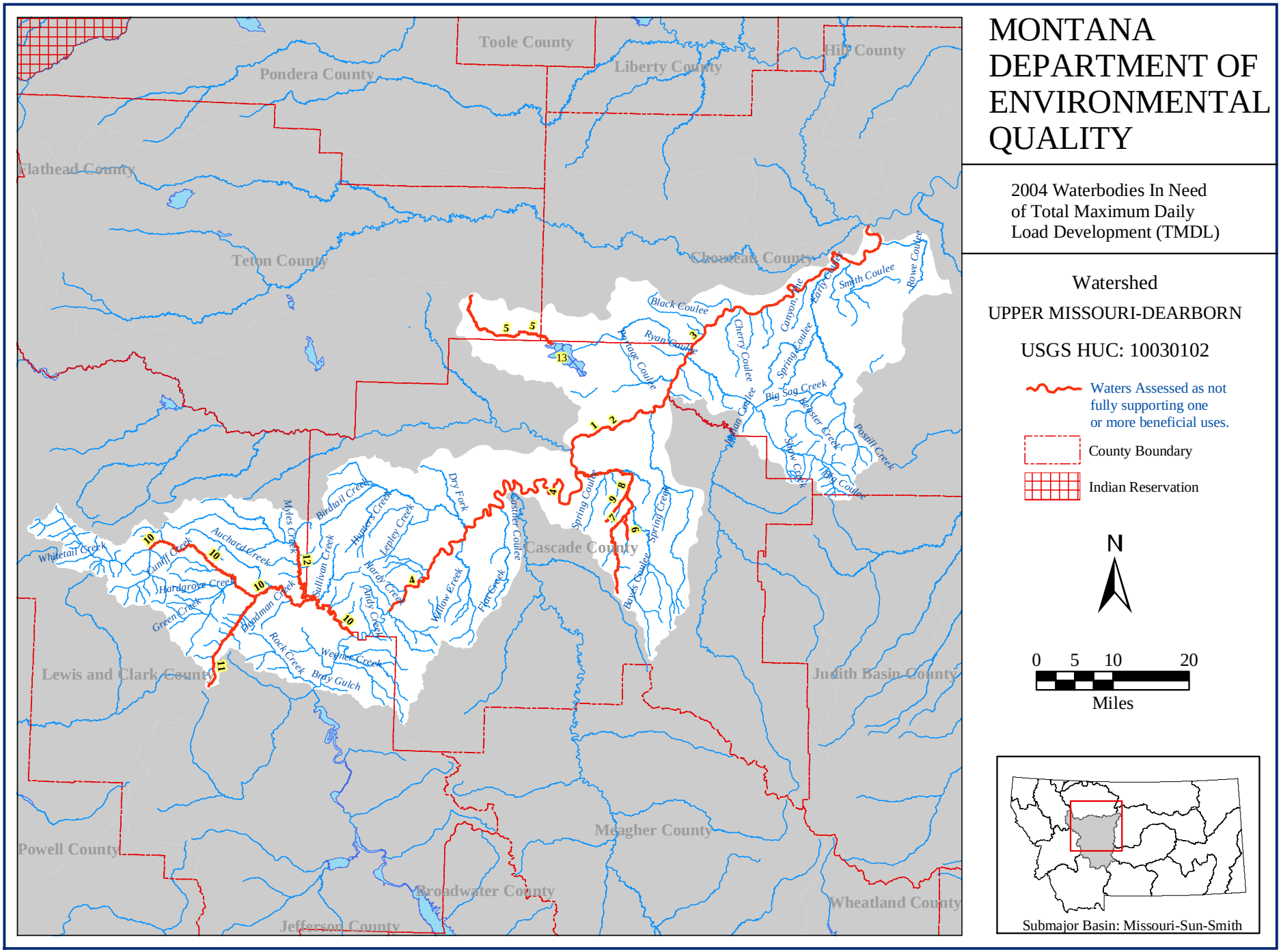

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER MISSOURI-DEARBORN

USGS HUC: 10030102

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Hydrologic Unit Code 10030102 Watershed UPPER MISSOURI-DEARBORN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41Q001_011	MISSOURI RIVER from the Sun R to Rainbow Dam	5	7.6 M	B-2	N	N		N	F	F	P	PCB's Metals Mercury Selenium Siltation Fish habitat degradation Suspended solids Turbidity Other habitat alterations	Industrial Point Sources Urban Runoff/Storm Sewers Dam Construction Contaminated Sediments Agriculture Crop-related Sources Hydromodification
2	MT41Q001_013	MISSOURI RIVER from Rainbow Dam to the Morony Dam	5	10.2 M	B-3	N		N	N	F	F	P	PCB's Metals Arsenic Copper Siltation Thermal modifications Turbidity	Industrial Point Sources Resource Extraction Abandoned mining Hydromodification Contaminated Sediments
3	MT41Q001_014	MISSOURI RIVER from Morony Dam to the Marias R	5	60.6 M	B-3	N	N	N	N	N	F	F	Metals Nutrients Thermal modifications Algal Grwth/Chlorophyll a Siltation	Industrial Point Sources Hydromodification Agriculture Grazing related Sources

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Hydrologic Unit Code 10030102 Watershed UPPER MISSOURI-DEARBORN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT41Q001_022	MISSOURI RIVER from Sheep Cr to the Sun R	5	65.6 M	B-1	P	P		F	F	F	F	Siltation	Agriculture Upstream Impoundment Flow Regulation/Modification Highway Maintenance and Runoff Hydromodification
5	MT41Q002_010	LAKE CREEK from headwaters to the mouth (Benton Lake)	5	19.6 M	B-3	N	N		N	X	N	N	Cadmium Selenium Zinc Salinity/TDS/chlorides Metals	Agriculture Crop-related Sources Flow Regulation/Modification Hydromodification
6	MT41Q002_020	COTTONWOOD CREEK from 1 mile above Stockett to mouth (Sand Coulee Cr - Missouri R)	5	3.9 M	B-1	N	N		N	X	F	F	Metals Cadmium Zinc	Subsurface Mining Acid Mine Drainage Resource Extraction
7	MT41Q002_030	NUMBER FIVE COULEE, Headwaters to the mouth (Cottonwood Cr - Sand Coulee Cr - Missouri R)	5	15.1 M	B-1	N	N		N	X	F	F	Metals Cadmium Lead Zinc	Subsurface Mining Abandoned mining Resource Extraction
8	MT41Q002_040	SAND COULEE CREEK, Number Five Coulee to the mouth (Missouri R)	5	17.1 M	B-1	N	N		N	X	P	P	Metals Zinc Salinity/TDS/chlorides Lead	Subsurface Mining Abandoned mining Resource Extraction Agriculture

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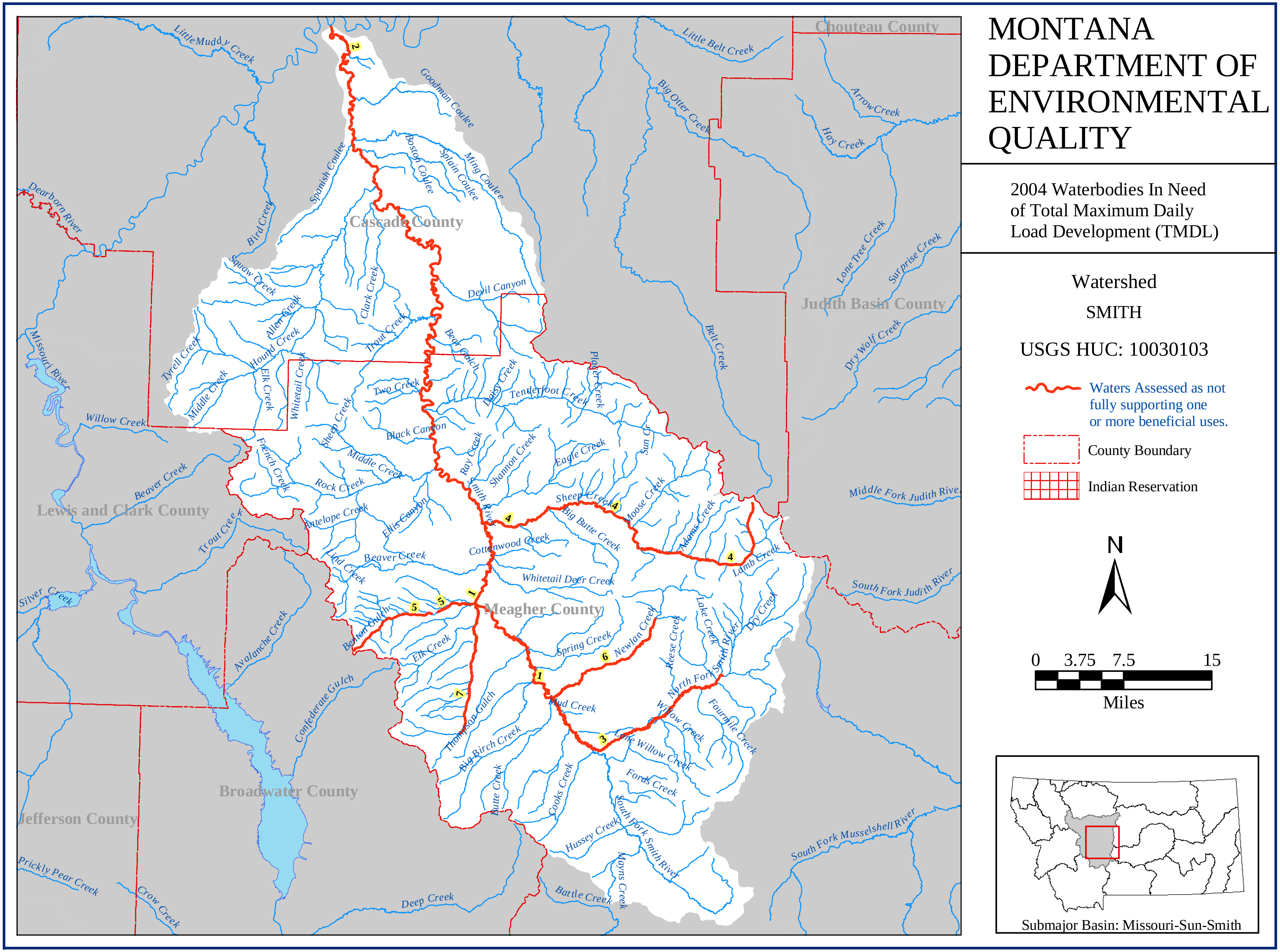
Hydrologic Unit Code 10030102 Watershed UPPER MISSOURI-DEARBORN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
9	MT41Q002_060	SAND COULEE from headwaters to mouth Sand Coulee Cr-Missouri R)	5	5.3 M	B-1	N	N		N	X	P	P	Metals Cadmium Zinc Salinity/TDS/chlorides	Subsurface Mining Abandoned mining Resource Extraction
10	MT41Q003_010	DEARBORN RIVER from Falls Cr to the mouth (Missouri R)	5	48.6 M	B-1	N	N		F	P	F	F	Siltation Thermal modifications Flow alteration	Agriculture Grazing related Sources Flow Regulation/Modification Hydromodification
11	MT41Q003_030	SOUTH FORK OF THE DEARBORN RIVER, Headwaters to the mouth (Dearborn R)	5	15.8 M	B-1	P	P		X	F	F	F	Siltation Flow alteration Dewatering	Agriculture Grazing related Sources
12	MT41Q003_040	FLAT CREEK from Henry Cr to the mouth (Dearborn R)	5	15.5 M	B-1	P	N		X	F	F	F	Siltation Flow alteration	Agriculture Grazing related Sources Hydromodification Flow Regulation/Modification
13	MT41Q005_020	BENTON LAKE T22N R3E	5	5600 A	B-3	P		P	N	P	P	F	Selenium Sulfates Nitrogen Noxious aquatic plants Metals Nutrients	Agriculture Crop-related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
SMITH
USGS HUC: 10030103
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0
3.75
7.5
15
Miles
Submajor Basin: Missouri-Sun-Smith
Chouteau County
Cascade County
Judith Basin County
Lewis and Clark County
Meagher County
Broadwater County
Jefferson County
Little Muddy Creek
Little Belt Creek
Big Otter Creek
Arrow Creek
Hay Creek
Goodman Coulee
Boston Coulee
Splain Coulee
Ming Coulee
Spanish Coulee
Dearborn River
Bird Creek
Squaw Creek
Clark Creek
Devil Canyon
Allen Creek
Hound Creek
Trout Creek
Bear Gulch
Tyrell Creek
Elk Creek
Whitetail Creek
Middle Creek
Missouri River
Willow Creek
Two Creek
Daisy Creek
Tenderfoot Creek
Placer Creek
Belt Creek
Lone Tree Creek
Surprise Creek
Dry Wolf Creek
Black Canyon
Sheep Creek
French Creek
Ray Creek
Shannon Creek
Eagle Creek
Sun Cr
Rock Creek
Smith River
Moose Creek
Adams Creek
Big Butte Creek
Beaver Creek
Antelope Creek
Ellis Canyon
Cottonwood Creek
Whitetail Deer Creek
Lamb Creek
Middle Fork Judith River
South Fork Judith River
Trout Creek
Lodd Creek
Silver Creek
Benton Gulch
Spring Creek
Newlan Creek
Reese Creek
Lake Creek
North Fork Smith River
Dry Creek
Avalanche Creek
Confederate Gulch
Thompson Gulch
Mud Creek
Willow Creek
Fourmile Creek
Big Birch Creek
Lone Willow Creek
Butte Creek
Cooks Creek
Fords Creek
South Fork Smith River
Hussey Creek
South Fork Musselshell River
Prickly Pear Creek
Crow Creek
Deep Creek
Battle Creek
Mayns Creek
1
2
3
4
5
6
7

Hydrologic Unit Code 10030103 Watershed SMITH

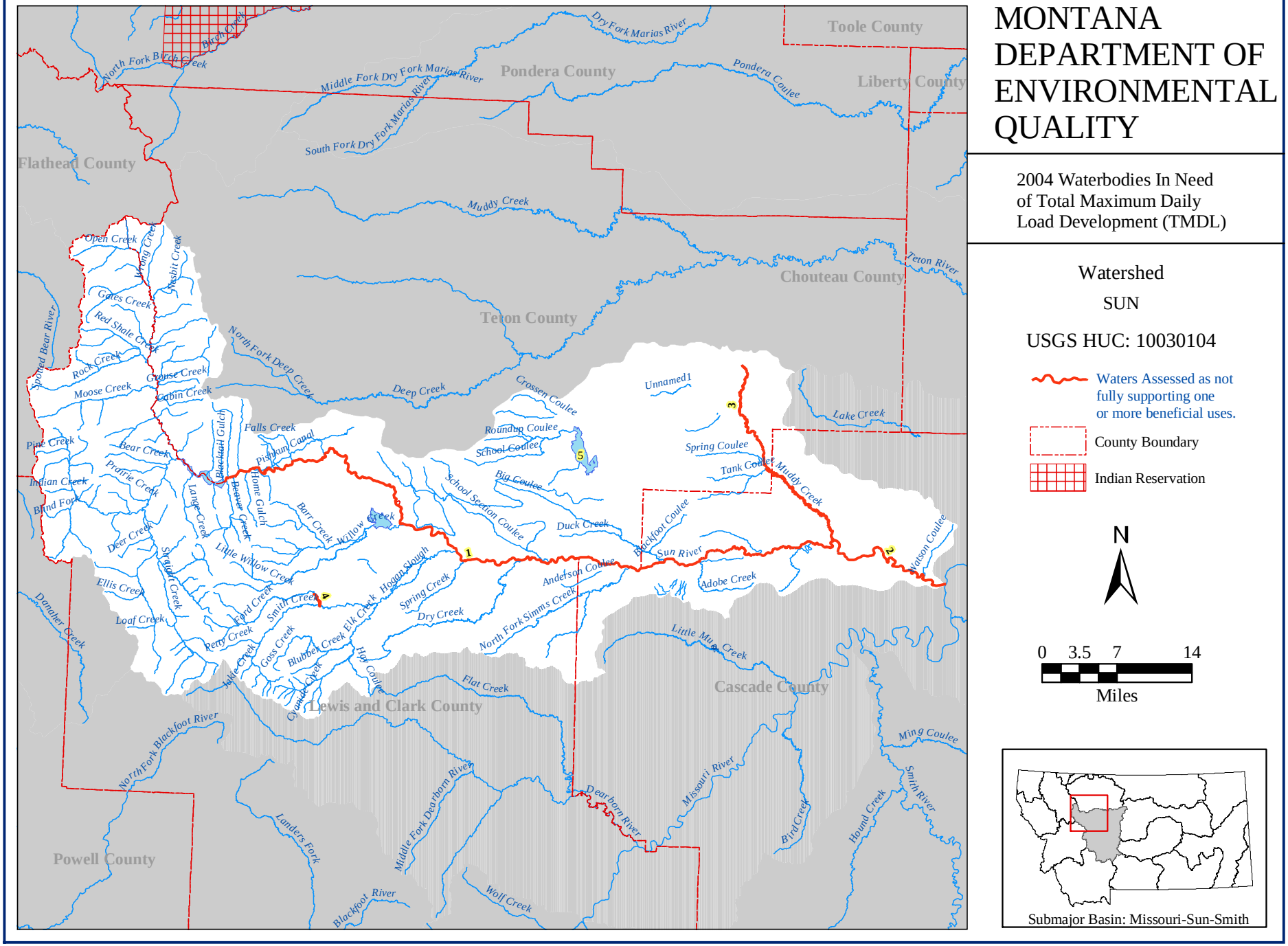
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41J001_010	SMITH RIVER from North and South Forks to Hound Cr	5	96 M	B-1	P	P		F	P	F	F	Phosphorus Dewatering Pathogens Nutrients Flow alteration	Agriculture Crop-related Sources Grazing related Sources
2	MT41J001_020	SMITH RIVER from Hound Cr. to the mouth (Missouri R)	5	25.4 M	B-1	P	N		F	P	F	F	Thermal modifications Dewatering Bank erosion Riparian degradation Fish habitat degradation Flow alteration Other habitat alterations Nutrients Phosphorus	Agriculture Crop-related Sources Grazing related Sources
3	MT41J002_011	SMITH RIVER NORTH FORK from Lake Sutherlin to the mouth	5	19.5 M	B-1	F	F		F	P	X	F	Phosphorus Nitrogen Pathogens Algal Grwth/Chlorophyll a Nutrients	Source Unknown
4	MT41J002_030	SHEEP CREEK from headwaters to the mouth (Smith R)	5	36.9 M	B-1	X	X		N	N	F	F	Pathogens Metals Mercury	Other Resource Extraction Placer Mining

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10030103 Watershed SMITH

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
5	MT41J002_050	BENTON GULCH from headwaters to the mouth (Smith R)	5	12.7 M	B-1	X	X		X	N	X	X	Pathogens	Source Unknown
6	MT41J002_081	NEWLAN CREEK from Newlan Res. to the mouth (Smith R)	5	8 M	B-1	X	X		X	N	X	X	Pathogens	Source Unknown
7	MT41J002_110	CAMAS CREEK from junction of Big and Little Camas Creeks to mouth (Smith R)	5	13.8 M	B-1	X	X		X	N	X	X	Pathogens	Source Unknown

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

SUN

USGS HUC: 10030104

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Submajor Basin: Missouri-Sun-Smith

Hydrologic Unit Code 10030104 Watershed SUN

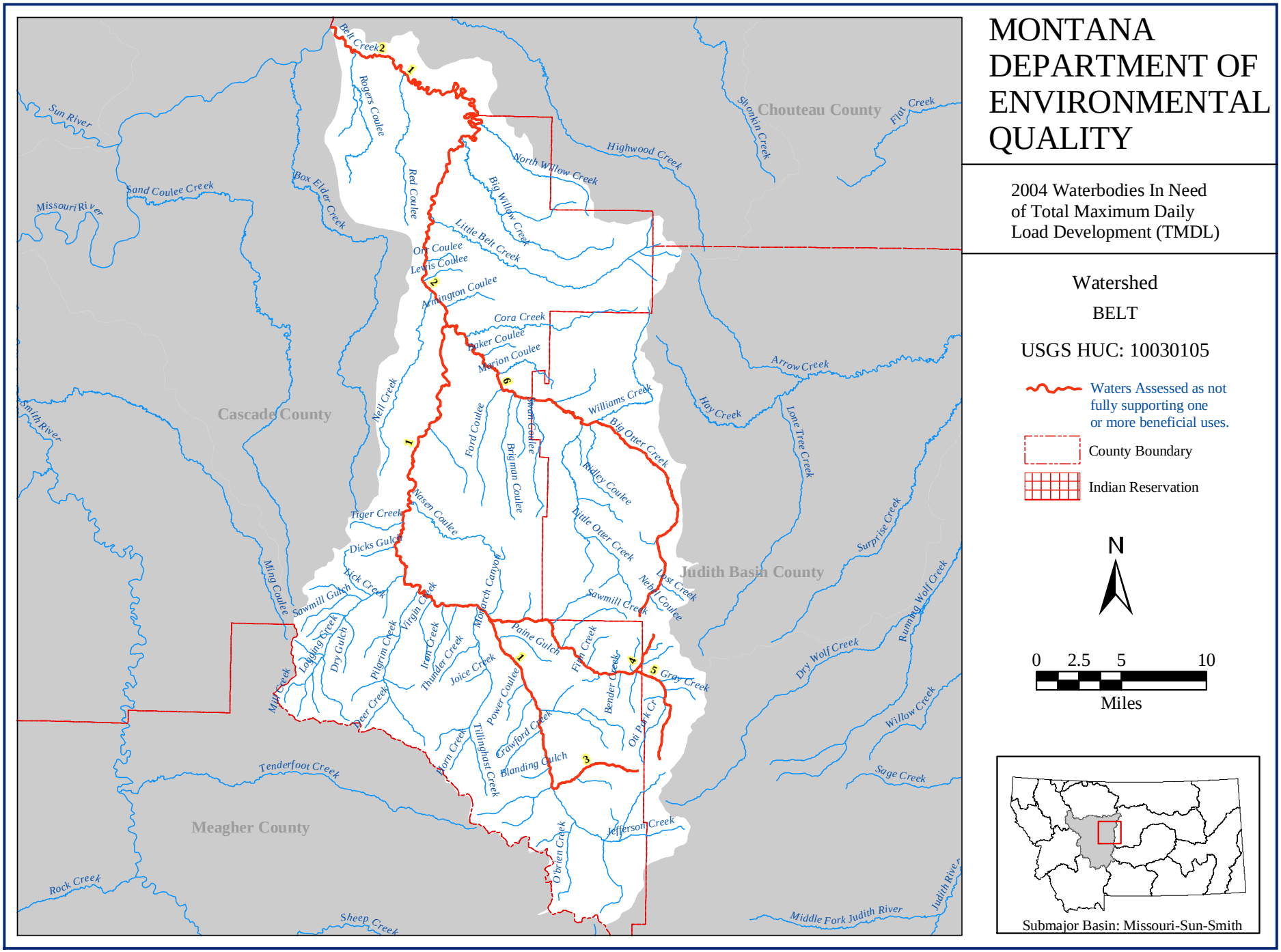
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41K001_010	SUN RIVER from Gibson Dam to Muddy Cr	5	80.3 M	B-1	N	N		F	F	F	F	Phosphorus Thermal modifications Dewatering Other habitat alterations Bank erosion Riparian degradation Nutrients Flow alteration	Channelization Flow Regulation/Modification Agriculture Crop-related Sources Grazing related Sources Hydromodification
2	MT41K001_020	SUN RIVER from Muddy Cr to the mouth (Missouri R)	5	17.1 M	B-3	N	N	N	F	P	P	P	Nutrients Siltation Salinity/TDS/sulfates Flow alteration Bank erosion Suspended solids Other habitat alterations	Agriculture Channelization Crop-related Sources Grazing related Sources Hydromodification
3	MT41K002_010	MUDDY CREEK from headwaters to the mouth (Sun R)	5	31.8 M	I	N	N		P	N	P	F		
4	MT41K002_020	FORD CREEK, from mouth 2 miles upstream (Smith Cr-Elk Cr-Sun R)	5	2 M	B-1	P	P		F	F	F	F	Siltation Bank erosion Channel incisement Riparian degradation Fish habitat degradation Other habitat alterations	Hydromodification Agriculture Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10030104 Watershed SUN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
5	MT41K004_030	FREEZEOUT LAKE	5	3500 A	B-2	P		P	N	P	P	F	Selenium Sulfates Nutrients Noxious aquatic plants Metals	Agriculture Crop-related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
BELT
USGS HUC: 10030105
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 2.5 5 10
Miles
Submajor Basin: Missouri-Sun-Smith
Chouteau County
Cascade County
Judith Basin County
Meagher County
Belt Creek
Sun River
Missouri River
Sand Coulee Creek
Box Elder Creek
Rogers Coulee
Red Coulee
Highwood Creek
North Willow Creek
Big Willow Creek
Little Belt Creek
Shonkin Creek
Flat Creek
Arrow Creek
Hay Creek
Lone Tree Creek
Surprise Creek
Running Wolf Creek
Dry Wolf Creek
Willow Creek
Sage Creek
Judith River
Middle Fork Judith River
Ort Coulee
Lewis Coulee
Armington Coulee
Cora Creek
Baker Coulee
Marion Coulee
Neil Creek
Ford Coulee
Brigman Coulee
Swift Coulee
Williams Creek
Big Otter Creek
Ridley Coulee
Little Otter Creek
Nebel Coulee
Lost Creek
Sawmill Creek
Monarch Canyon
Paine Gulch
Flint Creek
Bender Creek
Grey Creek
Oil Park Cr
Smith River
Tiger Creek
Nosen Coulee
Dicks Gulch
Dick Creek
Sawmill Gulch
Ming Coulee
Lodging Creek
Dry Gulch
Pilgrim Creek
Virgin Creek
Iron Creek
Thunder Creek
Joice Creek
Power Coulee
Crawford Creek
Blanding Gulch
Tillinghast Creek
Horn Creek
Deer Creek
Mill Creek
Tenderfoot Creek
Rock Creek
Sheep Creek
O'brien Creek
Jefferson Creek

Hydrologic Unit Code 10030105 Watershed BELT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41U001_011	BELT CREEK from Carpenter Cr to Big Otter Cr.	5	39.1 M	B-1	N	N		N	F	P	P	Metals Siltation Bank erosion Fish habitat degradation Other habitat alterations	Highway/Road/Bridge Construction Resource Extraction Acid Mine Drainage Channelization Construction Hydromodification Agriculture Grazing related Sources
2	MT41U001_012	BELT CREEK Big Otter Cr to the mouth (Missouri R)	5	38.7 M	B-2	N	N		N	P	P	P	Metals Siltation Bank erosion Fish habitat degradation Other habitat alterations	Highway/Road/Bridge Construction Resource Extraction Acid Mine Drainage Channelization Construction Hydromodification Agriculture Grazing related Sources
3	MT41U002_010	CARPENTER CREEK from headwaters to the mouth (Belt Cr)	5	6 M	B-1	N	N		N	X	X	X	Lead Mercury Metals Copper Cadmium	Mine Tailings Acid Mine Drainage Abandoned mining Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10030105 Watershed BELT

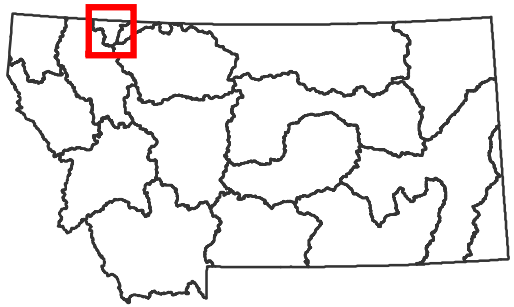
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT41U002_020	GALENA CREEK from headwaters to the mouth (Dry Fork Belt Cr)	5	3.3 M	B-1	N	N		N	N	N	N	Metals Cadmium Copper Lead Zinc	Mine Tailings Acid Mine Drainage Resource Extraction
5	MT41U002_030	DRY FORK BELT CREEK from headwaters to the mouth (Belt Cr)	5	18.1 M	B-1	N	N		N	P	N	F	Metals Cadmium Copper Lead Zinc Siltation	Mine Tailings Acid Mine Drainage Contaminated Sediments Resource Extraction
6	MT41U002_050	BIG OTTER CREEK from headwaters to the mouth (Belt Cr)	5	30.8 M	B-1	P	P		X	F	X	F	Nitrate Siltation Bank erosion Channel incisement Riparian degradation Fish habitat degradation Nutrients Other habitat alterations	Grazing related Sources Highway/Road/Bridge Construction Channelization Agriculture Construction Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

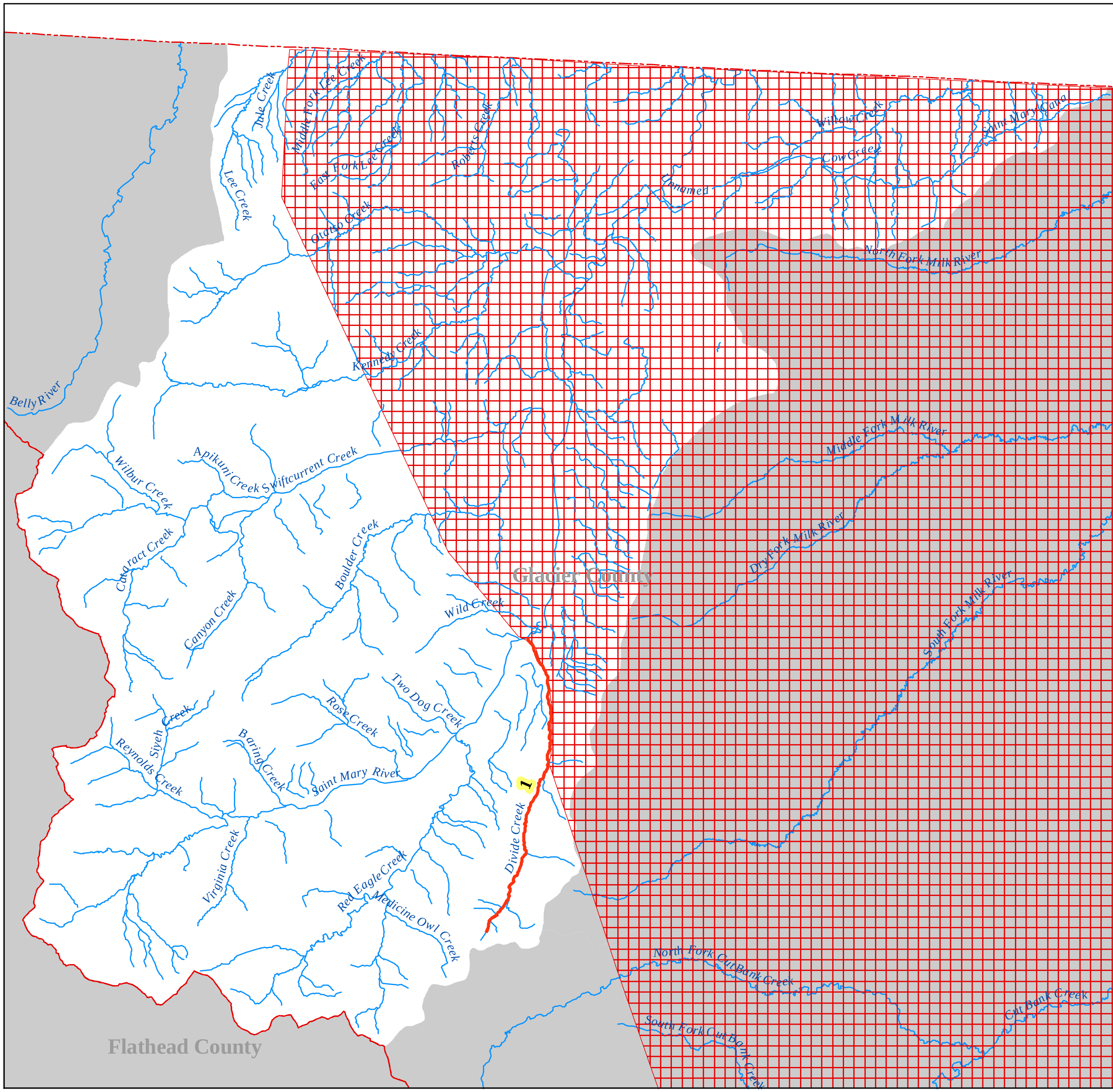
St Mary
Sub-Major Basin

Missouri River Basin

USGS HUC	HUC NAME
10010001	Belly River
10010002	Saint Mary River



Montana Department of
Environmental Quality
May 2004


Belly River
Lee Creek
Middle Fork Lee Creek
East Fork Lee Creek
Otatso Creek
Roberts Creek
Unnamed
Willow Creek
Cow Creek
Saint Mary Canal
North Fork Milk River
Kennedy Creek
Middle Fork Milk River
Dry Fork Milk River
South Fork Milk River
Glacier County
Apikuni Creek
Swiftcurrent Creek
Wilbur Creek
Cataract Creek
Boulder Creek
Canyon Creek
Wild Creek
Two Dog Creek
Rose Creek
Siyeh Creek
Reynolds Creek
Baring Creek
Saint Mary River
1
Divide Creek
Virginia Creek
Red Eagle Creek
Medicine Owl Creek
North Fork Cut Bank Creek
South Fork Cut Bank Creek
Cut Bank Creek
Flathead County

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

ST. MARY

USGS HUC: 10010002

Waters Assessed as not fully supporting one or more beneficial uses.

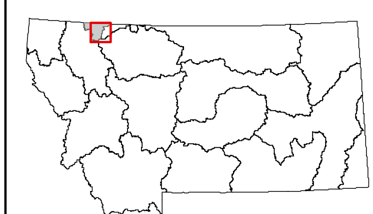
County Boundary

Indian Reservation

N

0 2 4 8

Miles



Submajor Basin: Saint Mary

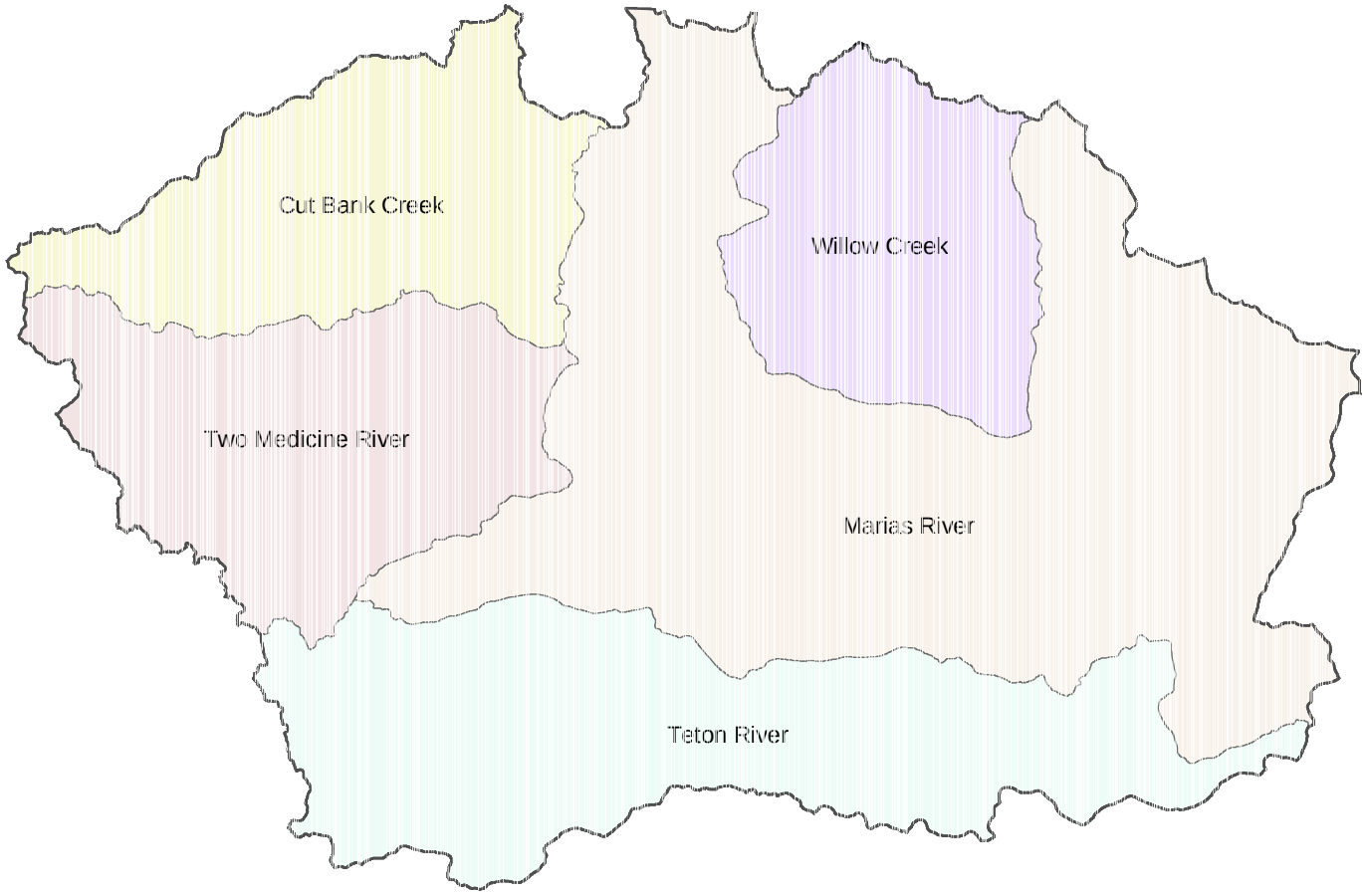
Hydrologic Unit Code 10010002 Watershed ST. MARY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40T002_010	DIVIDE CREEK from headwaters to the mouth (Saint Mary R)	4C	10.1 M	A-1	P	P		X	X	F	F	Other habitat alterations Channel incisement Fish habitat degradation	Land Development Hydromodification Channelization Bridge Construction Construction

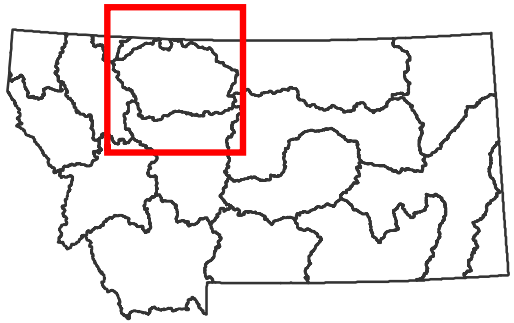
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Marias
Sub-Major Basin

Missouri River Basin



USGS HUC	HUC NAME
10030201	Two Medicine River
10030202	Cut Bank Creek
10030203	Marias River
10030204	Willow Creek
10030205	Teton River



Montana Department of
Environmental Quality
May 2004

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

MARIAS

USGS HUC: 10030203

Waters Assessed as not fully supporting one or more beneficial uses.

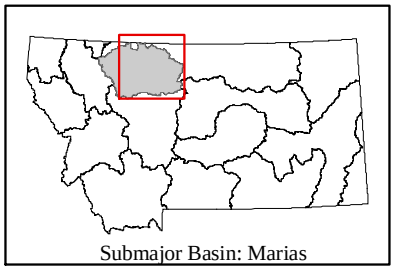
County Boundary

Indian Reservation

N

0 5 10 20

Miles

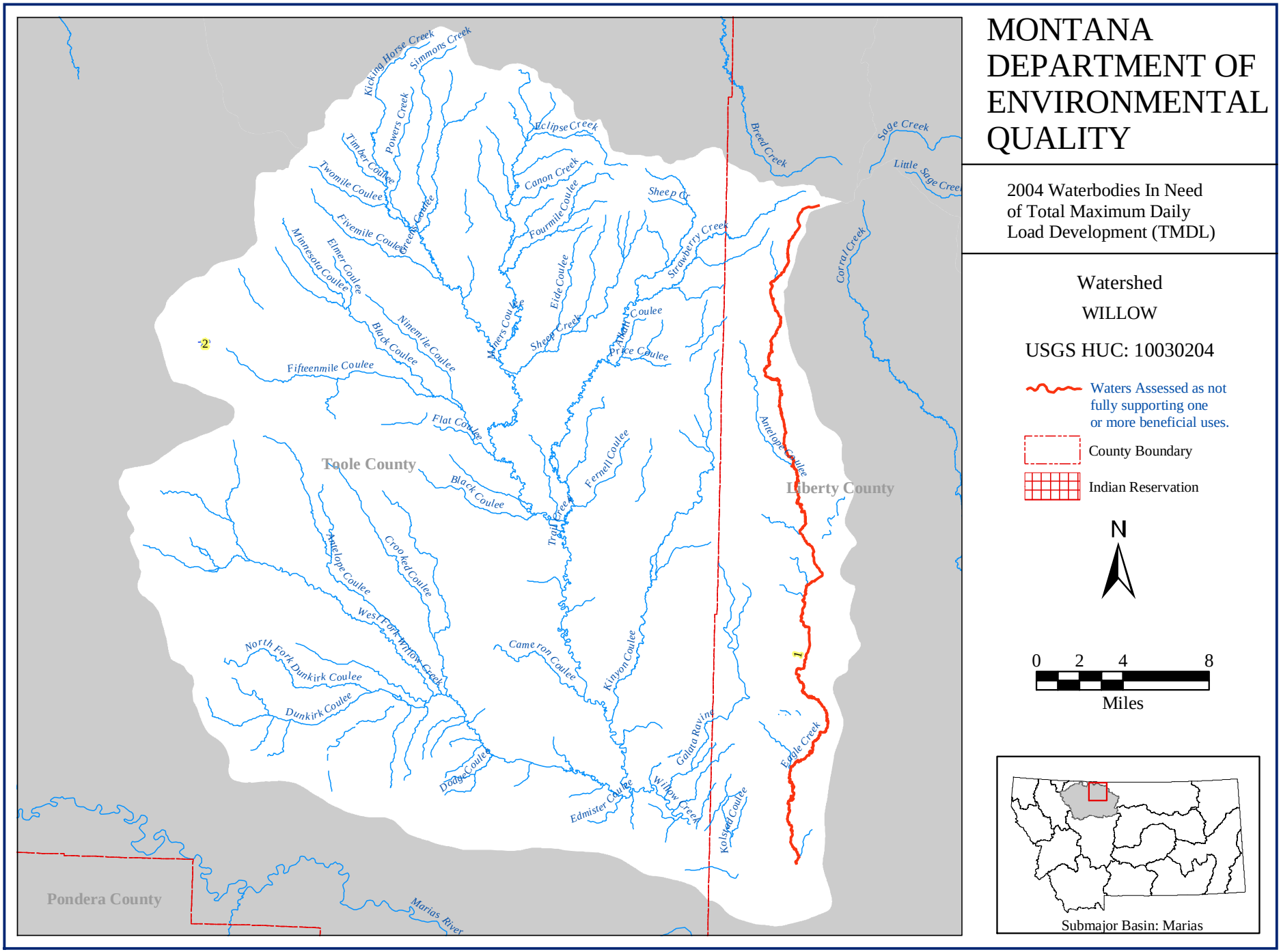


Submajor Basin: Marias

Hydrologic Unit Code 10030203 Watershed MARIAS

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41P001_021	MARIAS RIVER Tiber Dam to Co Road X-ing in T29N,R6E,Sec17	4C	10.8 M	B-1	P	P	P	X	F	F	F	Flow alteration Other habitat alterations	Flow Regulation/Modification Hydromodification Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
2	MT41P001_022	MARIAS RIVER from Co road x-ing in T29N,R6E,Sec 17 to mouth (Missouri R)	4C	70.89 M	B-2	P		P	X	F	F	F	Flow alteration	Flow Regulation/Modification Hydromodification
3	MT41P002_030	PONDERA CREEK/COULEE, Headwaters to the mouth (Marias R)	5	118.5 M	B-2	P	P		X	X	X	X	Salinity/TDS/sulfates Bank erosion Riparian degradation Other habitat alterations	Crop-related Sources Grazing related Sources Agriculture
4	MT41P002_050	CORRAL CREEK, Headwaters to mouth at Government-Cottonwood Crs	5	19.2 M	B-2	P	P		X	X	X	X	Nutrients	Crop-related Sources Agriculture

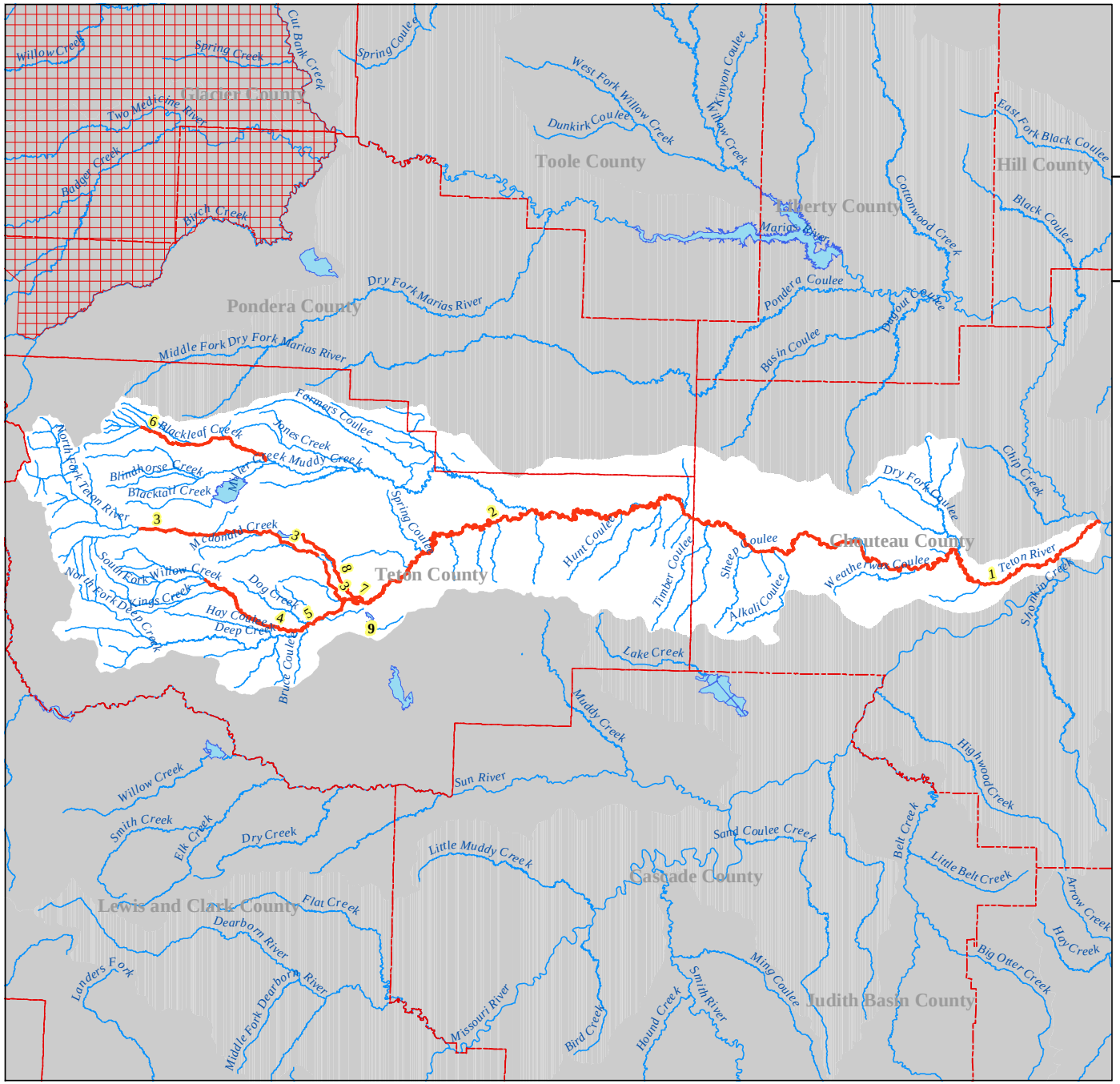
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
WILLOW
USGS HUC: 10030204
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 2 4 8
Miles
Submajor Basin: Marias
Toole County
Liberty County
Pondera County
Kicking Horse Creek
Simmons Creek
Powers Creek
Timber Coulee
Twomile Coulee
Fivemile Coulee
Green Coulee
Minnesota Coulee
Elmer Coulee
Ninemile Coulee
Black Coulee
Fifteenmile Coulee
Flat Coulee
Black Coulee
Antelope Coulee
Crooked Coulee
West Fork Willow Creek
North Fork Dunkirk Coulee
Dunkirk Coulee
Dodge Coulee
Edmister Coulee
Willow Creek
Kolstad Coulee
Galata Ravine
Cameron Coulee
Kinyon Coulee
Trail Creek
Fernell Coulee
Price Coulee
Sheep Creek
Miners Coulee
Eide Coulee
Fourmile Coulee
Canon Creek
Eclipse Creek
Sheep Cr
Strawberry Creek
Breed Creek
Sage Creek
Little Sage Creek
Corral Creek
Antelope Coulee
Eagle Creek
Marias River

Hydrologic Unit Code 10030204 Watershed WILLOW

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41P004_020	EAGLE CREEK from headwaters to mouth at Tiber Reservoir.	5	45.7 M	B-2	P	P		X	X	X	X	Nutrients Bank erosion Riparian degradation Other habitat alterations	Crop-related Sources Grazing related Sources Agriculture
2	MT41P005_010	OILMONT WETLAND, T35N R1W Sec31	5	9 A	B-2	P		X		X			Arsenic Metals Flow alteration Other habitat alterations	Petroleum Activities Resource Extraction Construction Highway/Road/Bridge Construction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

TETON

USGS HUC: 10030205

Waters Assessed as not fully supporting one or more beneficial uses.

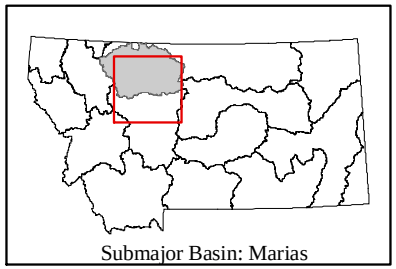
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Marias

Hydrologic Unit Code 10030205 Watershed TETON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41O001_010	TETON RIVER from Muddy Cr to the mouth (Marias R)	4A	110.6 M	B-3	P		P	F	F	F	F	Siltation Flow alteration Salinity/TDS/sulfates	Grazing related Sources Channelization Flow Regulation/Modification Bank or Shoreline Modification/Destabilization Agriculture Hydromodification Habitat Modification (other than Hydromodification) Construction Highway/Road/Bridge Construction
2	MT41O001_020	TETON RIVER from Deep Cr to Muddy Cr	4A	42 M	B-2	P	P	P	F	F	P	F	Thermal modifications Flow alteration Other habitat alterations Suspended solids Riparian degradation Salinity/TDS/sulfates	Agriculture Crop-related Sources Grazing related Sources Hydromodification Channelization Flow Regulation/Modification Bank or Shoreline Modification/Destabilization Municipal Point Sources Habitat Modification (other than Hydromodification)
3	MT41O001_030	TETON RIVER from North and South Forks to Deep Cr.	4A	29.5 M	B-1	P	N		F	P	F	F	Flow alteration Other habitat alterations Riparian degradation	Hydromodification Channelization Flow Regulation/Modification Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10030205 Watershed TETON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT41O002_010	WILLOW CREEK from headwaters to the mouth (Deep Cr)	4A	18.9 M	B-1	P	P		F	F	F	F	Other habitat alterations Riparian degradation Fish habitat degradation Siltation	Agriculture Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
5	MT41O002_020	DEEP CREEK from Willow Cr to the mouth (Teton R)	4A	9 M	B-1	P	P		P	P	F	P	Flow alteration Dewatering Nutrients Other habitat alterations Riparian degradation Fish habitat degradation Siltation	Agriculture Hydromodification Flow Regulation/Modification Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Crop-related Sources
6	MT41O002_042	BLACKLEAF CREEK from Cow Cr. to the mouth (Muddy Cr)	4C	19.8 M	B-2	P		P	F	F	F	F	Other habitat alterations Bank erosion Riparian degradation	Agriculture Grazing related Sources Hydromodification Bridge Construction Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
7	MT41O002_060	TETON SPRING CREEK from the city of Choteau to mouth (Teton R)	4A	4.5 M	B-1	P	P		P	P	F	P	Nutrients Siltation Flow alteration Other habitat alterations Riparian degradation Fish habitat degradation	Hydromodification Channelization Flow Regulation/Modification Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Source Unknown

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

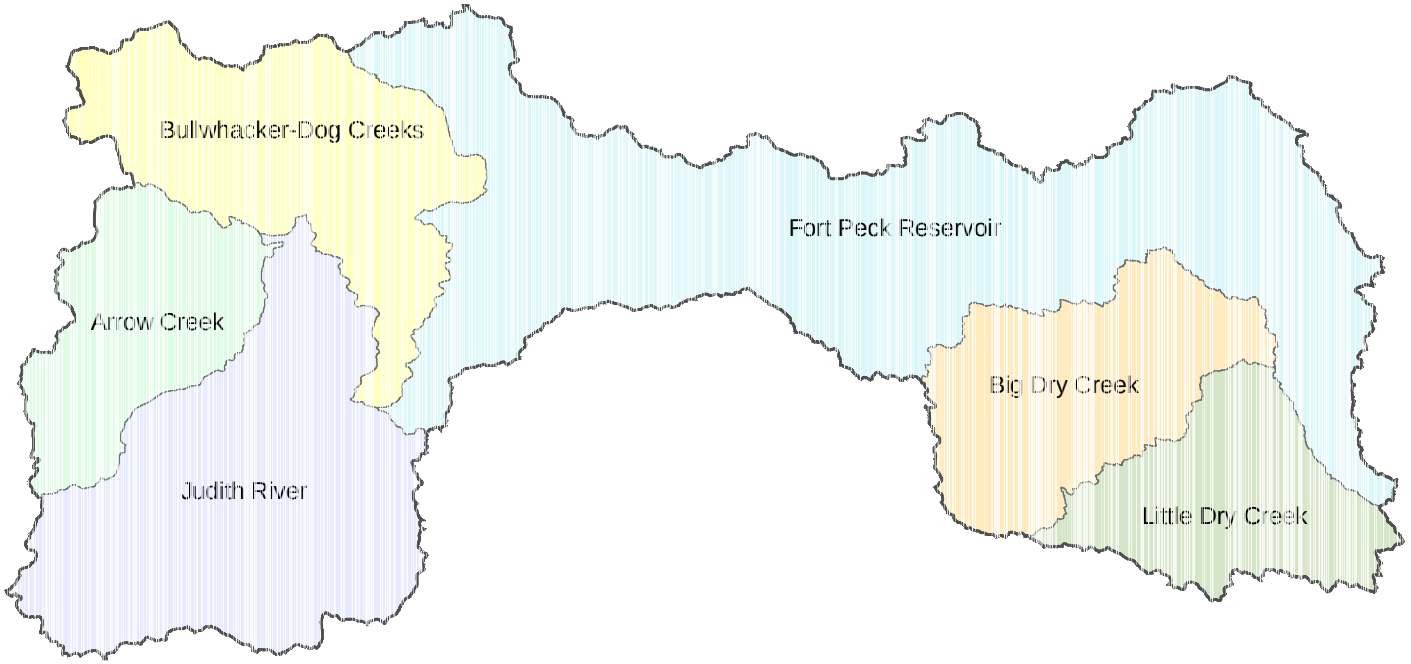
Hydrologic Unit Code 10030205 Watershed TETON

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
8	MT41O002_070	TETON SPRING CREEK from headwaters to city of Choteau	4A	8.5 M	B-1	P	P		P	P	F	F	Siltation Flow alteration Dewatering Other habitat alterations Riparian degradation Thermal modifications	Agriculture Grazing related Sources Hydromodification Flow Regulation/Modification Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
9	MT41O004_020	PRIEST BUTTE LAKE	4A	300 A	B-2	N		N	N	P	N	N	Metals Selenium Salinity/TDS/sulfates	Agriculture Crop-related Sources Hydromodification Flow Regulation/Modification

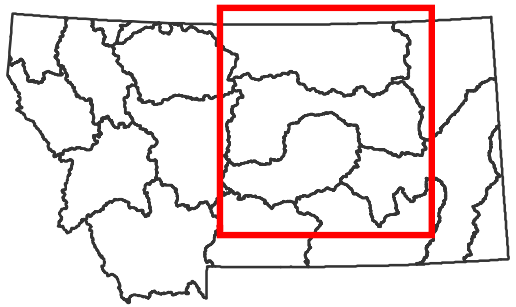
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Middle Missouri Sub-Major Basin

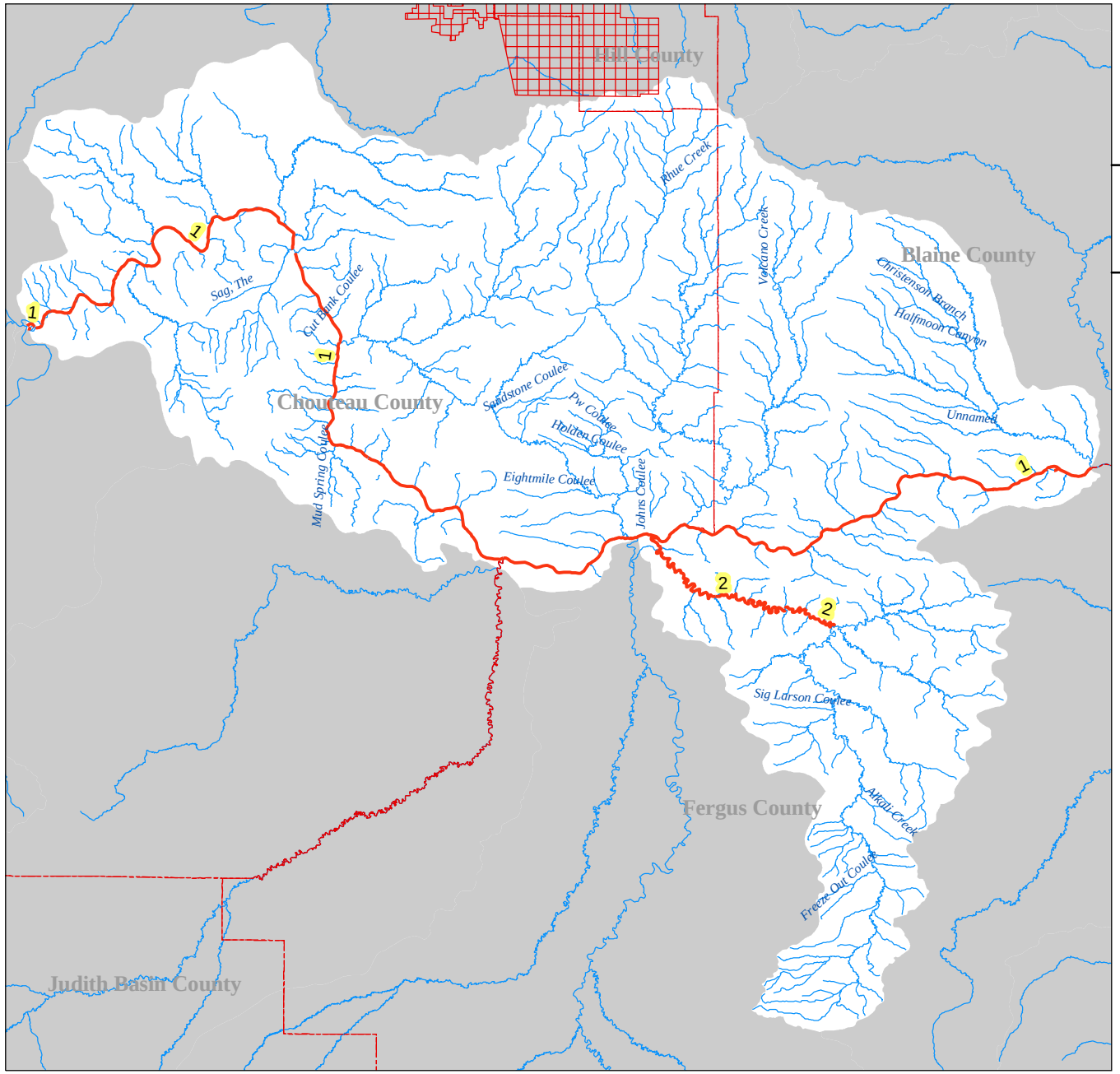
Missouri River Basin



USGS HUC	HUC NAME
10040101	Bullwhacker-Dog Creeks
10040102	Arrow Creek
10040103	Judith River
10040104	Fort Peck Reservoir
10040105	Big Dry Creek
10040106	Little Dry Creek



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BULLWHACKER-DOG

USGS HUC: 10040101

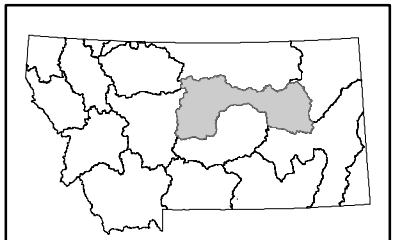
Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

0 3.5 7 14

Miles

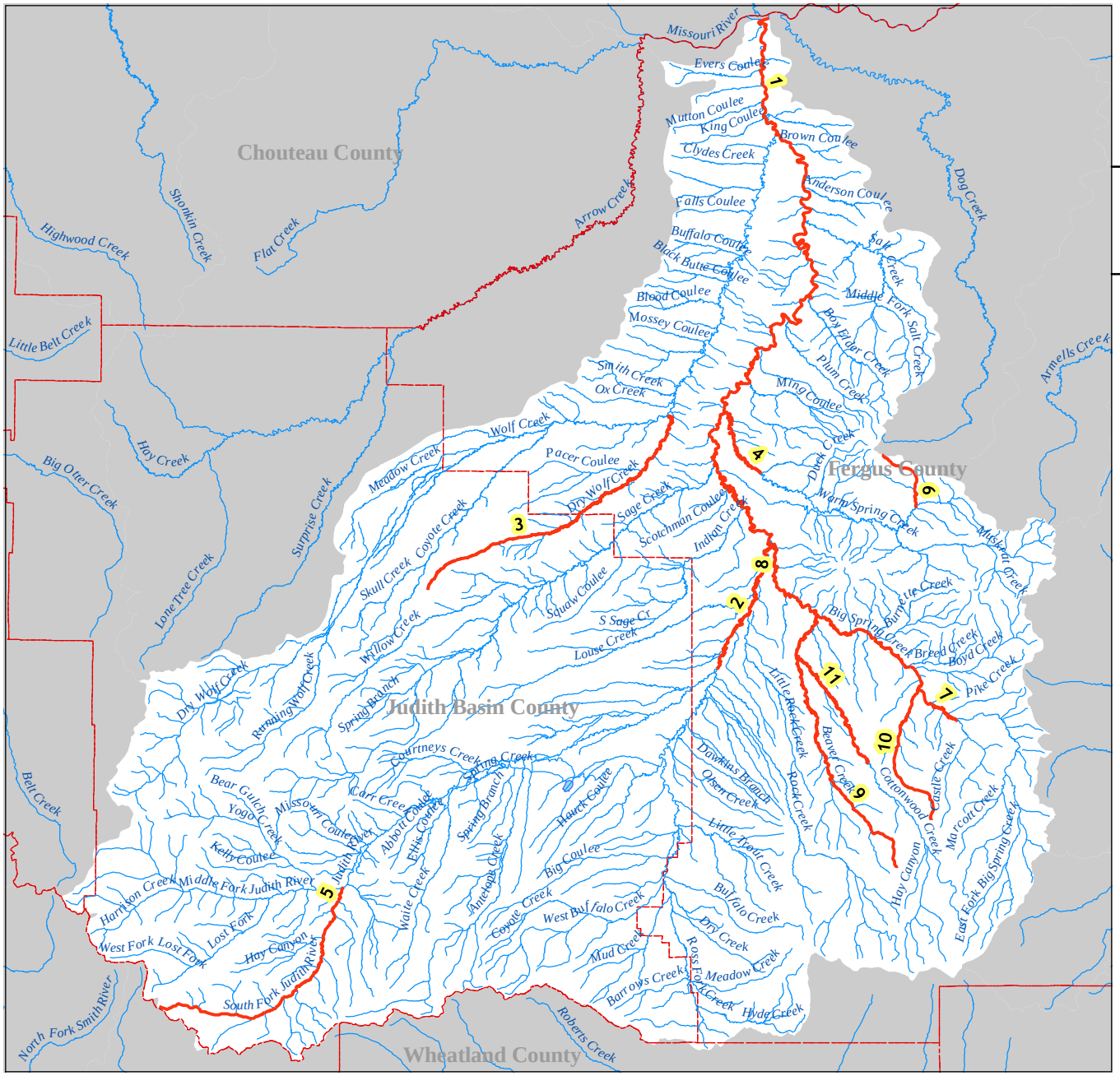


Submajor Basin: Middle Missouri

Hydrologic Unit Code 10040101 Watershed BULLWHACKER-DOG

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41T001_010	MISSOURI RIVER from the Marias R to the Bullwhacker Cr	5	103.9 M	B-3	P		P	F	P	F	F	Metals Other habitat alterations Riparian degradation Copper Mercury	Agriculture Grazing related Sources Source Unknown
2	MT41T002_020	DOG CREEK from Cutbank Cr to the mouth (Missouri R)	5	25.3 M	C-3	N		N		F			Nutrients Siltation	Agriculture Grazing related Sources Range grazing - Riparian

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

JUDITH

USGS HUC: 10040103

Waters Assessed as not fully supporting one or more beneficial uses.

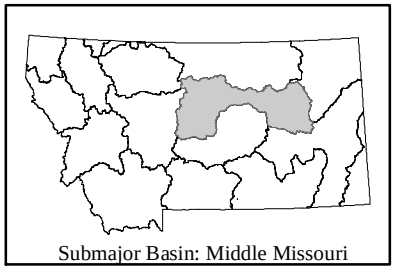
County Boundary

Indian Reservation

N

0 4 8 16

Miles



Submajor Basin: Middle Missouri

Hydrologic Unit Code 10040103 Watershed JUDITH

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT41S001_010	JUDITH RIVER from Big Spring Cr to the mouth (Missouri R)	4C	72.3 M	B-2	P	P	P	F	X	F	F	Other habitat alterations Bank erosion Riparian degradation	Agriculture Removal of Riparian Vegetation Grazing related Sources Habitat Modification (other than Hydromodification)
2	MT41S001_020	JUDITH RIVER from Ross Fork to Big Spring Cr	5	15.9 M	B-1	P	P		X	P	F	F	Siltation Other habitat alterations Bank erosion Riparian degradation Nutrients	Agriculture Grazing related Sources Intensive Animal Feeding Operations Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
3	MT41S002_010	DRY WOLF CREEK from headwaters to the mouth (Wolf Cr)	5	30.5 M	C-3	P		P		X			Nutrients Salinity/TDS/sulfates Riparian degradation Other habitat alterations	Grazing related Sources Agriculture Crop-related Sources
4	MT41S002_030	WARM SPRING CREEK from 5 miles above mouth to mouth (Judith R)	5	5 M	C-3	P		P		X			Nutrients Siltation Other habitat alterations Riparian degradation Fish habitat degradation Bank erosion	Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10040103 Watershed JUDITH

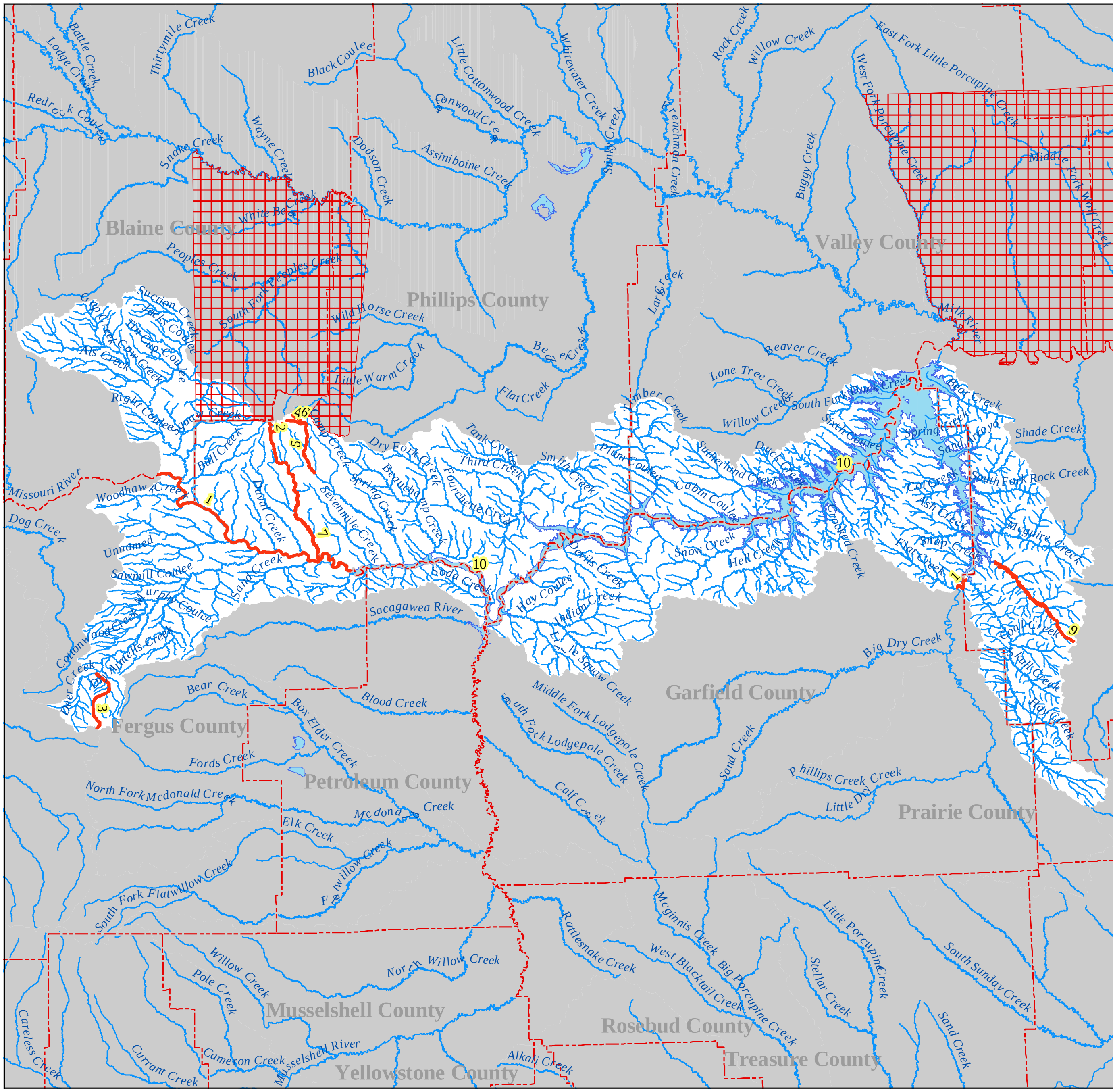
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
5	MT41S002_080	SOUTH FORK JUDITH RIVER headwaters to mouth	5	20.9 M	B-1	P	P		X	X	F	F	Other habitat alterations Fish habitat degradation Siltation	Grazing related Sources Logging Road Construction/Maintenance Land Development Agriculture Silviculture Construction
6	MT41S002_100	LAST CHANCE CREEK headwaters to mouth (Moccasin cr)	5	5.4 M		N		N		X			Metals Selenium Cyanide	Resource Extraction Mine Tailings Acid Mine Drainage Abandoned mining
7	MT41S004_010	BIG SPRING CREEK from East Fork Big Spring Cr to Casino Cr	5	1.9 M	B-2	P	P		F	P	F	F	PCB's	Agriculture Intensive Animal Feeding Operations Aquaculture Contaminated Sediments
8	MT41S004_020	BIG SPRING CREEK from East Fork to mouth (Judith R)	5	28.7 M	B-1	P	P		F	P	F	F	PCB's Nutrients Siltation Other habitat alterations Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources Land Disposal Onsite Wastewater Systems (Septic Tanks) Municipal Point Sources Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10040103 Watershed JUDITH

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
9	MT41S004_030	BEAVER CREEK from headwaters to the mouth (Cottonwood Cr)	5	21.6 M	B-1	P	P		F	P	F	F	Bank erosion Riparian degradation Other habitat alterations Nutrients Siltation Fish habitat degradation Flow alteration Dewatering	Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
10	MT41S004_040	CASINO CREEK, Headwaters to mouth (Big Spring Cr)	5	11.6 M	B-1	P	P		F	P	F	F	Nutrients Other habitat alterations Riparian degradation	Agriculture Grazing related Sources Intensive Animal Feeding Operations Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
11	MT41S004_052	COTTONWOOD CREEK from county road bridge at T14N R18E Sec18 to mouth (Big Spring Cr)	5	13.3 M	B-1	P	P		P	P	P	P	Nutrients Siltation Organic enrichment/Low DO Flow alteration Dewatering Other habitat alterations Riparian degradation Fish habitat degradation	Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Hydromodification Flow Regulation/Modification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

FORT PECK RESERVOIR

USGS HUC: 10040104

Waters Assessed as not fully supporting one or more beneficial uses.

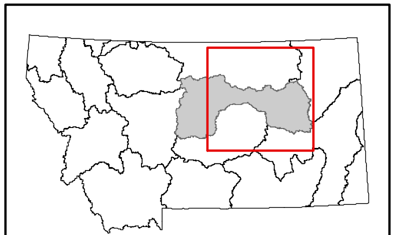
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Middle Missouri

Hydrologic Unit Code 10040104 Watershed FORT PECK RESERVOIR

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40E001_010	MISSOURI RIVER, Bullwhacker Cr to Fort Peck Reservoir	5	49.8 M	B-3	P		P	N	X	F	F	Arsenic Copper Other habitat alterations Riparian degradation Metals	Agriculture Grazing related Sources Abandoned mining Flow Regulation/Modification Resource Extraction Hydromodification
2	MT40E002_010	MONTANA GULCH, Headwaters (Gold Bug & Yellow Boy Mine Adits) to mouth (Rock Cr)	5	2 M	C-3	N		N		X			Metals Arsenic Copper pH Cadmium	Acid Mine Drainage Abandoned mining Resource Extraction
3	MT40E002_022	ARMELLS CREEK, Headwaters to Deer Cr	5	13.4 M	C-3	N		N		X			Metals Cadmium Copper Mercury Zinc pH	Resource Extraction Abandoned mining

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10040104 Watershed FORT PECK RESERVOIR

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
4	MT40E002_050	ALDER GULCH T26N R24E SEC 13 TO T26N R25E SEC 16. Headwaters to Ruby Cr.	5	3 M	C-3	N		N		X			Metals pH Other habitat alterations Riparian degradation Cadmium Copper Lead Mercury Selenium Zinc	Resource Extraction Mine Tailings Acid Mine Drainage Abandoned mining
5	MT40E002_060	RUBY CREEK, 1 mi below Zortman (Alder & Ruby Gulch junction) to mouth at CK Cr.	5	4.2 M	C-3	N		X		X			Metals Cadmium Copper Lead Zinc Mercury Selenium pH	Resource Extraction Abandoned mining

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10040104 Watershed FORT PECK RESERVOIR

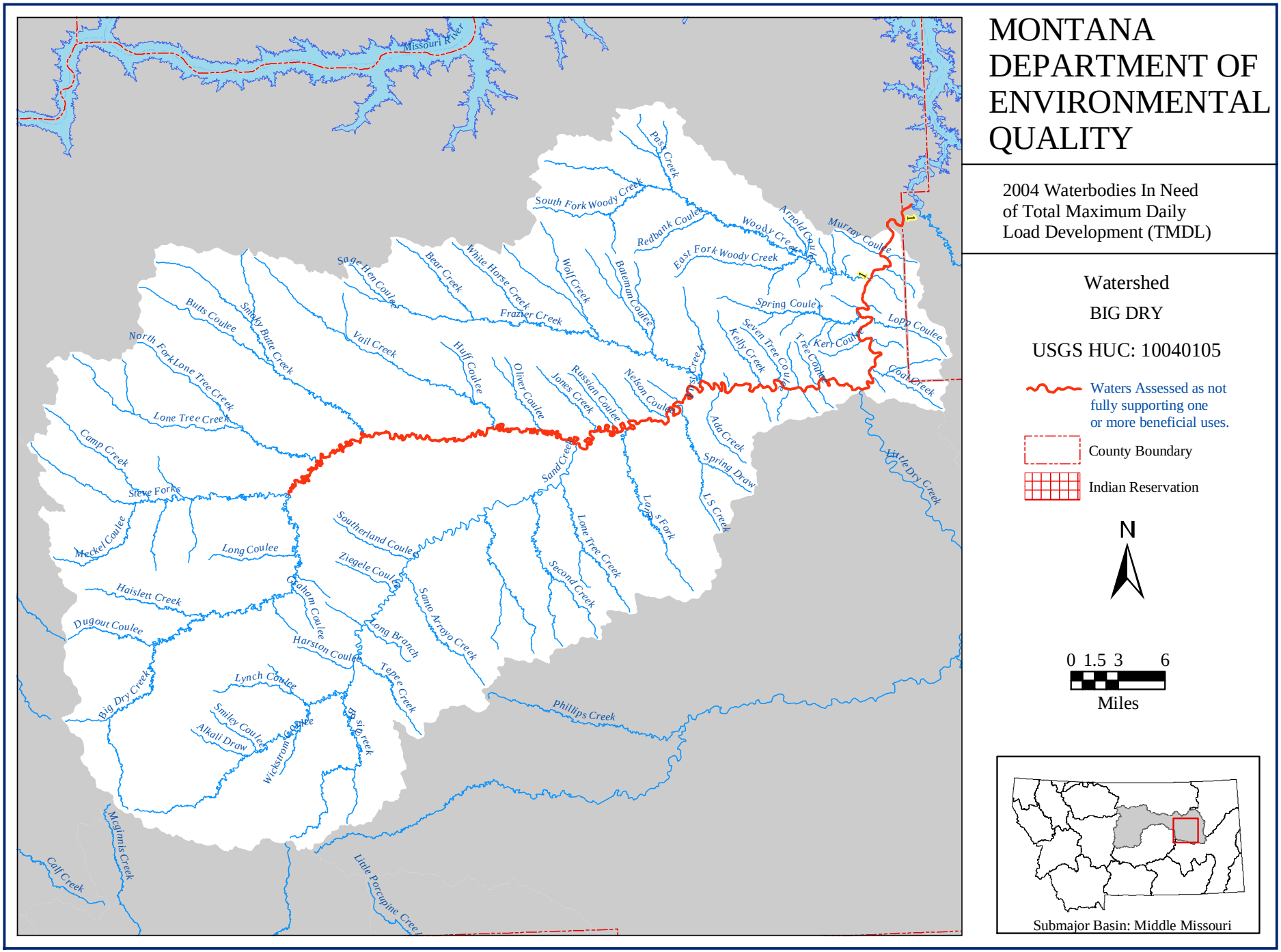
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT40E002_070	RUBY GULCH, Headwaters to 1 Mi Below Zortman, MT T25N R25E SEC 16 TO SEC 7	5	2.8 M	C-3	N		N		X			Metals pH Cadmium Copper Lead Mercury Selenium Zinc	Resource Extraction Abandoned mining Mine Tailings
7	MT40E002_090	ROCK CREEK, Headwaters to mouth (Missouri R)	5	37.6 M	C-3	P		P		P			Metals pH Riparian degradation Other habitat alterations Pathogens Cadmium Copper Lead Mercury Selenium Zinc	Grazing related Sources Resource Extraction Inactive mining Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10040104 Watershed FORT PECK RESERVOIR

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
8	MT40E002_100	MILL GULCH, tributary to Rock Cr near Landusky	5	3 M	C-3	P		P		P			Metals Nitrate pH Riparian degradation Nutrients Other habitat alterations Copper Lead Mercury Selenium	Resource Extraction Surface Mining Agriculture Grazing related Sources
9	MT40E003_020	NELSON CREEK, Headwaters to the mouth (Big Dry Cr Arm of Fort Peck Res)	5	22.7 M	C-3	P		P		X			Nutrients Nitrate Riparian degradation Other habitat alterations	Grazing related Sources Agriculture
10	MT40E004_010	FORT PECK RESERVOIR	5	245000 A	B-2	X	X		N	P	X	X	Metals Lead Mercury Noxious aquatic plants	Agriculture Resource Extraction Abandoned mining Atmospheric Deposition Debris and bottom deposits

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BIG DRY

USGS HUC: 10040105

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

N

0 1.5 3 6

Miles

Submajor Basin: Middle Missouri

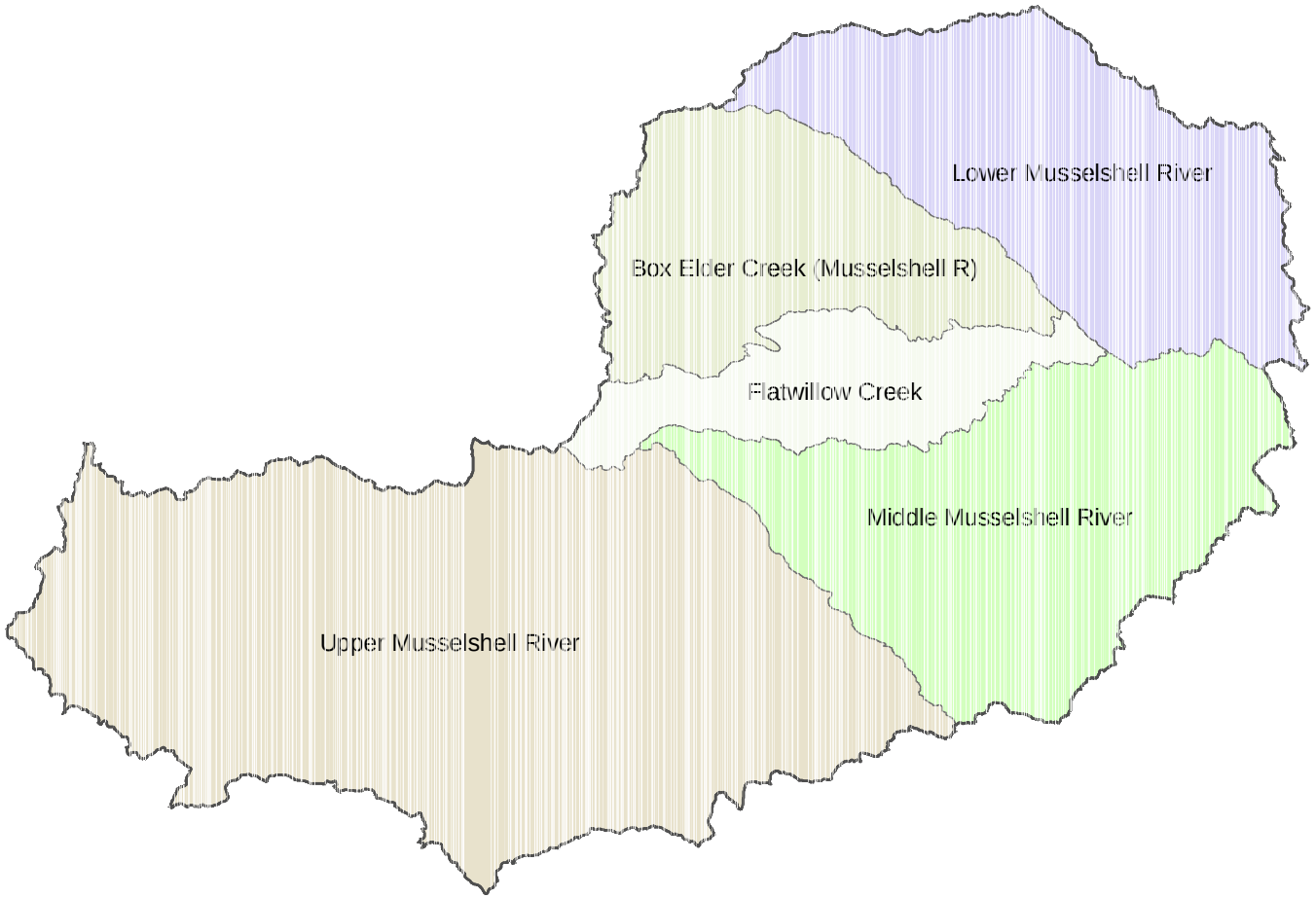
Hydrologic Unit Code 10040105 Watershed BIG DRY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40D001_010	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)	5	96.1 M	C-3	P		P		P			Unionized Ammonia Nutrients Nitrate Other habitat alterations Riparian degradation	Agriculture Municipal Point Sources

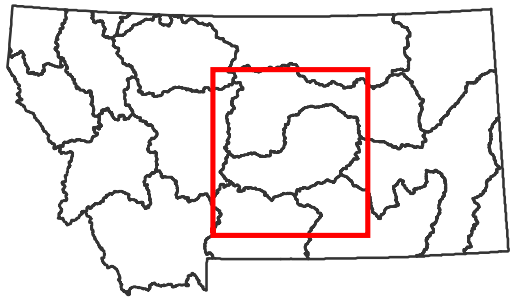
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Musselshell Sub-Major Basin

Missouri River Basin



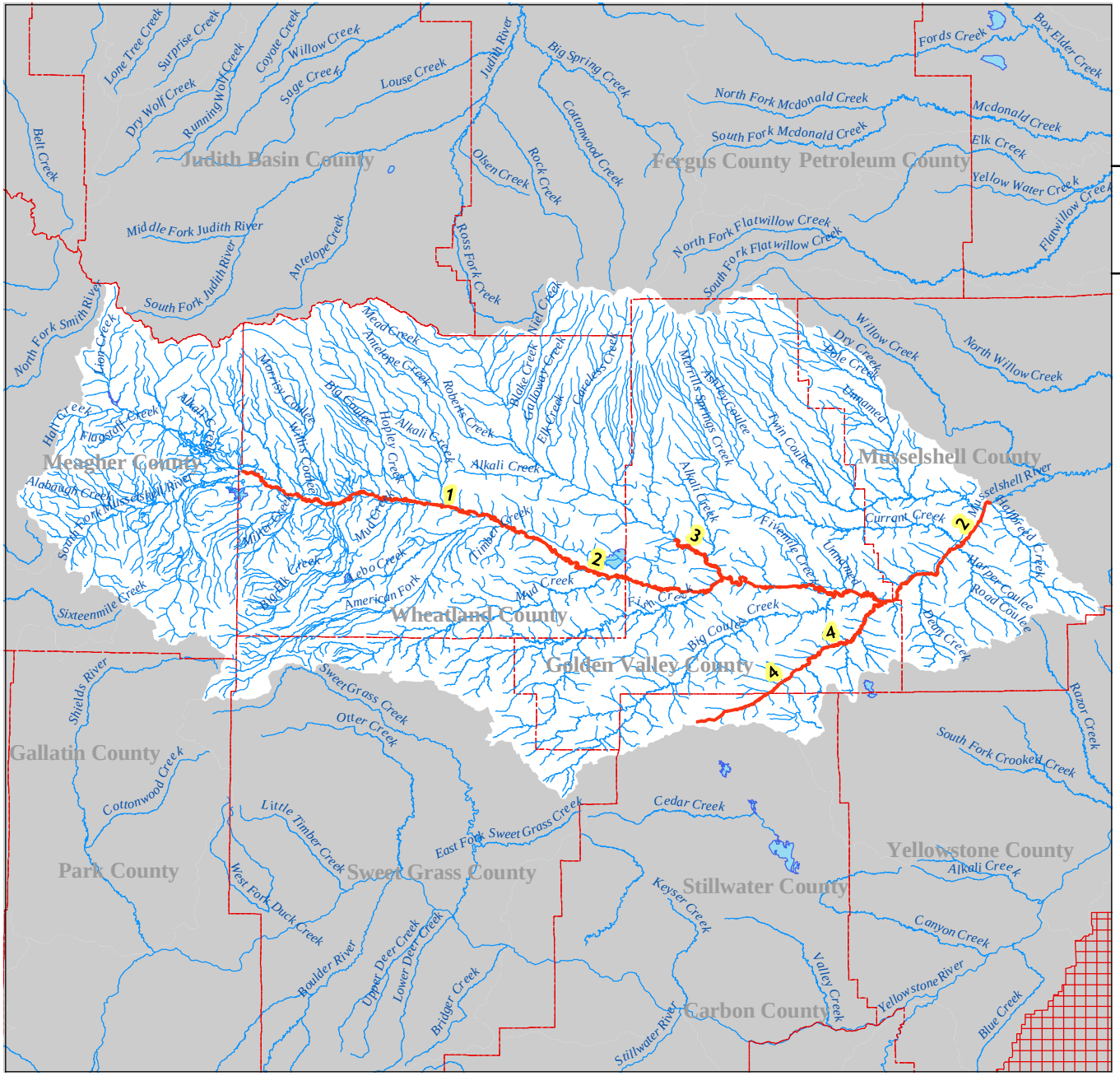
USGS HUC	HUC NAME
10040201	Upper Musselshell River
10040202	Middle Musselshell River
10040203	Flatwillow Creek
10040204	Box Elder Creek (Musselshell R)
10040205	Lower Musselshell River



Montana Department of Environmental Quality
May 2004

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)



Watershed

UPPER MUSSELSHELL

USGS HUC: 10040201

Waters Assessed as not fully supporting one or more beneficial uses.

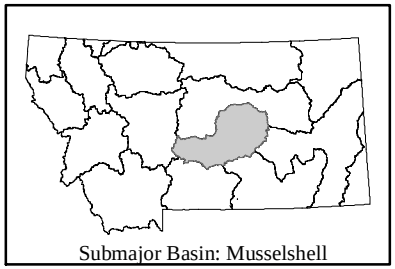
County Boundary

Indian Reservation

N

0 5 10 20

Miles

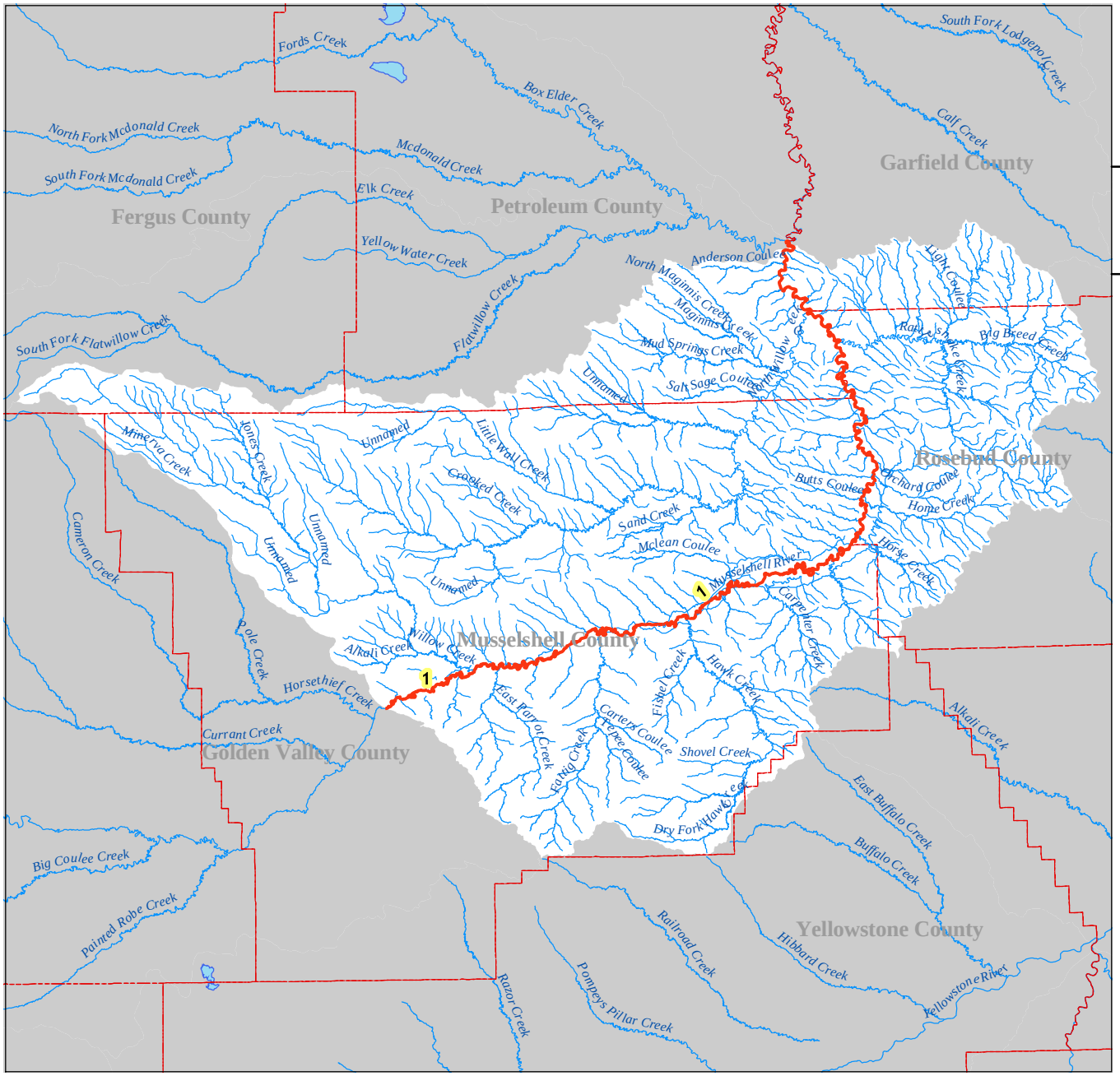


Submajor Basin: Musselshell

Hydrologic Unit Code 10040201 Watershed UPPER MUSSELSHELL

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40A001_010	MUSSELSHELL RIVER, No & So Fk confluence to Deadmans Basin Diversion Canal	5	53.1 M	B-2	P	P		F	P	F	F	Nutrients Other habitat alterations Siltation Bank erosion Flow alteration	Grazing related Sources Channelization Agriculture Crop-related Sources Hydromodification
2	MT40A001_020	MUSSELSHELL RIVER, Deadmans Basin Div. Canal to HUC boundary near Roundup	5	94.4 M	C-3	P		P		X			Nutrients Siltation Flow alteration Other habitat alterations Riparian degradation	Agriculture Grazing related Sources Channelization Crop-related Sources Hydromodification
3	MT40A002_050	CARELESS CREEK, Junction with Deadmans Basin Canal to Mouth (Musselshell R)	4A	15.5 M	C-3	P		P		F			Siltation Flow alteration Other habitat alterations Riparian degradation	Flow Regulation/Modification Bank or Shoreline Modification/Destabilization Agriculture Grazing related Sources Hydromodification Habitat Modification (other than Hydromodification)
4	MT40A002_080	PAINTED ROBE CREEK, Headwaters to the mouth (Musselshell R)	5	37.6 M	C-3	P		P		X			Nutrients Salinity/TDS/sulfates Riparian degradation Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

MIDDLE MUSSELSHELL

USGS HUC: 10040202

Waters Assessed as not fully supporting one or more beneficial uses.

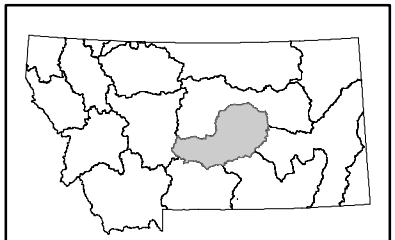
County Boundary

Indian Reservation

N

0 4.5 9 18

Miles

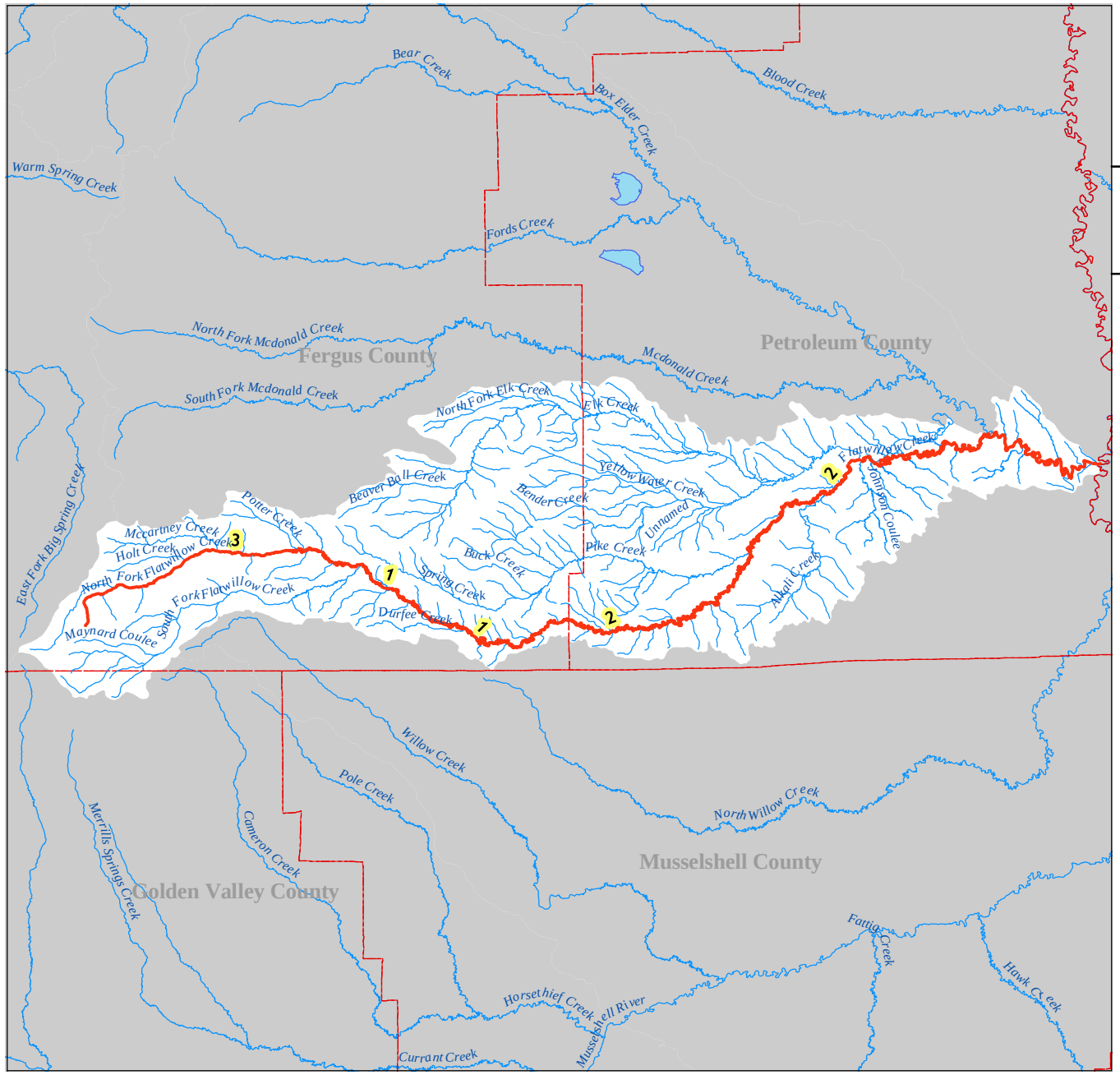


Submajor Basin: Musselshell

Hydrologic Unit Code 10040202 Watershed MIDDLE MUSSELSHELL

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40C001_010	MUSSELSHELL RIVER, from HUC boundary SW of Roundup to Flatwillow Cr	4C	114.9 M	C-3	P		P		F			Flow alteration Other habitat alterations Riparian degradation	Agriculture Channelization Flow Regulation/Modification Bank or Shoreline Modification/Destabilization Hydromodification Habitat Modification (other than Hydromodification)

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

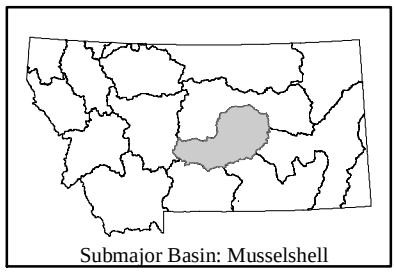
FLATWILLOW

USGS HUC: 10040203

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

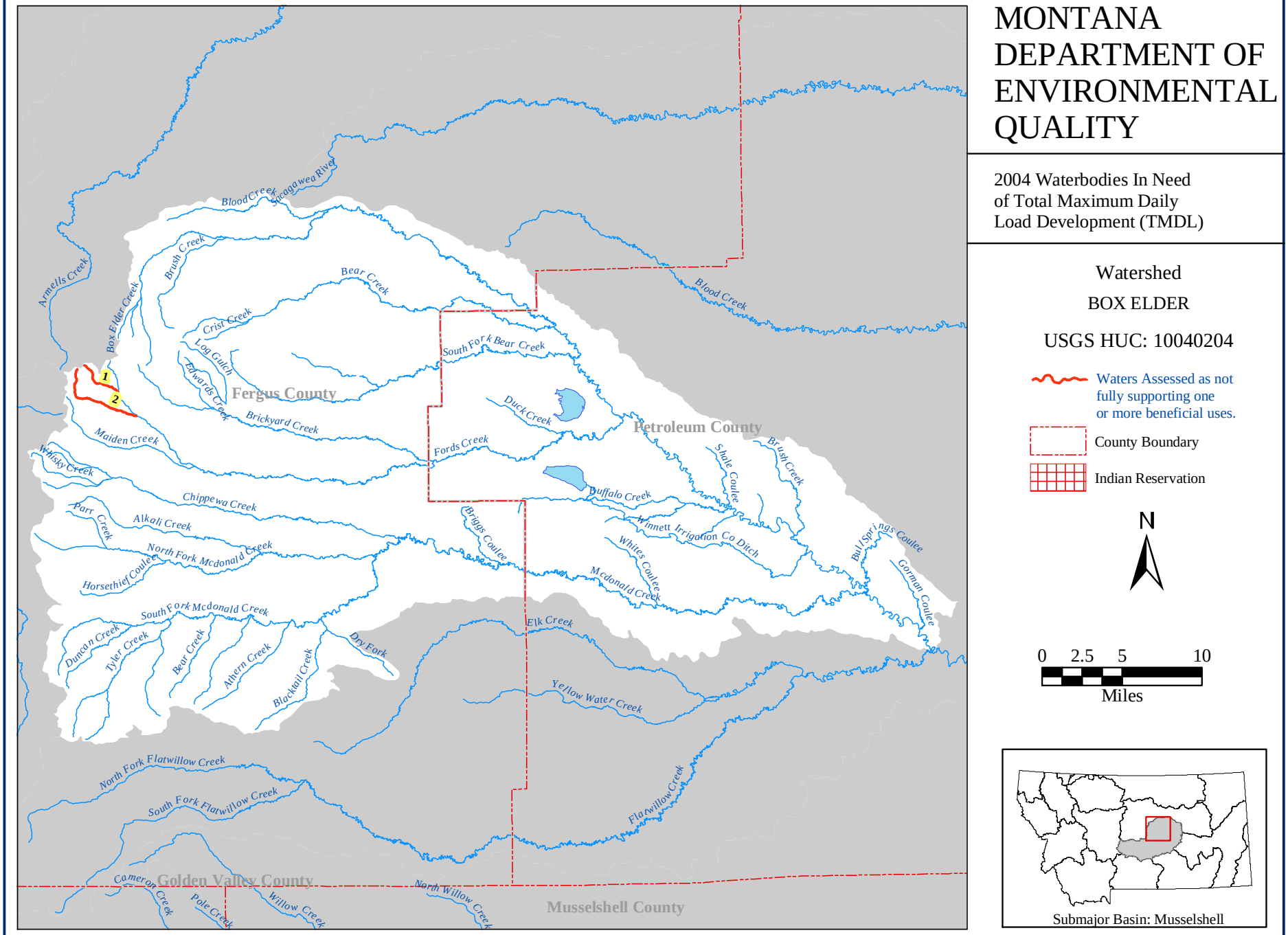


Submajor Basin: Musselshell

Hydrologic Unit Code 10040203 Watershed FLATWILLOW

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40B001_021	FLATWILLOW CREEK, Headwaters to the Highway 87 bridge	5	32.8 M	B-2	P	P		X	P	F	P	Siltation Flow alteration Other habitat alterations Bank erosion	Grazing related Sources Flow Regulation/Modification Removal of Riparian Vegetation Agriculture Crop-related Sources Hydromodification Habitat Modification (other than Hydromodification)
2	MT40B001_022	FLATWILLOW CREEK, Highway 87 bridge to the mouth (Musselshell R)	5	83.9 M	C-3	P		P		P			Siltation Flow alteration Other habitat alterations Bank erosion Metals Mercury Nutrients	Grazing related Sources Flow Regulation/Modification Removal of Riparian Vegetation Agriculture Crop-related Sources Hydromodification Habitat Modification (other than Hydromodification)
3	MT40B001_040	NORTH FORK FLATWILLOW CREEK, Headwaters to confluence with South Fork	5	24.9 M	B-2	P	P		F	F	F	F	Siltation Thermal modifications	Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BOX ELDER

USGS HUC: 10040204

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

N

0 2.5 5 10

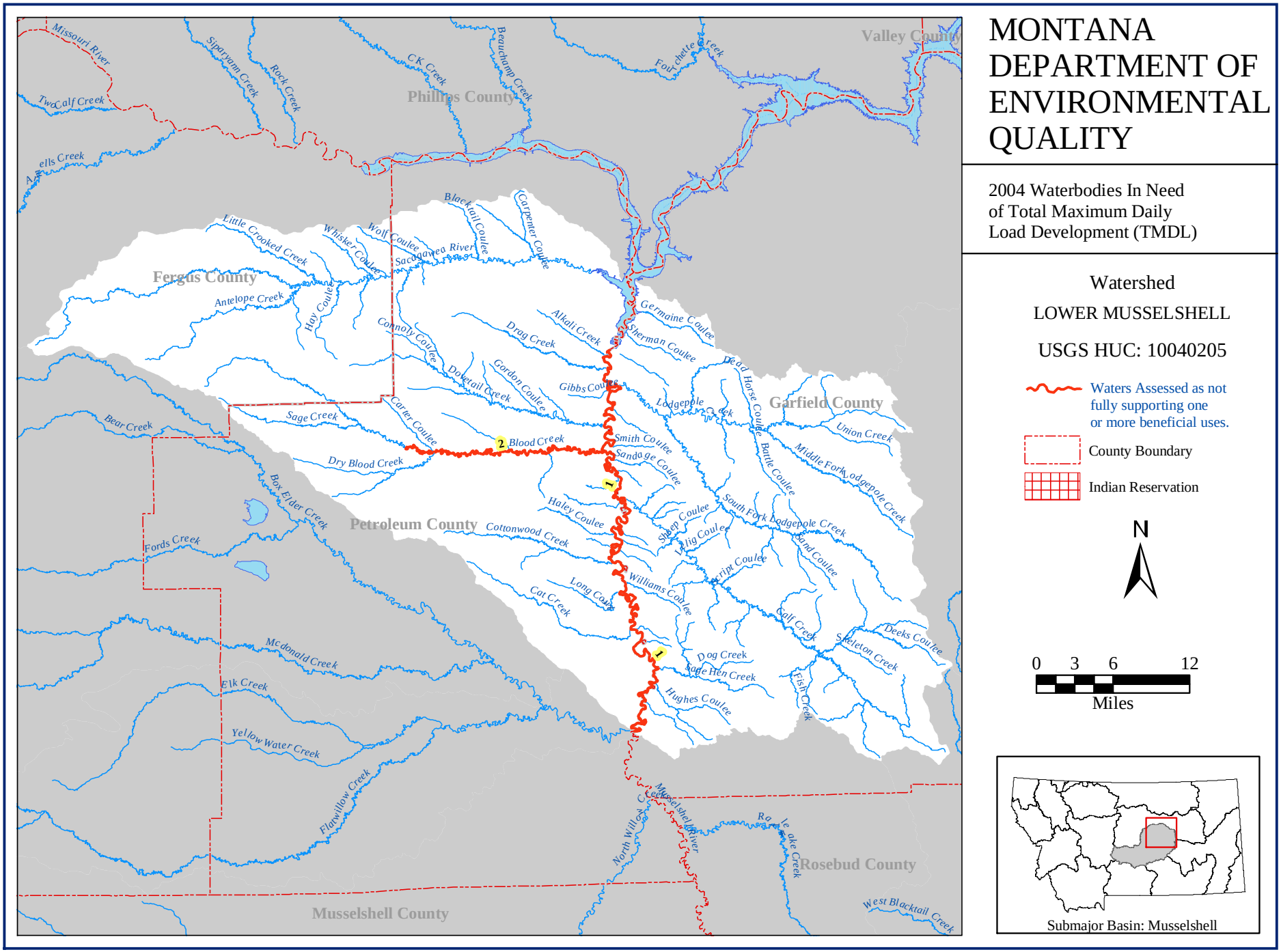
Miles

Submajor Basin: Musselshell

Hydrologic Unit Code 10040204 Watershed BOX ELDER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40B002_020	CHICAGO GULCH, Headwaters to the mouth (Fords Cr)	5	3.1 M	C-3	P		X		X			Metals Lead Zinc pH	Resource Extraction Acid Mine Drainage Abandoned mining
2	MT40B002_030	COLLAR GULCH, Headwaters to mouth (Fords Cr)	5	6.1 M	C-3	P		P		X			Lead Zinc Metals pH	Abandoned mining Resource Extraction Acid Mine Drainage

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
LOWER MUSSELSHELL
USGS HUC: 10040205
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 3 6 12
Miles
Submajor Basin: Musselshell
Valley County
Phillips County
Fergus County
Garfield County
Petroleum County
Rosebud County
Musselshell County
Missouri River
Two Calf Creek
Rock Creek
CK Creek
Beauchamp Creek
Little Crooked Creek
Whisker Coulee
Wolf Coulee
Blacktail Coulee
Carpenter Coulee
Antelope Creek
Hay Coulee
Connoly Coulee
Drag Creek
Alkali Creek
Sherman Coulee
Germaine Coulee
Dead Horse Coulee
Gordon Coulee
Gibbs Coulee
Lodgepole Creek
Union Creek
Middle Fork Lodgepole Creek
Sage Creek
Carter Coulee
Blood Creek
Smith Coulee
Sandoge Coulee
Bear Creek
Dry Blood Creek
Box Elder Creek
Haley Coulee
Cottonwood Creek
Sheep Coulee
Big Coulee
South Fork Lodgepole Creek
Sand Coulee
Fords Creek
Williams Coulee
Long Coulee
Cat Creek
Calf Creek
Deeks Coulee
Skeleton Creek
McDonald Creek
Dog Creek
Sage Hen Creek
Elk Creek
Hughes Coulee
Fish Creek
Yellow Water Creek
Flatwillow Creek
North Willow Creek
Musselshell River
Rattlesnake Creek
West Blacktail Creek

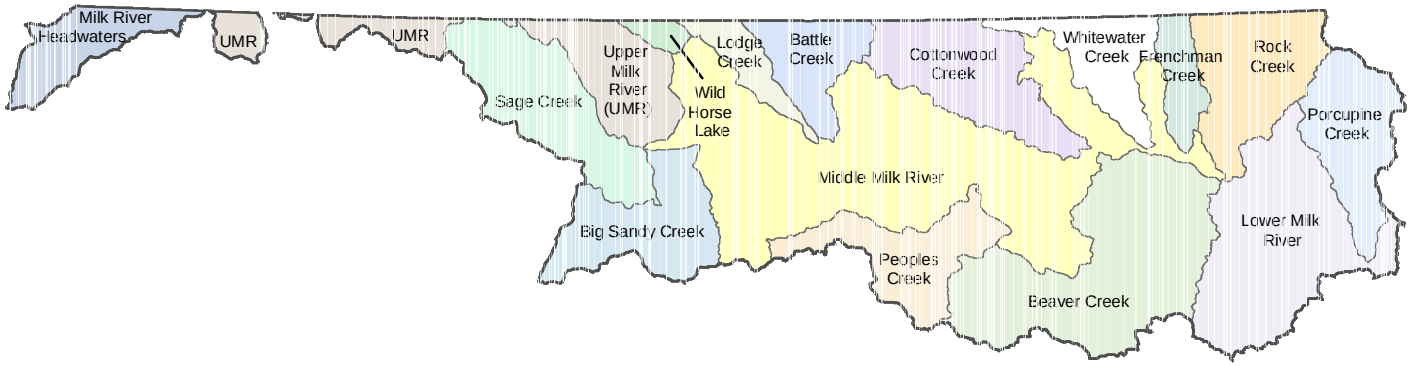
Hydrologic Unit Code 10040205 Watershed LOWER MUSSELSHELL

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40C003_010	MUSSELSHELL RIVER, from Flatwillow Cr to Fort Peck Reservoir	4C	74.2 M	C-3	P		P		F			Flow alteration Other habitat alterations Riparian degradation	Agriculture Grazing related Sources Flow Regulation/Modification Bank or Shoreline Modification/Destabilization Hydromodification Habitat Modification (other than Hydromodification)
2	MT40C004_030	BLOOD CREEK, Dovetail Rd. x-ing to mouth (Musselshell R)	4C	30.5 M	C-3	P		P		X			Other habitat alterations Riparian degradation	Agriculture Grazing related Sources

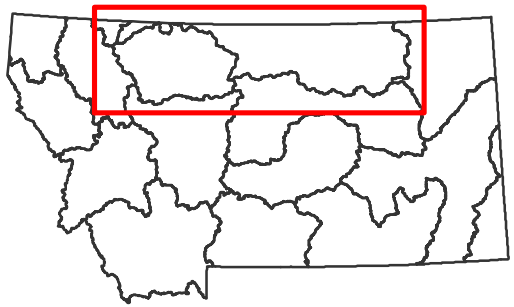
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Milk
Sub-Major Basin

Missouri River Basin



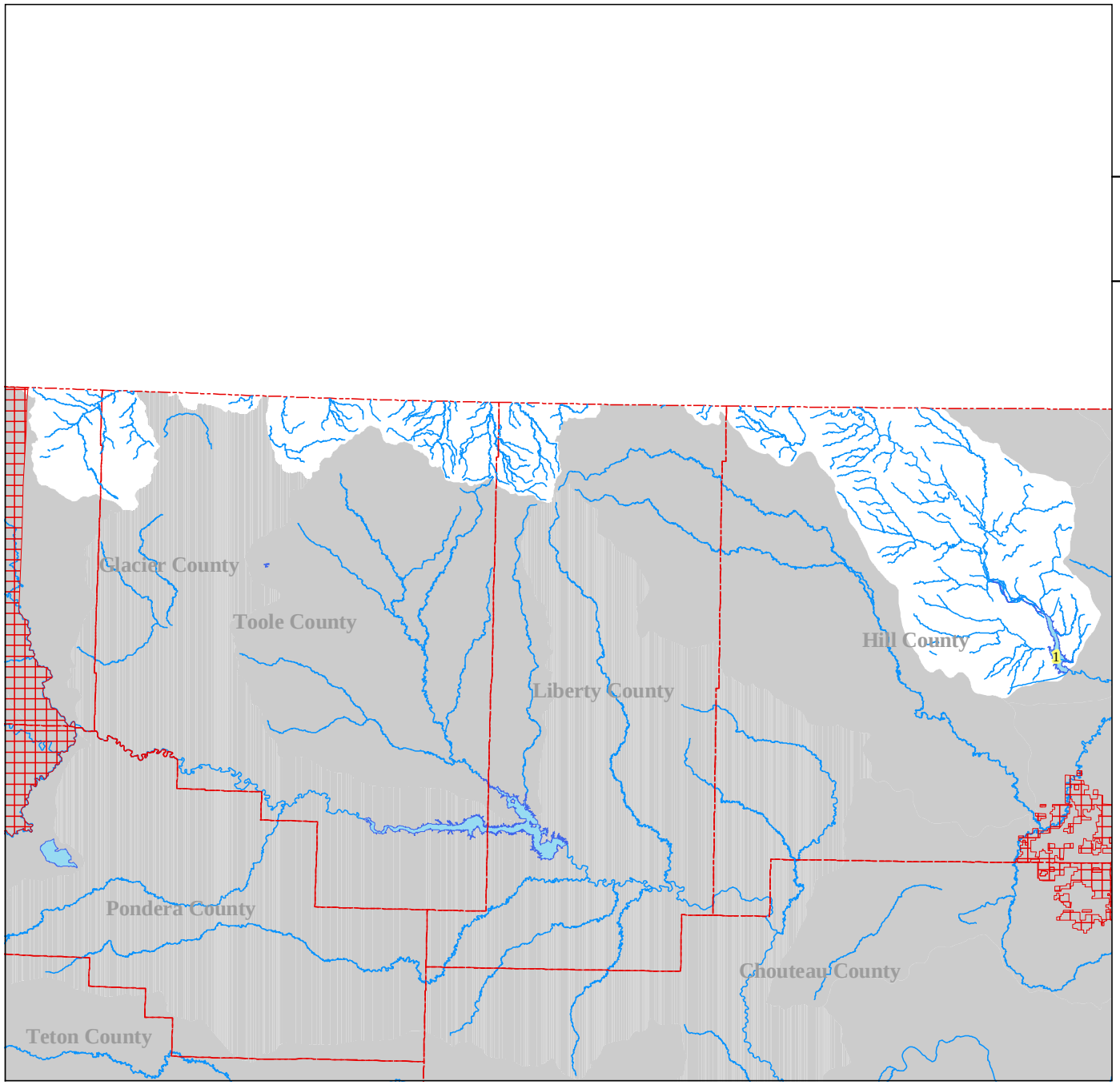
USGS HUC	HUC NAME
10050001	Milk River Headwaters
10050002	Upper Milk River
10050003	Wild Horse Lake
10050004	Middle Milk River
10050005	Big Sandy Creek
10050006	Sage Creek
10050007	Lodge Creek
10050008	Battle Creek
10050009	Peoples Creek
10050010	Cottonwood Creek
10050011	Whitewater Creek
10050012	Lower Milk River
10050013	Frenchman Creek
10050014	Beaver Creek (Milk R)
10050015	Rock Creek
10050016	Porcupine Creek



Montana Department of Environmental Quality
May 2004

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)



Watershed

UPPER MILK

USGS HUC: 10050002

Waters Assessed as not fully supporting one or more beneficial uses.

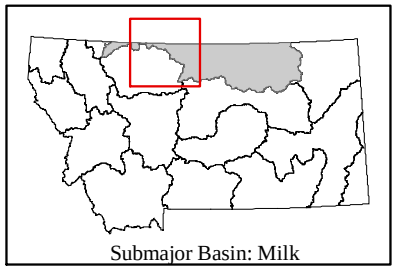
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Milk

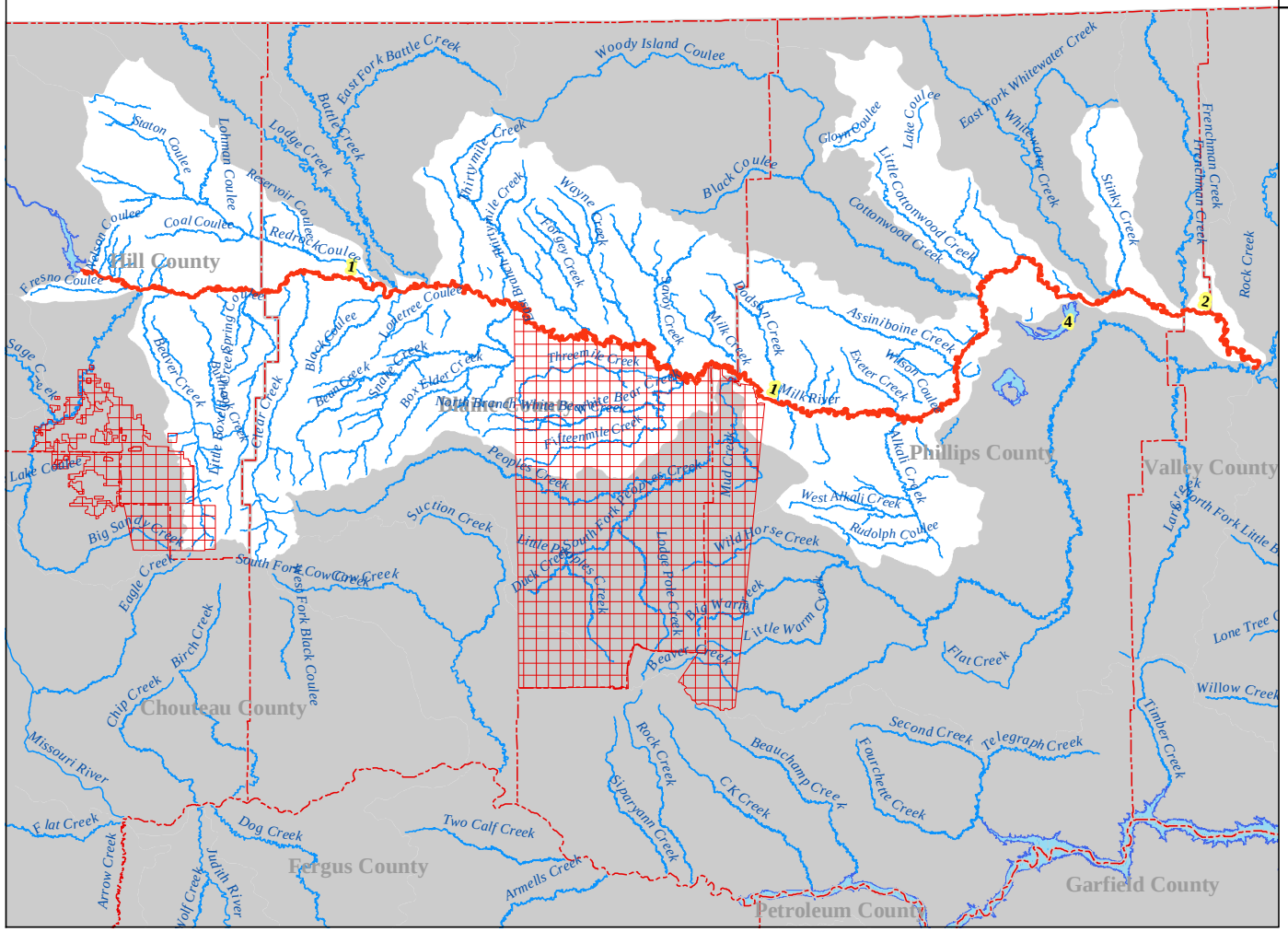
Hydrologic Unit Code 10050002 Watershed UPPER MILK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40F005_010	FRESNO RESERVOIR (on Milk R Mainstem)	4C	4000 A	B-3	P		P	X	X	F	F	Flow alteration Other habitat alterations	Hydromodification Flow Regulation/Modification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)



Watershed

MIDDLE MILK

USGS HUC: 10050004

Waters Assessed as not fully supporting one or more beneficial uses.

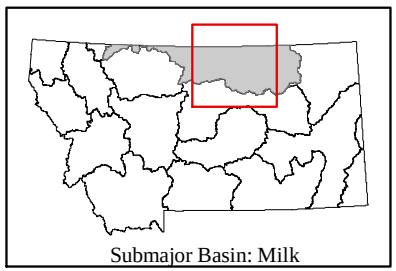
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Milk

Hydrologic Unit Code 10050004 Watershed MIDDLE MILK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40J001_010	MILK RIVER, from Fresno Dam to Whitewater Cr	5	270.4 M	B-3	X		X	N	X	F	F	Metals Mercury	Agriculture Crop-related Sources Grazing related Sources Hydromodification
2	MT40J001_020	MILK RIVER, Whitewater Cr to Beaver Cr	5	38.2 M	B-3	X		X	N	X	F	F	Metals Mercury	Agriculture Crop-related Sources Grazing related Sources Hydromodification

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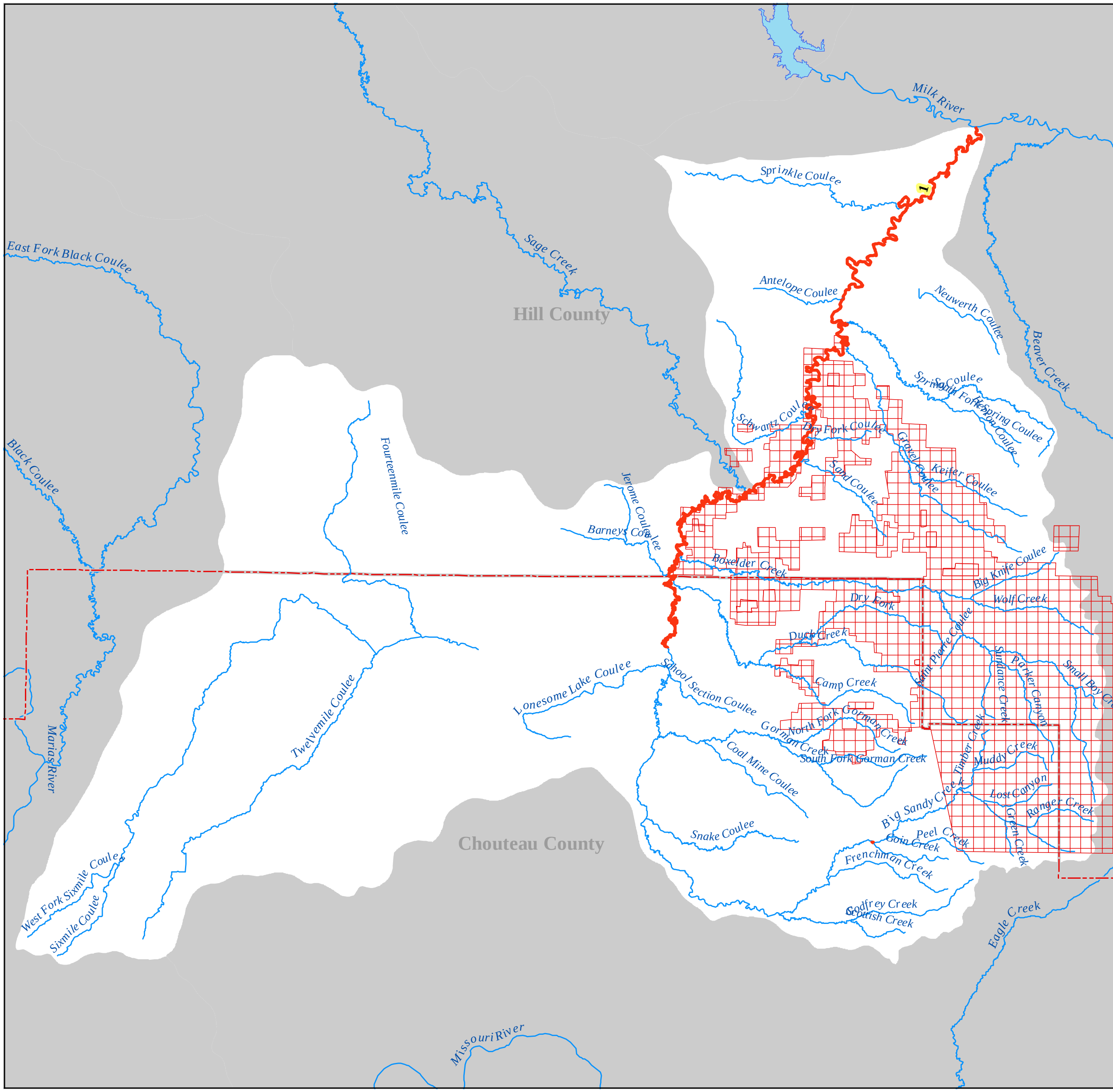
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BIG SANDY

USGS HUC: 10050005



Hill County
Chouteau County
Milk River
Sprinkle Coulee
Antelope Coulee
Neuwerth Coulee
Beaver Creek
Sage Creek
East Fork Black Coulee
Black Coulee
Marias River
Fourteenmile Coulee
Jerome Coulee
Barneys Coulee
Boxelder Creek
Dry Fork Coulee
Schwartz Coulee
Sand Coulee
Gravel Coulee
Keiter Coulee
Big Knife Coulee
Wolf Creek
Dry Fork
Duck Creek
Saint Pierre Coulee
Sundance Creek
Parker Canyon
Small Boy Creek
Camp Creek
School Section Coulee
Lonesome Lake Coulee
Twelvemile Coulee
North Fork Gorman Creek
Gorman Creek
South Fork Gorman Creek
Coal Mine Coulee
Timber Creek
Muddy Creek
Lost Canyon
Ranger Creek
Green Creek
Big Sandy Creek
Peel Creek
Snake Coulee
Frenchman Creek
Godfrey Creek
Scottish Creek
Eagle Creek
West Fork Sixmile Coulee
Sixmile Coulee
Missouri River

Waters Assessed as not fully supporting one or more beneficial uses.

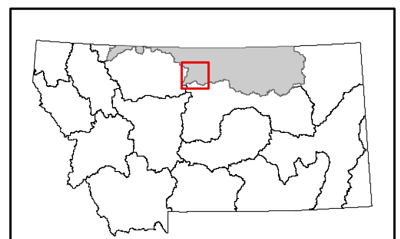
County Boundary

Indian Reservation

N

0 2 4 8

Miles

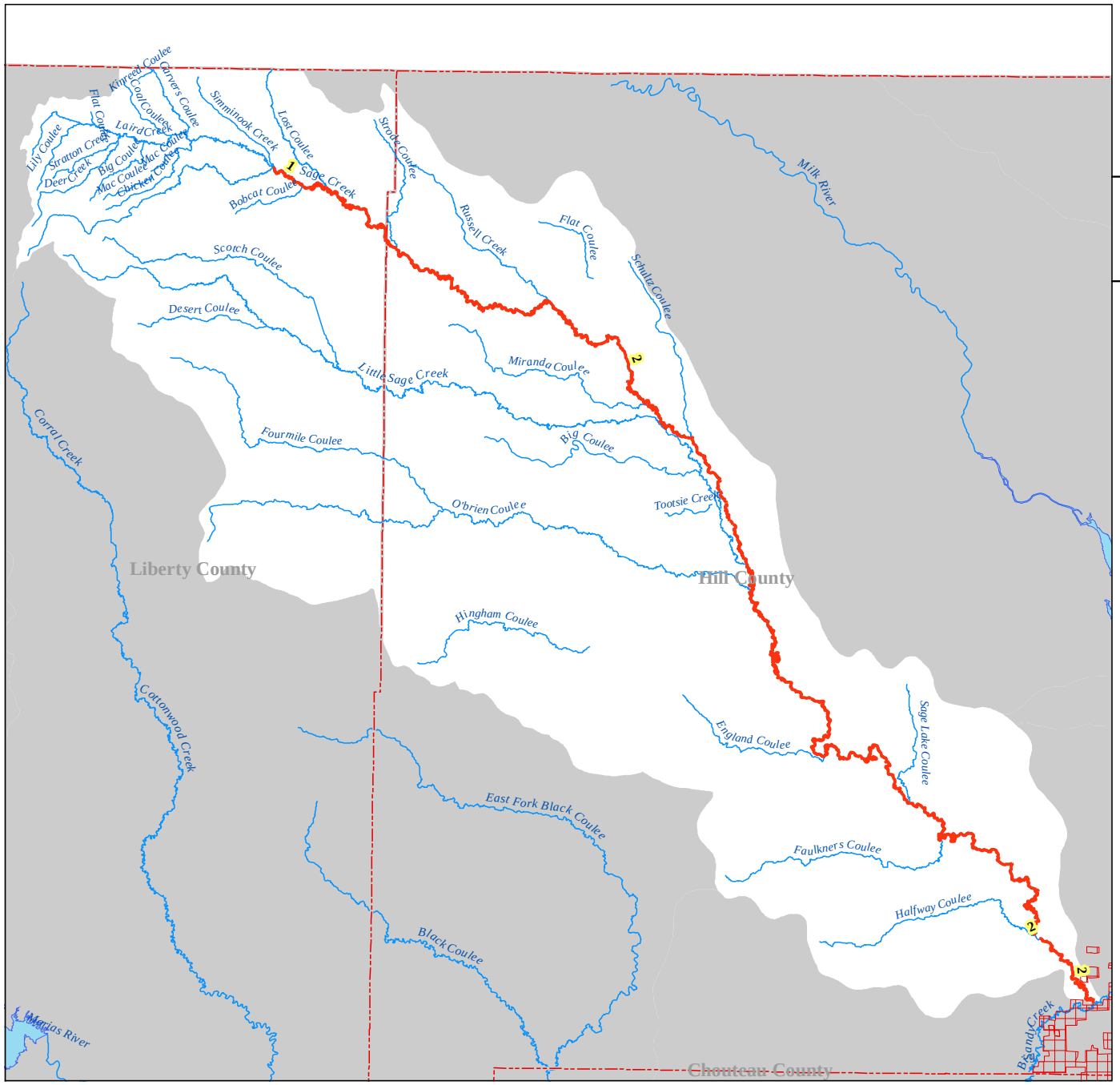


Submajor Basin: Milk

Hydrologic Unit Code 10050005 Watershed BIG SANDY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40H001_010	BIG SANDY CREEK, Lonesome Lake Coulee to the mouth (Milk R)	5	37.1 M	B-3	P		F	N	X	F	F	Metals Mercury Salinity/TDS/sulfates	Agriculture Crop-related Sources Atmospheric Deposition Groundwater Loadings

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

SAGE

USGS HUC: 10050006

Waters Assessed as not fully supporting one or more beneficial uses.

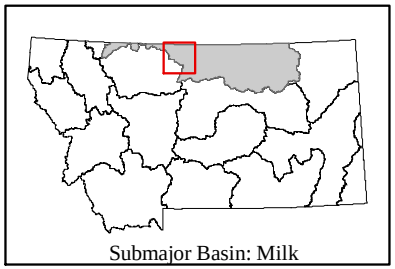
County Boundary

Indian Reservation

N

0 2.5 5 10

Miles

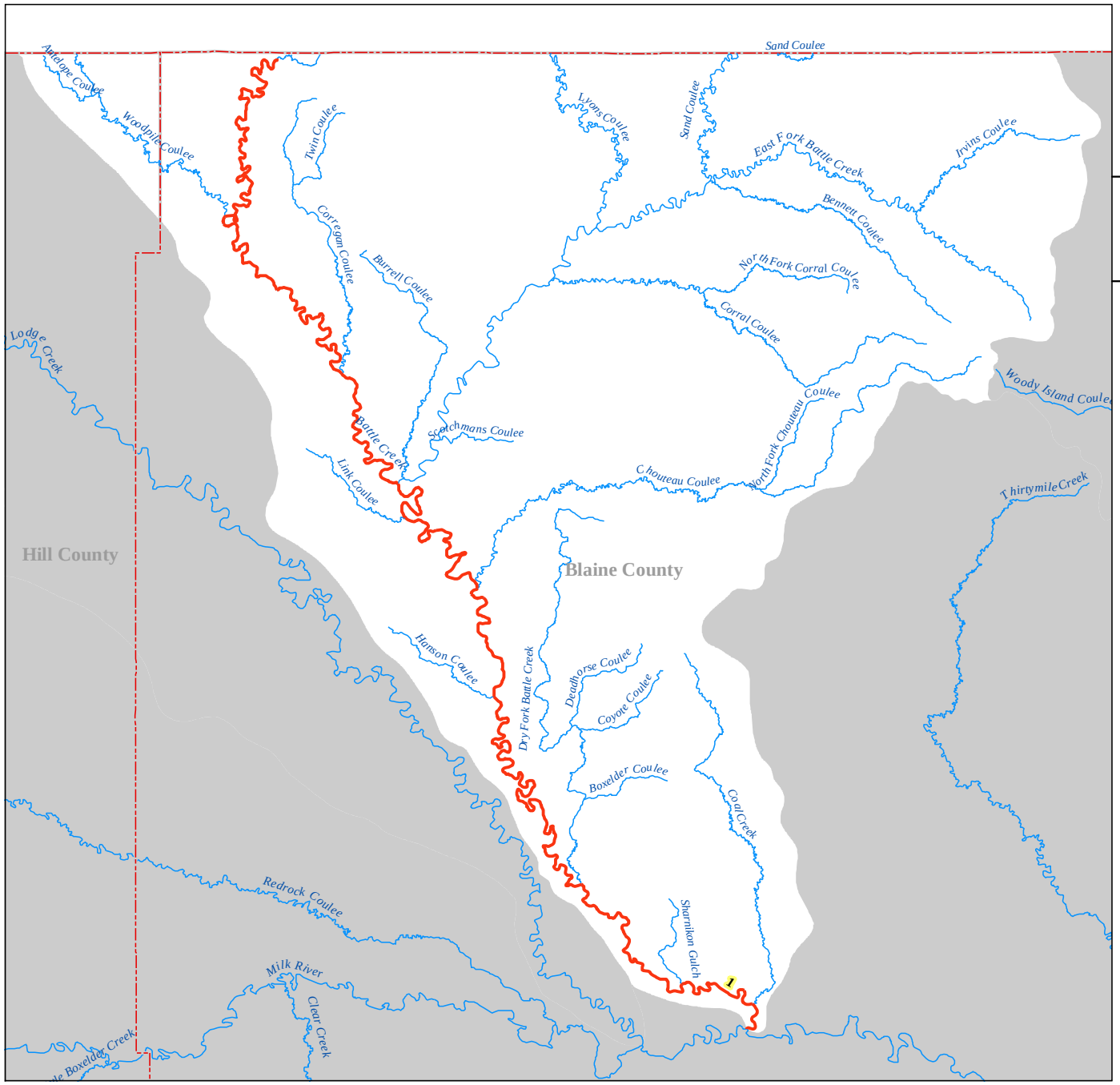


Submajor Basin: Milk

Hydrologic Unit Code 10050006 Watershed SAGE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40G001_011	SAGE CREEK, Laird Cr to the section line between 1 & 12 T36N R6E	4A	8.9 M	B-1	P		P	P	F	P	N	Salinity/TDS/sulfates Riparian degradation Other habitat alterations	Crop-related Sources Grazing related Sources Agriculture Intensive Animal Feeding Operations
2	MT40G001_012	SAGE CREEK, the section line between 1 & 12 T36N R6E to the mouth	4A	100.7 M	B-3	P		P	P	F	P	N	Other habitat alterations Riparian degradation Salinity/TDS/sulfates	Agriculture Crop-related Sources Grazing related Sources Intensive Animal Feeding Operations

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BATTLE

USGS HUC: 10050008

Waters Assessed as not fully supporting one or more beneficial uses.

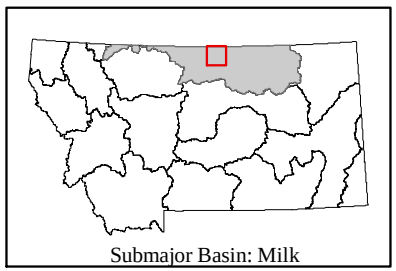
County Boundary

Indian Reservation

N

0 1.5 3 6

Miles

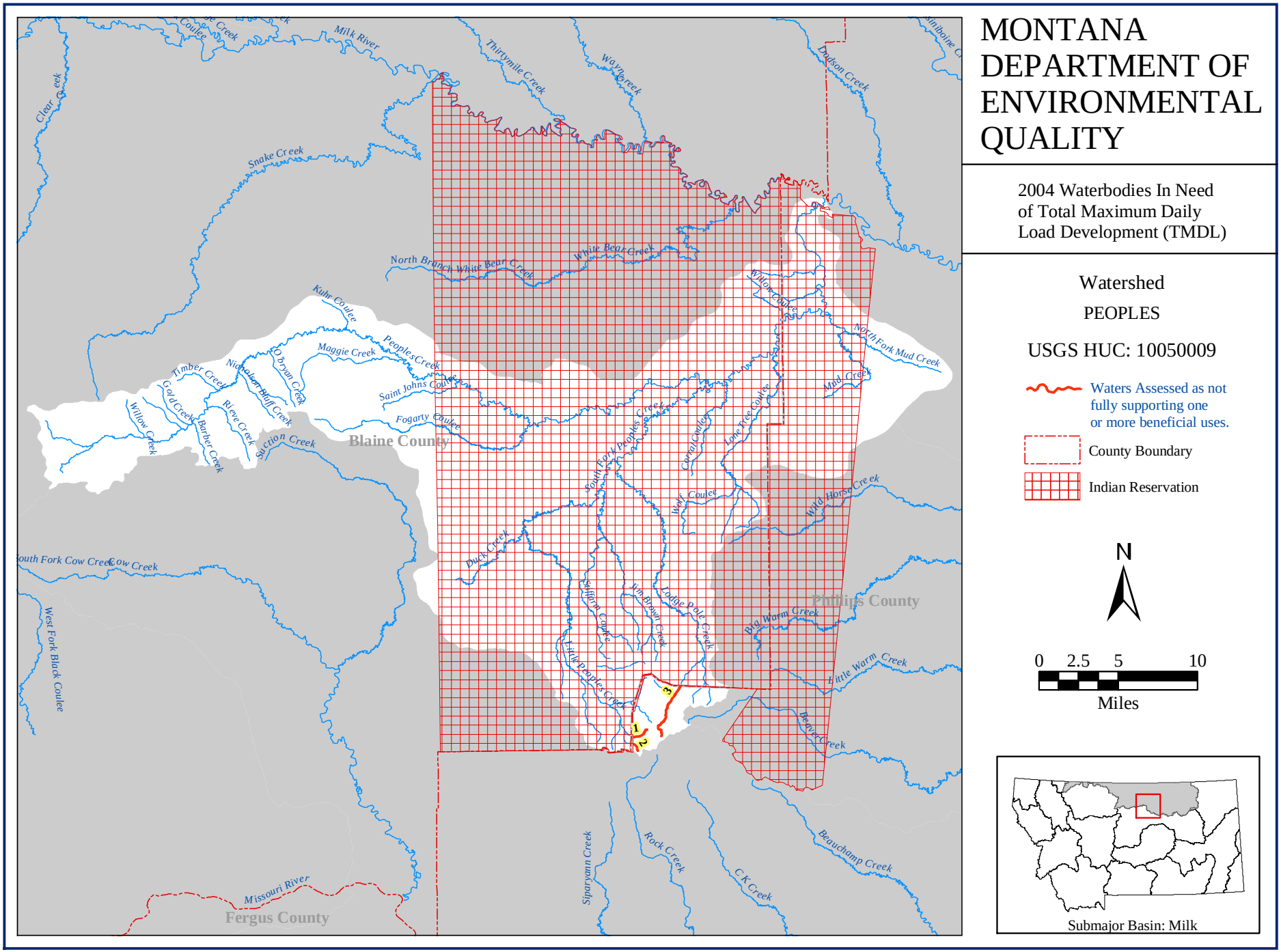


Submajor Basin: Milk

Hydrologic Unit Code 10050008 Watershed BATTLE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40J004_010	BATTLE CREEK, Canadian border to the mouth (Milk R)	5	70 M	B-3	P		P	F	F	F	F	Nutrients Siltation Other habitat alterations Algal Grwth/Chlorophyll a Riparian degradation	Agriculture Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

PEOPLES

USGS HUC: 10050009

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Submajor Basin: Milk

Hydrologic Unit Code 10050009 Watershed PEOPLES

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40I001_030	BIG HORN CREEK, Zortman Mine to Fort Belknap Reservation	5	0.8 M	B-1	N	N		N	X	F	F	Metals Zinc Cadmium Arsenic	Resource Extraction Surface Mining Mine Tailings Acid Mine Drainage Abandoned mining
2	MT40I001_040	KING CREEK, Headwaters to Fort Belknap Reservation boundary	5	0.7 M	B-1	P	P		N	N	N	N	Metals Nitrate Siltation Other habitat alterations Nutrients Cadmium Copper Chromium Lead Zinc Riparian degradation	Mine Tailings Abandoned mining Resource Extraction
3	MT40I001_050	LODGE POLE CREEK headwaters to Fort Belknap Reservation boundary	5	4.2 M	B-1	N	N		N	X	F	F	Metals Cadmium Mercury Other habitat alterations Riparian degradation Cause Unknown	Resource Extraction Surface Mining Subsurface Mining Source Unknown

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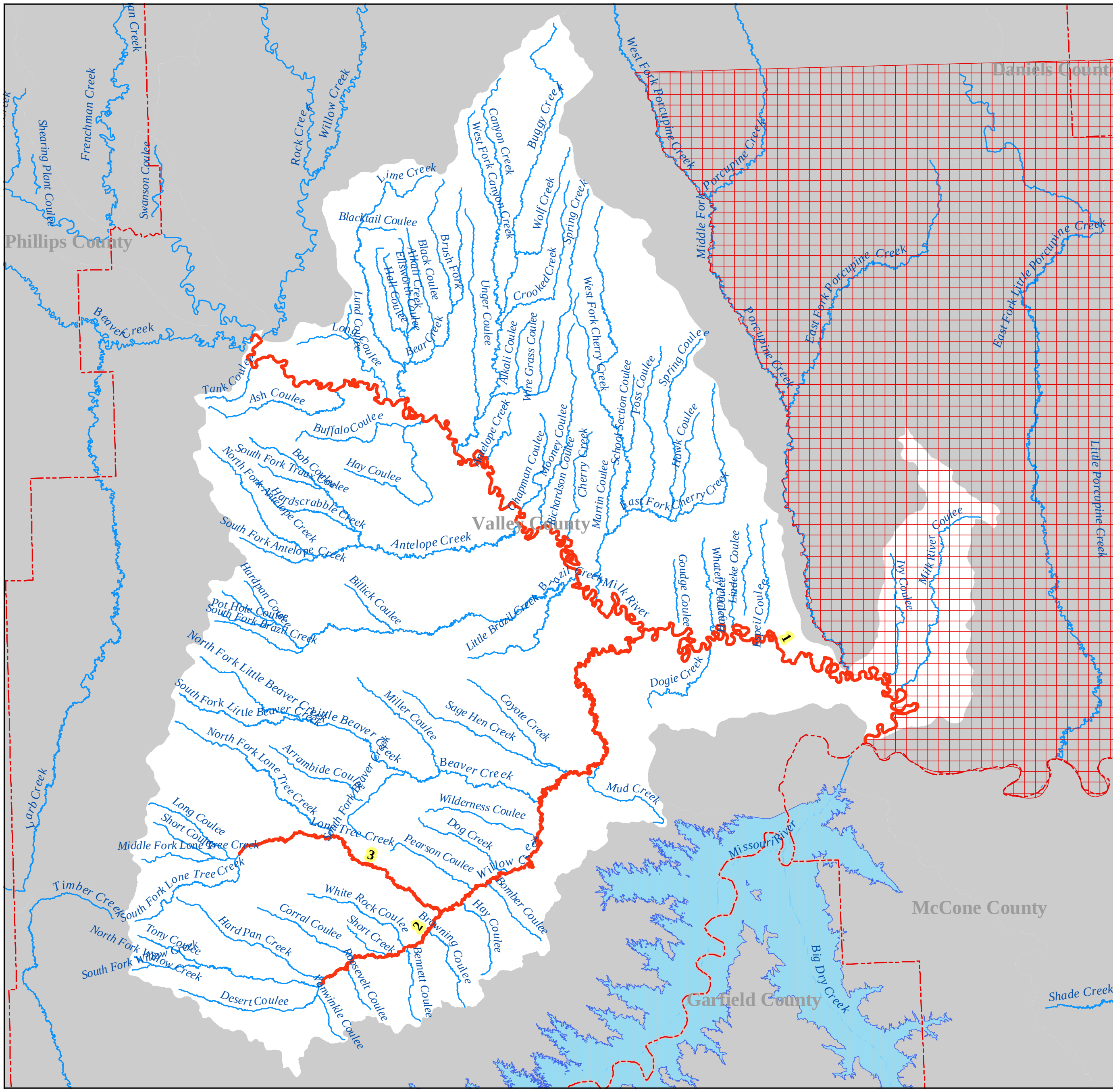
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)


Phillips County
Valley County
Daniels County
McCone County
Garfield County
Milk River
Missouri River
Porcupine Creek
Middle Fork Porcupine Creek
West Fork Porcupine Creek
East Fork Porcupine Creek
East Fork Little Porcupine Creek
Little Porcupine Creek
Beaver Creek
Little Beaver Creek
Antelope Creek
Cherry Creek
East Fork Cherry Creek
West Fork Cherry Creek
Buggy Creek
Canyon Creek
West Fork Canyon Creek
Lime Creek
Blacktail Coulee
Buffalo Coulee
Ash Coulee
Tank Coulee
Hay Coulee
Brazil Creek
Little Brazil Creek
Billick Coulee
Dogie Creek
Mud Creek
Lone Tree Creek
Middle Fork Lone Tree Creek
South Fork Lone Tree Creek
North Fork Lone Tree Creek
Willow Creek
Timber Creek
Larb Creek
Big Dry Creek
Shade Creek
Sage Hen Creek
Coyote Creek
Miller Coulee
Wilderness Coulee
Dog Creek
Pearson Coulee
Bomber Coulee
Browning Coulee
Bennett Coulee
Hard Pan Creek
Desert Coulee
Corral Coulee
White Rock Coulee
Short Creek
Frenchman Creek
Rock Creek
Willow Creek
Swanson Coulee
Shearing Plant Coulee
Mi lk River
Ivy Coulee
Milk River Coulee
Goudge Coulee
Spring Coulee
Hawk Coulee
Wolf Creek
Spring Creek
Crooked Creek
Unger Coulee
Brush Fork
Black Coulee
Bear Creek
Lund Coulee
Alkali Coulee
Wire Grass Coulee
Chapman Coulee
Richardson Coulee
Cherry Coulee
Martin Coulee
School Section Coulee
Foss Coulee
1
2
3

Watershed

LOWER MILK

USGS HUC: 10050012

Waters Assessed as not fully supporting one or more beneficial uses.

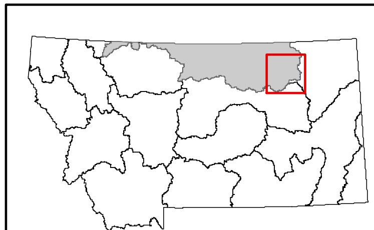
County Boundary

Indian Reservation

N

0 3 6 12

Miles

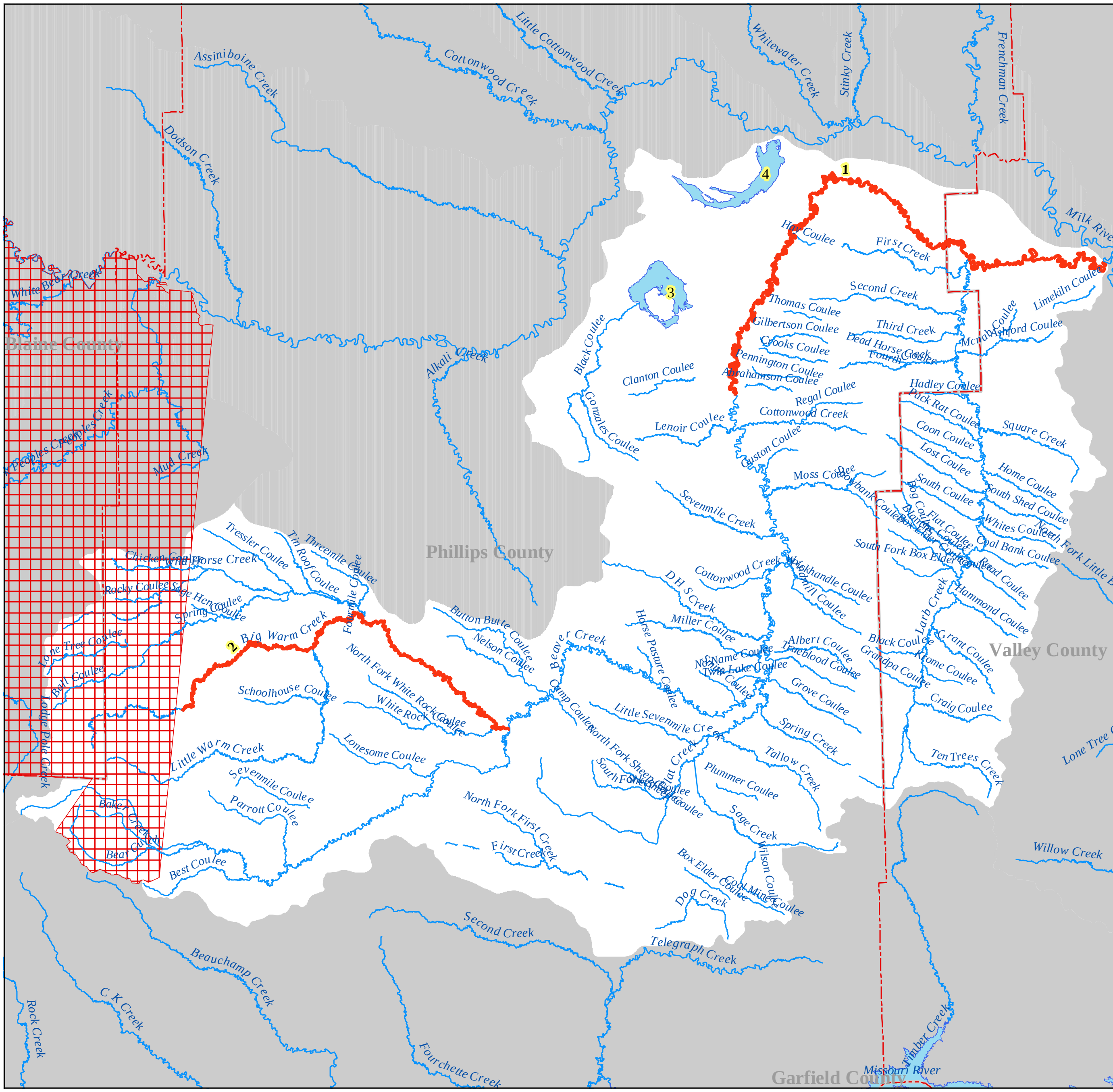


Submajor Basin: Milk

Hydrologic Unit Code 10050012 Watershed LOWER MILK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40O001_010	MILK RIVER, Beaver Cr to the mouth (Missouri R)	5	135.9 M	B-3	X		X	N	T	P	P	Pathogens Metals Nutrients Mercury	Crop-related Sources Abandoned mining Agriculture Resource Extraction Grazing related Sources
2	MT40O002_030	WILLOW CREEK, mainstem plus North Fork below Halfpint Reservoir	5	61.7 M	B-3	P		P	X	X	F	F	Siltation Flow alteration Other habitat alterations Riparian degradation	Grazing related Sources Upstream Impoundment Flow Regulation/Modification Agriculture Hydromodification Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
3	MT40O002_050	LONE TREE CREEK from Headwaters to mouth at Willow Cr	4A	18.5 M	B-3	P		P	X	X	X	X	Nutrients Other habitat alterations Flow alteration Riparian degradation	Grazing related Sources Agriculture Hydromodification Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BEAVER

USGS HUC: 10050014

Waters Assessed as not fully supporting one or more beneficial uses.

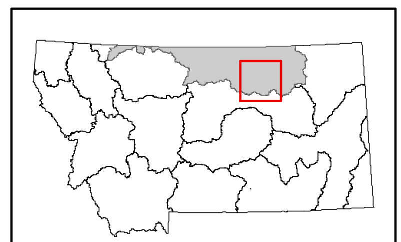
County Boundary

Indian Reservation

N

0 3 6 12

Miles

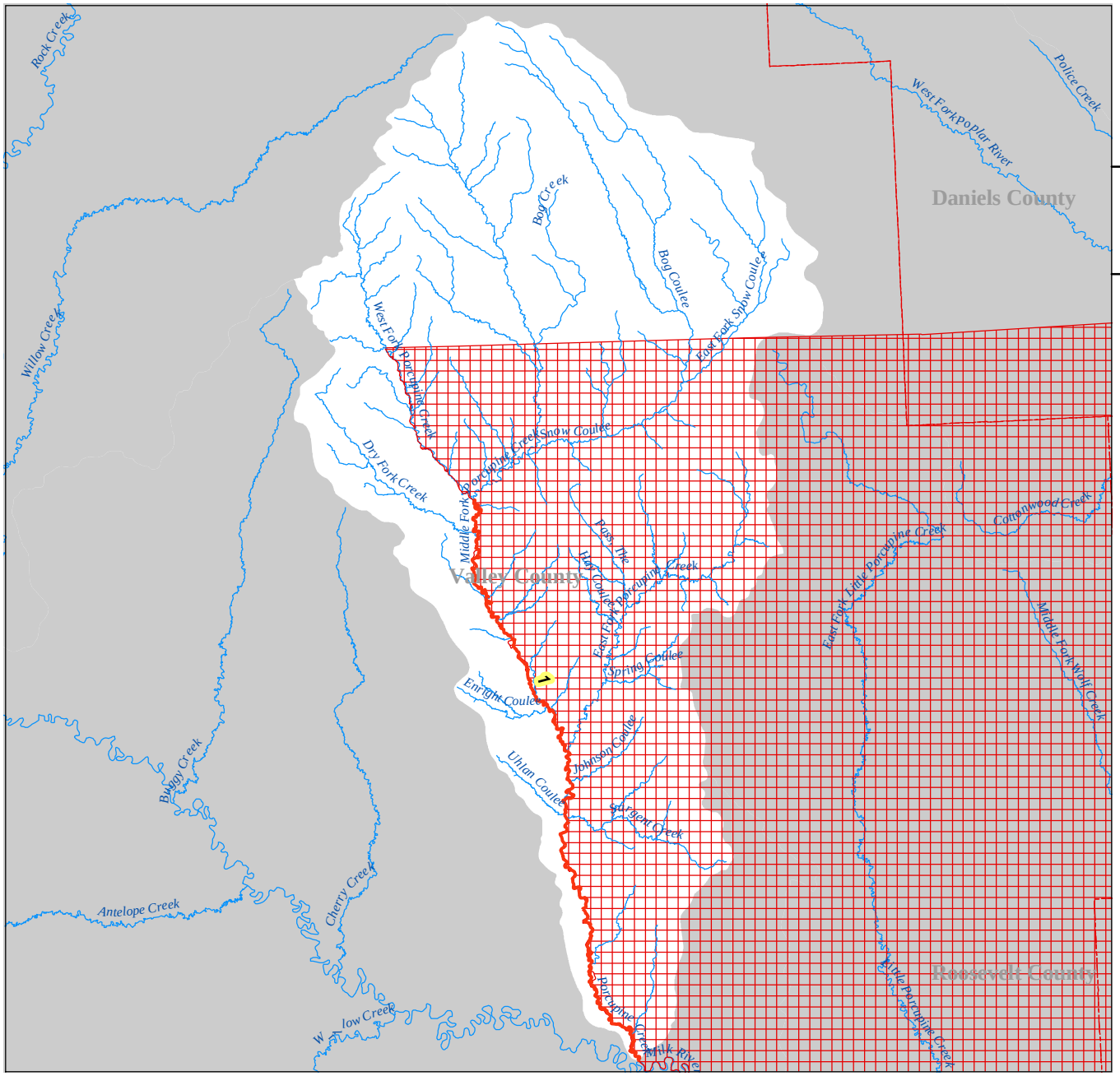


Submajor Basin: Milk

Hydrologic Unit Code 10050014 Watershed BEAVER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40M001_020	BEAVER CREEK, Black Coulee to the mouth (Milk R)	5	81.3 M	B-3	P		P	N	X	F	F	Nutrients Other habitat alterations Radiation Riparian degradation	Agriculture Crop-related Sources Grazing related Sources
2	MT40M002_030	BIG WARM CREEK, Fort Belknap Res. Boundary to mouth (Beaver Cr)	5	54 M	B-3	P		P	F	F	P	F	Nutrients Siltation Salinity/TDS/chlorides Flow alteration Other habitat alterations Riparian degradation	Agriculture Grazing related Sources Hydromodification Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)
3	MT40M003_010	LAKE BOWDOIN	5	3500 A	B-3	P		X	N	X	P	P	Selenium Salinity/TDS/chlorides Metals	Agriculture Hydromodification Crop-related Sources
4	MT40M003_020	NELSON RESERVOIR T32N R32E	5	3901.7 A	B-3	P		P	X	P	F	F	Nutrients Water level fluct Flow alteration	Flow Regulation/Modification Agriculture Crop-related Sources Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

PORCUPINE

USGS HUC: 10050016

Waters Assessed as not fully supporting one or more beneficial uses.

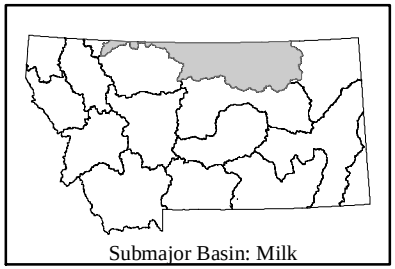
County Boundary

Indian Reservation

N

0 3 6 12

Miles

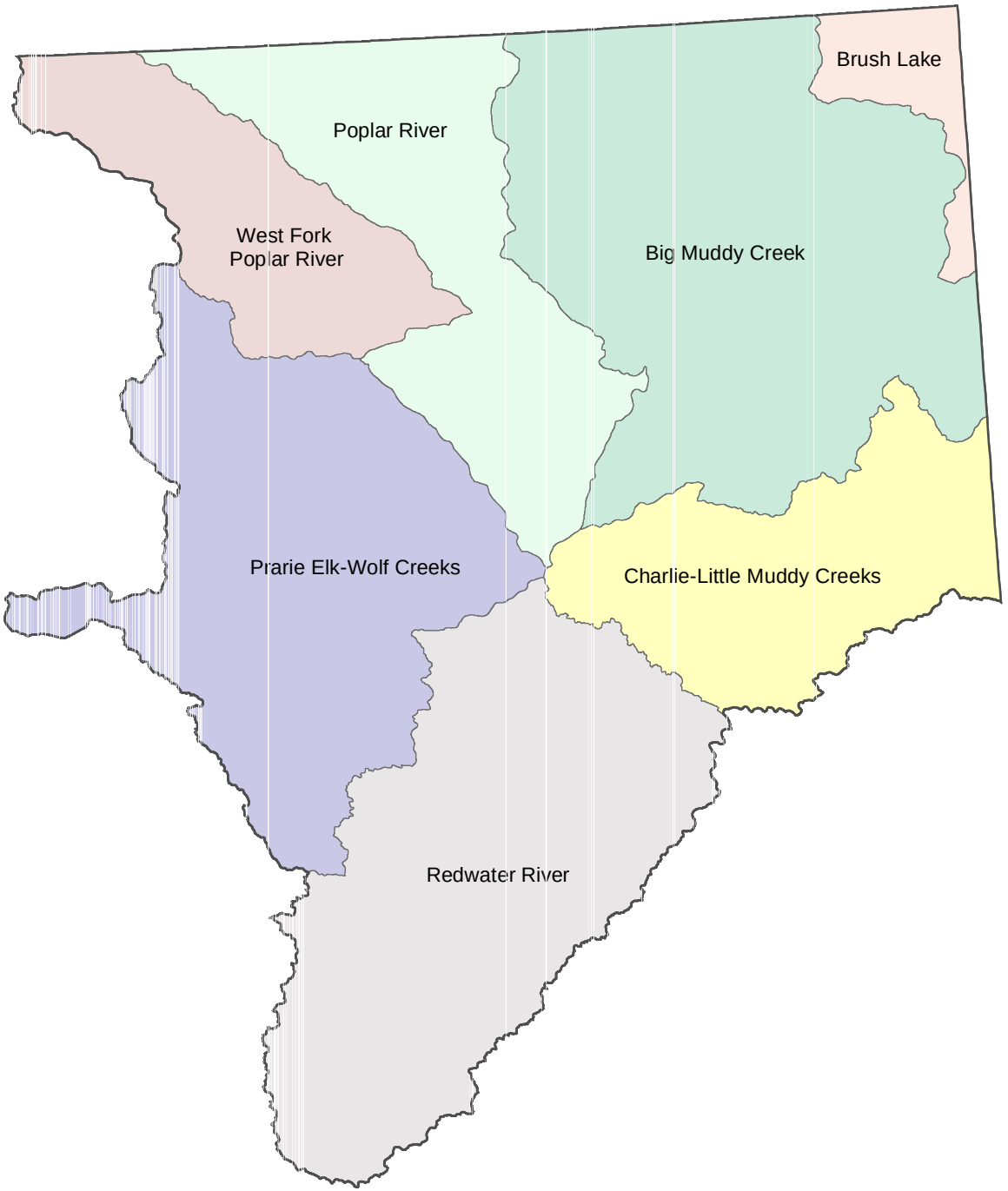


Submajor Basin: Milk

Hydrologic Unit Code 10050016 Watershed PORCUPINE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40O003_010	PORCUPINE CREEK junction of West and Middle Forks to mouth (Milk R)	5	45.6 M	B-3	P		P	X	X	P	P	Nutrients Salinity/TDS/sulfates	Agriculture Crop-related Sources

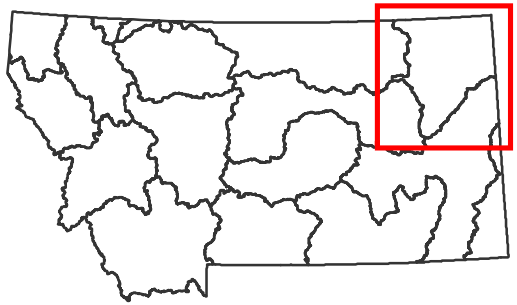
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



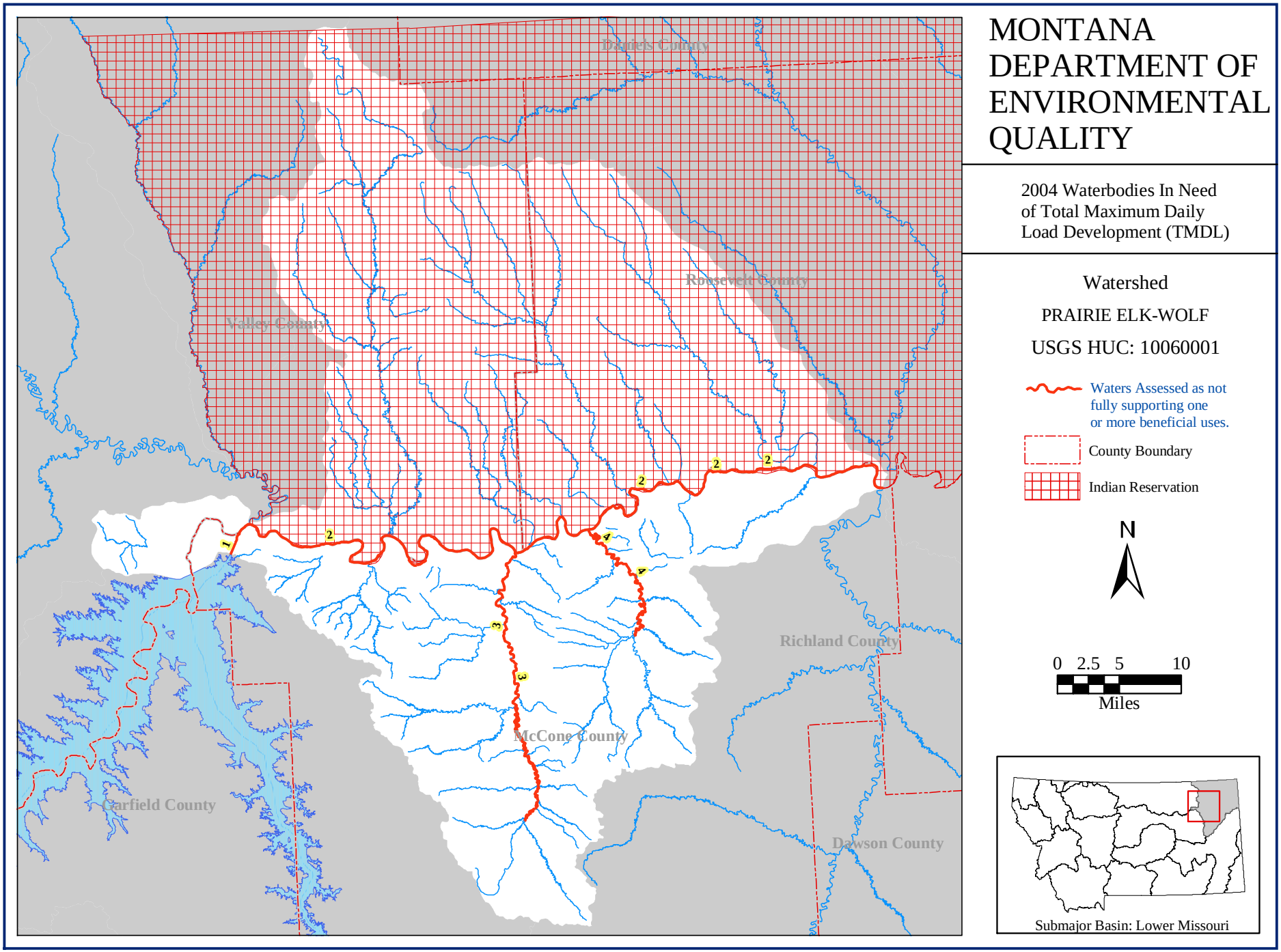
Lower Missouri Sub-Major Basin

Missouri River Basin

USGS HUC	HUC NAME
10060001	Prarie Elk-Wolf Creeks
10060002	Redwater River
10060003	Poplar River
10060004	West Fork Poplar River
10060005	Charlie-Little Muddy Creeks
10060006	Big Muddy Creek
10060007	Brush Lake



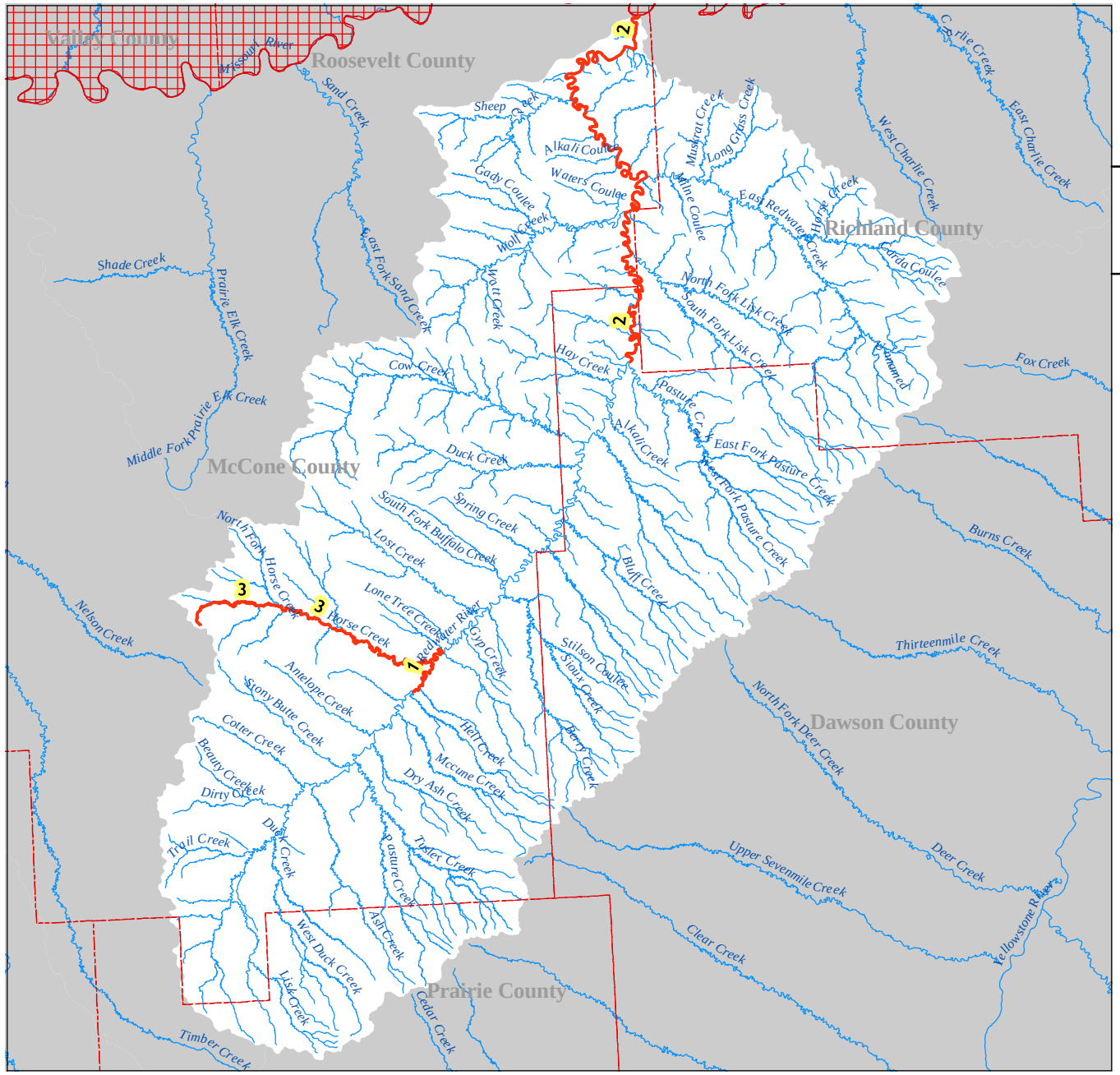
Montana Department of Environmental Quality
May 2004


MONTANA
DEPARTMENT OF
ENVIRONMENTAL
QUALITY
2004 Waterbodies In Need
of Total Maximum Daily
Load Development (TMDL)
Watershed
PRAIRIE ELK-WOLF
USGS HUC: 10060001
Waters Assessed as not
fully supporting one
or more beneficial uses.
County Boundary
Indian Reservation
N
0 2.5 5 10
Miles
Daniels County
Roosevelt County
Valley County
Richland County
McCone County
Garfield County
Dawson County
Submajor Basin: Lower Missouri

Hydrologic Unit Code 10060001 Watershed PRAIRIE ELK-WOLF

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40S001_011	MISSOURI RIVER from Fort Peck Dam to the Milk R	5	3.3 M	B-2	P	P	P	F	F	F	F	Thermal modifications Flow alteration Other habitat alterations Riparian degradation	Flow Regulation/Modification Hydromodification
2	MT40S001_012	MISSOURI RIVER from Milk R to the Poplar R	5	84.3 M	B-3	P		P	F	X	F	F	Thermal modifications Flow alteration Other habitat alterations Riparian degradation	Flow Regulation/Modification Hydromodification
3	MT40S002_010	PRAIRIE ELK CREEK from the East and Middle Forks to the mouth (Missouri R)	5	37.5 M	C-3	P		P		X			Nutrients Other habitat alterations Riparian degradation	Agriculture Crop-related Sources Grazing related Sources
4	MT40S002_030	SAND CREEK from the forks to the mouth (Missouri R)	5	19.3 M	C-3	P		P		X			Nutrients Siltation Other habitat alterations Riparian degradation	Agriculture Crop-related Sources Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

REDWATER

USGS HUC: 10060002

Waters Assessed as not fully supporting one or more beneficial uses.

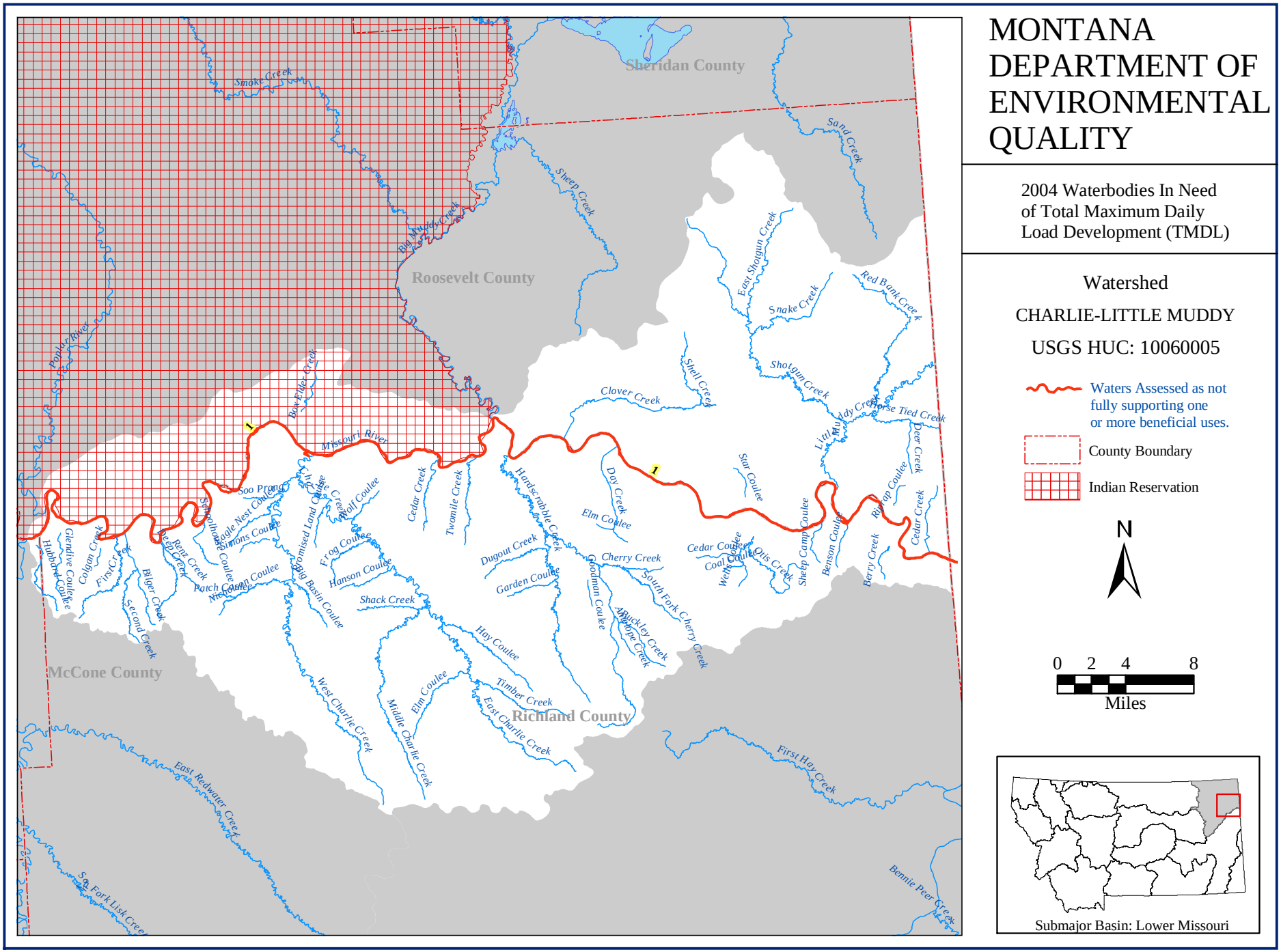
County Boundary

Indian Reservation

Hydrologic Unit Code 10060002 Watershed REDWATER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40P001_012	REDWATER RIVER from Hell Cr. to Buffalo Springs Cr.	5	8 M	C-3	P		F		F			Nutrients Total toxics	Municipal Point Sources Land Disposal
2	MT40P001_014	REDWATER RIVER from Pasture Cr. to the mouth (Missouri R)	4C	57.7 M	C-3	P		P		F			Riparian degradation Other habitat alterations	Agriculture Grazing related Sources
3	MT40P002_020	HORSE CREEK from headwaters to mouth at Redwater R near Circle, MT	5	29 M	C-3	P		P		X			Salinity/TDS/sulfates Bank erosion Riparian degradation Other habitat alterations	Source Unknown Agriculture Crop-related Sources Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

CHARLIE-LITTLE MUDDY

USGS HUC: 10060005

Waters Assessed as not fully supporting one or more beneficial uses.

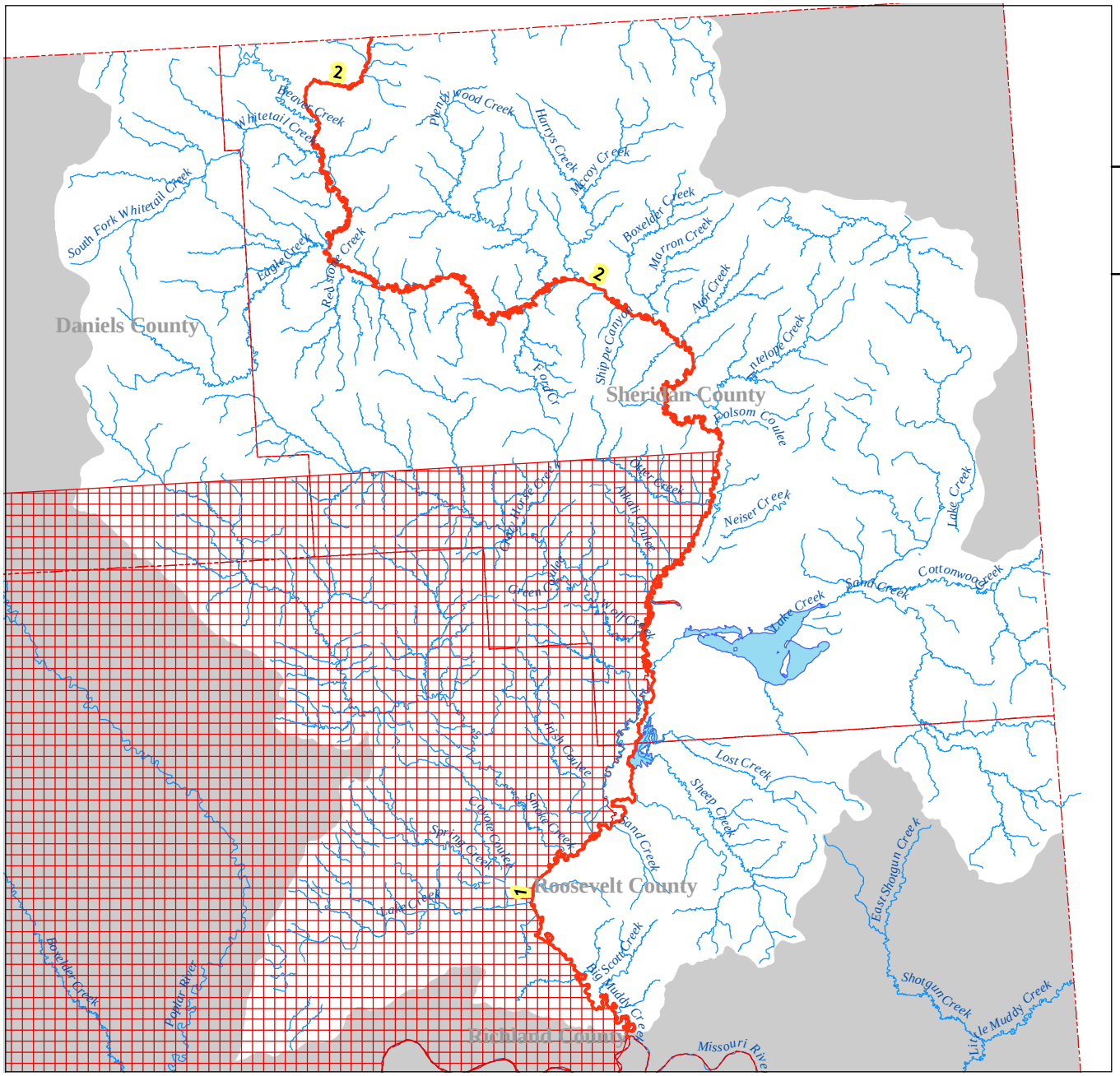
County Boundary

Indian Reservation

Hydrologic Unit Code 10060005 Watershed CHARLIE-LITTLE MUDDY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40S003_010	MISSOURI RIVER from the Poplar R to North Dakata	5	94.8 M	B-3	P		P	F	X	F	F	Thermal modifications Flow alteration	Hydromodification Flow Regulation/Modification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BIG MUDDY

USGS HUC: 10060006

Waters Assessed as not fully supporting one or more beneficial uses.

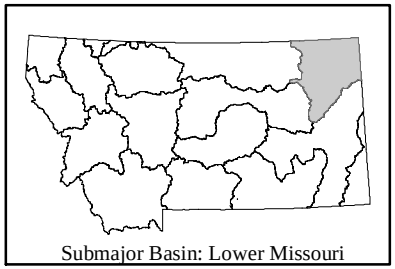
County Boundary

Indian Reservation

N

0 3.5 7 14

Miles



Submajor Basin: Lower Missouri

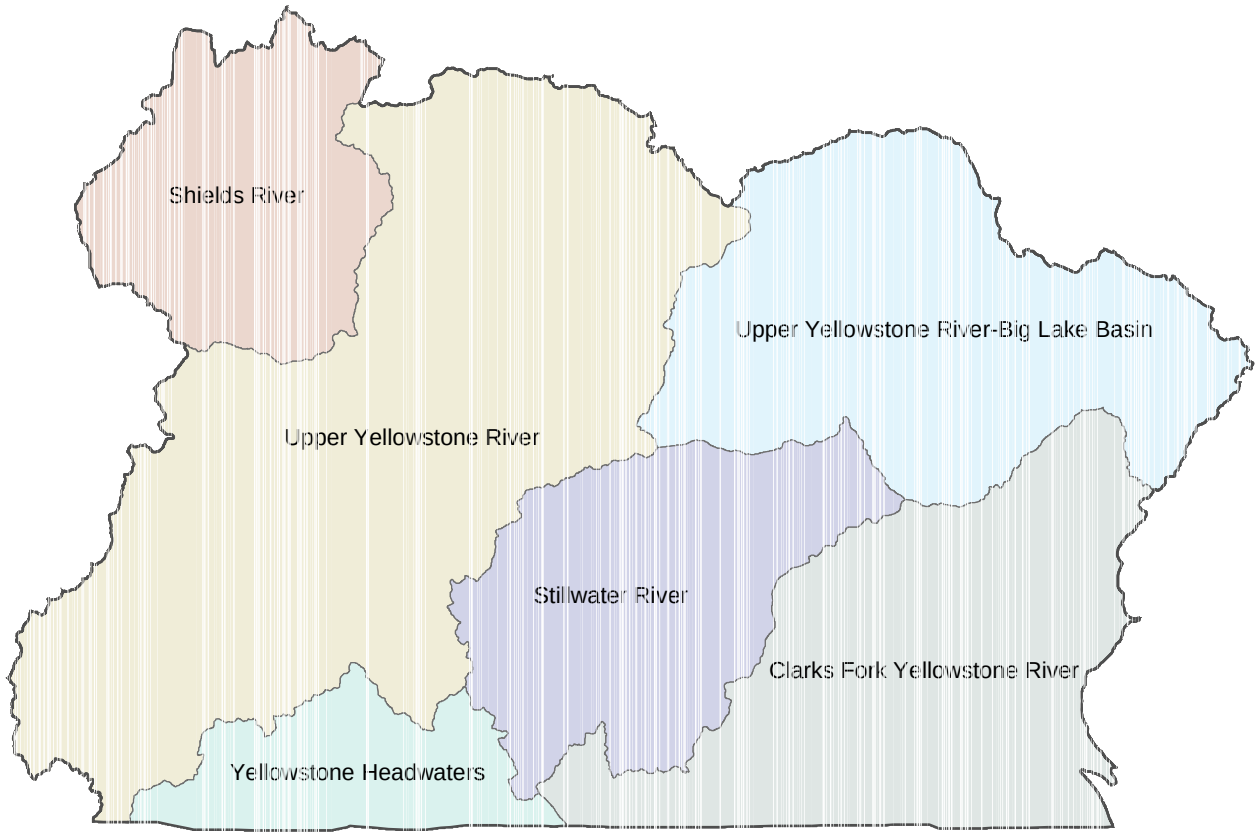
Hydrologic Unit Code 10060006 Watershed BIG MUDDY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT40R001_010	BIG MUDDY CREEK northern Fort Peck Res. boundary to the mouth (Missouri R)	5	80.8 M	C-3	P		P		X			Siltation Flow alteration Other habitat alterations Riparian degradation Nutrients	Agriculture Grazing related Sources Flow Regulation/Modification Hydromodification
2	MT40R001_020	BIG MUDDY CREEK from Canada to northern boundary of Fort Peck Reservation	5	114 M	C-3	P		P		F			Nutrients Organic enrichment/Low DO Other habitat alterations Riparian degradation Metals Copper Lead Mercury Zinc	Agriculture Crop-related Sources Grazing related Sources

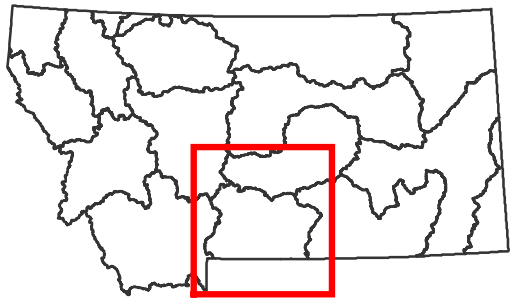
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Upper Yellowstone Sub-Major Basin

Yellowstone River Basin



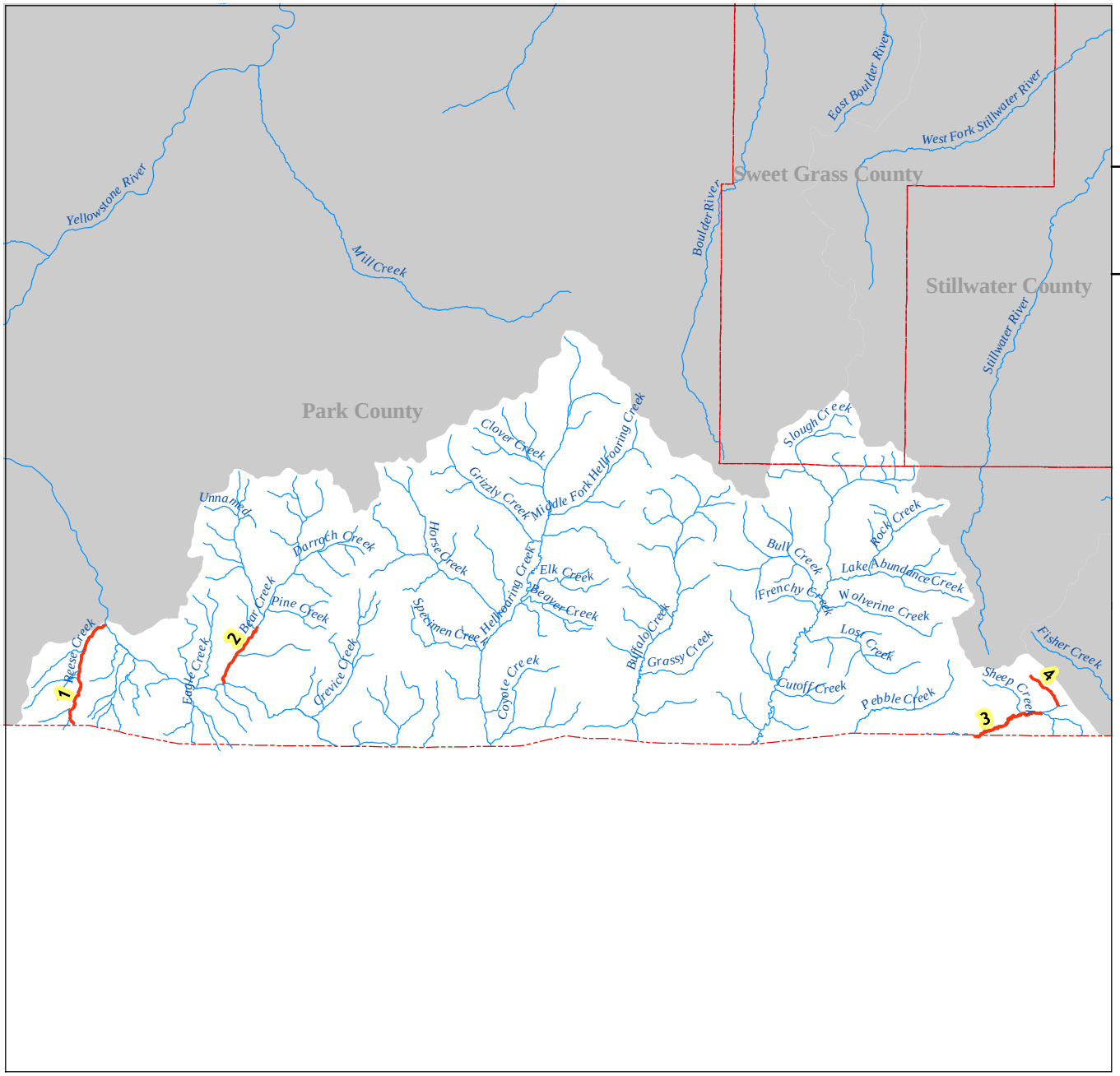
USGS HUC	HUC NAME
10070001	Yellowstone Headwaters
10070002	Upper Yellowstone River
10070003	Shields River
10070004	Upper Yellowstone River-Big Lake Basin
10070005	Stillwater River (Yellowstone R)
10070006	Clarks Fork Yellowstone River



Montana Department of Environmental Quality
May 2004

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)



Watershed

YELLOWSTONE HEADWATERS

USGS HUC: 10070001

Waters Assessed as not fully supporting one or more beneficial uses.

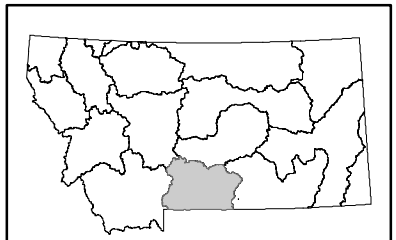
County Boundary

Indian Reservation

N

0 2.5 5 10

Miles

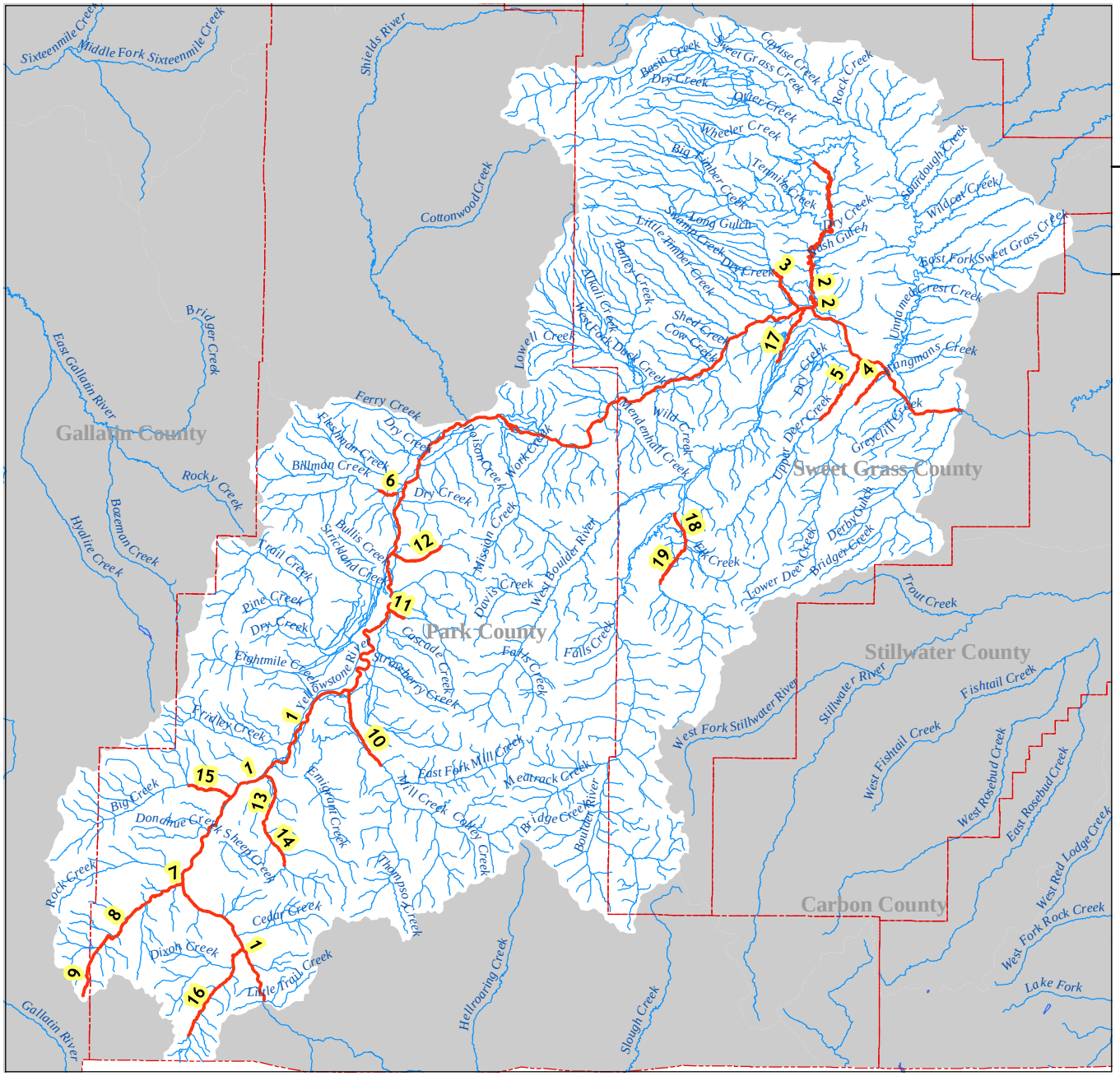


Submajor Basin: Upper Yellowstone

Hydrologic Unit Code 10070001 Watershed YELLOWSTONE HEADWATERS

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43B002_010	REESE CREEK from the state border to the mouth (Yellowstone R)	4C	5.2 M	A-1	F	P		F	F	F	F	Other habitat alterations	
2	MT43B002_021	BEAR CREEK, 1/2 mi. below Jardine Mine to mouth (Yellowstone R)	5	3.1 M	B-1	P	P		F	P	F	P	Flow alteration Thermal modifications	Hydromodification Flow Regulation/Modification
3	MT43B002_031	SODA BUTTE CREEK McLaren Tailings to the Montana Border.	4A	4.2 M	B-1	P	P		X	F	X	X	Metals	Abandoned mining Resource Extraction
4	MT43B002_040	MILLER CREEK headwaters to mouth (Soda Butte Cr)	4A	0.8 M										

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER YELLOWSTONE

USGS HUC: 10070002

Waters Assessed as not fully supporting one or more beneficial uses.

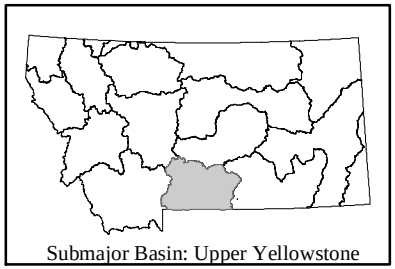
County Boundary

Indian Reservation

N

0 4.5 9 18

Miles



Submajor Basin: Upper Yellowstone

Hydrologic Unit Code 10070002 Watershed UPPER YELLOWSTONE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43B003_010	YELLOWSTONE RIVER from Reese Cr to Bridger Cr.	4C	121.8 M	B-1	P	P		X	X	X	X	Other habitat alterations	Land Development Removal of Riparian Vegetation Construction Habitat Modification (other than Hydromodification)
2	MT43B004_011	OTTER CREEK from 2 mi downstream of Highway 191 bridge to the mouth (Yellowstone R)	4C	20 M	B-1	P	P		F	F	F	F	Flow alteration	Agriculture
3	MT43B004_021	BIG TIMBER CREEK from Swamp Cr. to the mouth (Yellowstone R)	4C	5.1 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Flow Regulation/Modification Hydromodification
4	MT43B004_031	LOWER DEER CREEK from the mouth (Yellowstone R) 4 mi upstream	4C	4 M	B-1	P	P		X	P	X	X	Flow alteration	Flow Regulation/Modification Hydromodification
5	MT43B004_041	UPPER DEER CREEK from the mouth (Yellowstone R) 6.5 miles upstream	4C	6.5 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Flow Regulation/Modification Hydromodification
6	MT43B004_051	BILLMAN CREEK Livingston City limits to the mouth (Yellowstone R)	5	1.9 M	B-1	P	P		F	P	F	F	Other habitat alterations Siltation Noxious aquatic plants	Habitat Modification (other than Hydromodification) Urban Runoff/Storm Sewers Source Unknown
7	MT43B004_061	TOM MINER CREEKTepee Cr. to the mouth (Yellowstone R)	5	0.8 M	B-1	P	P		F	P	F	F	Thermal modifications Flow alteration	Hydromodification Flow Regulation/Modification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10070002 Watershed UPPER YELLOWSTONE

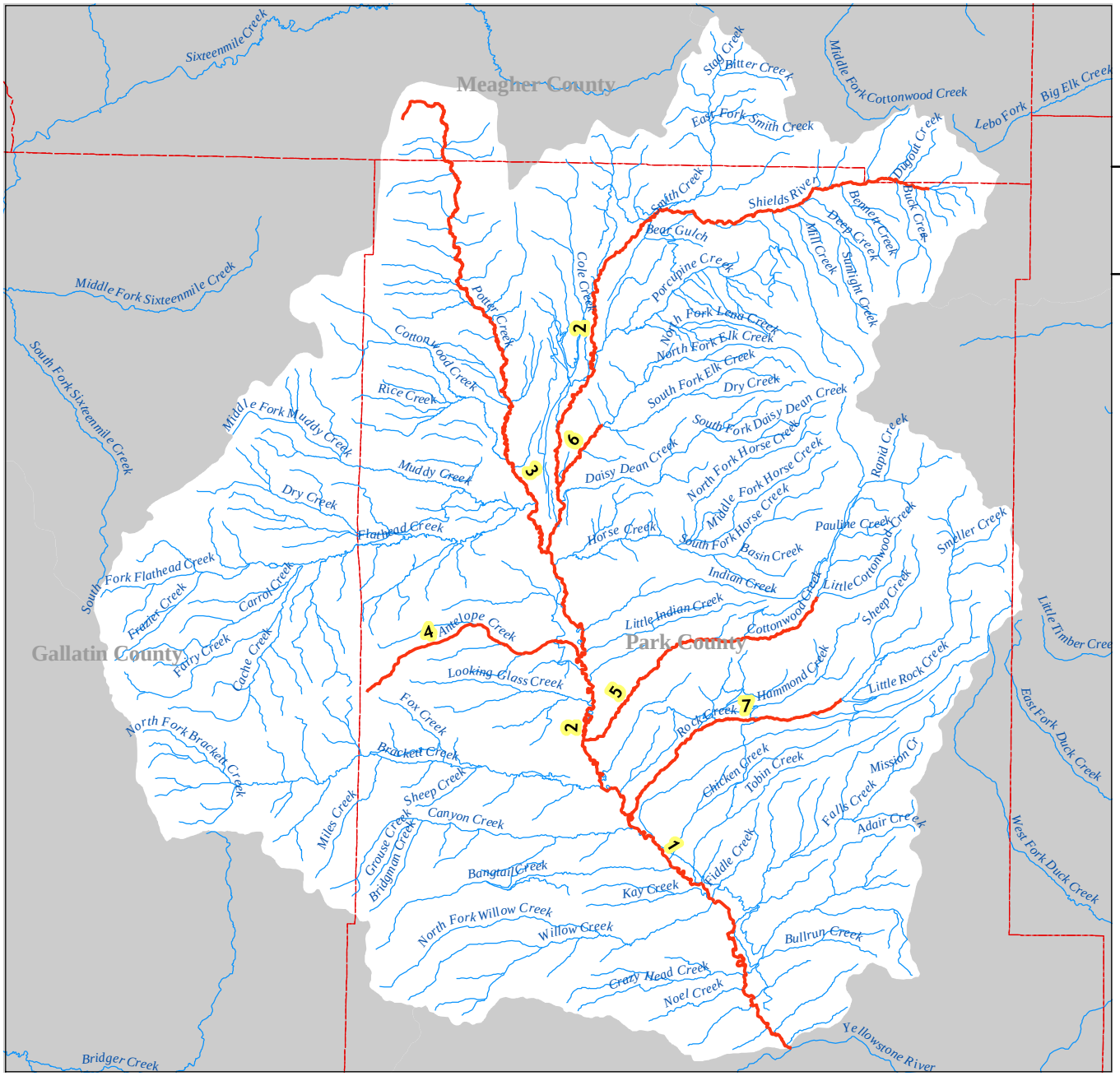
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
8	MT43B004_062	TOM MINER CREEK from0.3 mi below Skully Cr to Tepee Cr.	4C	6.7 M	B-1	P	P		F	X	F	F	Other habitat alterations	Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
9	MT43B004_063	TOM MINER CREEK from headwaters to 0.3 mi below Skully Cr.	4C	6.4 M	B-1	P	P		F	X	F	F	Other habitat alterations	Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
10	MT43B004_071	MILL CREEK, National Forest boundary to mouth (Yellowstone R)	4C	6.5 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Flow Regulation/Modification Hydromodification
11	MT43B004_081	PINE CREEK, from the mouth (Yellowstone R) 2.5 miles upstream	4C	2.5 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Flow Regulation/Modification Hydromodification Agriculture
12	MT43B004_090	SUCE CREEK, Absaroka-Beartooth Wilderness boundary to mouth (Yellowstone R)	4C	3.8 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Flow Regulation/Modification Hydromodification
13	MT43B004_101	SIX MILE CREEK,National Forest boundary to mouth (Yellowstone R)	4C	5 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Flow Regulation/Modification Hydromodification
14	MT43B004_102	SIX MILE CREEK, Absaroka-Beartooth Wilderness boundary to NF boundary	5	3.6 M	B-1	P	P		X	X	X	X	Siltation Fish habitat degradation Other habitat alterations	Placer Mining Removal of Riparian Vegetation Resource Extraction Habitat Modification (other than Hydromodification)

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10070002 Watershed UPPER YELLOWSTONE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
15	MT43B004_111	BIG CREEK from NF boundary to the mouth (Yellowstone R)	4C	3.6 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Flow Regulation/Modification Hydromodification
16	MT43B004_120	MOL HERON CREEK, Yellowstone National Park boundary to mouth (Yellowstone R)	4C	8.9 M	B-1	P	P		F	F	F	P	Flow alteration Other habitat alterations	Agriculture
17	MT43B004_131	BOULDER RIVER from the mouth (Yellowstone R) five miles upstream	5	5 M	B-1	P	P		F	P	F	F	Flow alteration Metals	Resource Extraction Abandoned mining Agriculture Crop-related Sources
18	MT43B004_141	EAST BOULDER RIVER from Elk Cr to the mouth (Boulder R)	5	3.1 M	B-1	P	P		X	P	F	F	Siltation Flow alteration Other habitat alterations Algal Grwth/Chlorophyll a	Flow Regulation/Modification Hydromodification Other
19	MT43B004_142	EAST BOULDER RIVER from NF boundary to Elk Cr	5	3 M	B-1	P	P		F	P	F	F	Algal Grwth/Chlorophyll a Flow alteration	Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

SHIELDS

USGS HUC: 10070003

Waters Assessed as not fully supporting one or more beneficial uses.

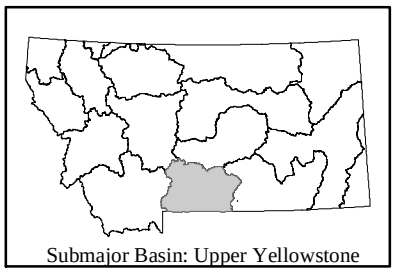
County Boundary

Indian Reservation

N

0 2 4 8

Miles



Submajor Basin: Upper Yellowstone

Hydrologic Unit Code 10070003 Watershed SHIELDS

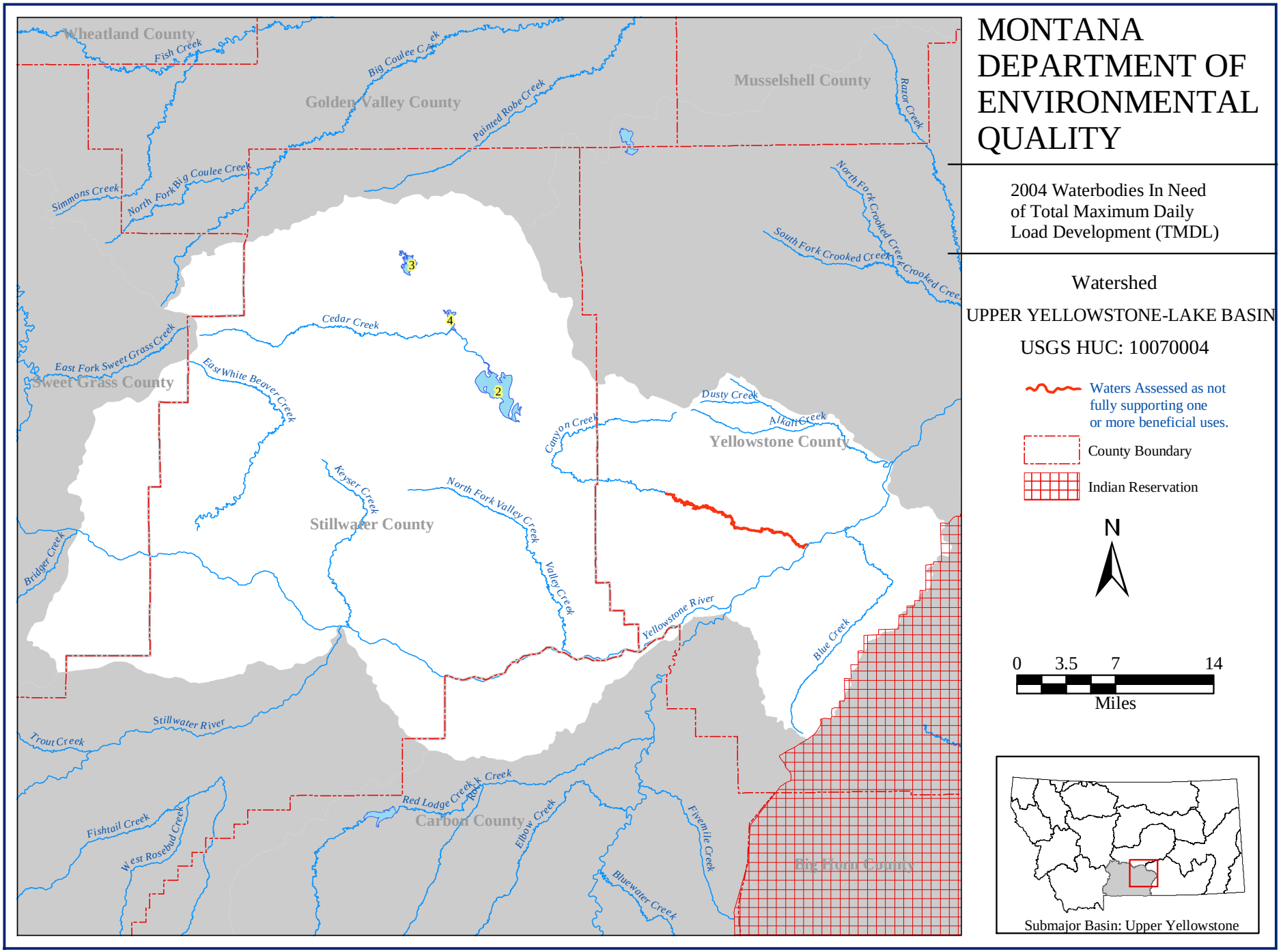
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43A001_011	SHIELDS RIVER from Cottonwood Cr. to the mouth (Yellowstone R)	5	20.3 M	B-1	P	P		X	P	X	X	Dewatering Bank erosion Riparian degradation Flow alteration Other habitat alterations Siltation	Grazing related Sources Flow Regulation/Modification Agriculture Hydromodification
2	MT43A001_012	SHIELDS RIVER from headwaters to Cottonwood Cr	5	41.6 M	B-1	P	P		X	P	X	X	Bank erosion Riparian degradation Other habitat alterations Siltation Flow alteration Dewatering	Agriculture Grazing related Sources Silviculture Hydromodification Flow Regulation/Modification
3	MT43A002_010	POTTER CREEK from headwaters to the mouth (Shields R)	4C	24.6 M	B-1	P	P		F	X	F	F	Other habitat alterations Flow alteration	Agriculture Grazing related Sources Hydromodification
4	MT43A002_020	ANTELOPE CREEK from headwaters to the mouth (Shields R)	4C	10 M	B-1	P	P		F	X	F	F	Other habitat alterations	Agriculture Grazing related Sources
5	MT43A002_031	COTTONWOOD CREEK, Little Cottonwood Cr to the mouth (Shields R)	4C	12.4 M	B-1	P	P		F	P	F	P	Other habitat alterations Flow alteration Dewatering	Grazing related Sources Agriculture Hydromodification Flow Regulation/Modification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 10070003 Watershed SHIELDS

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT43A002_040	ELK CREEK from headwaters to the mouth (Shields R)	4C	3.4 M	B-1	P	P		X	X	X	X	Riparian degradation Other habitat alterations	Grazing related Sources Agriculture
7	MT43A002_051	ROCK CREEK Little Rock Cr to the mouth (Shields R)	4C	10.4 M	B-1	P	P		F	P	F	F	Flow alteration Other habitat alterations	Agriculture Grazing related Sources Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER YELLOWSTONE-LAKE BASIN

USGS HUC: 10070004

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

N

0 3.5 7 14

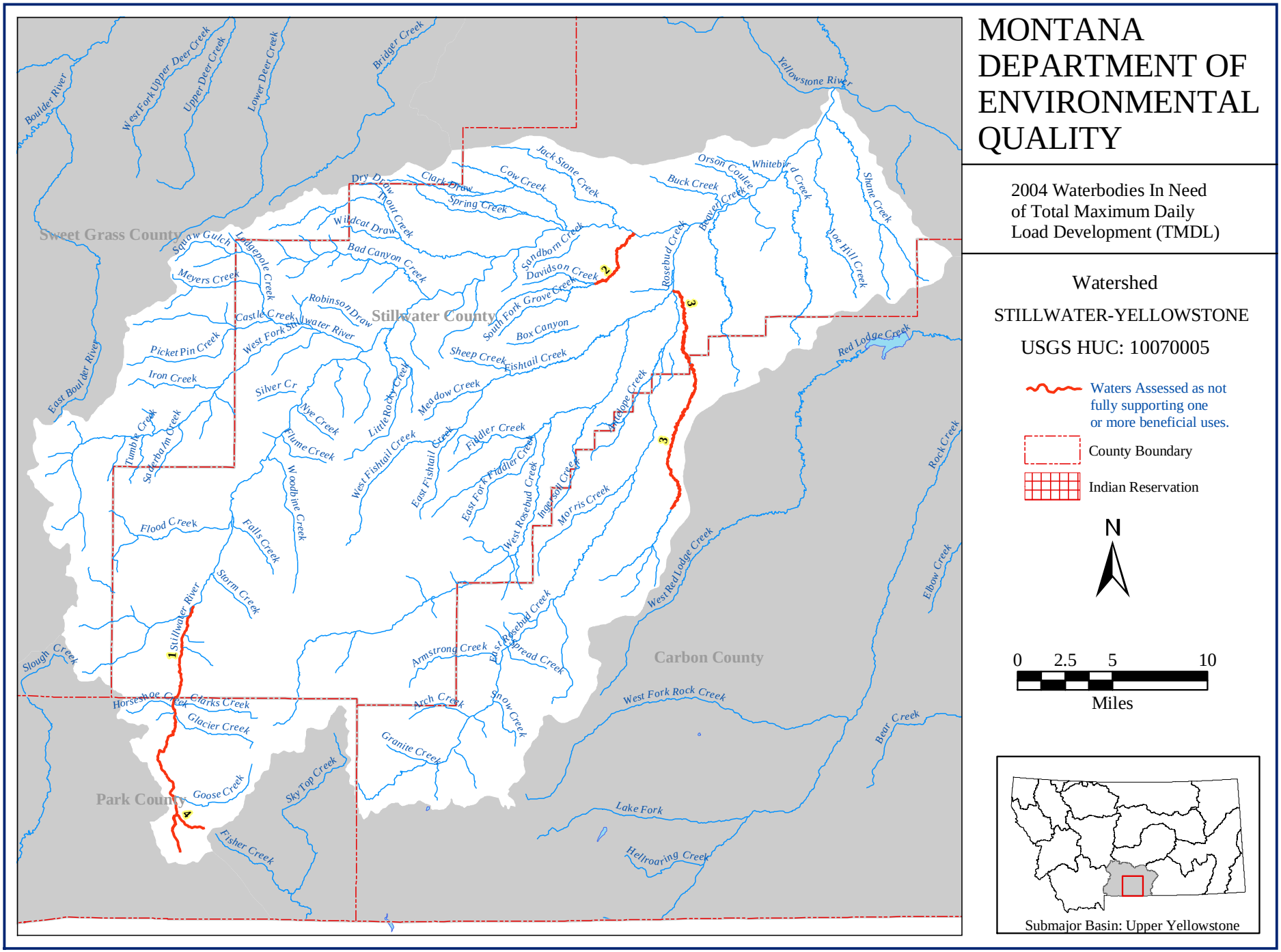
Miles

Submajor Basin: Upper Yellowstone

Hydrologic Unit Code 10070004 Watershed UPPER YELLOWSTONE-LAKE BASIN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43F002_021	CANYON CREEK from highway 532 to the mouth (Yellowstone R)	4C	16.1 M	B-1	P	P		X	X	X	X	Flow alteration	Flow Regulation/Modification Hydromodification
2	MT43F003_010	BIG LAKE, T2N R21E, 3081 AC.	5	3081 A	B-1	N	N		N	X	N	N	Salinity/TDS/sulfates	Agriculture
3	MT43F003_020	HAILSTONE LAKE T3N R20E	5	538 A	B-2	P	N		N	X	N	N	Salinity/TDS/sulfates	Agriculture
4	MT43F003_030	HALFBREED LAKE T3N R21E SEC 33	5	278 A	B-2	P	P		P	X	P	P	Salinity/TDS/sulfates	Agriculture

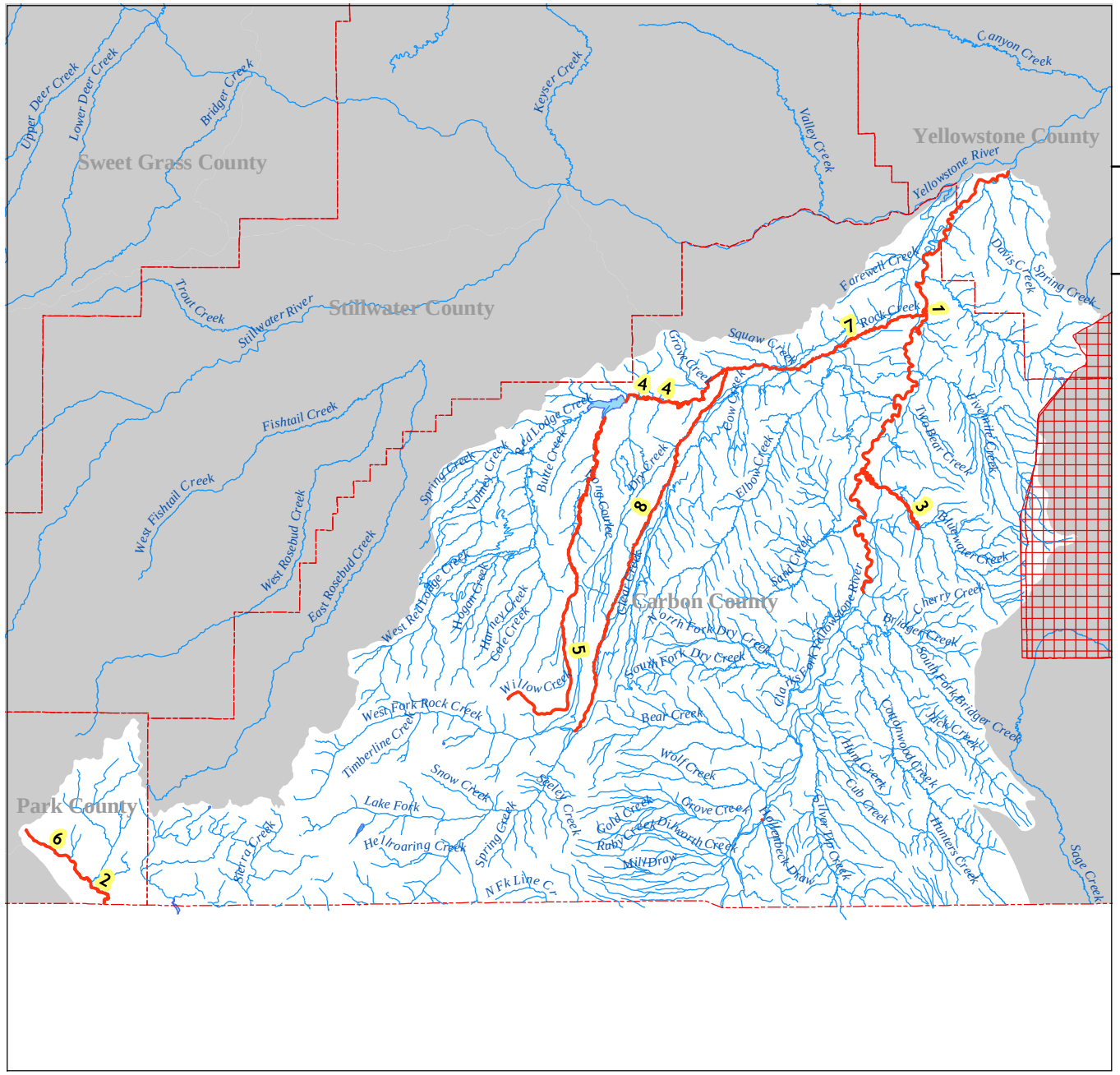
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
STILLWATER-YELLOWSTONE
USGS HUC: 10070005
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 2.5 5 10
Miles
Submajor Basin: Upper Yellowstone
Sweet Grass County
Stillwater County
Carbon County
Park County
Boulder River
West Fork Upper Deer Creek
Upper Deer Creek
Lower Deer Creek
Bridger Creek
Yellowstone River
Dry Draw
Clark Draw
Cow Creek
Jack Stone Creek
Spring Creek
Trout Creek
Wildcat Draw
Buck Creek
Orson Coulee
Whitebird Creek
Shane Creek
Beaver Creek
Joe Hill Creek
Snow Gulch
Ledgepole Creek
Bad Canyon Creek
Sandborn Creek
Davidson Creek
Rosebud Creek
Meyers Creek
Robinson Draw
Castle Creek
West Fork Stillwater River
South Fork Grove Creek
Box Canyon
Red Lodge Creek
East Boulder River
Picket Pin Creek
Iron Creek
Sheep Creek
Fishtail Creek
Silver Cr
Meadow Creek
Little Rocky Creek
Nye Creek
Flume Creek
Tumble Creek
Saddlehorn Creek
West Fishtail Creek
East Fishtail Creek
Fiddler Creek
East Fork Fiddler Creek
Antelope Creek
Rock Creek
Flood Creek
Falls Creek
Woodbine Creek
West Rosebud Creek
Ingersoll Creek
Morris Creek
Stillwater River
Storm Creek
West Red Lodge Creek
Elbow Creek
Slough Creek
Armstrong Creek
East Rosebud Creek
Willow Creek
Horsethief Creek
Clarks Creek
Glacier Creek
Arch Creek
Snow Creek
West Fork Rock Creek
Bear Creek
Granite Creek
Goose Creek
Sky Top Creek
Lake Fork
Fisher Creek
Hellroaring Creek

Hydrologic Unit Code 10070005 Watershed STILLWATER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43C001_010	STILLWATER RIVER from headwaters to Flood Cr	4A	20.7 M	A-1	P	P		N	X	F	F	Metals pH Siltation Suspended solids	Abandoned mining Resource Extraction
2	MT43C002_041	GROVE CREEK from the mouth (West Fk Stillwater R) five miles upstream	4C	5 M	B-1	P	P		X	P	X	X	Flow alteration Dewatering	Flow Regulation/Modification Hydromodification
3	MT43C002_081	BUTCHER CREEK from highway 78 to the mouth (Rosebud Cr)	5	18.5 M	B-1	P	P		F	X	F	P	Flow alteration Fish habitat degradation Suspended solids Other habitat alterations	Flow Regulation/Modification Hydromodification
4	MT43C002_140	DAISY CREEK from headwaters to mouth (Stillwater R)	4A	1.9 M	B-1	N	N		N	N	N	N	Metals Siltation pH	Abandoned mining Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

CLARKS FORK YELLOWSTONE

USGS HUC: 10070006

Waters Assessed as not fully supporting one or more beneficial uses.

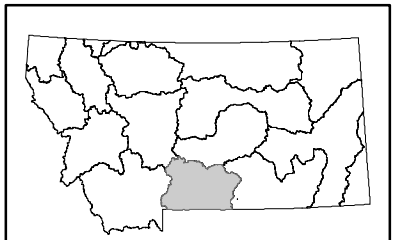
County Boundary

Indian Reservation

N

0 3.5 7 14

Miles



Submajor Basin: Upper Yellowstone

Hydrologic Unit Code 10070006 Watershed CLARKS FORK YELLOWSTONE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Cr to mouth (Yellowstone R)	5	41.3 M	B-2	P	P		P	P	P	P	Nutrients Flow alteration Other habitat alterations Suspended solids Algal Grwth/Chlorophyll a	Agriculture Hydromodification Flow Regulation/Modification Habitat Modification (other than Hydromodification) Source Unknown
2	MT43D001_020	CLARKS FORK YELLOWSTONE RIVER from headwaters to the Montana Border	4A	4.9 M	B-1	P	P		F	X	F	F	Metals	Abandoned mining Resource Extraction
3	MT43D002_031	BLUEWATER CREEK from mouth 9 miles upstream (Clarks Fork Yellowstone R)	5	9 M	B-1	P	P		X	X	X	X	Siltation Thermal modifications Bank erosion Riparian degradation Fish habitat degradation Other habitat alterations	Agriculture
4	MT43D002_060	RED LODGE CREEK from Cooney Reservoir to the mouth (Rock Cr)	5	11.4 M	B-1	P	P		X	X	X	X	Organic enrichment/Low DO Flow alteration Fish habitat degradation Other habitat alterations	Flow Regulation/Modification Hydromodification
5	MT43D002_070	WILLOW CREEK from headwaters to the mouth (Cooney Reservoir)	5	31.4 M	B-1	P	P		X	X	X	X	Siltation Flow alteration	Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

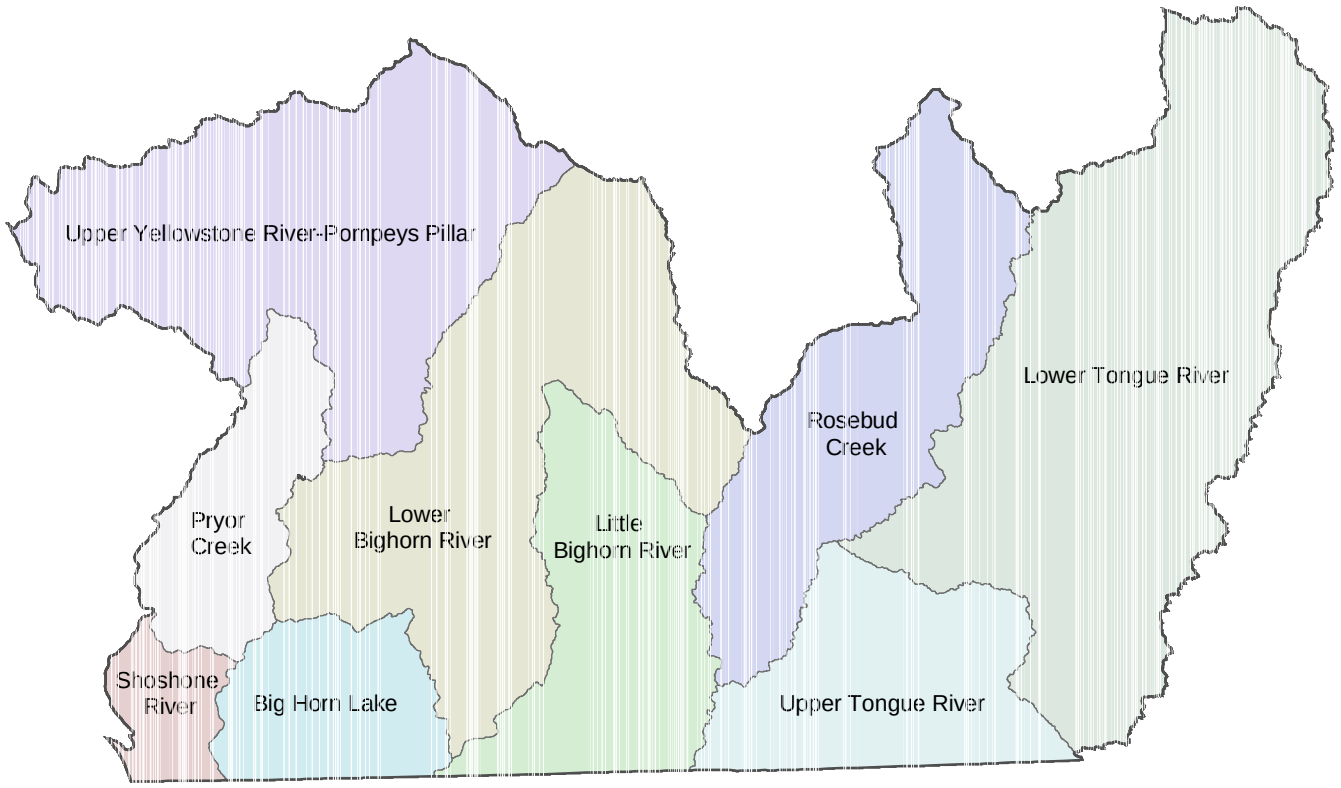
Hydrologic Unit Code 10070006 Watershed CLARKS FORK YELLOWSTONE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT43D002_110	FISHER CREEK from headwaters to mouth (Clarks Fork Yellowstone R)	4A	3.6 M	B-1	N	N		N	P	P	P	Metals pH Siltation	Acid Mine Drainage Abandoned mining Resource Extraction
7	MT43D002_120	ROCK CREEK from Red Lodge Cr to the mouth (Clarks Fork)	4C	15.6 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Agriculture Flow Regulation/Modification Hydromodification
8	MT43D002_131	ROCK CREEK from West Fork Rock Cr to Red Lodge Cr	4C	26.9 M	B-1	P	P		X	P	X	X	Dewatering Flow alteration	Agriculture Flow Regulation/Modification Hydromodification

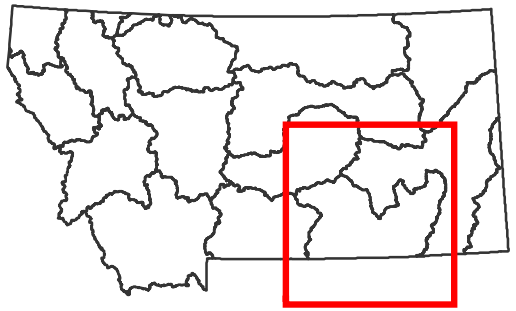
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Middle Yellowstone Sub-Major Basin

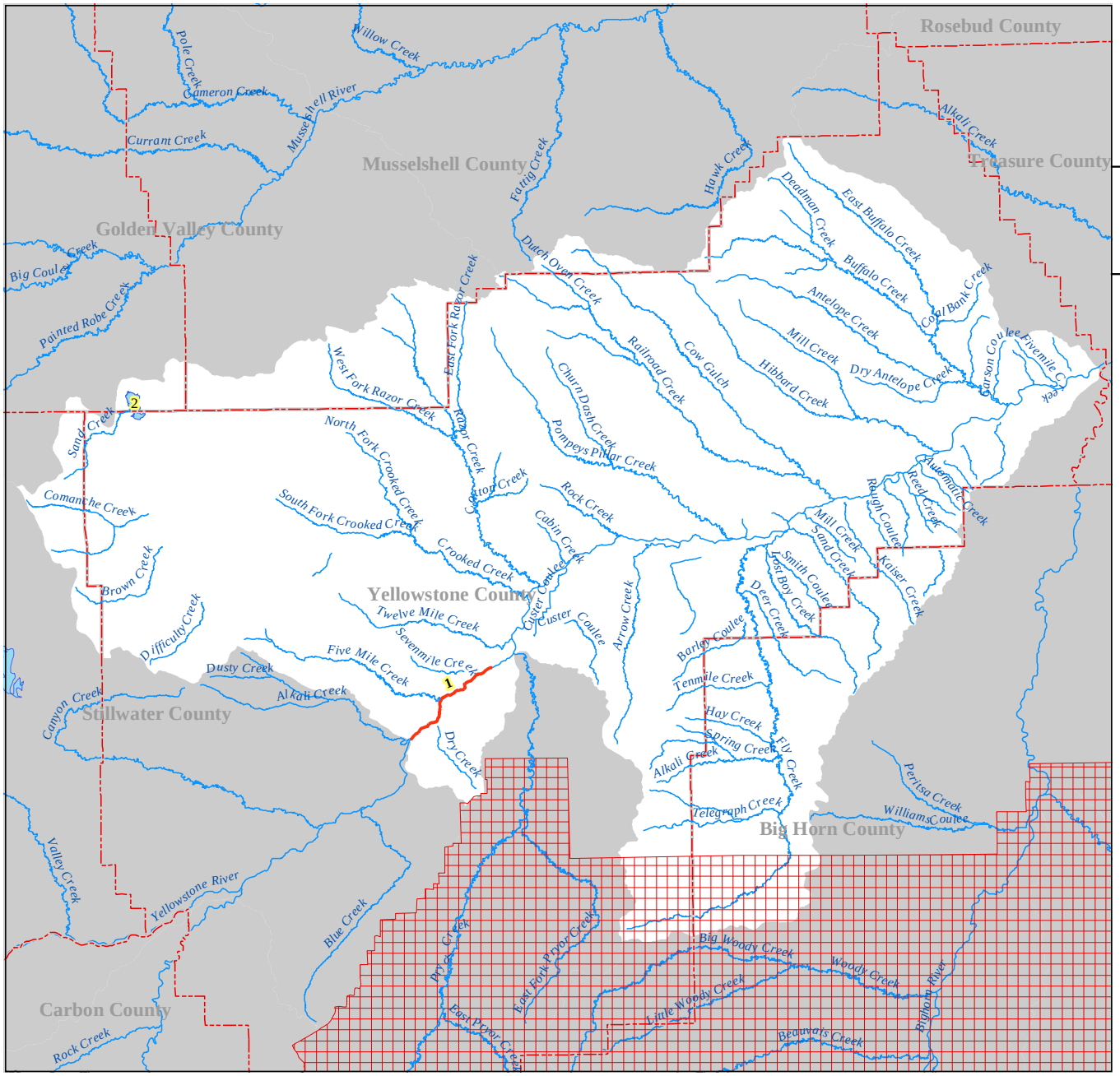
Yellowstone River Basin



USGS HUC	HUC NAME
10070007	Upper Yellowstone River-Pompeys Pillar
10070008	Pryor Creek
10080010	Big Horn Lake
10080014	Shoshone River
10080015	Lower Bighorn River
10080016	Little Bighorn River
10090101	Upper Tongue River
10090102	Lower Tongue River
10100003	Rosebud Creek



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER YELLOWSTONE - POMPEYS PILLAR

USGS HUC: 10070007

Waters Assessed as not fully supporting one or more beneficial uses.

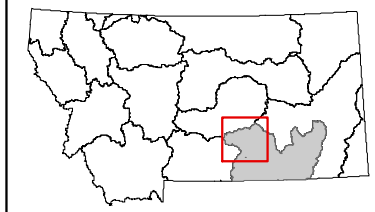
County Boundary

Indian Reservation

N

0 3.5 7 14

Miles

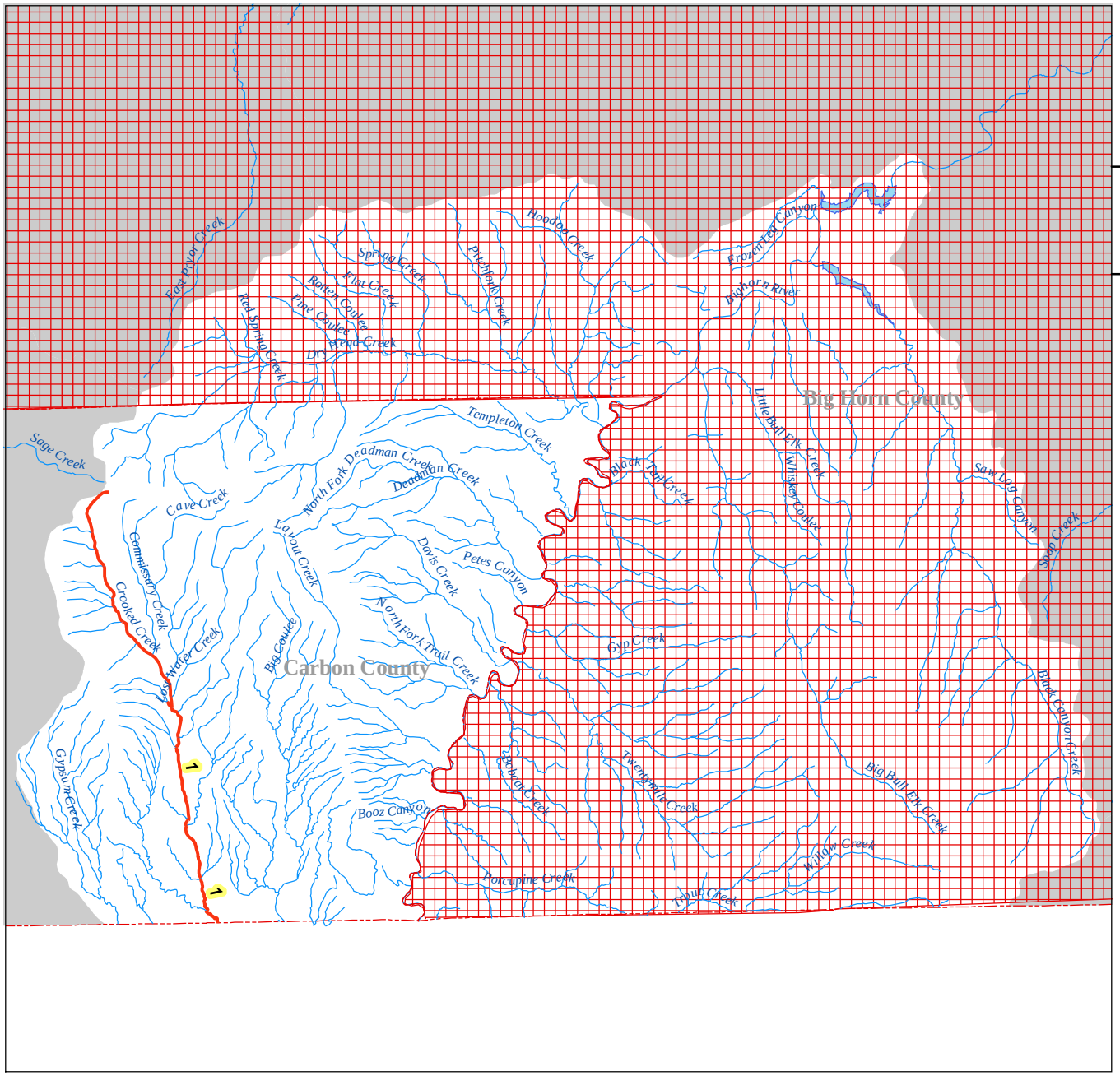


Submajor Basin: Middle Yellowstone

Hydrologic Unit Code 10070007 Watershed UPPER YELLOWSTONE-POMPEYS PILLAR

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43Q001_012	YELLOWSTONE RIVER between Alkali Cr and the Huntley Div. Dam	4C	10 M	B-3	X		P	X	X	F	F	Other habitat alterations	Dam Construction Hydromodification
2	MT43Q003_010	SPIDEL WATERFOWL PRODUCTION AREA T5N R23E SEC 33	5	675 A	B-1	P	X		P	X	P	X	Selenium Salinity/TDS/sulfates Other habitat alterations Metals	Highway/Road/Bridge Construction Agriculture Crop-related Sources Construction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BIGHORN LAKE

USGS HUC: 10080010

Waters Assessed as not fully supporting one or more beneficial uses.

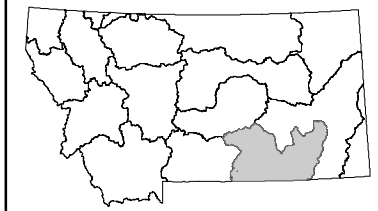
County Boundary

Indian Reservation

N

0 1.5 3 6

Miles

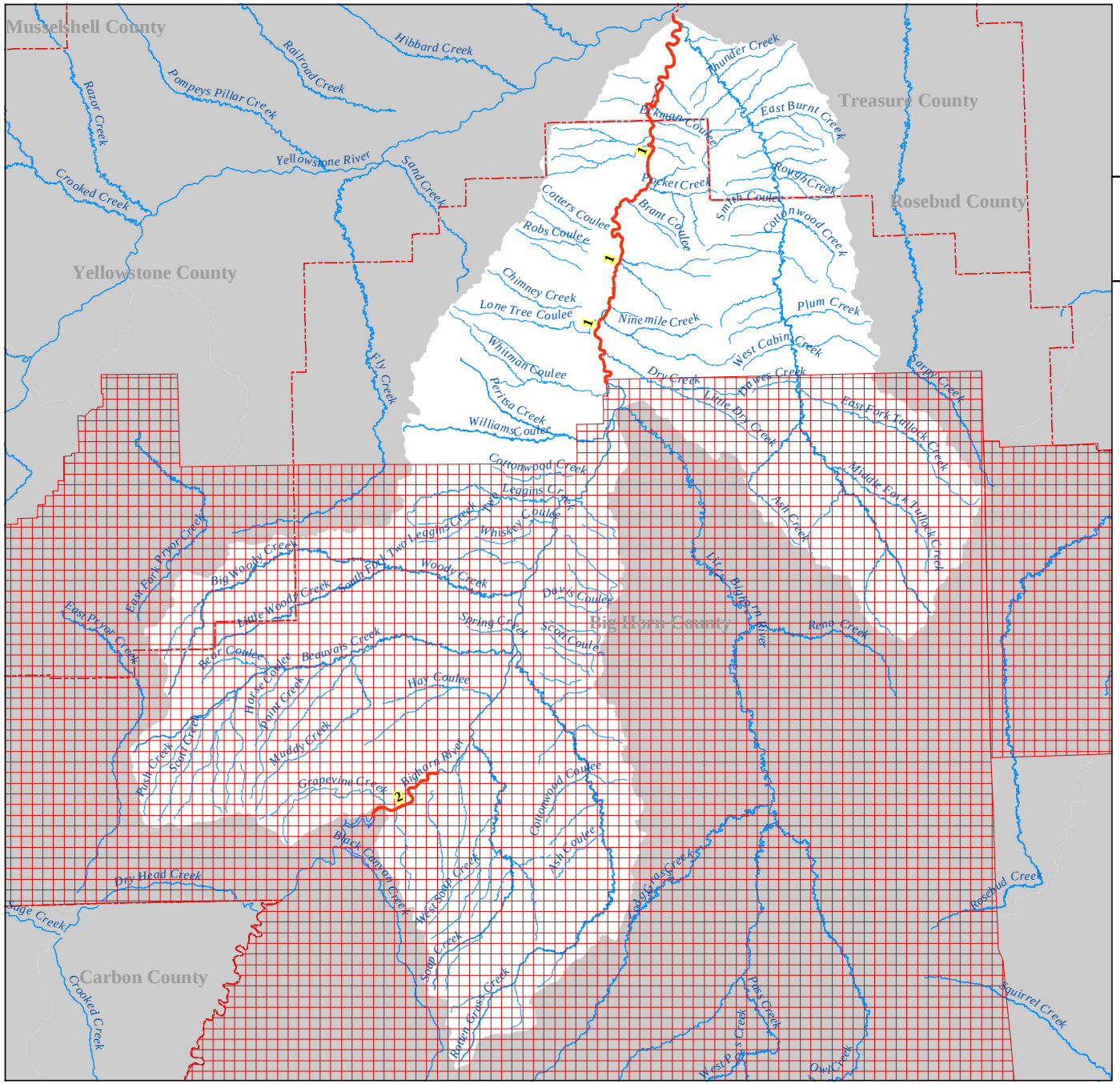


Submajor Basin: Middle Yellowstone

Hydrologic Unit Code 10080010 Watershed BIGHORN LAKE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43P002_010	CROOKED CREEK, Headwaters to the Wyoming Border	4C	14.6 M	B-1	P	P		X	X	X	X	Bank erosion Other habitat alterations	Grazing related Sources Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

LOWER BIGHORN

USGS HUC: 10080015

Waters Assessed as not fully supporting one or more beneficial uses.

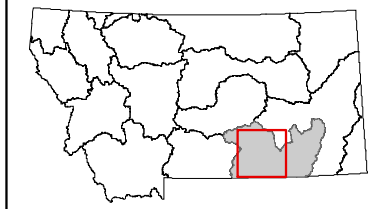
County Boundary

Indian Reservation

N

0 3.75 7.5 15

Miles

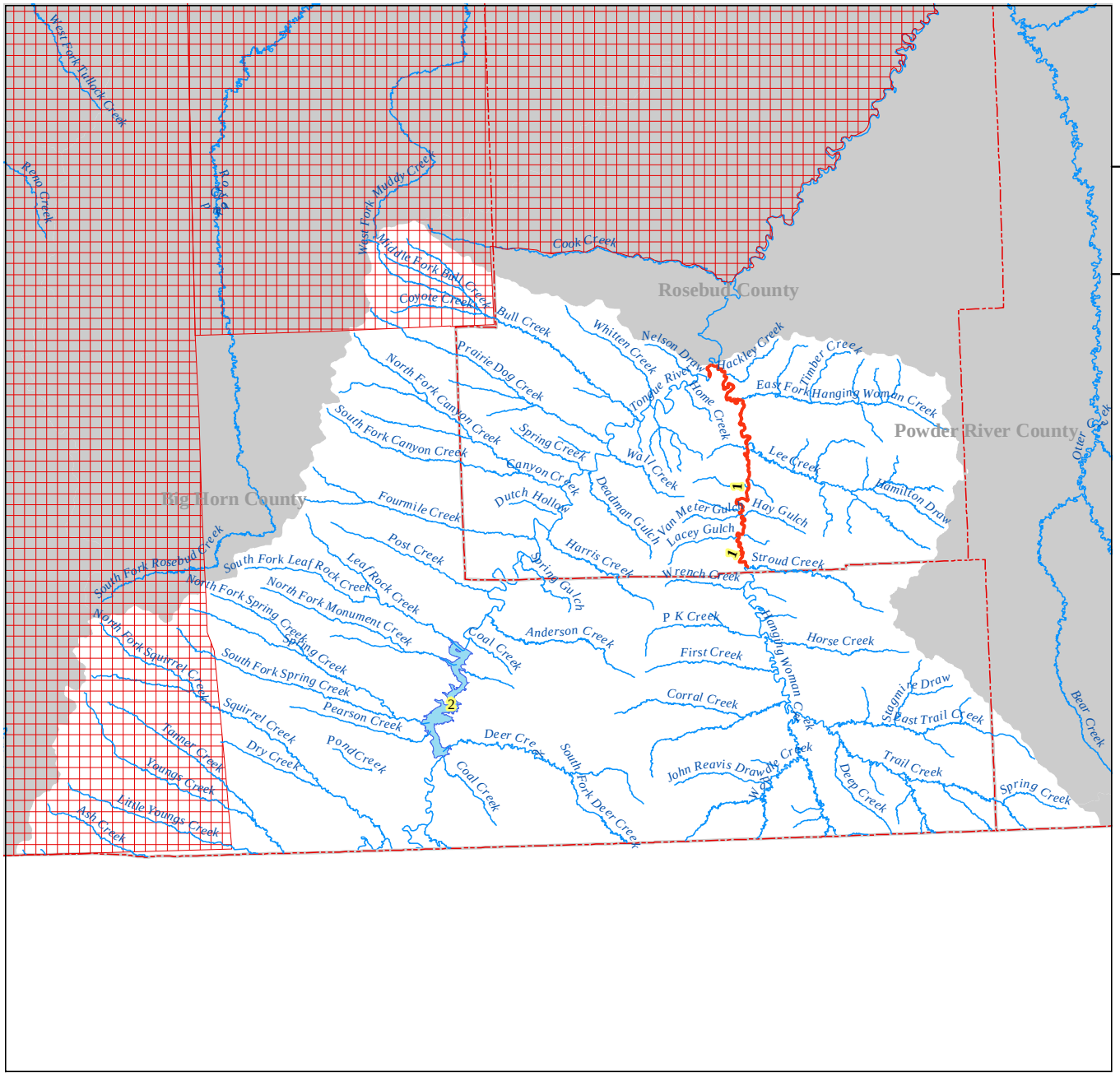


Submajor Basin: Middle Yellowstone

Hydrologic Unit Code 10080015 Watershed LOWER BIGHORN

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT43R001_010	BIGHORN RIVER, Crow Indian Res. Boundary to the mouth (Yellowstone R)	5	38.4 M	B-2	X	X		N	X	F	F	Lead Mercury Metals	Source Unknown
2	MT43R001_020	BIGHORN RIVER from Yellowtail Dam to Crow Indian Res. Boundary	5	6.9 M	B-1	P	P		X	X	F	F	Nitrogen Nutrients	Other

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER TONGUE

USGS HUC: 10090101

Waters Assessed as not fully supporting one or more beneficial uses.

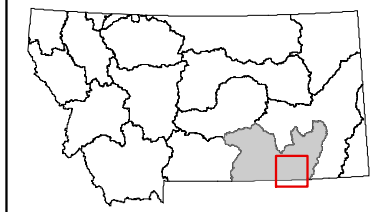
County Boundary

Indian Reservation

N

0 2.5 5 10

Miles

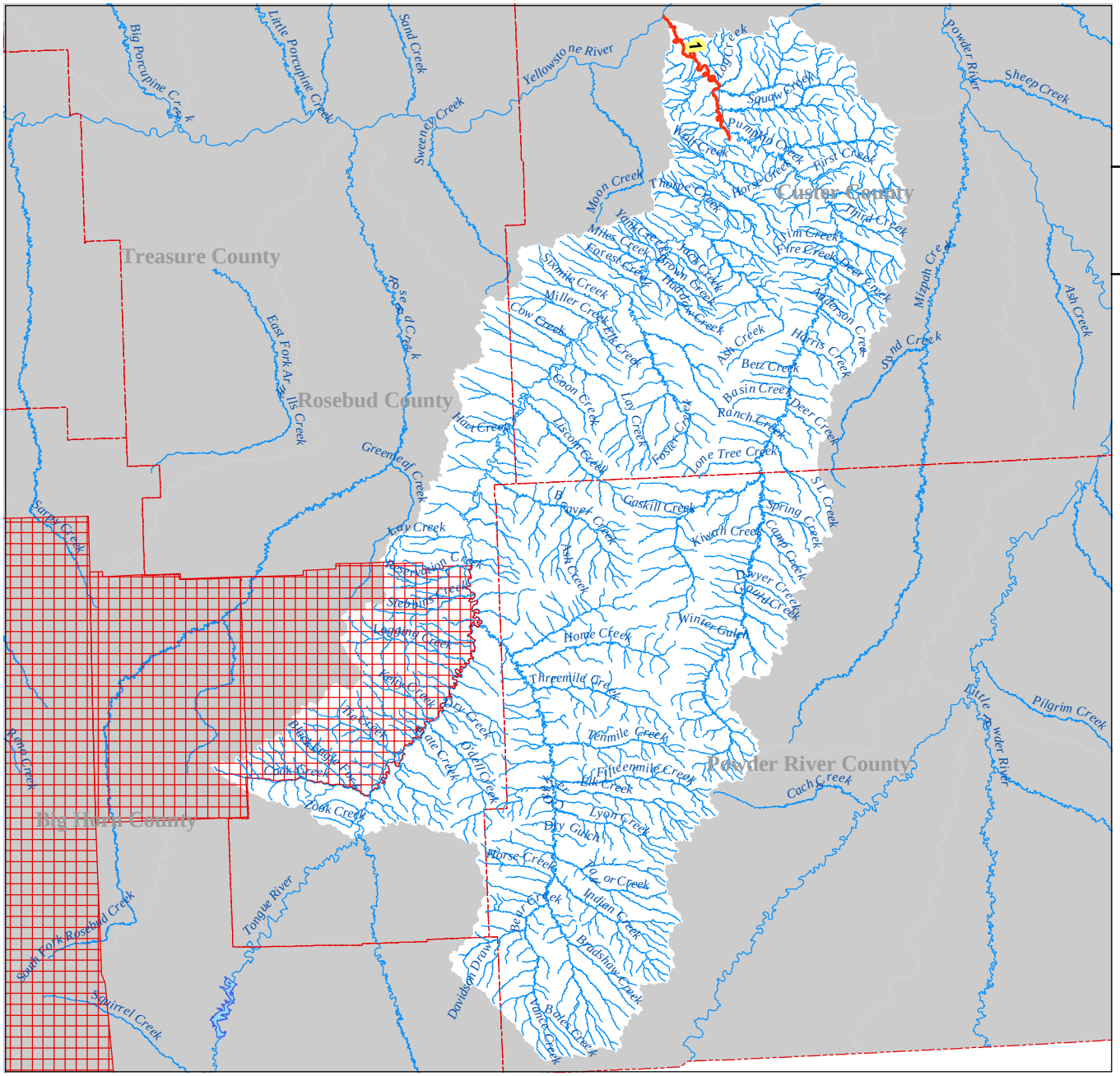


Submajor Basin: Middle Yellowstone

Hydrologic Unit Code 10090101 Watershed UPPER TONGUE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT42B002_031	HANGING WOMAN CREEK from Stroud Cr to the mouth (Tongue R)	5	18.5 M	C-3	P		P		X			Siltation	Grazing related Sources Agriculture
2	MT42B003_010	TONGUE RIVER RESERVOIR	5	3500 A	B-2	P	X		X	P	F	F	Algal Grwth/Chlorophyll a	Domestic Wastewater Lagoon Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

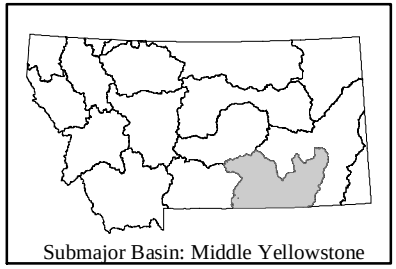
LOWER TONGUE

USGS HUC: 10090102

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

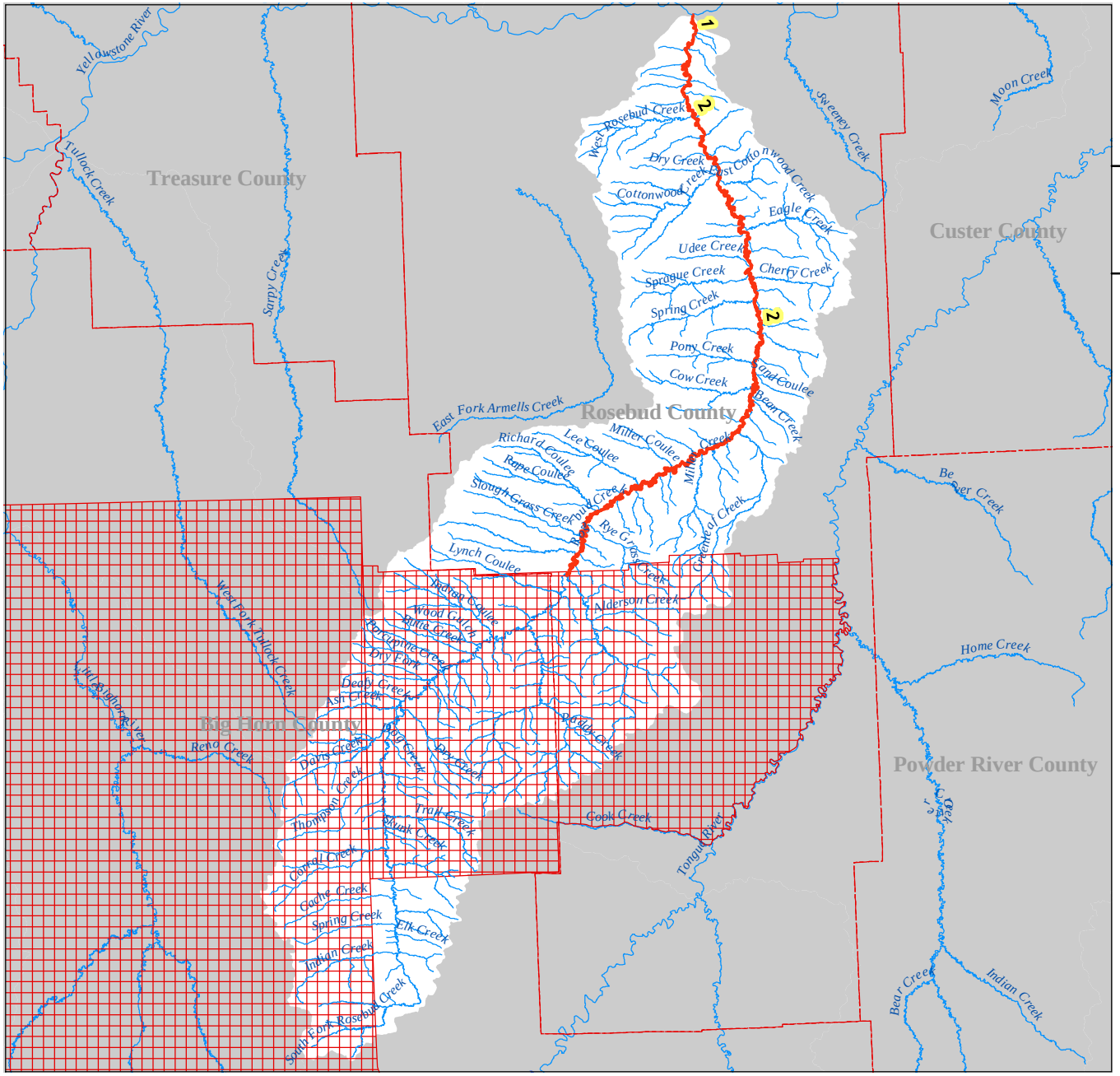


Submajor Basin: Middle Yellowstone

Hydrologic Unit Code 10090102 Watershed LOWER TONGUE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT42C001_011	TONGUE RIVER from diversion dam just above Pumpkin Cr to the mouth (Yellowstone R)	4C	20.4 M	B-3	P		P	X	P	F	F	Flow alteration	Dam Construction Flow Regulation/Modification Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

ROSEBUD

USGS HUC: 10100003

Waters Assessed as not fully supporting one or more beneficial uses.

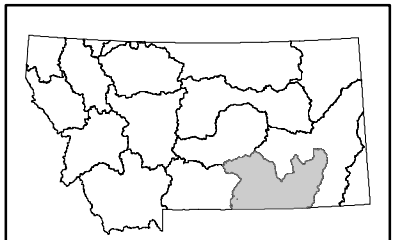
County Boundary

Indian Reservation

N

0 4.5 9 18

Miles



Submajor Basin: Middle Yellowstone

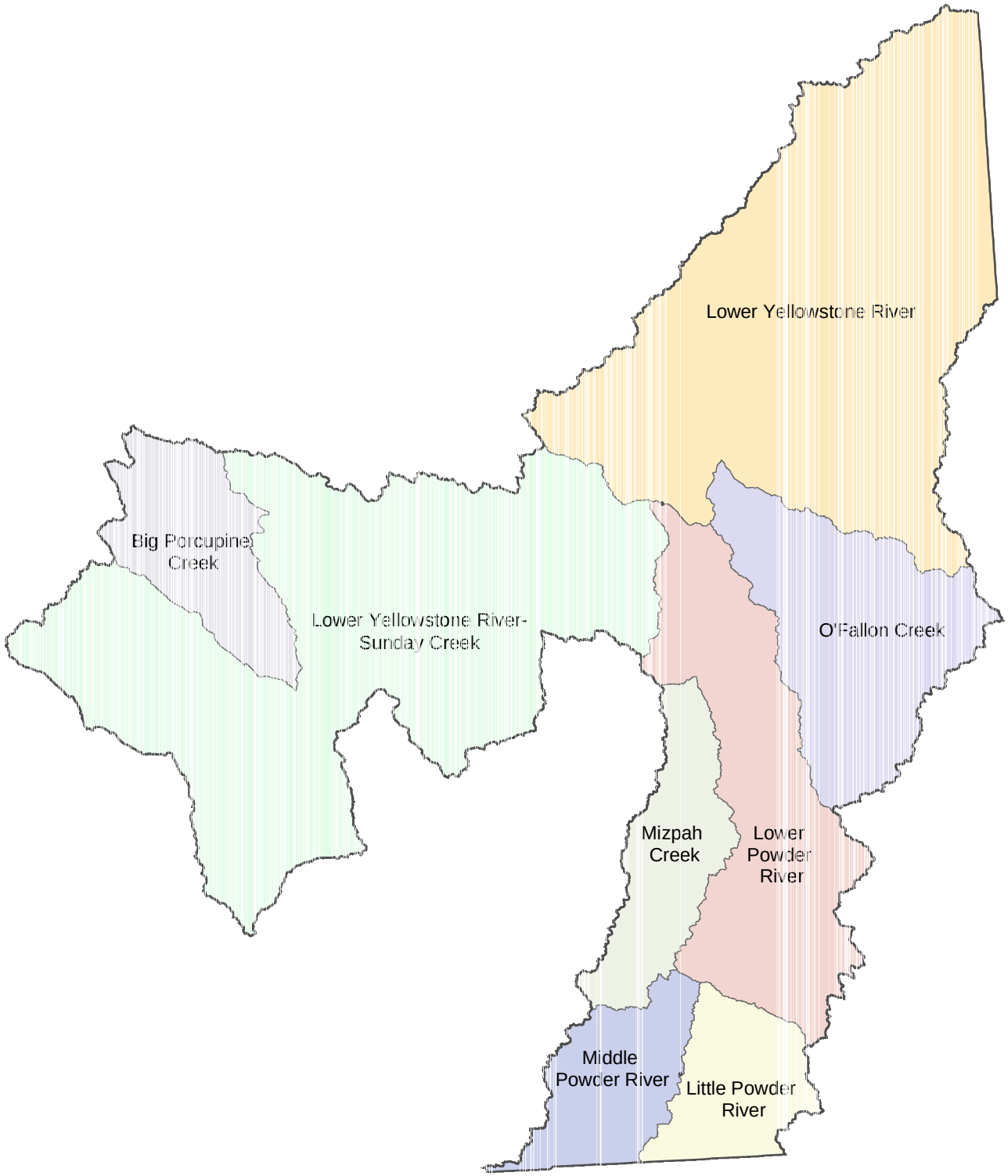
Hydrologic Unit Code 10100003 Watershed ROSEBUD

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT42A001_011	ROSEBUD CREEK, From the mouth 3.8 mi upstream to an irrigation dam	4C	3.8 M	C-3	P		P		X			Bank erosion Other habitat alterations	Removal of Riparian Vegetation Habitat Modification (other than Hydromodification)
2	MT42A001_012	ROSEBUD CREEK, Northern Cheyenne Res. Boundary to an irrigation dam 3.8 mi above the mouth	5	105.8 M	C-3	X		P		X			Other Nutrients	Dam Construction Hydromodification

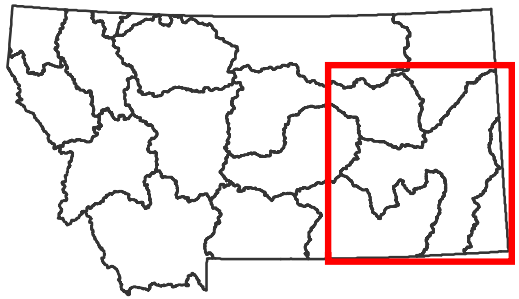
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Lower Yellowstone Sub-Major Basin

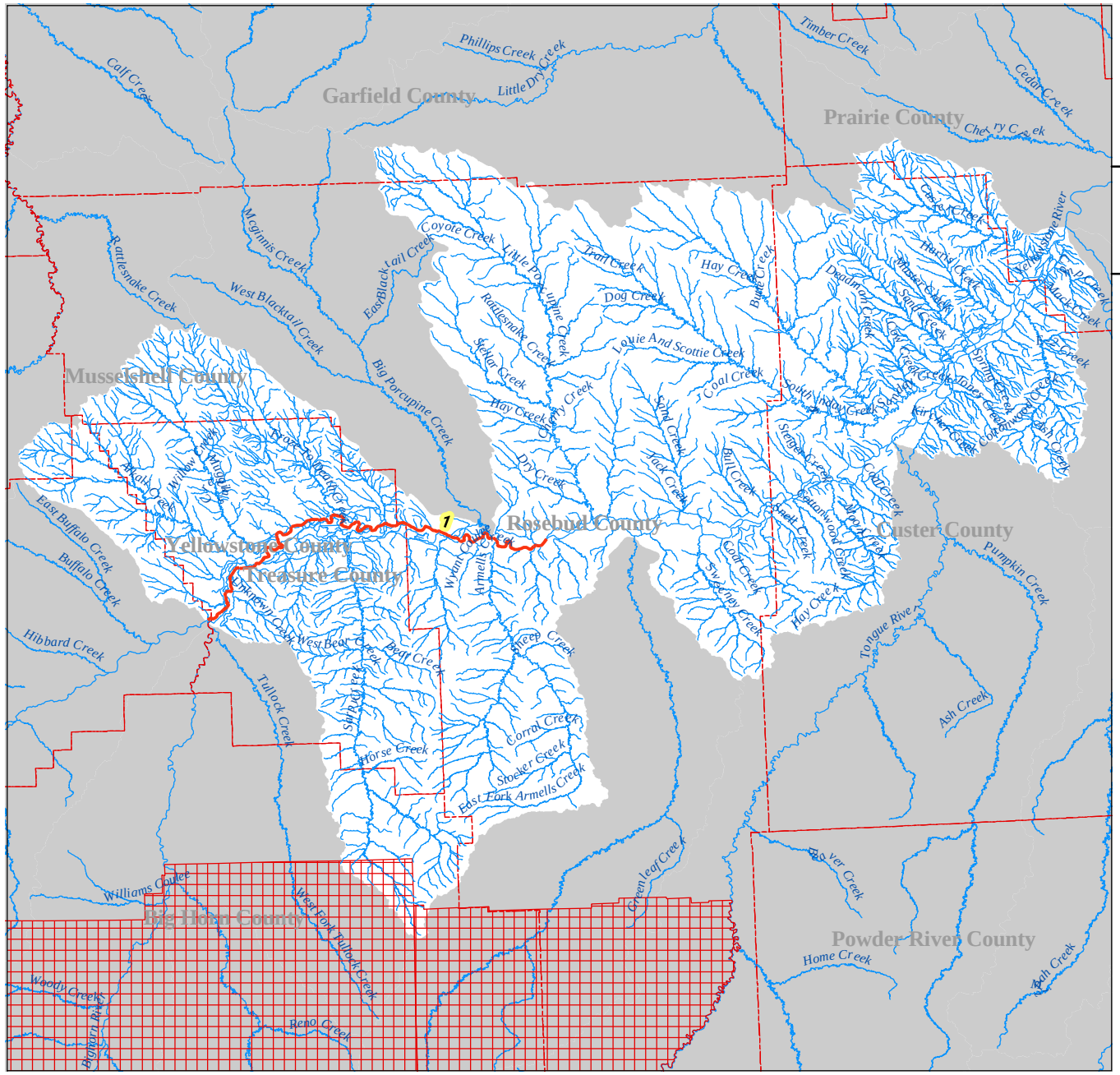
Yellowstone River Basin



USGS HUC	HUC NAME
10090207	Middle Powder River
10090208	Little Powder River
10090209	Lower Powder River
10090210	Mizpah Creek
10100001	Lower Yellowstone River-Sunday Creek
10100002	Big Porcupine Creek
10100004	Lower Yellowstone River
10100005	O'Fallon Creek



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

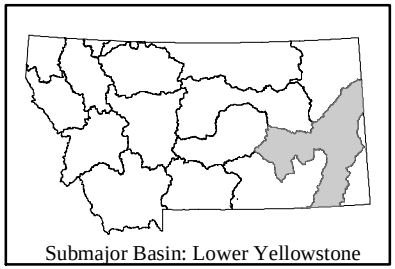
LOWER YELLOWSTONE-SUNDAY

USGS HUC: 10100001

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

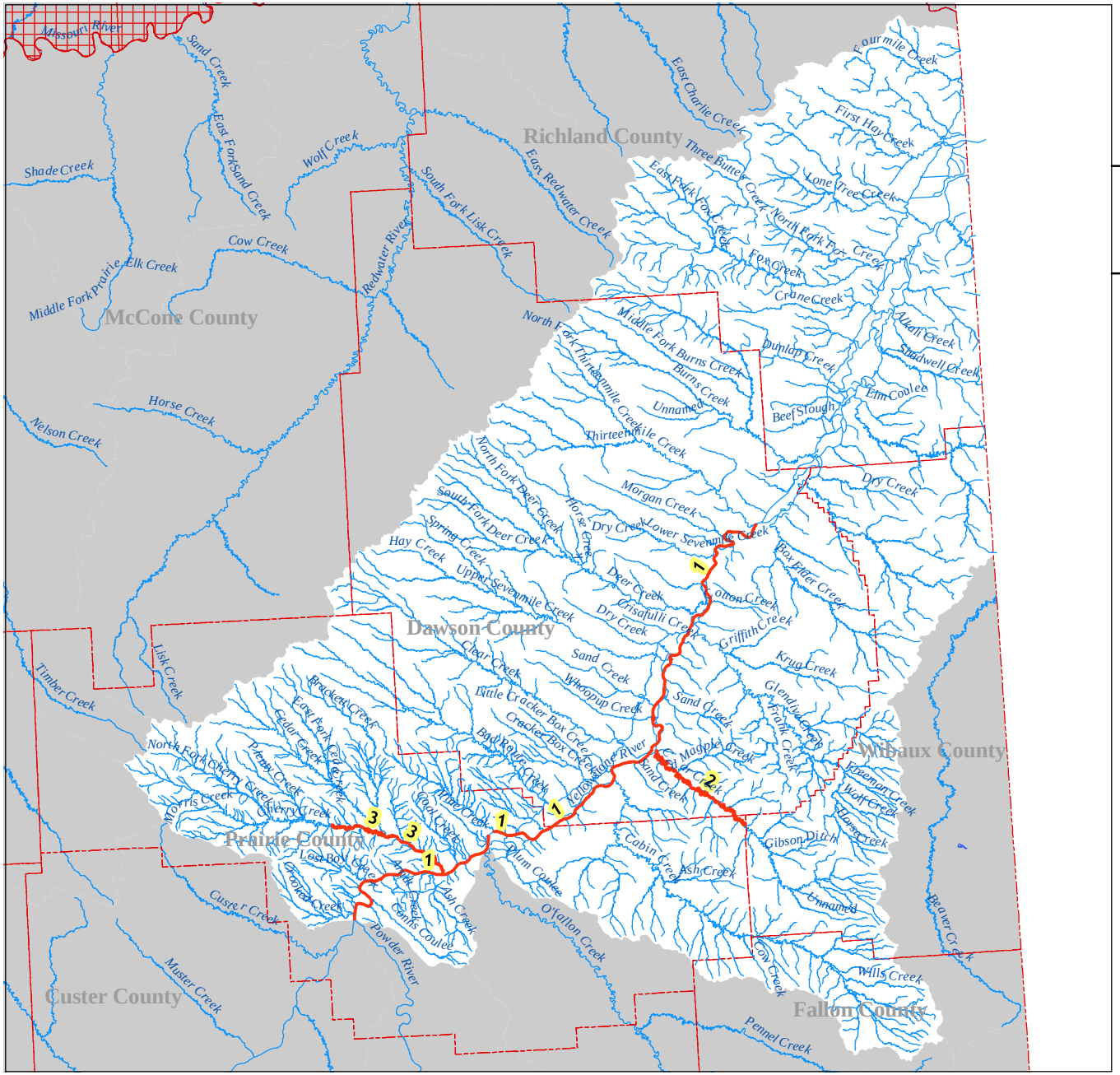
Indian Reservation



Hydrologic Unit Code 10100001 Watershed LOWER YELLOWSTONE-SUNDAY

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT42K001_020	YELLOWSTONE RIVER from the Big Horn to the Cartersville Diversion Dam	4C	58.2 M	B-3	X		P	X	X	F	F	Other habitat alterations	Dam Construction Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

LOWER YELLOWSTONE

USGS HUC: 10100004

Waters Assessed as not fully supporting one or more beneficial uses.

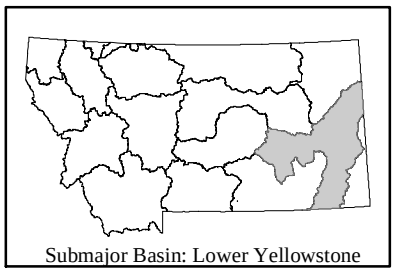
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Lower Yellowstone

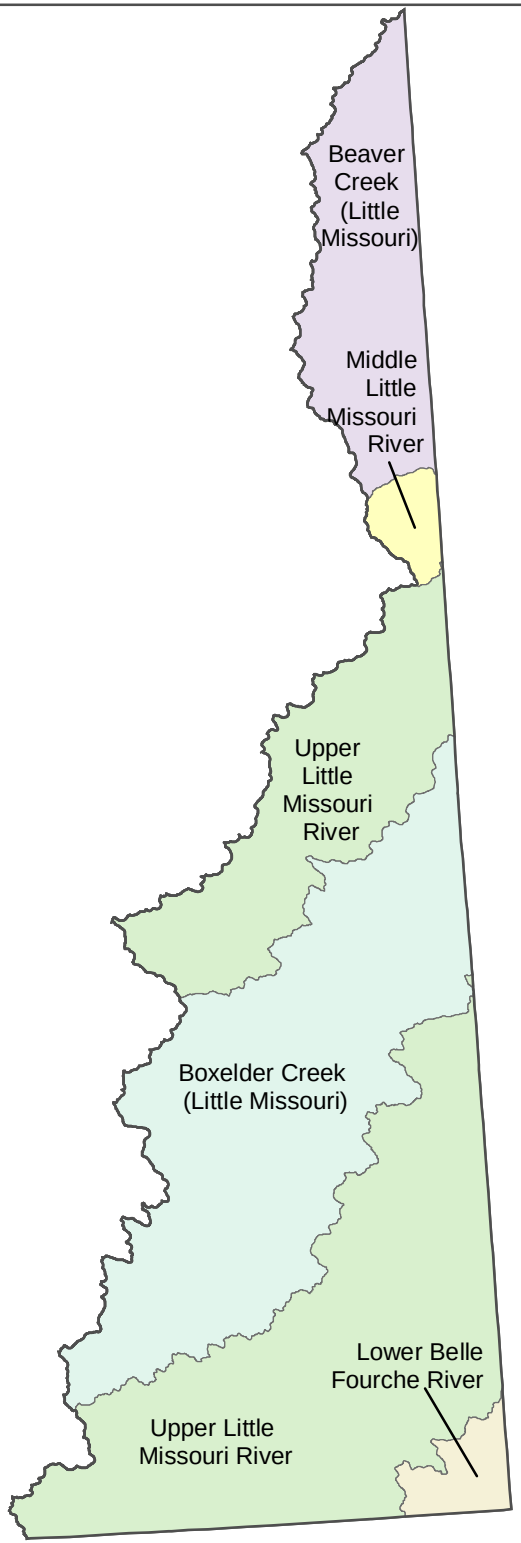
Hydrologic Unit Code 10100004 Watershed LOWER YELLOWSTONE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT42M001_012	YELLOWSTONE RIVER, Powder R to the Lower Yellowstone Diversion Dam.	4C	78.4 M	B-3	X		P	X	X	F	F	Other habitat alterations	Dam Construction Hydromodification
2	MT42M002_141	CEDAR CREEK from the mouth (Yellowstone R) 26 miles upstream (approx. the Prairie/Wibaux Co. line)	5	26 M	C-3	P		P		X			Metals Bank erosion Other habitat alterations	Grazing related Sources Spills Agriculture
3	MT42M002_171	CHERRY CREEK from the mouth (Yellowstone R) 20 miles upstream	4C	20 M	C-3	P		P		X			Other habitat alterations	Grazing related Sources Agriculture

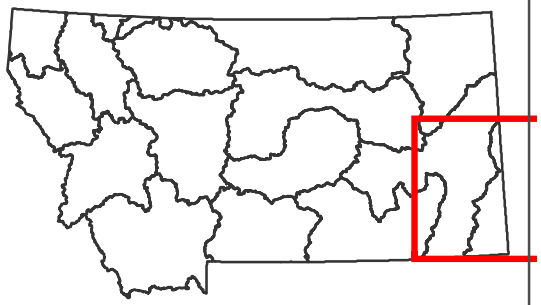
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Little Missouri Sub-Major Basin

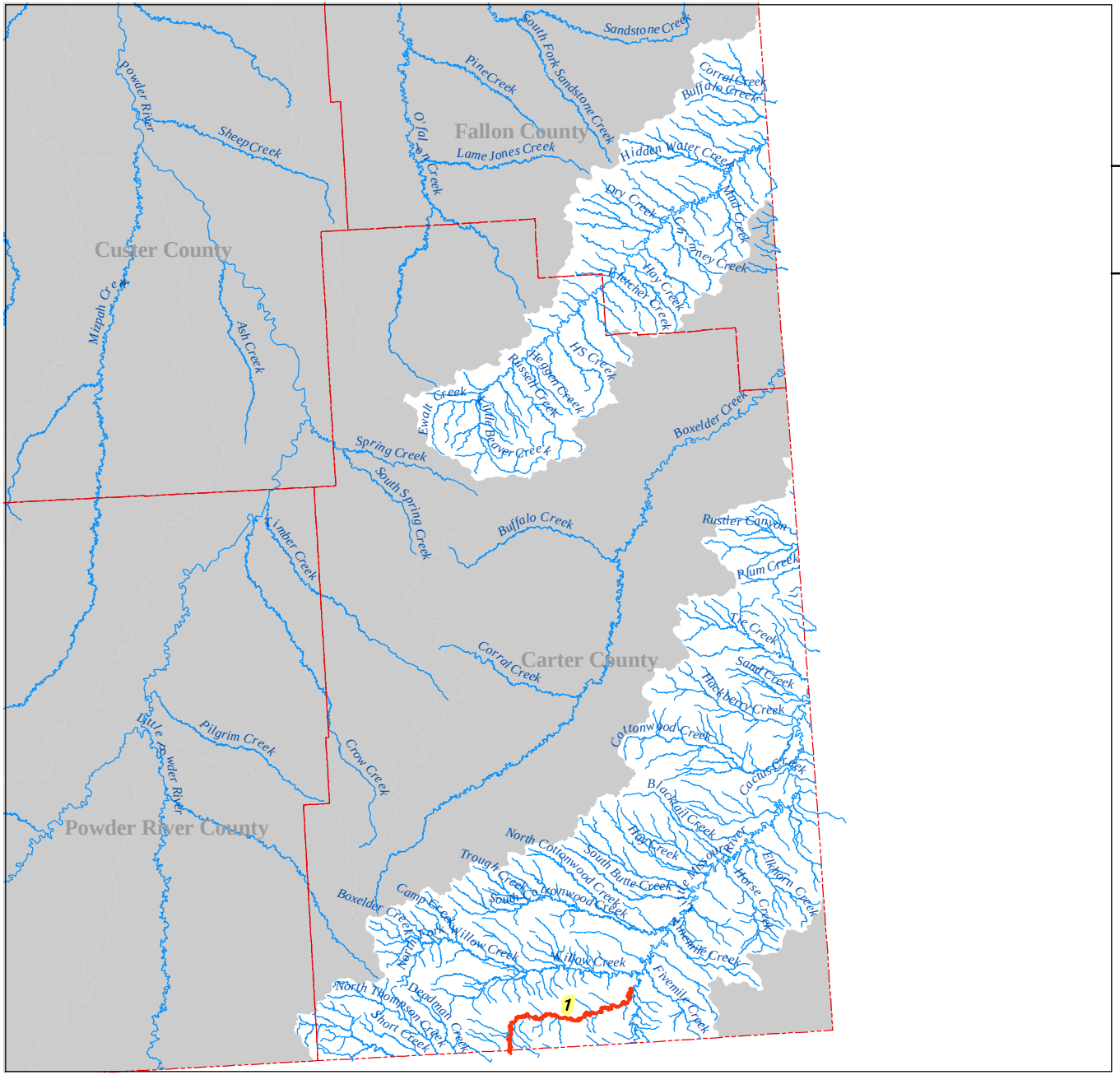
Yellowstone River Basin



USGS HUC	HUC NAME
10110201	Upper Little Missouri River
10110201	Upper Little Missouri River
10110202	Boxelder Creek (Little Missouri R)
10110203	Middle Little Missouri River
10110204	Beaver Creek (Little Missouri R)
10120202	Lower Belle Fourche River



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER LITTLE MISSOURI

USGS HUC: 10110201

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

N

0 5 10 20

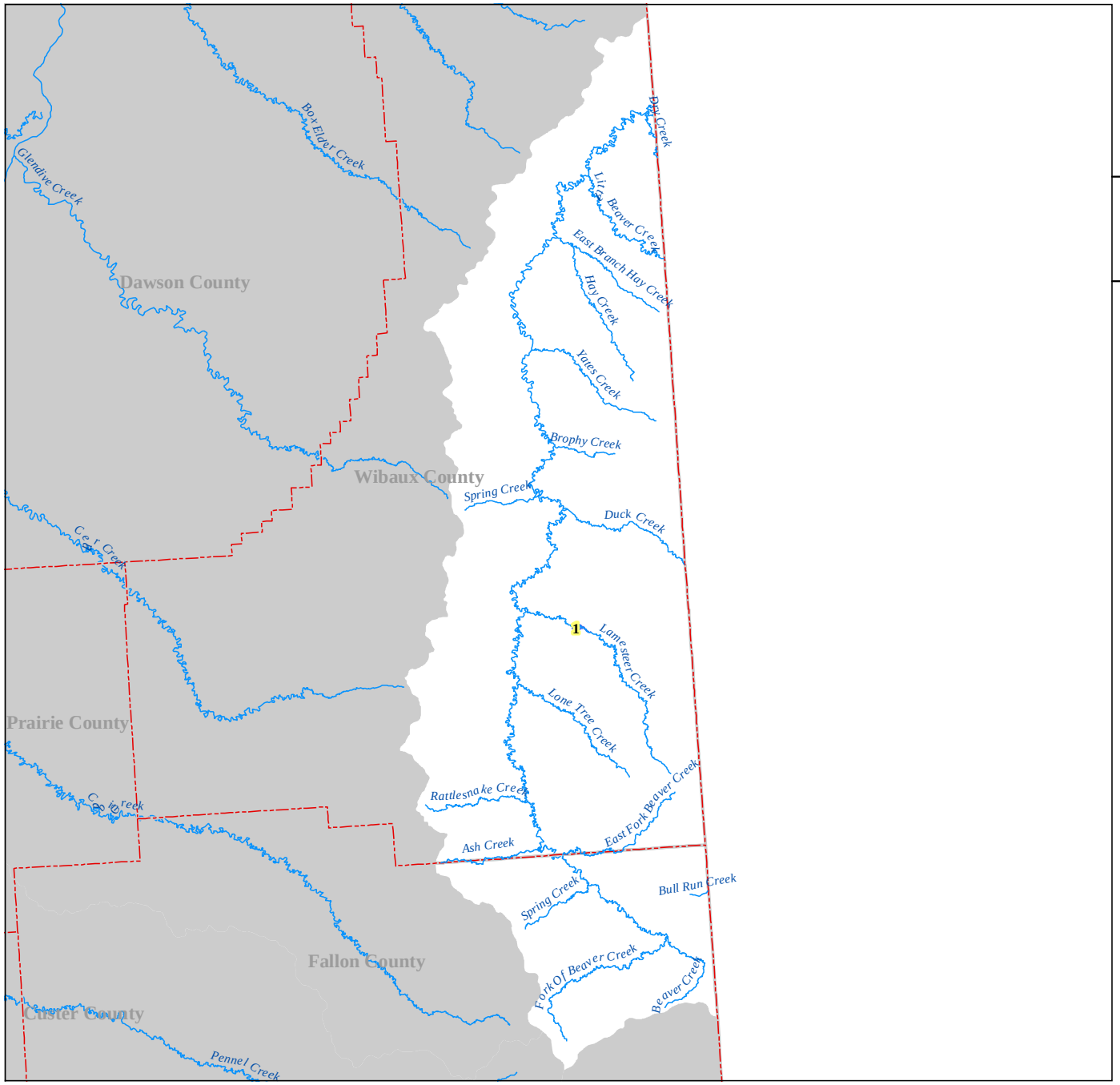
Miles

Submajor Basin: Little Missouri

Hydrologic Unit Code 10110201 Watershed UPPER LITTLE MISSOURI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT39F001_010	THOMPSON CREEK, State line to mouth	5	35.9 M	C-3	P		P		X			Suspended solids	Abandoned mining Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BEAVER - ND

USGS HUC: 10110204

Waters Assessed as not fully supporting one or more beneficial uses.

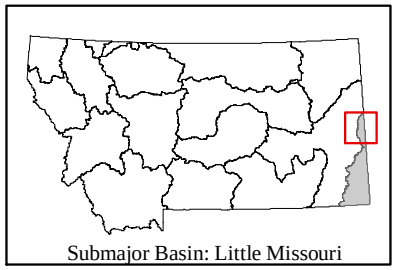
County Boundary

Indian Reservation

N

0 2 4 8

Miles



Submajor Basin: Little Missouri

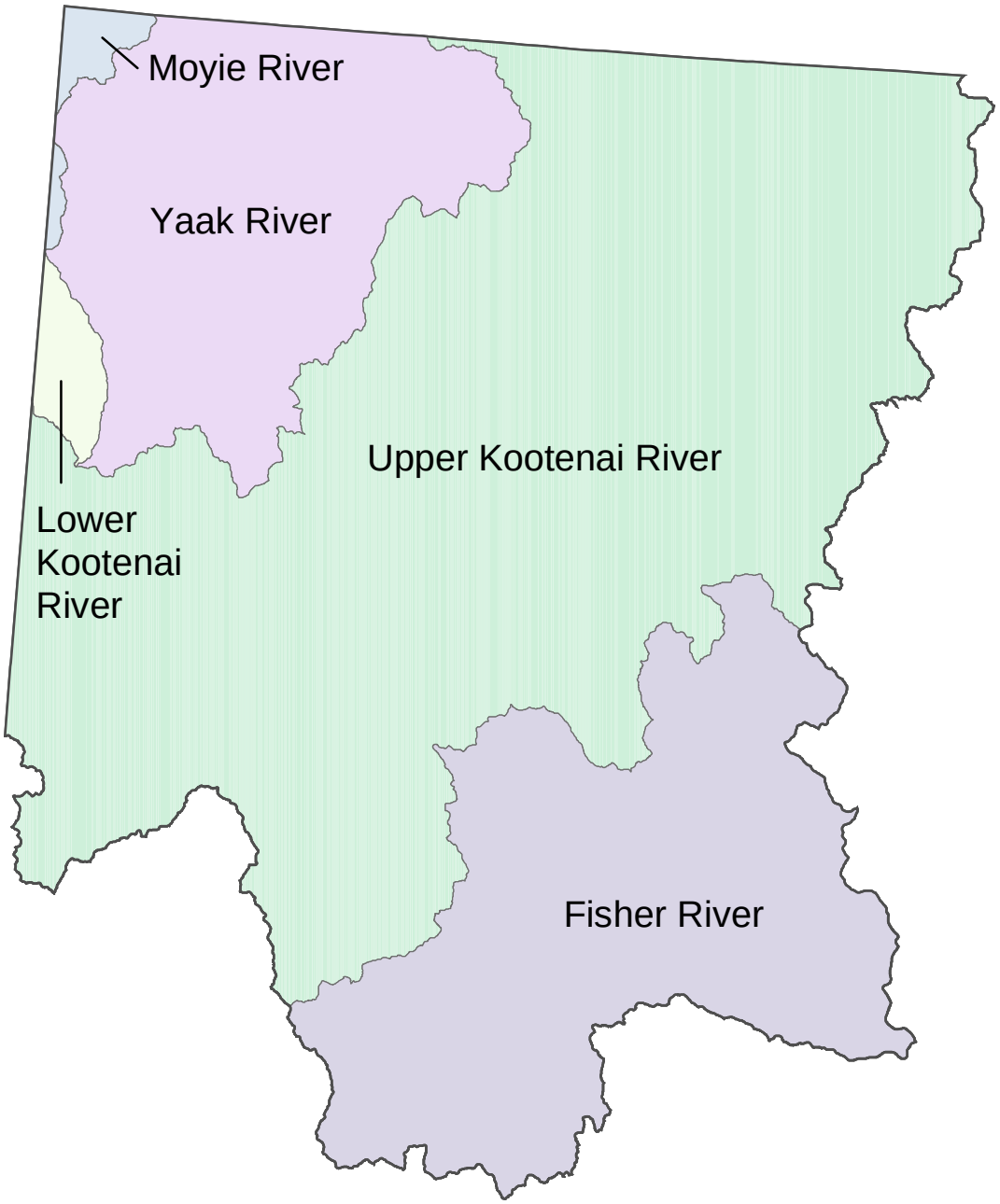
Hydrologic Unit Code 10110204 Watershed BEAVER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT39G002_010	LAMESTEER NATIONAL WILDLIFE REFUGE T12N R60E Sec 15	5	80 A	C-3	P		P		X			Other Nutrients	Agriculture

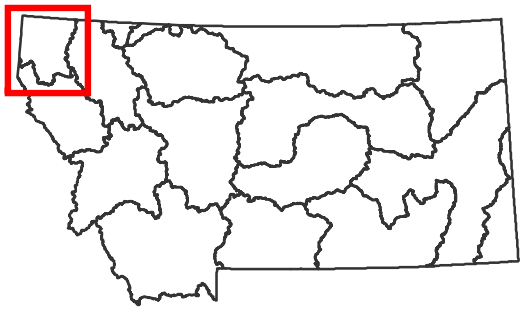
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Kootenai Sub-Major Basin

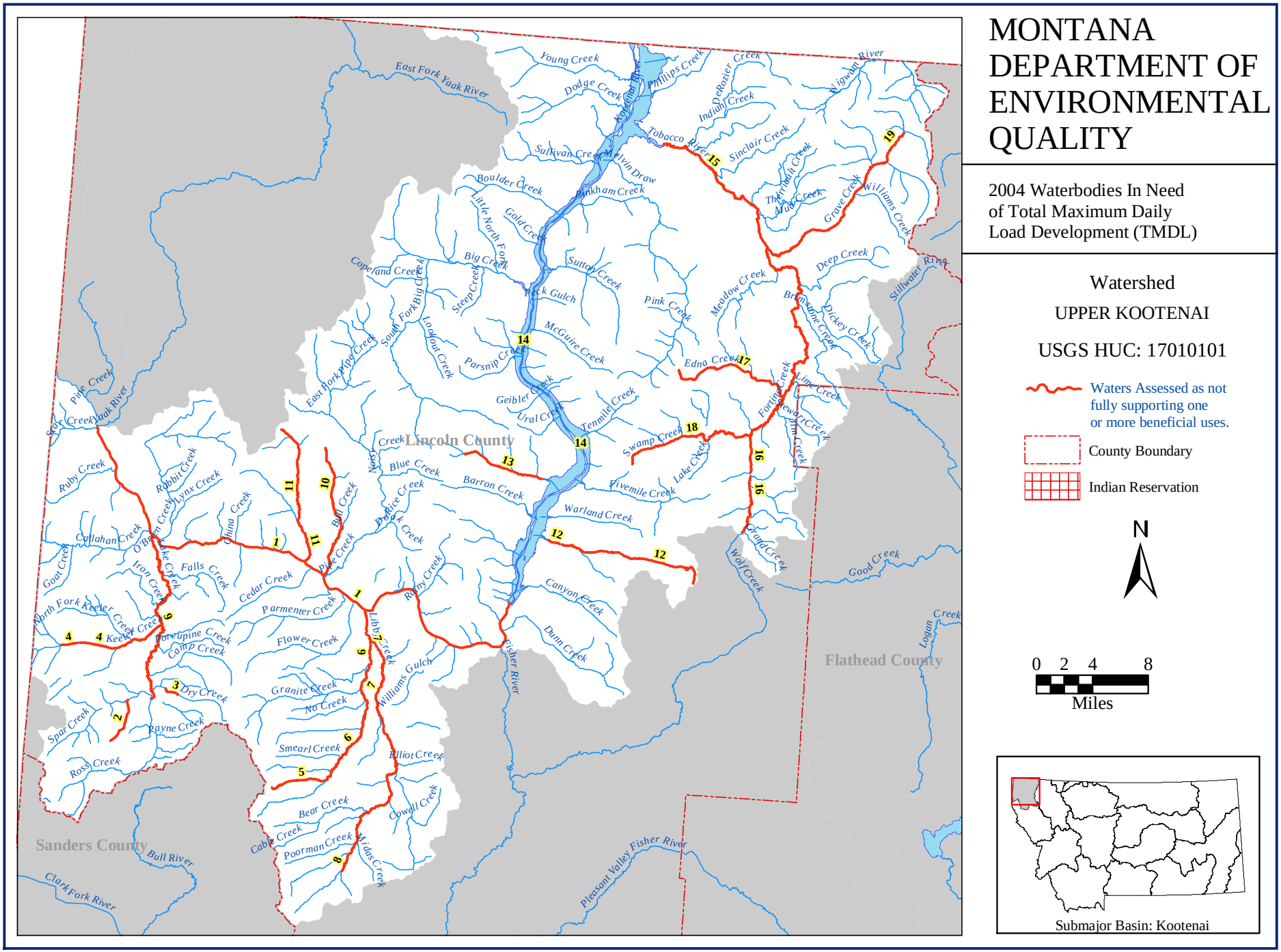
Columbia River Basin



USGS HUC	HUC NAME
17010101	Upper Kootenai River
17010102	Fisher River
17010103	Yaak River
17010104	Lower Kootenai River
17010105	Moyie River



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER KOOTENAI

USGS HUC: 17010101

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Submajor Basin: Kootenai

Hydrologic Unit Code 17010101 Watershed UPPER KOOTENAI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76D001_010	KOOTENAI RIVER from the Libby Dam to Yaak R confluence	5	44.6 M	B-1	P	P		F	F	F	F	Thermal modifications Flow alteration	Upstream Impoundment Flow Regulation/Modification Hydromodification
2	MT76D002_010	STANLEY CREEK to confluence with Fairway Cr T29N R34W SEC 13&24	5	3.5 M	B-1	P	P		F	X	F	F	Metals Nutrients	Mine Tailings Resource Extraction
3	MT76D002_020	DRY CREEK (Trib. of Lake Cr.) 1 mile upstream from State Highway 56	4C	1 M	B-1	F	P		X	P	X	X	Flow alteration Fish habitat degradation Other habitat alterations	Highway/Road/Bridge Construction Construction
4	MT76D002_030	KEELER CREEK from the headwaters to Lake Cr	4C	8.3 M	B-1	F	P		X	F	F	F	Flow alteration Fish habitat degradation Other habitat alterations	Silviculture Logging Road Construction/Maintenance
5	MT76D002_040	SNOWSHOE CREEK, Cabinet Wilderness boundary to the mouth (Big Cherry Cr)	5	3.6 M	B-1	P	P		N	X	N	N	Metals Fish habitat degradation Other habitat alterations	Abandoned mining Resource Extraction
6	MT76D002_050	BIG CHERRY CREEK from Snowshoe Cr to Mouth (Libby Cr)	5	12.9 M	B-1	P	P		X	F	F	F	Zinc Bank erosion Fish habitat degradation Metals Other habitat alterations	Logging Road Construction/Maintenance Mine Tailings Abandoned mining Habitat Modification (other than Hydromodification) Silviculture Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010101 Watershed UPPER KOOTENAI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
7	MT76D002_061	LIBBY CREEK, from 1 mi above Howard Cr to the highway 2 bridge	5	12 M	B-1	P	P		N	F	F	F	Metals Other habitat alterations Riparian degradation	Resource Extraction Placer Mining Abandoned mining
8	MT76D002_062	LIBBY CREEK, from the highway 2 bridge to the mouth (Kootenai R)	5	15.2 M	B-1	P	P		X	X	F	F	Other habitat alterations Fish habitat degradation Siltation	Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Construction Land Development Source Unknown
9	MT76D002_070	LAKE CREEK, Bull Lake outlet to mouth (Kootenai R)	5	18.2 M	B-1	P	P		F	X	F	F	Metals Nitrogen Nutrients	Mine Tailings Resource Extraction
10	MT76D002_080	BOBTAIL CREEK, headwaters to mouth (Kootenai R)	5	10 M	B-1	P	P		X	F	F	F	Siltation Bank erosion Turbidity Other habitat alterations	Silviculture Logging Road Construction/Maintenance Other
11	MT76D002_090	QUARTZ CREEK, Headwaters to confluence with the Kootenai R	5	11.1 M	B-1	P	P		X	X	F	F	Siltation Fish habitat degradation Other habitat alterations	Silviculture Logging Road Construction/Maintenance

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010101 Watershed UPPER KOOTENAI

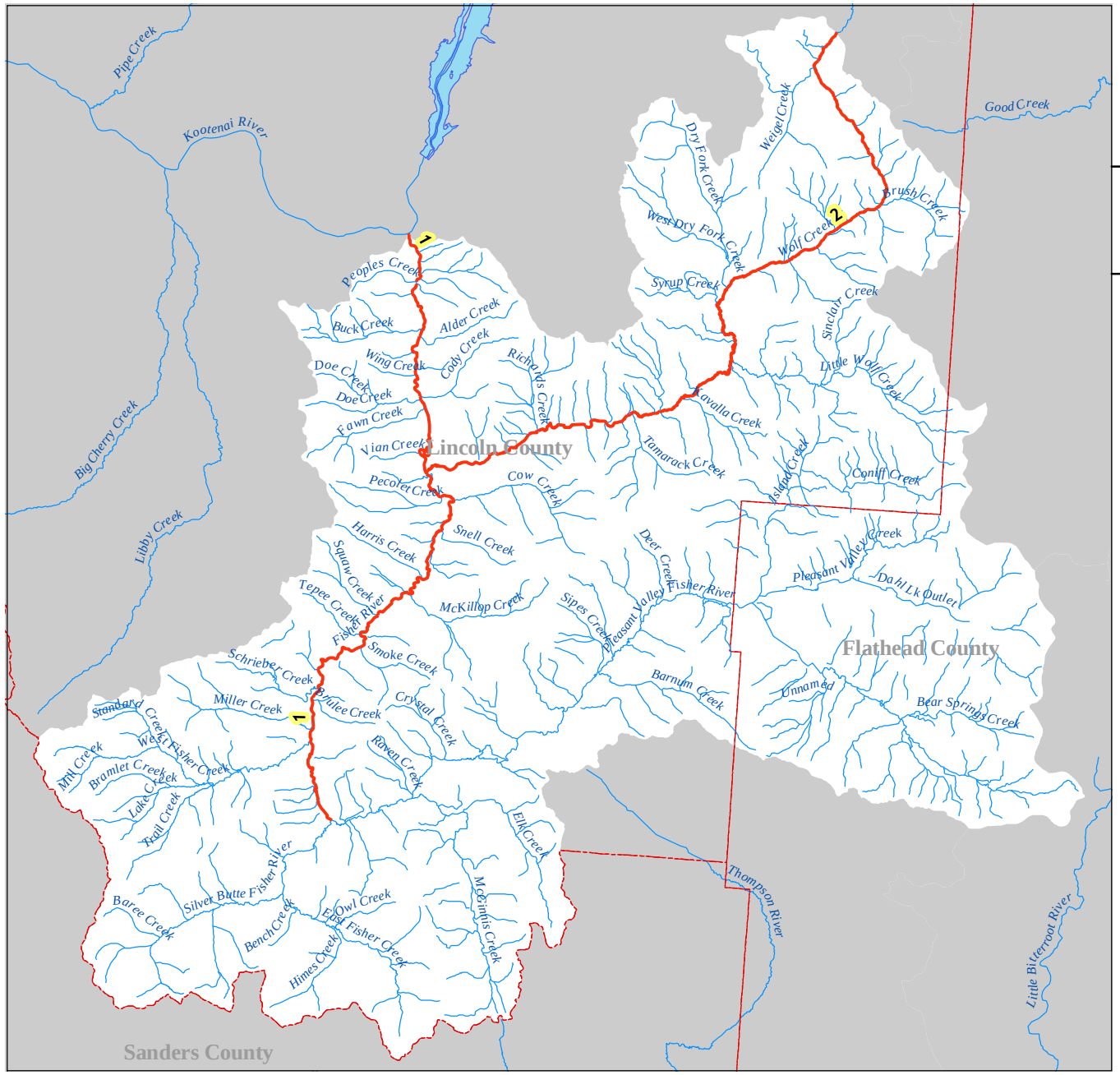
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
12	MT76D002_100	CRIPPLE HORSE CREEK from headwaters to mouth (Lake Koocanusa)	4C	12.6 M	B-1	F	P		X	X	X	X	Flow alteration Fish habitat degradation Other habitat alterations	Silviculture Agriculture Grazing related Sources
13	MT76D002_110	BRISTOW CREEK from the headwaters to the mouth at Lake Koocanusa	5	6.3 M	B-1	P	P		X	X	F	F	Nutrients Siltation Fish habitat degradation Other habitat alterations	Silviculture Logging Road Construction/Maintenance
14	MT76D003_010	LAKE KOOCANUSA	4C	28850 A	B-1	P	P		F	F	F	F	Water level fluct Flow alteration	Hydromodification
15	MT76D004_010	TOBACCO RIVER from confluence of Grave Cr & Fortine Cr to mouth (Lake Koocanusa)	5	13.5 M	B-1	P	P		F	F	F	F	Siltation Bank erosion Other habitat alterations	Agriculture Grazing related Sources
16	MT76D004_020	FORTINE CREEK from its source to the confluence with Grave Cr	5	30.7 M	B-1	P	P		X	P	F	F	Siltation Dewatering Bank erosion Flow alteration Other habitat alterations	Grazing related Sources Silviculture Flow Regulation/Modification Agriculture Hydromodification
17	MT76D004_030	EDNA CREEK from headwaters to mouth (Fortine Cr)	5	10.2 M	B-1	P	P		X	X	F	F	Siltation Other habitat alterations	Silviculture Logging Road Construction/Maintenance

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010101 Watershed UPPER KOOTENAI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
18	MT76D004_040	SWAMP CREEK from the headwaters to the mouth at Fortine Cr	4C	11.1 M	B-1	P	P		X	X	F	F	Flow alteration Fish habitat degradation Other habitat alterations	Silviculture Logging Road Construction/Maintenance
19	MT76D004_060	GRAVE CREEK from Foundation Cr to the mouth (Fortine Cr)	5	15.9 M	B-1	P	P		X	P	F	F	Siltation Dewatering Other habitat alterations Bank erosion Fish habitat degradation Flow alteration	Silviculture Logging Road Construction/Maintenance Dam Construction Flow Regulation/Modification Agriculture Grazing related Sources Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

FISHER

USGS HUC: 17010102

Waters Assessed as not fully supporting one or more beneficial uses.

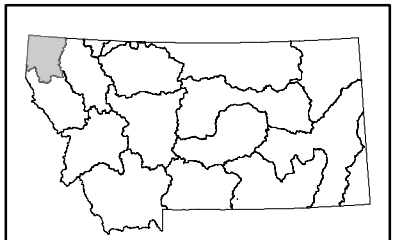
County Boundary

Indian Reservation

N

0 2.5 5 10

Miles

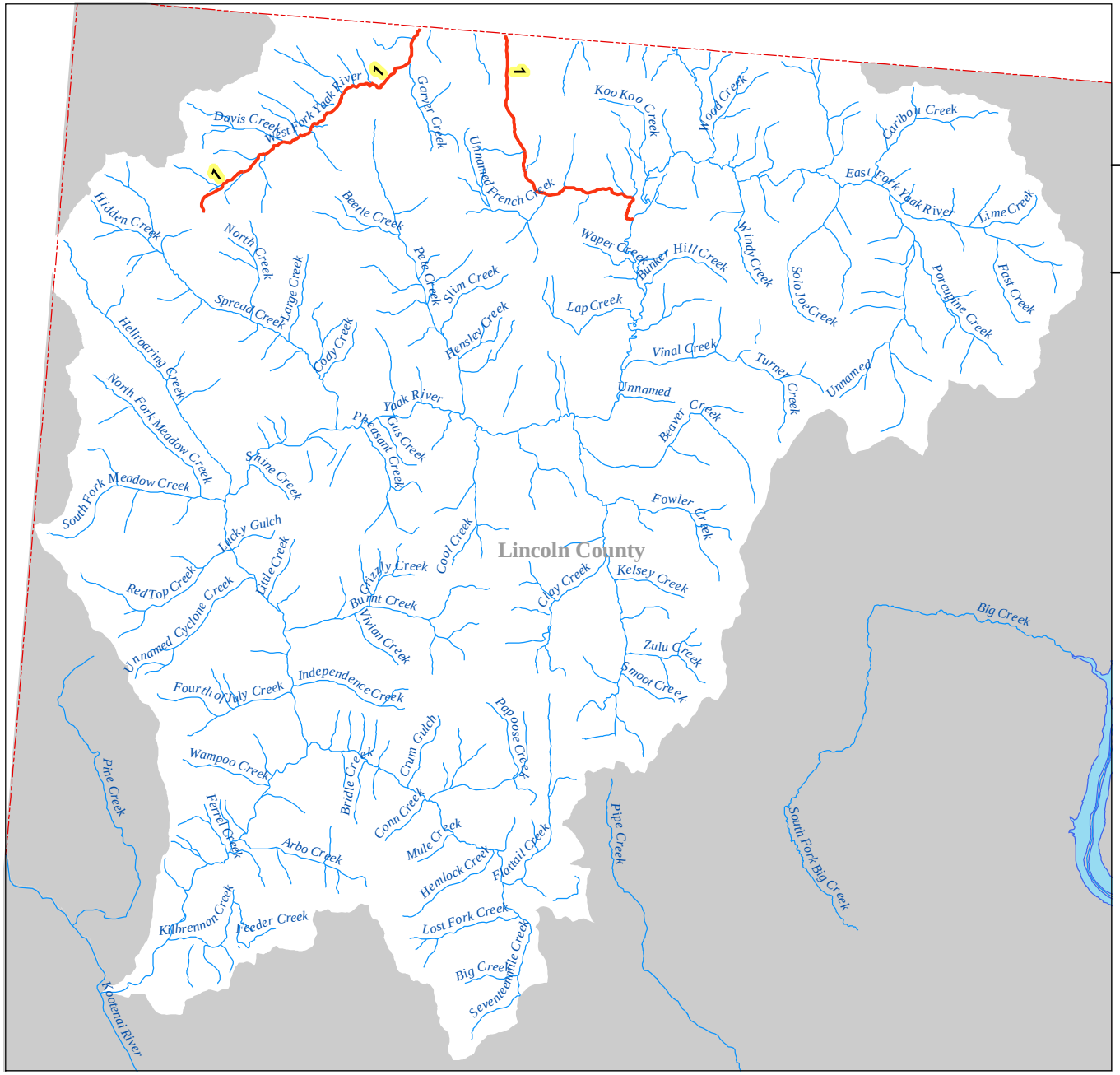


Submajor Basin: Kootenai

Hydrologic Unit Code 17010102 Watershed FISHER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76C001_010	FISHER RIVER from the Silver Butte / Pleasant Valley junction to the mouth (Kootenai R)	5	33 M	B-1	P	P		F	F	F	F	Metals Lead Flow alteration	Grazing related Sources Silviculture Channelization Bank or Shoreline Modification/Destabilization Agriculture Hydromodification Habitat Modification (other than Hydromodification)
2	MT76C001_020	WOLF CREEK headwaters to mouth (Fisher R)	5	36.9 M	B-1	P	P		X	F	F	F	Siltation Thermal modifications Other habitat alterations	Channelization Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

YAAK

USGS HUC: 17010103

Waters Assessed as not fully supporting one or more beneficial uses.

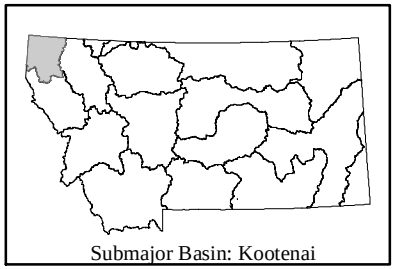
County Boundary

Indian Reservation

N

0 2 4 8

Miles

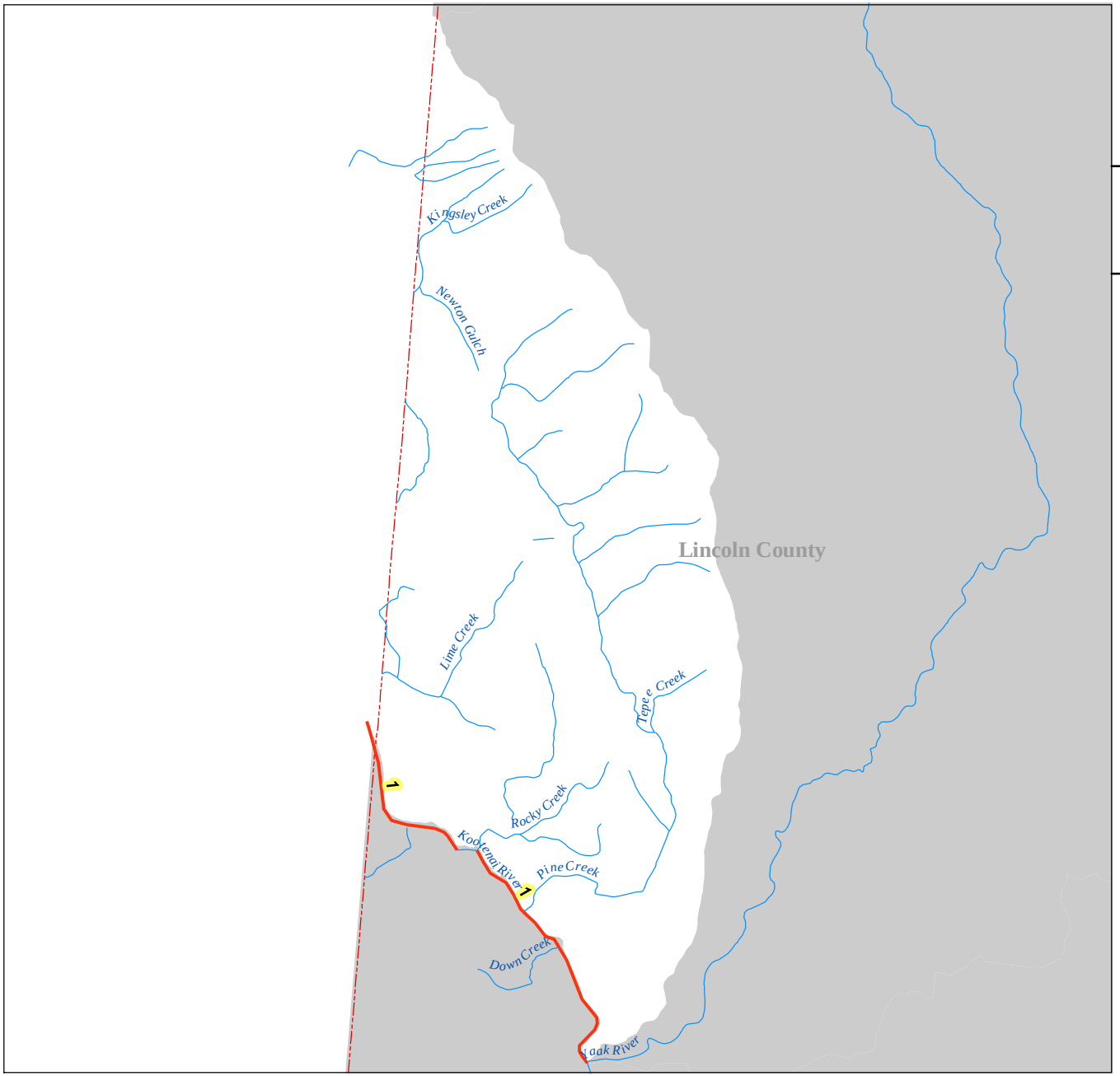


Submajor Basin: Kootenai

Hydrologic Unit Code 17010103 Watershed YAAK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76B002_090	WEST FORK YAAK RIVER [excluding Canadian portion] headwaters to mouth (Yaak R)	5	19.8 M	B-1	P	P		X	X	F	F	Siltation	Grazing related Sources Silviculture Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

LOWER KOOTENAI

USGS HUC: 17010104

Waters Assessed as not fully supporting one or more beneficial uses.

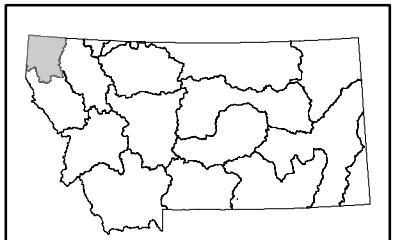
County Boundary

Indian Reservation

N

0 0.5 1 2

Miles



Submajor Basin: Kootenai

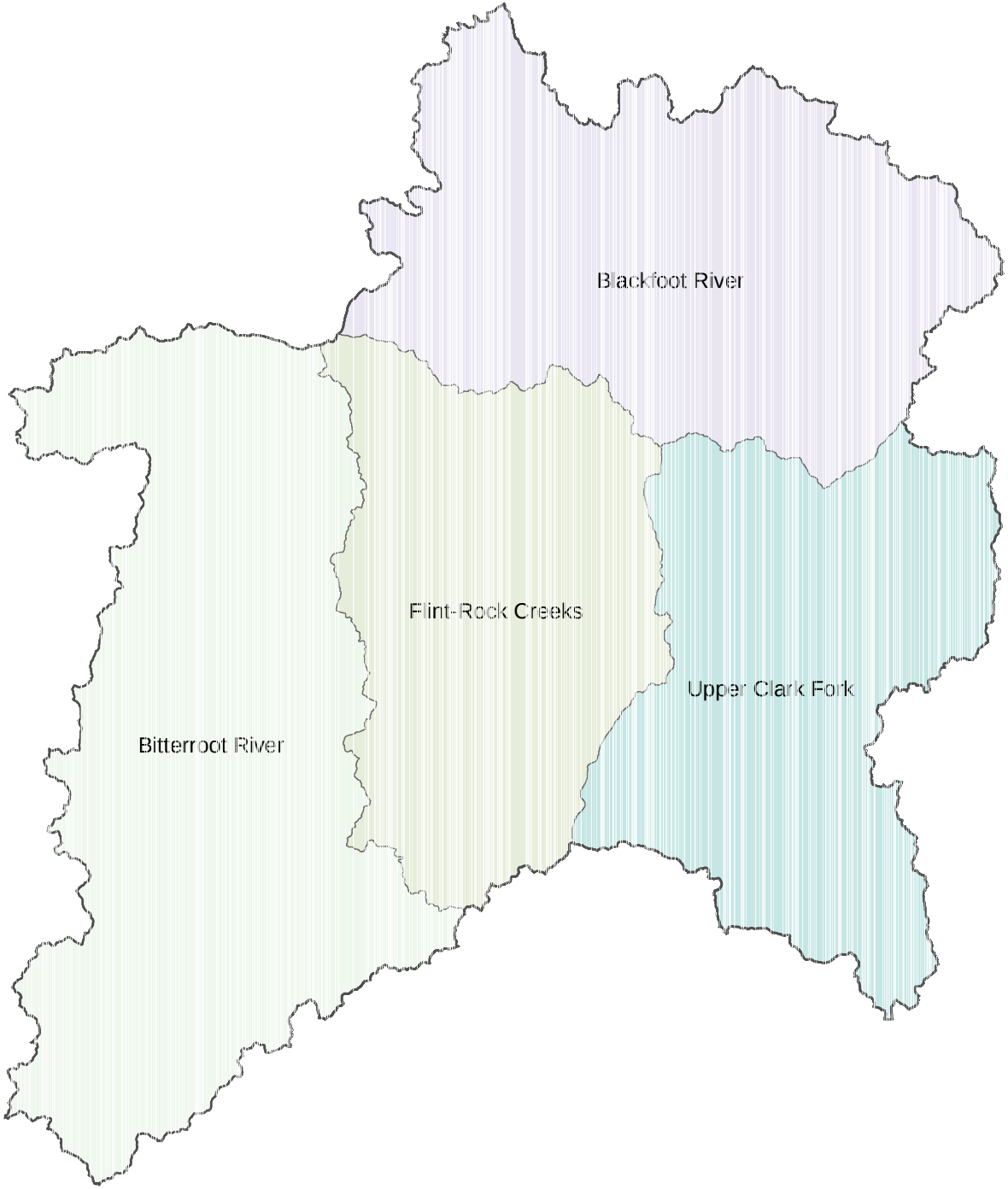
Hydrologic Unit Code 17010104 Watershed LOWER KOOTENAI

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76A001_010	KOOTENAI RIVER between the Yaak R Confluence and the Idaho border.	5	6.2 M	B-1	P	P		F	F	F	F	Thermal modifications Flow alteration	Upstream Impoundment Flow Regulation/Modification Hydromodification

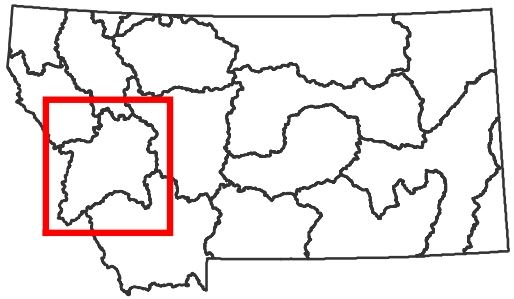
F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Upper Clark Fork Sub-Major Basin

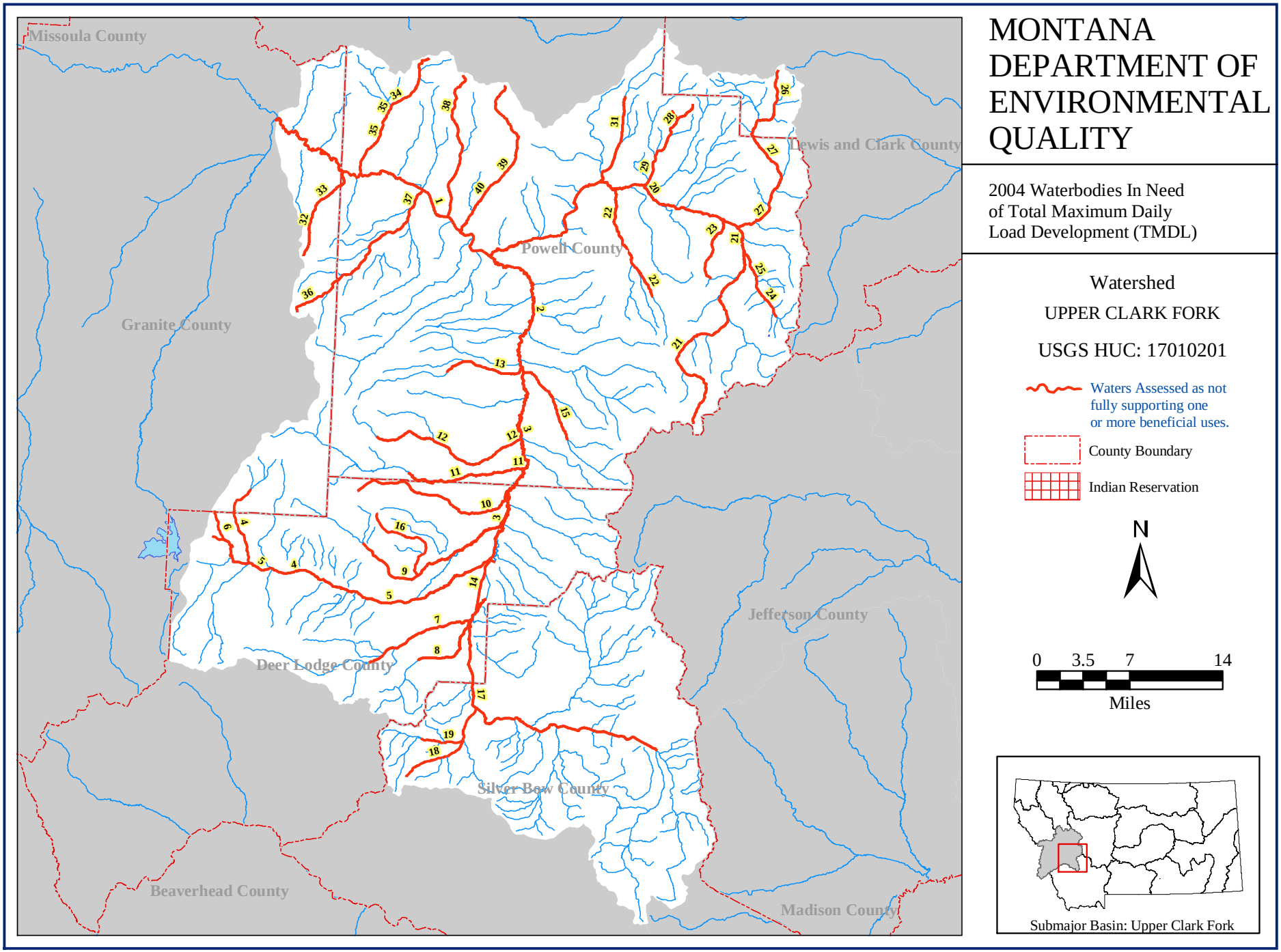
Columbia River Basin



USGS HUC	HUC NAME
17010201	Upper Clark Fork
17010202	Flint-Rock Creeks
17010203	Blackfoot River
17010205	Bitterroot River



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

UPPER CLARK FORK

USGS HUC: 17010201

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76G001_010	CLARK FORK RIVER from Flint Cr to the Little Blackfoot R	5	25.2 M	B-1	P	P		N	P	F	F	Metals Siltation Dewatering Riparian degradation Flow alteration Other habitat alterations Nutrients	Agriculture Mill Tailings Resource Extraction Municipal Point Sources
2	MT76G001_030	CLARK FORK RIVER from the Little Blackfoot R to Cottonwood Cr	5	13.6 M	C-1	N	N			P	F	F	Metals Siltation Dewatering Riparian degradation Flow alteration Other habitat alterations Nutrients	Agriculture Mill Tailings Channelization Resource Extraction Hydromodification Municipal Point Sources
3	MT76G001_040	CLARK FORK RIVER from Cottonwood Cr to Warm Springs Cr	5	23 M	C-2	P	P			P	F	F	Metals Siltation Dewatering Riparian degradation Flow alteration Other habitat alterations Nutrients	Agriculture Mill Tailings Resource Extraction Municipal Point Sources
4	MT76G002_011	WARM SPRINGS CREEK (Near Warm Springs) from headwaters to Meyers Dam (T5N, R12W, SEC 25)	4C	17.7 M	A-1	P	P		X	F	F	F	Bank erosion Other habitat alterations	Channelization Urban Runoff/Storm Sewers Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
5	MT76G002_012	WARM SPRINGS CREEK (Near Warm Springs) from Meyers Dam (T5N, R12W, SEC 25) to mouth (Clark Fork)	5	14.5 M	B-1	N	N		N	P	F	F	Metals Dewatering Riparian degradation Flow alteration Other habitat alterations	Mill Tailings Agriculture Crop-related Sources Grazing related Sources Resource Extraction
6	MT76G002_030	CABLE CREEK from the headwaters to the mouth (Warm Springs Cr)	5	3.2 M	B-1	P	P		F	P	F	F	Siltation Other habitat alterations Fish habitat degradation Algal Grwth/Chlorophyll a	Abandoned mining Agriculture Grazing related Sources Resource Extraction
7	MT76G002_052	MILL CREEK from section line between Sec 27 & 28, T4N, R11W to the mouth (Silver Bow Cr)	5	8.7 M	B-1	N	N		N	P	P	F	Metals Dewatering Riparian degradation Flow alteration Other habitat alterations	Mill Tailings Contaminated Sediments Agriculture Crop-related Sources Resource Extraction
8	MT76G002_062	WILLOW CREEK from T4N, R10W, Sec30 (DABC) to mouth (Silver Bow Cr)	5	7.4 M	B-1	N	N		N	F	F	F	Metals Dewatering Riparian degradation Flow alteration Other habitat alterations	Agriculture Mill Tailings Atmospheric Deposition Grazing related Sources Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
9	MT76G002_072	LOST CREEK from the south State Park boundary to the mouth (Clark Fork R)	5	15.9 M	B-1	N	N		N	P	F	F	Metals Sulfates Nitrogen Dewatering Riparian degradation Nutrients Flow alteration Other habitat alterations	Agriculture Contaminated Sediments Crop-related Sources Grazing related Sources
10	MT76G002_080	MODESTY CREEK from headwaters to the mouth (Clark Fork R)	5	14.1 M	B-1	X	X		N	P	F	F	Arsenic Dewatering Metals Flow alteration	Agriculture
11	MT76G002_090	RACETRACK CREEK from the national forest boundary to the mouth (Clark Fork R)	4C	10.4 M	B-1	P	P		F	P	F	F	Dewatering Riparian degradation Flow alteration Other habitat alterations	Agriculture Crop-related Sources
12	MT76G002_100	DEMPSEY CREEK from the national forest boundary to the mouth (Clark Fork R)	5	9.2 M	B-1	P	P		F	P	F	F	Nitrogen Siltation Dewatering Riparian degradation Nutrients Flow alteration Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
13	MT76G002_110	TIN CUP JOE CREEK from Tin Cup Lake to mouth (Clark Fk R)	4C	6.6 M	B-1	N	N		F	N	F	F	Dewatering Flow alteration	Agriculture
14	MT76G002_120	MILL-WILLOW BYPASS from Silver Bow Cr to the Clark Fork R	5	4.2 M	B-1	P	P		N	F	F	F	Arsenic Copper Lead Metals	Mill Tailings Resource Extraction
15	MT76G002_132	PETERSON CREEK from Jack Cr. to the mouth (Clark Fork R)	5	6.9 M	B-1	N	N		X	N	X	X	Thermal modifications Dewatering Riparian degradation Flow alteration Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources
16	MT76G002_140	ANTELOPE CREEK from headwaters to the mouth (Gardner Ditch)	4C	6 M	B-1	X	X		F	P	F	F	Dewatering Flow alteration	Agriculture
17	MT76G003_020	SILVER BOW CREEK from the Warm Springs Pond 2 outlet to headwaters	5	26.8 M	I	N	N		N	P	F	F	Metals Nutrients Other habitat alterations Siltation	Construction Land Development Resource Extraction Abandoned mining Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
18	MT76G003_030	GERMAN GULCH headwaters to mouth (Silver Bow Cr)	5	8.4 M	B-1	N	N		F	F	F	F	Metals Selenium	Resource Extraction
19	MT76G003_031	BEEFSTRAIGHT CREEK Minnesota Gulch to mouth (German Gulch)	5	5.1 M	B-1	N	N		X	X	X	X	Cyanide	Resource Extraction Mine Tailings
20	MT76G004_010	LITTLE BLACKFOOT RIVER from Dog Cr to the mouth (Clark Fork R)	5	26.2 M	B-1	P	P		P	P	F	F	Metals Nutrients Siltation Dewatering Riparian degradation Flow alteration Other habitat alterations	Agriculture Abandoned mining Channelization Grazing related Sources Resource Extraction Hydromodification
21	MT76G004_020	LITTLE BLACKFOOT RIVER from the headwaters to Dog Cr	5	21.6 M	B-1	P	P		F	F	F	F	Metals Siltation Riparian degradation Other habitat alterations	Abandoned mining Resource Extraction
22	MT76G004_032	SPOTTED DOG CREEK from forest boundary to the mouth (Little Blackfoot R)	4C	10 M	B-1	X	X		X	P	X	X	Flow alteration	Agriculture Grazing related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
23	MT76G004_040	ELLISTON CREEK from headwaters to the mouth (Little Blackfoot R)	4C	5.4 M	B-1	P	P		F	F	F	F	Other habitat alterations Riparian degradation	Land Development Channelization Construction Hydromodification
24	MT76G004_051	TELEGRAPH CREEK from headwaters to Hahn Cr.	5	4.9 M	B-1	N	N		N	F	F	F	Metals Siltation Other habitat alterations Riparian degradation	Logging Road Construction/Maintenance Abandoned mining Silviculture Resource Extraction
25	MT76G004_052	TELEGRAPH CREEK from Hahn Cr. to the mouth (Little Blackfoot R)	5	2.4 M	B-1	F	F		N	F	F	F	Lead Mercury Metals	Abandoned mining Resource Extraction
26	MT76G004_071	DOG CREEK from headwaters to Meadow Cr	5	4.2 M	B-1	N	N		F	P	F	F	Metals Siltation Riparian degradation Other habitat alterations	Abandoned mining Agriculture Grazing related Sources Resource Extraction
27	MT76G004_072	DOG CREEK from Meadow Cr to the mouth (Little Blackfoot R)	5	12.4 M	B-1	P	P		F	F	F	F	Nutrients Siltation Riparian degradation Other habitat alterations	Agriculture Channelization Grazing related Sources Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
28	MT76G004_091	CARPENTER CREEK from headwaters to Basin Cr	4C	3.2 M	B-1	N	N		X	P	X	X	Other habitat alterations Channel incisement Fish habitat degradation	Abandoned mining Resource Extraction
29	MT76G004_092	CARPENTER CREEK from Basin Cr. to the mouth (Little Blackfoot R)	4C	4.8 M	B-1	N	N		X	F	X	X	Other habitat alterations Channel incisement Fish habitat degradation	Abandoned mining Resource Extraction
30	MT76G004_100	WOODSON GULCH, Trib to Carpenter Cr. T11N, R7W, Sec 29	4C	0.8 M	B-1	P	P		F	P	F	F	Other habitat alterations	Placer Mining Abandoned mining Resource Extraction
31	MT76G004_112	THREEMILE CREEK, Quigley Ranch Res. to mouth (Little Blackfoot R)	4C	7 M	B-1	N	N		X	P	X	X	Dewatering Other habitat alterations Flow alteration	Agriculture Flow Regulation/Modification Grazing related Sources Hydromodification
32	MT76G005_071	DUNKLEBERG CREEK from headwaters SW corner Sec 2, T9N, R12W	5	3.6 M	B-1	N	N		N	P	F	F	Metals Other habitat alterations	Mine Tailings Agriculture Grazing related Sources Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
33	MT76G005_072	DUNKLEBERG CREEK from SW corner Sec 2, T9N, R12W to mouth (Clark Fork R)	5	4.7 M	B-1	P	P		F	F	F	F	Metals Nitrogen Other habitat alterations Nutrients	Abandoned mining Agriculture Grazing related Sources Resource Extraction
34	MT76G005_081	HOOVER CREEK from headwaters to Miller Lake	5	5.6 M	B-1	X	X		X	P	X	X	Siltation Turbidity	Agriculture Grazing related Sources Highway Maintenance and Runoff
35	MT76G005_082	HOOVER CREEK from Miller L. to the mouth (Clark Fork R)	5	6 M	B-1	N	N		X	N	X	X	Nitrogen Flow alteration Dewatering Other habitat alterations Nutrients	Agriculture Dam Construction Bank or Shoreline Modification/Destabilization Hydromodification Habitat Modification (other than Hydromodification)
36	MT76G005_091	GOLD CREEK from headwaters to theNatl. Forest boundary	5	8 M	B-1	N	N		N	F	F	F	Lead Other habitat alterations Metals	Mine Tailings Abandoned mining Resource Extraction
37	MT76G005_092	GOLD CREEK from the forest boundary to the mouth (Clark Fork R)	5	7.2 M	B-1	P	P		F	P	F	F	Dewatering Flow alteration Nutrients Nitrogen	Agriculture Crop-related Sources

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010201 Watershed UPPER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
38	MT76G005_100	BROCK CREEK from headwaters to mouth (Clark Fork R)	5	12 M	B-1	X	X		F	P	F	F	Siltation	
39	MT76G005_111	WARM SPRINGS CREEK (Near Phosphate) Headwaters to the line between R9W and R10W	5	8.8 M	B-1	P	P		F	F	F	F	Siltation Riparian degradation Other habitat alterations	Silviculture
40	MT76G005_112	WARM SPRINGS CREEK (Near Phosphate) from line between R9W and R10W to mouth (Clark Fork R)	5	5.2 M	B-1	P	P		F	P	F	F	Siltation Dewatering Riparian degradation Fish habitat degradation Flow alteration Other habitat alterations	Agriculture Grazing related Sources
41	MT76G006_010	ONTARIO MINE WETLAND T8N R6W SEC 21	5	20 A	B-1	N	N		N	P	P	F	Metals pH	Abandoned mining Resource Extraction

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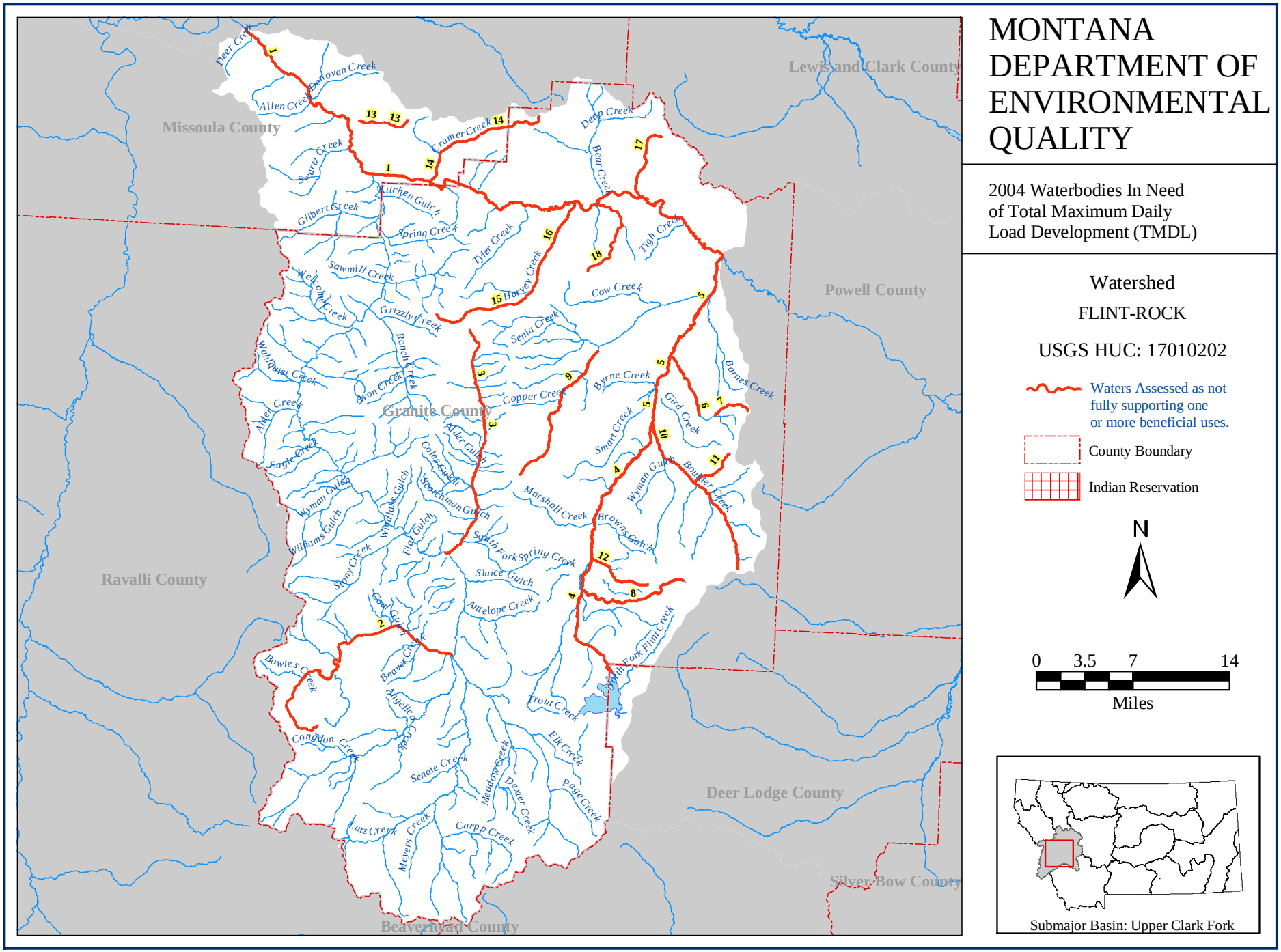
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
FLINT-ROCK
USGS HUC: 17010202
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 3.5 7 14
Miles
Submajor Basin: Upper Clark Fork
Missoula County
Lewis and Clark County
Powell County
Granite County
Ravalli County
Deer Lodge County
Silver Bow County
Beaverhead County
Deer Creek
Bonovan Creek
Allen Creek
Cramer Creek
Deep Creek
Bear Creek
Swartz Creek
Gilbert Creek
Kitchen Gulch
Spring Creek
Tyler Creek
Hoxsey Creek
Tigh Creek
Cow Creek
Sawmill Creek
Welcome Creek
Grizzly Creek
Senia Creek
Ranch Creek
Avon Creek
Copper Creek
Byrne Creek
Barnes Creek
Gird Creek
Smart Creek
Wahlquist Creek
Angel Creek
Eagle Creek
Alder Gulch
Coles Gulch
Scotchman Gulch
Wyman Gulch
Boulder Creek
Marshall Creek
Browns Gulch
Williams Gulch
Windlass Gulch
Flat Gulch
South Fork Spring Creek
Sluice Gulch
Spring Creek
Antelope Creek
Cow Gulch
North Fork Flint Creek
Bowles Creek
Beaver Creek
Angelic Creek
Trout Creek
Congdon Creek
Elk Creek
Senate Creek
Meadow Creek
Dexter Creek
Page Creek
Lutz Creek
Meyers Creek
Carpp Creek

Hydrologic Unit Code 17010202 Watershed FLINT-ROCK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76E001_010	CLARK FORK RIVER from the Blackfoot R to Flint Cr	5	53 M	B-1	N	N		N	P	F	F	Metals Other habitat alterations Riparian degradation Nutrients Algal Grwth/Chlorophyll a Phosphorus Nitrogen	Agriculture Mill Tailings Mine Tailings Channelization Resource Extraction Hydromodification Municipal Point Sources
2	MT76E002_030	WEST FORK ROCK CREEK from headwaters to mouth (Rock Cr)	5	23.9 M	B-1	X	X		N	F	F	F	Mercury Metals	Source Unknown
3	MT76E002_040	UPPER WILLOW CREEK from headwaters to the mouth (Rock Cr)	4C	19.4 M	B-1	P	P		X	P	F	F	Other habitat alterations Flow alteration	Agriculture Crop-related Sources Grazing related Sources
4	MT76E003_011	FLINT CREEK from Georgetown Lake to Boulder Cr confluence	5	28 M	B-1	N	N		N	P	F	F	Metals Siltation Flow alteration Other habitat alterations	Agriculture Abandoned mining Grazing related Sources Resource Extraction
5	MT76E003_012	FLINT CREEK from Boulder Cr to mouth (Clark Fork)	5	15.7 M	B-1	N	N		N	P	F	F	Metals Other habitat alterations Nutrients	Agriculture Abandoned mining Grazing related Sources Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010202 Watershed FLINT-ROCK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT76E003_020	DOUGLAS CREEK, Confluence of Middle and South Fks to mouth (Flint Cr) T9N, R13W	5	6.4 M	B-1	P	P		X	F	F	F	Nitrate Other habitat alterations Nutrients	Silviculture Abandoned mining Channelization Resource Extraction Hydromodification
7	MT76E003_030	NORTH FORK DOUGLAS CREEK, Headwaters to mouth (Douglas Cr-Flint Cr)	5	3.1 M	B-1	N	N		N	X	P	F	Arsenic Cadmium Copper Zinc Sulfates Other habitat alterations Metals	Abandoned mining Agriculture Grazing related Sources Resource Extraction
8	MT76E003_040	FRED BURR CREEK from Fred Burr Lake to mouth (Flint Cr)	5	10.1 M	B-1	N	N		N	F	F	F	Metals Arsenic Mercury Other habitat alterations	Agriculture Mill Tailings Grazing related Sources Resource Extraction
9	MT76E003_050	SOUTH FORK LOWER WILLOW CREEK, Headwaters to mouth (Lower Willow Cr)	5	12.5 M	B-1	N	N		N	X	F	F	Metals Copper Lead Mercury	Resource Extraction Mill Tailings

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Hydrologic Unit Code 17010202 Watershed FLINT-ROCK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
10	MT76E003_060	BOULDER CREEK from headwaters to mouth (Flint Cr)	5	13.8 M	B-1	P	P		N	X	F	F	Metals Mercury Other habitat alterations	Silviculture Resource Extraction Abandoned mining
11	MT76E003_090	PRINCETON GULCH from headwaters to mouth (Boulder Cr)	5	3.9 M	B-1	P	P		X	X	F	F	Nitrate Other habitat alterations Nutrients	Placer Mining Resource Extraction
12	MT76E003_100	DOUGLAS CREEK (Above Philipsburg), Headwaters to mouth (Flint Cr)	5	5.1 M	B-1	N	N		N	P	P	F	Metals Siltation Other habitat alterations	Silviculture Abandoned mining Resource Extraction
13	MT76E004_010	WALLACE CREEK Headwaters to mouth (Clark Fork R)	5	3.8 M	B-1	P	P		F	X	F	F	Metals Copper Zinc	Resource Extraction Abandoned mining
14	MT76E004_020	CRAMER CREEK from headwaters to the mouth (Clark Fork R)	5	11 M	B-1	P	P		F	P	F	F	Metals Siltation Riparian degradation Other habitat alterations	Silviculture Abandoned mining Agriculture Grazing related Sources Resource Extraction
15	MT76E004_041	HARVEY CREEK from headwaters to Grouse Gulch	4C	11.6 M	B-1	P	P		F	F	F	F	Other habitat alterations	Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010202 Watershed FLINT-ROCK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
16	MT76E004_042	HARVEY CREEK from Grouse Gulch to mouth (Clark Fork R)	4C	3.9 M	B-1	P	P		F	P	F	F	Flow alteration Other habitat alterations	Agriculture Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)
17	MT76E004_050	MULKEY CREEK from headwaters to the mouth (Clark Fork R)	5	5.7 M	B-1	N	N		X	P	X	X	Siltation	Highway Maintenance and Runoff
18	MT76E004_080	ANTELOPE CREEK, headwaters to mouth (Clark Fork R)	4C	8 M	B-1	P	P		X	X	X	X	Other habitat alterations Bank erosion Channel incisement Riparian degradation	Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Removal of Riparian Vegetation

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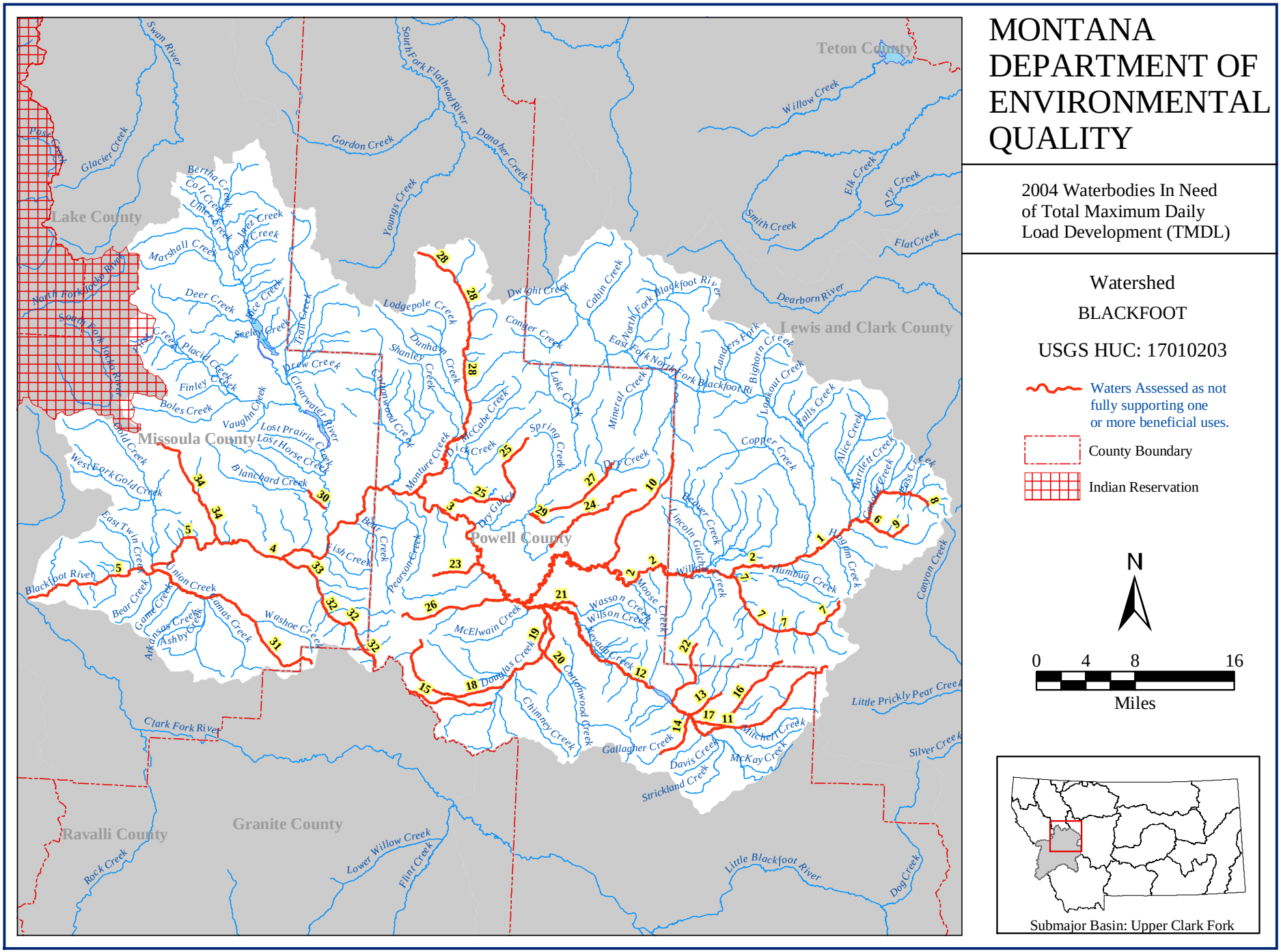

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

BLACKFOOT

USGS HUC: 17010203

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

Hydrologic Unit Code 17010203 Watershed BLACKFOOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76F001_010	BLACKFOOT RIVER from headwaters to Landers Fork	4A	16.4 M	B-1	N	N		N	F	P	F	Metals Other habitat alterations	Acid Mine Drainage Abandoned mining Bank or Shoreline Modification/Destabilization Resource Extraction Habitat Modification (other than Hydromodification) Silviculture
2	MT76F001_020	BLACKFOOT RIVER from Landers Fork to Nevada Cr	5	48.3 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Silviculture
3	MT76F001_031	BLACKFOOT RIVER from Nevada Cr to Monture Cr	5	21.9 M	B-1	P	P		F	F	F	F	Nutrients Thermal modifications	Agriculture Crop-related Sources
4	MT76F001_032	BLACKFOOT RIVER from Monture Cr. to Belmont Cr.	5	23.9 M	B-1	P	P		F	F	F	F	Nutrients Thermal modifications	Agriculture Flow Regulation/Modification Silviculture Hydromodification
5	MT76F001_033	BLACKFOOT RIVER from Belmont Cr. to mouth (Clark Fork)	5	21.9 M	B-1	P	P		F	F	F	F	Unionized Ammonia	Source Unknown

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Hydrologic Unit Code 17010203 Watershed BLACKFOOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT76F002_020	WILLOW CREEK from Sandbar Cr to mouth, T15N R7W (Blackfoot R)	5	2.8 M	B-1	P	P		P	F	F	F	Other habitat alterations Siltation Bank erosion	Highway Maintenance and Runoff Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
7	MT76F002_030	POORMAN CREEK from headwaters to the mouth (Blackfoot R)	5	14 M	B-1	P	P		F	P	F	F	Metals Siltation Dewatering Other habitat alterations Riparian degradation Flow alteration	Construction Abandoned mining Resource Extraction Silviculture Logging Road Construction/Maintenance
8	MT76F002_040	BEARTRAP CREEK from Mike Horse Cr to the mouth (Blackfoot R)	4A	0.5 M	B-1	N	N		N	F	F	F	Metals	Resource Extraction Mill Tailings
9	MT76F002_060	SANDBAR CREEK from forks to mouth (Willow Cr)	5	1.6 M	B-1	P	P		P	F	F	F	Metals Copper Siltation pH Other habitat alterations	Resource Extraction Acid Mine Drainage Abandoned mining Highway Maintenance and Runoff

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Hydrologic Unit Code 17010203 Watershed BLACKFOOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
10	MT76F002_070	ARRASTRA CREEK from headwaters to mouth (Blackfoot R)	5	12.6 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Highway Maintenance and Runoff
11	MT76F003_011	NEVADA CREEK from headwaters to Nevada Lake	5	18.3 M	B-1	P	P		N	P	F	F	Metals Nitrogen Other habitat alterations Suspended solids Nutrients	Agriculture Placer Mining Grazing related Sources Resource Extraction
12	MT76F003_012	NEVADA CREEK from Nevada Lake to the mouth (Blackfoot R)	5	24.9 M	B-1	N	N		F	P	F	F	Nutrients Siltation Flow alteration Other habitat alterations	Agriculture Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)
13	MT76F003_022	JEFFERSON CREEK from 1 mi above Madison Gulch to mouth (Nevada Cr)	4C	3 M	B-1	P	P		X	P	F	F	Flow alteration Other habitat alterations	Grazing related Sources Dredge Mining Agriculture Crop-related Sources Resource Extraction
14	MT76F003_030	GALLAGHER CREEK from the BLM property line to the mouth (Nevada Cr)	4C	3.1 M	B-1	X	X		X	P	F	F	Other habitat alterations	Agriculture Crop-related Sources

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Hydrologic Unit Code 17010203 Watershed BLACKFOOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
15	MT76F003_060	BLACK BEAR CREEK T12N R12W Sec 22SE	4C	7.5 M	B-1	N	N		X	X	X	X	Other habitat alterations	Grazing related Sources Bank or Shoreline Modification/Destabilization Agriculture Habitat Modification (other than Hydromodification)
16	MT76F003_071	WASHINGTON CREEK from headwaters to Cow Gulch	4C	5.8 M	B-1	N	N		X	P	F	F	Flow alteration Other habitat alterations	Dredge Mining Abandoned mining Resource Extraction
17	MT76F003_072	WASHINGTON CREEK from Cow Gulch to the mouth (Nevada Cr)	5	4.3 M	B-1	P	P		X	P	F	F	Siltation Flow alteration	Grazing related Sources Abandoned mining Agriculture Resource Extraction
18	MT76F003_081	DOUGLAS CREEK from headwaters to Murray Cr.	5	12.6 M	B-1	P	P		X	F	F	F	Thermal modifications Other habitat alterations	Hydromodification Agriculture Grazing related Sources
19	MT76F003_082	DOUGLAS CREEK from Murray Cr. to mouth (Nevada Cr)	5	9.3 M	B-1	N	N		X	F	F	F	Thermal modifications Other habitat alterations	Hydromodification Agriculture Grazing related Sources
20	MT76F003_090	COTTONWOOD CREEK from South Fork Cottonwood Cr to mouth (Douglas Cr)	4C	6.2 M	B-1	X	X		X	N	F	F	Flow alteration	Agriculture

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Hydrologic Unit Code 17010203 Watershed BLACKFOOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
21	MT76F003_100	NEVADA SPRING CREEK from headwaters to mouth (Nevada Cr)	5	2.9 M	B-1	N	N		X	P	F	F	Siltation Other habitat alterations	Flow Regulation/Modification Agriculture Grazing related Sources Hydromodification
22	MT76F003_130	BUFFALO GULCH, headwaters to mouth (Nevada Cr)	5	6.3 M	B-1	P	P		X	X	X	X	Siltation Other habitat alterations	Agriculture Grazing related Sources Silviculture Logging Road Construction/Maintenance
23	MT76F004_010	FRAZIER CREEK, Headwaters to mouth (Blackfoot R) T14N R12W Sec 28	4C	4.4 M	B-1	X	X		X	P	X	X	Other habitat alterations	Agriculture Grazing related Sources
24	MT76F004_060	WARD CREEK from the headwaters to Browns Lake	5	9.8 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations	Agriculture Silviculture Highway Maintenance and Runoff Unpaved Road Runoff
25	MT76F004_070	WARREN CREEK from headwaters to the mouth (Blackfoot R)	4C	11 M	B-1	P	P		F	P	F	F	Flow alteration Other habitat alterations	Grazing related Sources Channelization Agriculture Crop-related Sources Hydromodification
26	MT76F004_080	YOURNAME CREEK from headwaters to the mouth (Blackfoot R)	4C	9.5 M	B-1	X	X		X	P	X	X	Flow alteration	Agriculture

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Hydrologic Unit Code 17010203 Watershed BLACKFOOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
27	MT76F004_090	ROCK CREEK from headwaters to the mouth (North Fork Blackfoot R)	4C	9 M	B-1	P	P		X	F	F	F	Flow alteration Other habitat alterations	Agriculture Flow Regulation/Modification Grazing related Sources Hydromodification
28	MT76F004_100	MONTURE CREEK from headwaters to the mouth (Blackfoot R)	4C	29.4 M	B-1	P	P		F	F	F	F	Other habitat alterations	Agriculture Grazing related Sources
29	MT76F004_110	KLEINSCHMIDT CREEK from mouth 1.5 miles upstream	5	1.5 M	B-1	N	N		F	F	F	F	Copper Thermal modifications Other habitat alterations Riparian degradation Fish habitat degradation Metals	Dam Construction Agriculture Grazing related Sources Hydromodification Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
30	MT76F005_060	BLANCHARD CREEK from the North Fork to the mouth (Clearwater R)	5	2.3 M	B-1	P	P		F	N	F	F	Siltation Other habitat alterations Flow alteration	Agriculture Grazing related Sources Hydromodification Flow Regulation/Modification Highway Maintenance and Runoff

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Hydrologic Unit Code 17010203 Watershed BLACKFOOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
31	MT76F006_010	UNION CREEK from headwaters to mouth (Blackfoot R)	5	19.4 M	B-1	N	N		F	P	F	F	Arsenic Copper Phosphorus Thermal modifications Other habitat alterations Suspended solids Metals Nutrients	Abandoned mining Flow Regulation/Modification Agriculture Grazing related Sources Intensive Animal Feeding Operations Resource Extraction Hydromodification
32	MT76F006_031	ELK CREEK from headwaters to Stinkwater Cr.	5	8.4 M	B-1	P	P		F	F	F	F	Cadmium Nitrate Siltation Other habitat alterations Metals Nutrients	Logging Road Construction/Maintenance Placer Mining Silviculture Resource Extraction
33	MT76F006_032	ELK CREEK from Stinkwater Cr. to the mouth (Blackfoot R)	5	5.6 M	B-1	P	P		X	F	F	F	Siltation Thermal modifications Other habitat alterations	Agriculture Grazing related Sources
34	MT76F006_070	BELMONT CREEK from headwaters to mouth (Blackfoot R)	5	10.5 M	B-1	P	P		F	F	F	F	Siltation	Logging Road Construction/Maintenance Agriculture Grazing related Sources Silviculture

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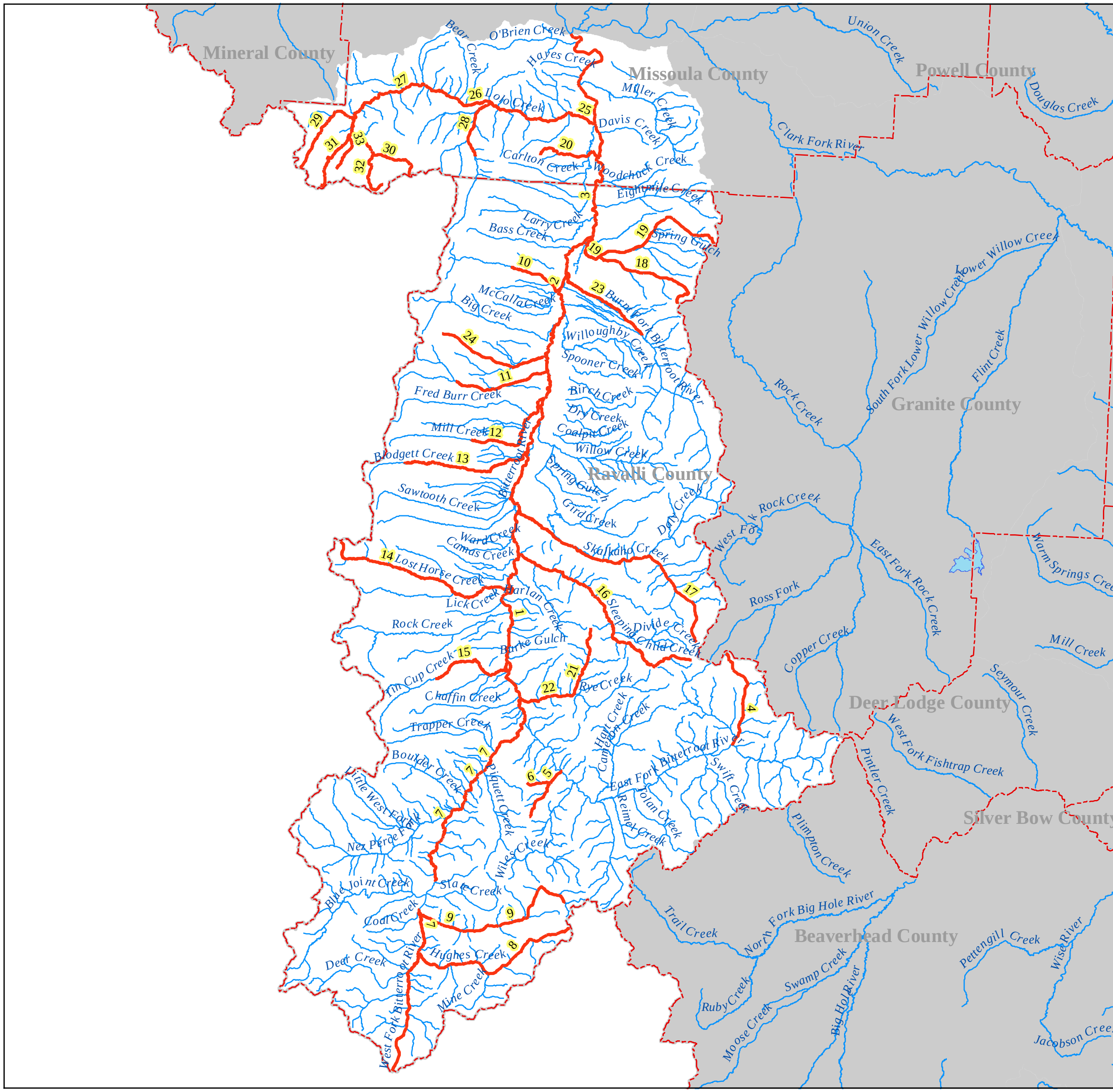
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)


Mineral County
Missoula County
Powell County
Granite County
Ravalli County
Deer Lodge County
Silver Bow County
Beaverhead County
O'Brien Creek
Hayes Creek
Bear Creek
Lolo Creek
Miller Creek
Davis Creek
Carlton Creek
Woodchuck Creek
Eightmile Creek
Larry Creek
Bass Creek
Spring Gulch
McCalla Creek
Big Creek
Burnt Fork Bitterroot River
Willoughby Creek
Spooner Creek
Fred Burr Creek
Birch Creek
Dry Creek
Coalpit Creek
Mill Creek
Willow Creek
Blodgett Creek
Bitterroot River
Spring Gulch
Sawtooth Creek
Girl Creek
Daly Creek
Ward Creek
Camas Creek
Skalkaho Creek
Lost Horse Creek
Lick Creek
Harlan Creek
Sleeping Child Creek
Rock Creek
Burke Gulch
Divide Creek
Tin Cup Creek
Rye Creek
Chaffin Creek
Trapper Creek
Boulder Creek
Little West Fork
Piquett Creek
East Fork Bitterroot River
Swift Creek
Reimel Creek
Tolan Creek
Nez Perce Fork
Wiles Creek
Blue Joint Creek
Slate Creek
Coal Creek
Hughes Creek
Deer Creek
Mine Creek
West Fork Bitterroot River
Union Creek
Douglas Creek
Clark Fork River
Lower Willow Creek
South Fork Lower Willow Creek
Flint Creek
Rock Creek
West Fork Rock Creek
Ross Fork
East Fork Rock Creek
Copper Creek
Warm Springs Creek
Mill Creek
Seymour Creek
West Fork Fishtrap Creek
Pintler Creek
Plimpton Creek
North Fork Big Hole River
Trail Creek
Ruby Creek
Swamp Creek
Moose Creek
Big Hole River
Pettengill Creek
Wise River
Jacobson Creek

Watershed

BITTERROOT

USGS HUC: 17010205

Waters Assessed as not fully supporting one or more beneficial uses.

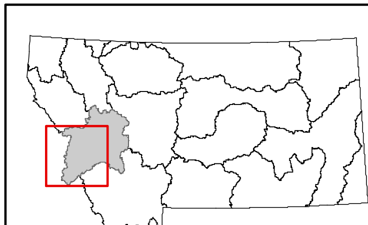
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Upper Clark Fork

Hydrologic Unit Code 17010205 Watershed BITTERROOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76H001_010	BITTERROOT RIVER from the east and west forks to Skalkaho Cr	5	24.3 M	B-1	P	P		F	F	F	F	Other habitat alterations Metals Copper	Bank or Shoreline Modification/Destabilization Agriculture Grazing related Sources Habitat Modification (other than Hydromodification) Source Unknown
2	MT76H001_020	BITTERROOT RIVER from Skalkaho Cr to Eightmile Cr	5	36.5 M	B-1	P	P		X	P	F	F	Siltation Thermal modifications Flow alteration Nutrients	Agriculture Urban Runoff/Storm Sewers Habitat Modification (other than Hydromodification) Crop-related Sources
3	MT76H001_030	BITTERROOT RIVER from Eightmile Cr to the mouth (Clark Fork R)	5	23.4 M	B-1	P	P		F	F	F	F	Nitrate Siltation Other habitat alterations Nutrients Metals Copper Lead	Urban Runoff/Storm Sewers Bank or Shoreline Modification/Destabilization Agriculture Grazing related Sources Land Disposal Habitat Modification (other than Hydromodification) Sediment resuspension
4	MT76H002_040	MOOSE CREEK from headwaters to the mouth (East Fork Bitterroot R)	5	10.1 M	B-1	P	P		X	X	F	F	Nutrients Siltation	Source Unknown
5	MT76H002_070	LAIRD CREEK tributary to East Fork Bitterroot T1N, R20	5	5.7 M	B-1	P	P		X	X	X	X	Siltation Other habitat alterations	Silviculture Logging Road Construction/Maintenance

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010205 Watershed BITTERROOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT76H002_080	GILBERT CREEK a tributary to Laird Cr, East Fork Bitterroot R T1N, R20W	5	2.3 M	B-1	P	P		X	X	X	X	Siltation Other habitat alterations	Silviculture Logging Road Construction/Maintenance
7	MT76H003_010	WEST FORK BITTERROOT RIVER from headwaters to the mouth (Bitterroot R)	5	39.4 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Bridge Construction Bank or Shoreline Modification/Destabilization Hydromodification Habitat Modification (other than Hydromodification)
8	MT76H003_040	HUGHES CREEK from headwaters to the mouth (West Fork Bitterroot R)	4C	17.6 M	B-1	N	N		X	F	F	F	Other habitat alterations	Placer Mining Abandoned mining Channelization Resource Extraction Hydromodification
9	MT76H003_050	OVERWHICH CREEK from headwaters to the mouth (West Fk Bitterroot R)	5	19.1 M	B-1	X	X		N	X	F	F	Lead Metals	Abandoned mining Resource Extraction
10	MT76H004_020	KOOTENAI CREEK, Selway-Bitterroot Wilderness boundary to mouth (Bitterroot R)	4C	5.8 M	B-1	P	P		X	P	F	F	Flow alteration Other habitat alterations	Agriculture
11	MT76H004_030	BEAR CREEK, Selway-Bitterroot Wilderness boundary to the mouth (Bitterroot R)	4C	8.7 M	B-1	X	X		X	P	F	F	Flow alteration	Agriculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010205 Watershed BITTERROOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
12	MT76H004_040	MILL CREEK, Selway-Bitterroot Wilderness boundary to the mouth (Bitterroot R)	5	8 M	B-1	X	P		X	P	X	X	Thermal modifications Flow alteration Other habitat alterations	Agriculture Grazing related Sources Construction Highway/Road/Bridge Construction Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
13	MT76H004_050	BLODGETT CREEK, Selway-Bitterroot Wilderness boundary to the mouth (Bitterroot R)	4C	12.6 M	B-1	P	P		X	P	F	F	Flow alteration	Agriculture
14	MT76H004_070	LOST HORSE CREEK from headwaters to the mouth (Bitterroot R)	4C	20.1 M	B-1	F	F		X	P	F	F	Flow alteration	Agriculture
15	MT76H004_080	TIN CUP CREEK, Selway-Bitterroot Wilderness boundary to the mouth (Bitteroot R)	4C	7 M	B-1	X	X		X	P	X	X	Flow alteration	Agriculture
16	MT76H004_090	SLEEPING CHILD CREEK from headwaters to the mouth (Bitterroot R)	5	23.9 M	B-1	P	P		X	P	F	F	Nutrients Siltation Thermal modifications	Agriculture Silviculture
17	MT76H004_100	SKALKAHO CREEK from headwaters to the mouth (Bitterroot R)	5	25.1 M	B-1	F	F		N	P	F	F	Mercury Flow alteration Metals	Agriculture Crop-related Sources

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Hydrologic Unit Code 17010205 Watershed BITTERROOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
18	MT76H004_120	AMBROSE CREEK from headwaters to the mouth (Threemile Cr)	5	11.4 M	B-1	N	N		X	P	F	F	Phosphorus Nitrogen Other habitat alterations Nutrients	Agriculture Grazing related Sources
19	MT76H004_140	THREEMILE CREEK from headwaters to mouth (Bitterroot R)	5	17.3 M	B-1	N	N		X	X	F	F	Nutrients Siltation Flow alteration	Agriculture Crop-related Sources Grazing related Sources
20	MT76H004_150	McCLAIN CREEK from headwaters to mouth (Bitterroot R)	5	5.3 M	B-1	P	P		X	X	F	F	Siltation	Silviculture Logging Road Construction/Maintenance
21	MT76H004_160	NORTH FORK RYE CREEK, Headwaters to mouth (Rye Cr - Bitterroot R., So. of Darby)	5	7 M	B-1	P	P		X	F	F	F	Phosphorus Nitrogen Other habitat alterations Nutrients	Grazing related Sources Logging Road Construction/Maintenance Bank or Shoreline Modification/Destabilization Agriculture Silviculture Habitat Modification (other than Hydromodification)
22	MT76H004_190	RYE CREEK, No Fork to mouth (Bitterroot R)	5	5.6 M	B-1	P	P		X	X	F	F	Siltation Other habitat alterations Nutrients Phosphorus Nitrogen	Agriculture Grazing related Sources Intensive Animal Feeding Operations Silviculture Logging Road Construction/Maintenance

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010205 Watershed BITTERROOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
23	MT76H004_200	N BURNT FORK CR, from Burnt Fk Bitterroot R to Bitterroot R	5	10.4 M	B-1	P	P		X	X	X	X	Nutrients Siltation Phosphorus Nitrogen	Agriculture Grazing related Sources
24	MT76H004_210	SWEATHOUSE CR, headwaters to mouth (Bitterroot R)	5	11.3 M	B-1	P	P		X	N	X	X	Flow alteration Dewatering Other habitat alterations Nutrients Phosphorus	Construction Land Development Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation
25	MT76H005_011	LOLO CREEK from Mormon Cr. to the mouth (Bitterroot R)	5	2.8 M	B-1	P	P		X	P	F	F	Flow alteration Siltation Other habitat alterations	Agriculture Construction Land Development Habitat Modification (other than Hydromodification)
26	MT76H005_012	LOLO CREEK from Sheldon Cr to Mormon Cr.	5	14.3 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Agriculture Silviculture Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010205 Watershed BITTERROOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
27	MT76H005_013	LOLO CREEK from headwaters to Sheldon Cr.	5	13 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Silviculture Construction Highway/Road/Bridge Construction Habitat Modification (other than Hydromodification)
28	MT76H005_020	SOUTH FORK LOLO CREEK, Selway-Bitterroot Wilderness boundary to mouth (Lolo Cr)	4C	6.2 M	B-1	P	P		F	P	F	F	Flow alteration Other habitat alterations	Silviculture Logging Road Construction/Maintenance Hydromodification Flow Regulation/Modification
29	MT76H005_030	GRANITE CREEK from headwaters to the mouth (Lolo Cr)	4A	8.5 M	B-1	P	P		X	X	F	F	Siltation Other habitat alterations	Silviculture Logging Road Construction/Maintenance
30	MT76H005_040	EAST FORK LOLO CREEK from headwaters to the mouth (Lolo Cr)	4A	7.4 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Silviculture Logging Road Construction/Maintenance Highway Maintenance and Runoff
31	MT76H005_050	WEST FORK LOLO CREEK from headwaters to the mouth (Lolo Cr)	4A	6.8 M	B-1	N	N		X	X	X	X	Siltation Other habitat alterations	Silviculture Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Highway Maintenance and Runoff

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Hydrologic Unit Code 17010205 Watershed BITTERROOT

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
32	MT76H005_060	LOST PARK CREEK Tributary to East Fork (Lolo Cr)	4A	5 M	B-1	P	P		X	X	F	F	Siltation Other habitat alterations	Silviculture Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Highway Maintenance and Runoff
33	MT76H005_070	LEE CREEK headwaters to mouth (W F Lolo Cr)	4A	3.8 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations	Silviculture Logging Road Construction/Maintenance Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization

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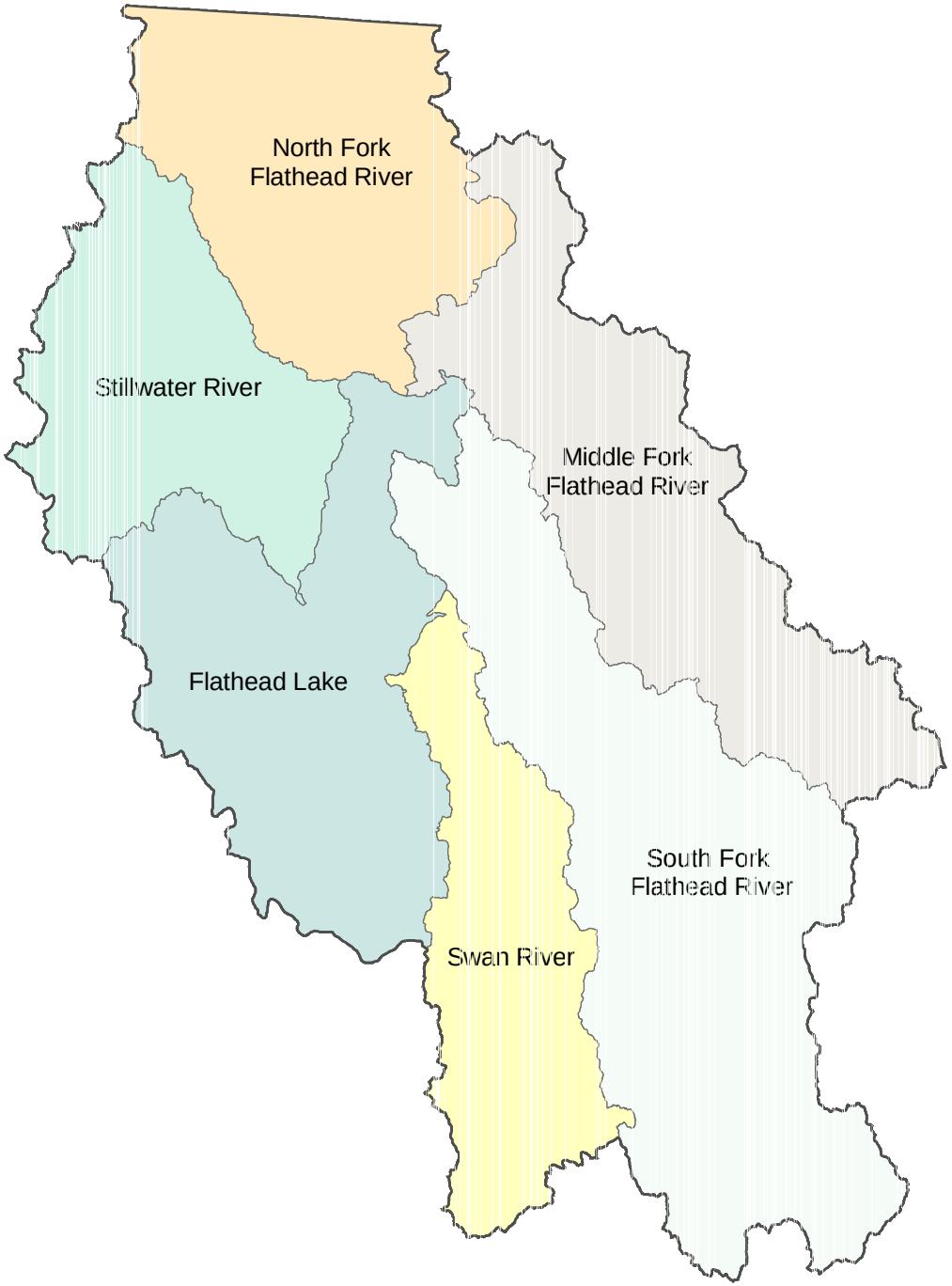
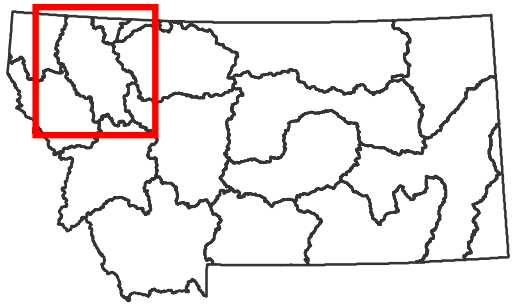
Flathead Sub-Major Basin

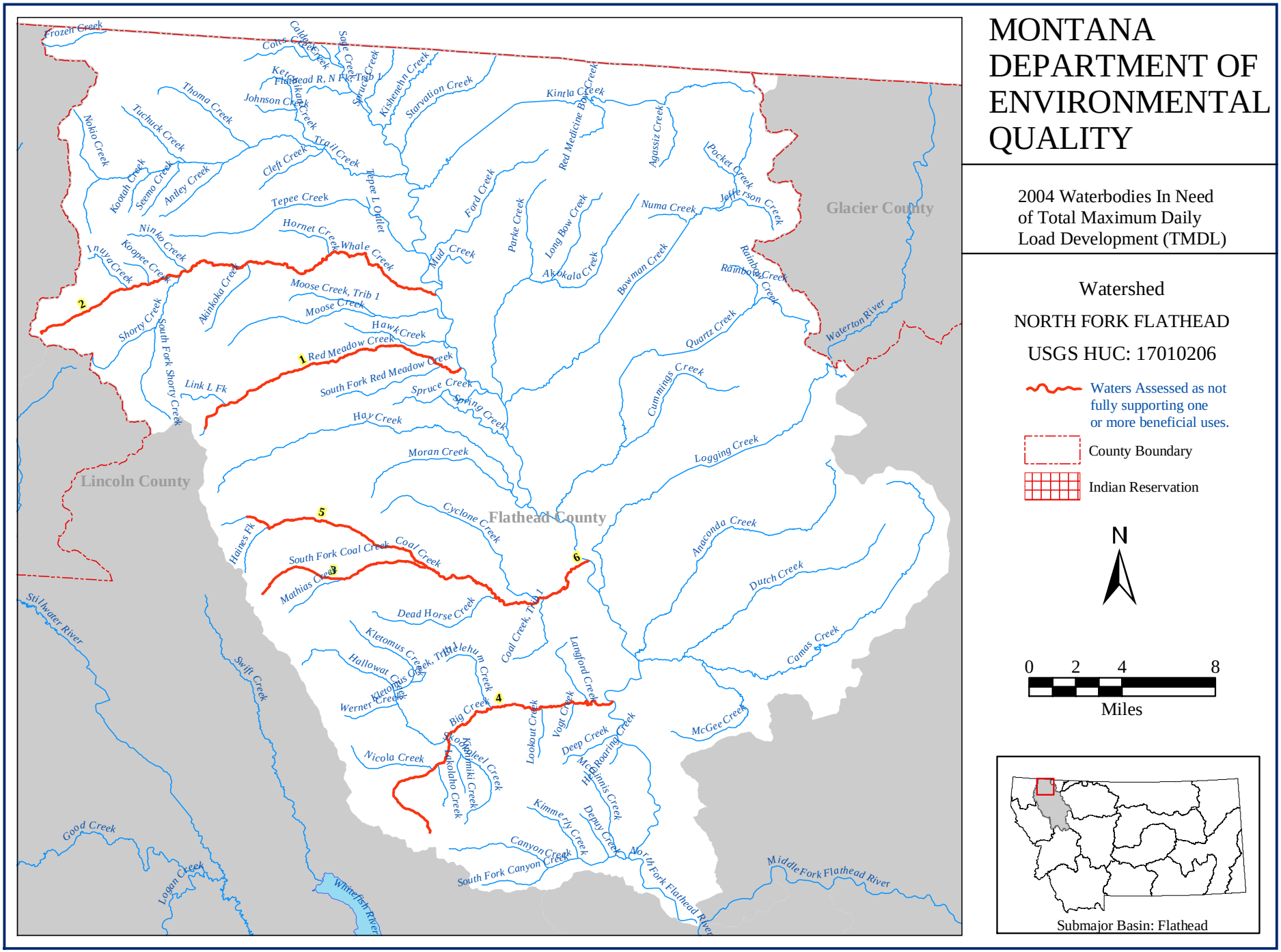
Columbia River Basin



USGS HUC	HUC NAME
17010206	North Fork Flathead River
17010207	Middle Fork Flathead River
17010208	Flathead Lake
17010209	South Fork Flathead River
17010210	Stillwater River (Flathead R)
17010211	Swan River



Montana Department of Environmental Quality
May 2004



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

NORTH FORK FLATHEAD

USGS HUC: 17010206

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

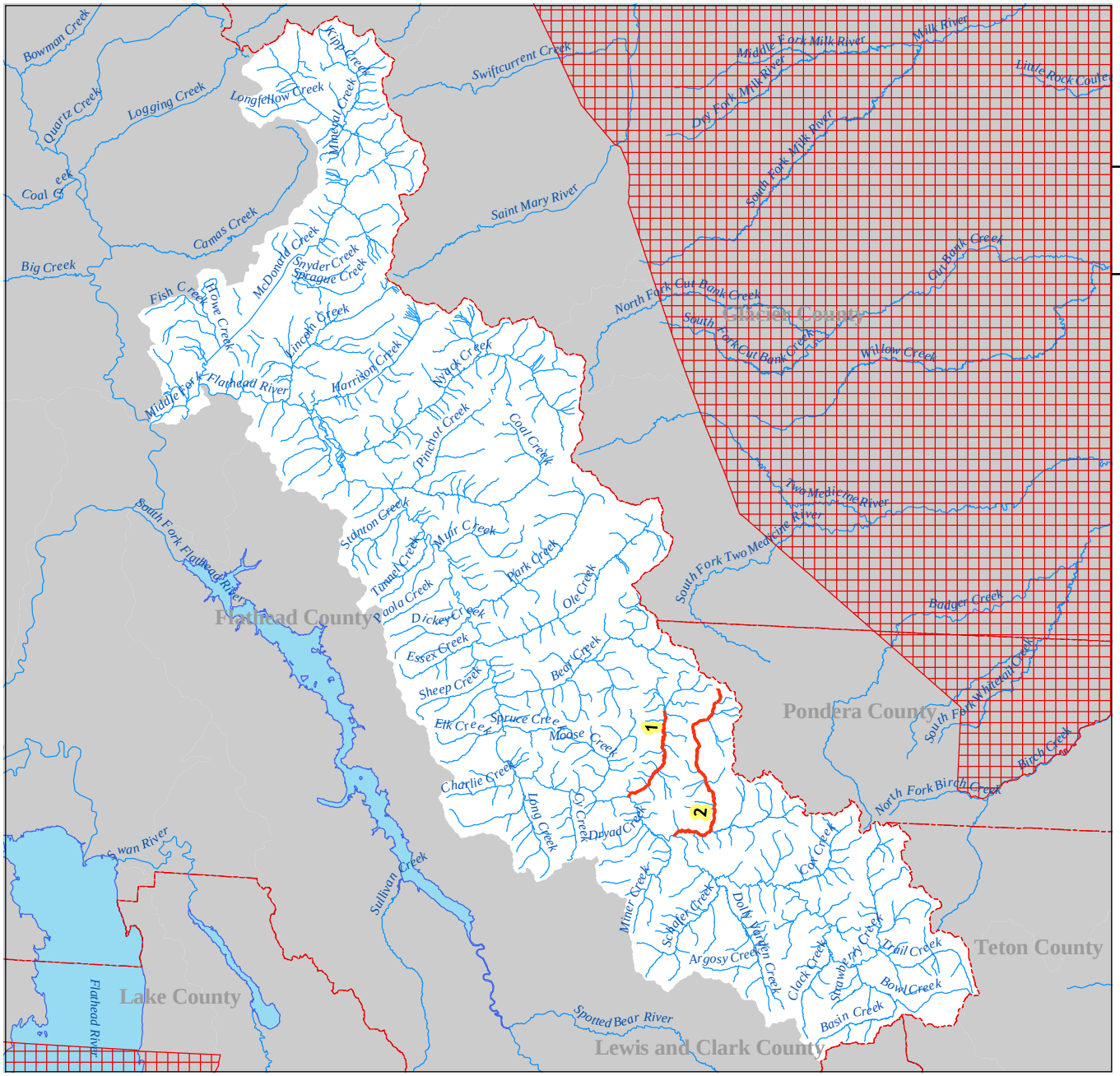
Indian Reservation

Submajor Basin: Flathead

Hydrologic Unit Code 17010206 Watershed NORTH FORK FLATHEAD

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76Q002_020	RED MEADOW CREEK from headwaters to mouth (North Fork Flathead R)	5	13.9 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Silviculture
2	MT76Q002_030	WHALE CREEK from headwaters to mouth (North Fork Flathead R)	5	21.3 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Silviculture
3	MT76Q002_040	SOUTH FORK COAL CREEK from headwaters to mouth (CoaL Cr)	5	8.1 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations Riparian degradation	Silviculture
4	MT76Q002_050	BIG CREEK Tributary to the North Fork of the Flathead R	4A	15.7 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations Bank erosion Fish habitat degradation	Silviculture Logging Road Construction/Maintenance Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization
5	MT76Q002_070	COAL CREEK from headwaters to South Fork	5	9 M	B-1	P	P		X	X	X	X	Siltation	Silviculture
6	MT76Q002_080	COAL CREEK from South Fork to mouth (North Fork Flathead)	5	10 M	B-1	P	P		X	F	F	F	Siltation	Silviculture Logging Road Construction/Maintenance

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

MIDDLE FORK FLATHEAD

USGS HUC: 17010207

Waters Assessed as not fully supporting one or more beneficial uses.

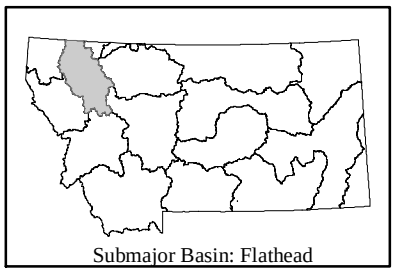
County Boundary

Indian Reservation

N

0 4 8 16

Miles



Submajor Basin: Flathead

Hydrologic Unit Code 17010207 Watershed MIDDLE FORK FLATHEAD

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76I002_010	GRANITE CREEK, Confluence of Dodge Cr & Challenge Cr to mouth (Middle Fk Flathead)	5	8.2 M	A_1 in Wilderness, B-1 outside Wilderness	P	P		X	X	X	X	Siltation Other habitat alterations Bank erosion Fish habitat degradation	Silviculture Habitat Modification (other than Hydromodification) Bank or Shoreline Modification/Destabilization Construction Highway/Road/Bridge Construction
2	MT76I002_050	MORRISON CREEK from headwaters to mouth (Middle Fk Flathead R)	5	14.8 M	A_1 in Wilderness, B-1 outside Wilderness	P	P		X	F	F	F	Siltation Other habitat alterations	Silviculture

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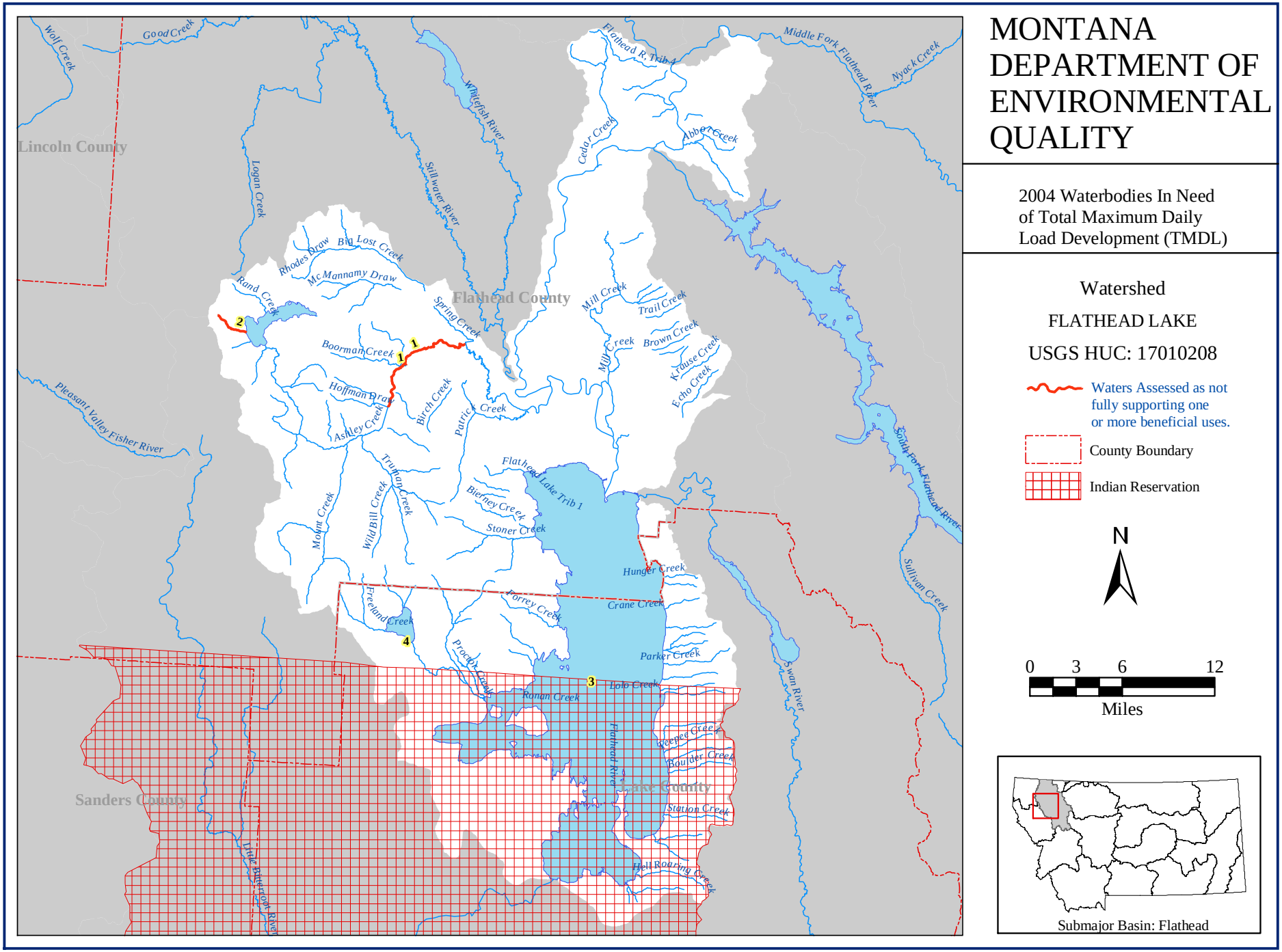


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

FLATHEAD LAKE

USGS HUC: 17010208

Waters Assessed as not fully supporting one or more beneficial uses.

County Boundary

Indian Reservation

N

0 3 6 12

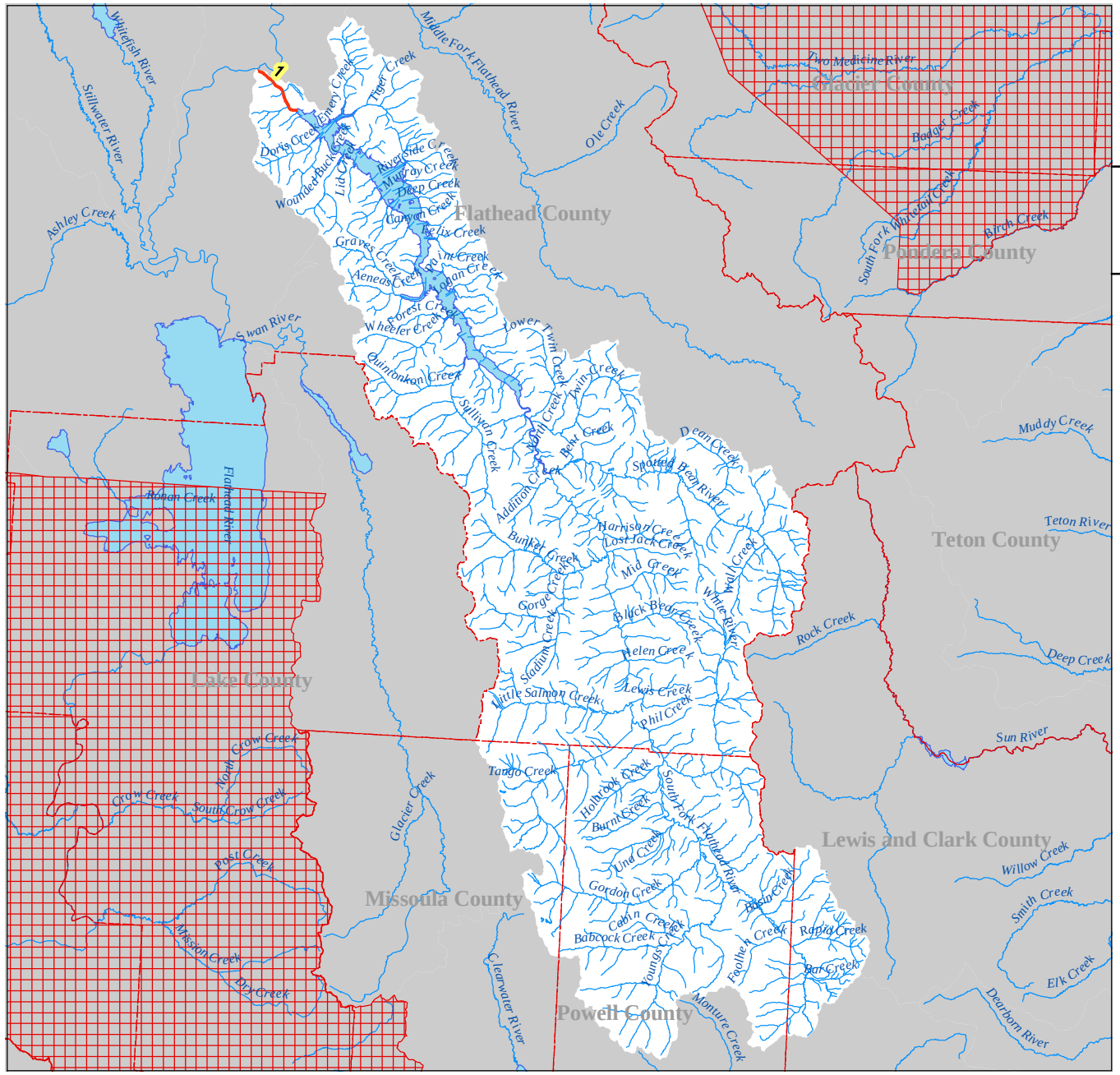
Miles

Submajor Basin: Flathead

Hydrologic Unit Code 17010208 Watershed FLATHEAD LAKE

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76O002_020	ASHLEY CREEK, Smith Lake to Bridge Crossing on the Kalispell Airport Road	4C	13.4 M	B-2	X	X		X	P	F	F	Dewatering Flow alteration	Agriculture
2	MT76O002_050	FISH CREEK from headwaters to mouth (Ashley Lake)	5	2.4 M	B-1	P	P		X	X	F	F	Nutrients Siltation Suspended solids	Silviculture Source Unknown
3	MT76O003_010	FLATHEAD LAKE	5	6006.9 A	A-1	P	F		F	F	F	F	Nutrients Siltation Organic enrichment/Low DO Algal Grwth/Chlorophyll a PCB's Metals Mercury	Municipal Point Sources Silviculture Urban Runoff/Storm Sewers Upstream Impoundment Flow Regulation/Modification Atmospheric Deposition Hydromodification Source Unknown
4	MT76O004_020	LAKE MARY RONAN	5	1520 A	A-1	T	T		X	F	F	F	Algal Grwth/Chlorophyll a	Agriculture Grazing related Sources Silviculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

SOUTH FORK FLATHEAD

USGS HUC: 17010209

Waters Assessed as not fully supporting one or more beneficial uses.

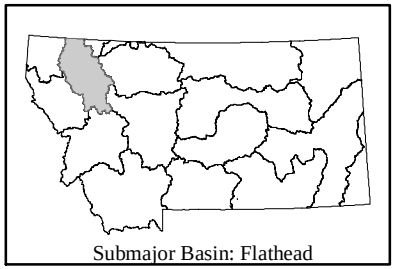
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Flathead

Hydrologic Unit Code 17010209 Watershed SOUTH FORK FLATHEAD

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76J001_010	SOUTH FORK FLATHEAD RIVER from Hungry Horse Dam to mouth	4C	5.1 M	B-1	X	X		X	P	F	F	Flow alteration	Hydromodification

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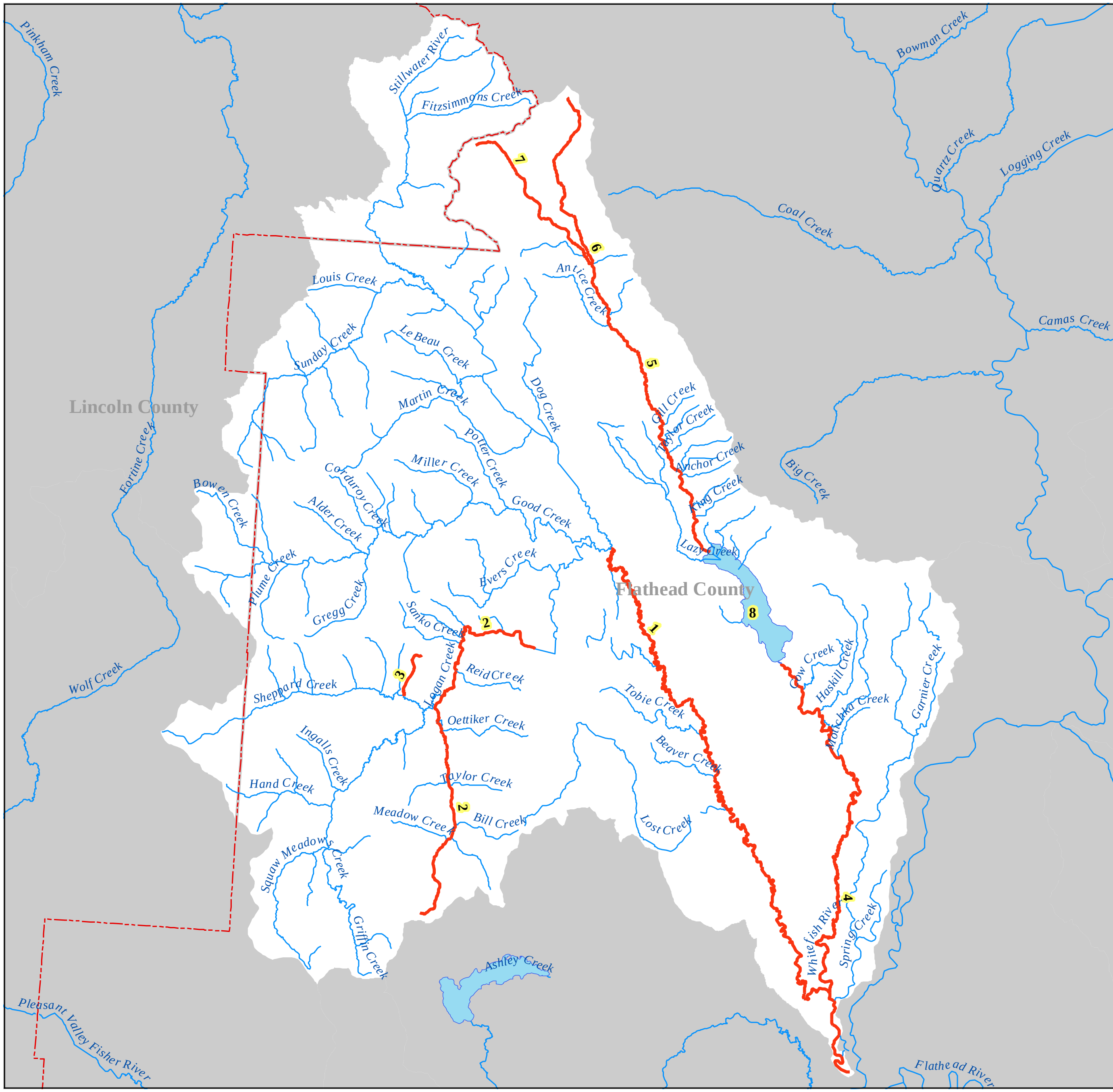
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY



Lincoln County
Flathead County
Stillwater River
Fitzsimmons Creek
Bowman Creek
Quartz Creek
Logging Creek
Coal Creek
Camas Creek
Big Creek
Pinkham Creek
Fortine Creek
Wolf Creek
Louis Creek
Sunday Creek
Le Beau Creek
Martin Creek
Antice Creek
Dog Creek
Potter Creek
Miller Creek
Corduroy Creek
Alder Creek
Bowen Creek
Plume Creek
Gregg Creek
Good Creek
Evers Creek
Gill Creek
Taylor Creek
Anchor Creek
King Creek
Lazy Creek
Sanko Creek
Logan Creek
Reid Creek
Sheppard Creek
Oettiker Creek
Ingalls Creek
Hand Creek
Taylor Creek
Meadow Creek
Bill Creek
Squaw Meadows Creek
Griffin Creek
Tobie Creek
Beaver Creek
Lost Creek
Crow Creek
Haskill Creek
Garnier Creek
Whitefish River
Spring Creek
Ashley Creek
Pleasant Valley Fisher River
Flathead River
1
2
3
4
5
6
7
8

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

STILLWATER

USGS HUC: 17010210

Waters Assessed as not fully supporting one or more beneficial uses.

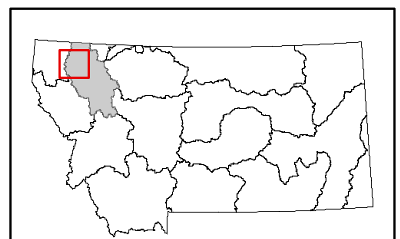
County Boundary

Indian Reservation

N

0 2.5 5 10

Miles



Submajor Basin: Flathead

Hydrologic Unit Code 17010210 Watershed STILLWATER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76P001_010	STILLWATER RIVER from Logan Cr to mouth	5	44.1 M	B-2	P	P		N	F	F	F	Phosphorus Nitrate Siltation Other habitat alterations Nutrients	Land Development Removal of Riparian Vegetation Construction Urban Runoff/Storm Sewers Habitat Modification (other than Hydromodification)
2	MT76P001_030	LOGAN CREEK above Tally Lake	5	19.2 M	B-1	P	P		X	F	F	F	Siltation Flow alteration Other habitat alterations	Silviculture Logging Road Construction/Maintenance
3	MT76P001_040	SINCLAIR CREEK from headwaters to mouth (Sheppard Cr)	4C	2.3 M	B-1	X	X		X	P	X	X	Flow alteration	Grazing related Sources Bank or Shoreline Modification/Destabilization Agriculture Habitat Modification (other than Hydromodification)
4	MT76P003_010	WHITEFISH RIVER Whitefish Lake to the mouth, confluence with the Stillwater R	5	23.7 M	B-2	P	P		F	X	F	F	Priority organics PCB's Metals Nitrogen Thermal modifications Oil and grease Nutrients	Industrial Point Sources Silviculture Land Development Urban Runoff/Storm Sewers Construction

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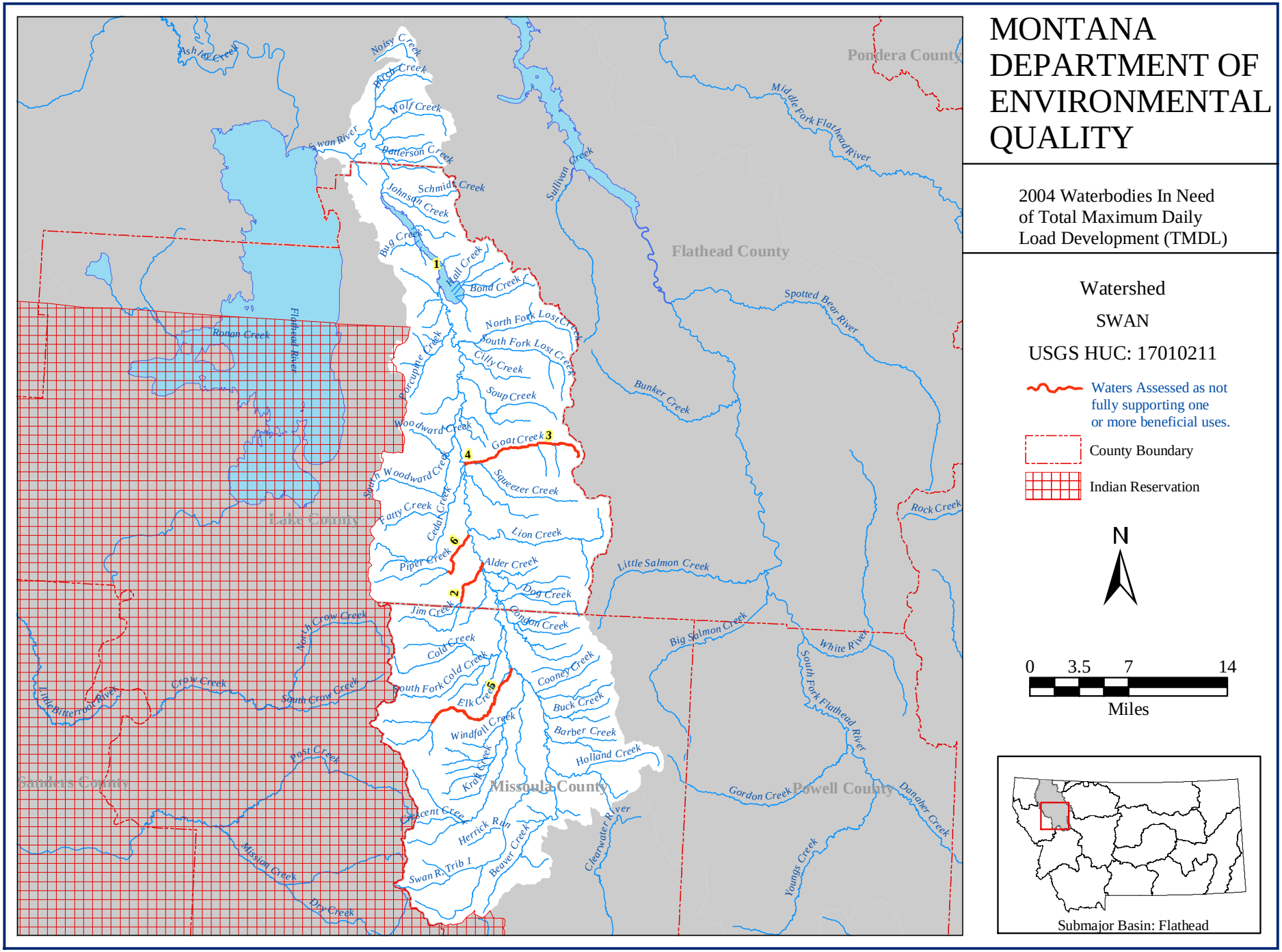
Hydrologic Unit Code 17010210 Watershed STILLWATER

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
5	MT76P003_020	SWIFT CREEK from headwaters (East and West Forks) to mouth (Whitefish Lake)	5	16.5 M	A-1	P	P		X	F	F	F	Nutrients Other habitat alterations Bank erosion Suspended solids	Silviculture
6	MT76P003_030	EAST FORK SWIFT CREEK from headwaters to mouth (Swift Cr)	4C	8.9 M	A-1	P	P		X	P	F	F	Flow alteration Other habitat alterations	Silviculture Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)
7	MT76P003_040	WEST FORK SWIFT CREEK from headwaters to mouth (Swift Cr)	5	8.5 M	A-1	N	N		X	P	F	F	Siltation Flow alteration Other habitat alterations	Silviculture Highway Maintenance and Runoff
8	MT76P004_010	WHITEFISH LAKE	5	3349.9 A	A-1	T	T		X	P	F	F	Siltation PCB's Metals Mercury	Silviculture Logging Road Construction/Maintenance Source Unknown

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
SWAN
USGS HUC: 17010211
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 3.5 7 14
Miles
Submajor Basin: Flathead
Flathead County
Lake County
Sanders County
Missoula County
Powell County
Pondera County
Swan River
Noisy Creek
Birch Creek
Wolf Creek
Patterson Creek
Schmidt Creek
Johnson Creek
Bug Creek
Hall Creek
Bond Creek
Ashley Creek
Sullivan Creek
Middle Fork Flathead River
Spotted Bear River
Bunker Creek
Rock Creek
Little Salmon Creek
Big Salmon Creek
White River
South Fork Flathead River
Gordon Creek
Danaher Creek
Youngs Creek
Clearwater River
Holland Creek
Barber Creek
Buck Creek
Cooney Creek
Condon Creek
Dog Creek
Alder Creek
Lion Creek
Squeezer Creek
Goat Creek
North Fork Lost Creek
South Fork Lost Creek
Cilly Creek
Soup Creek
Woodward Creek
South Woodward Creek
Porcupine Creek
Cedar Creek
Fatty Creek
Piper Creek
Jim Creek
Cold Creek
South Fork Cold Creek
Elk Creek
Windfall Creek
Kraft Creek
Herrick Run
Beaver Creek
Swan R. Trib 1
Crescent Creek
Post Creek
Mission Creek
Dry Creek
North Crow Creek
Crow Creek
South Crow Creek
Little Bitterroot River
Ronan Creek
Flathead River
1
2
3
4
5
6

Hydrologic Unit Code 17010211 Watershed SWAN

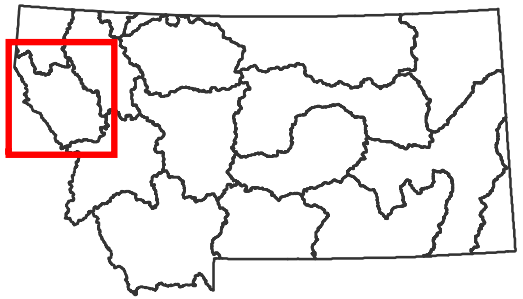
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76K002_010	SWAN LAKE	5	2680 A	A-1	T	T		F	F	F	F	Siltation	Silviculture Logging Road Construction/Maintenance Highway/Road/Bridge Construction Construction
2	MT76K003_010	JIM CREEK from West Fk to mouth (Swan R)	5	3.8 M	B-1	P	P		X	F	F	F	Siltation	Silviculture
3	MT76K003_031	GOAT CREEK from headwaters to Squeezer Cr.	5	9 M	B-1	P	P		X	F	F	F	Nutrients Suspended solids	Silviculture Construction Highway/Road/Bridge Construction
4	MT76K003_032	GOAT CREEK from Squeezer Cr. to mouth (Swan R)	5	0.8 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Debris and bottom deposits
5	MT76K003_040	ELK CREEK from road crossing in T20N R17W Sec 16 to mouth (Swan R)	4C	4 M	B-1	P	P		X	F	F	F	Other habitat alterations	Grazing related Sources Silviculture Bank or Shoreline Modification/Destabilization Agriculture Habitat Modification (other than Hydromodification)
6	MT76K003_062	PIPER CREEK from Moore Cr. to mouth (Swan R)	5	3.7 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations	Silviculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Lower Clark Fork Sub-Major Basin

Columbia River Basin

USGS HUC	HUC NAME
17010204	Middle Clark Fork
17010212	Lower Flathead River
17010213	Lower Clark Fork



Montana Department of Environmental Quality
May 2004

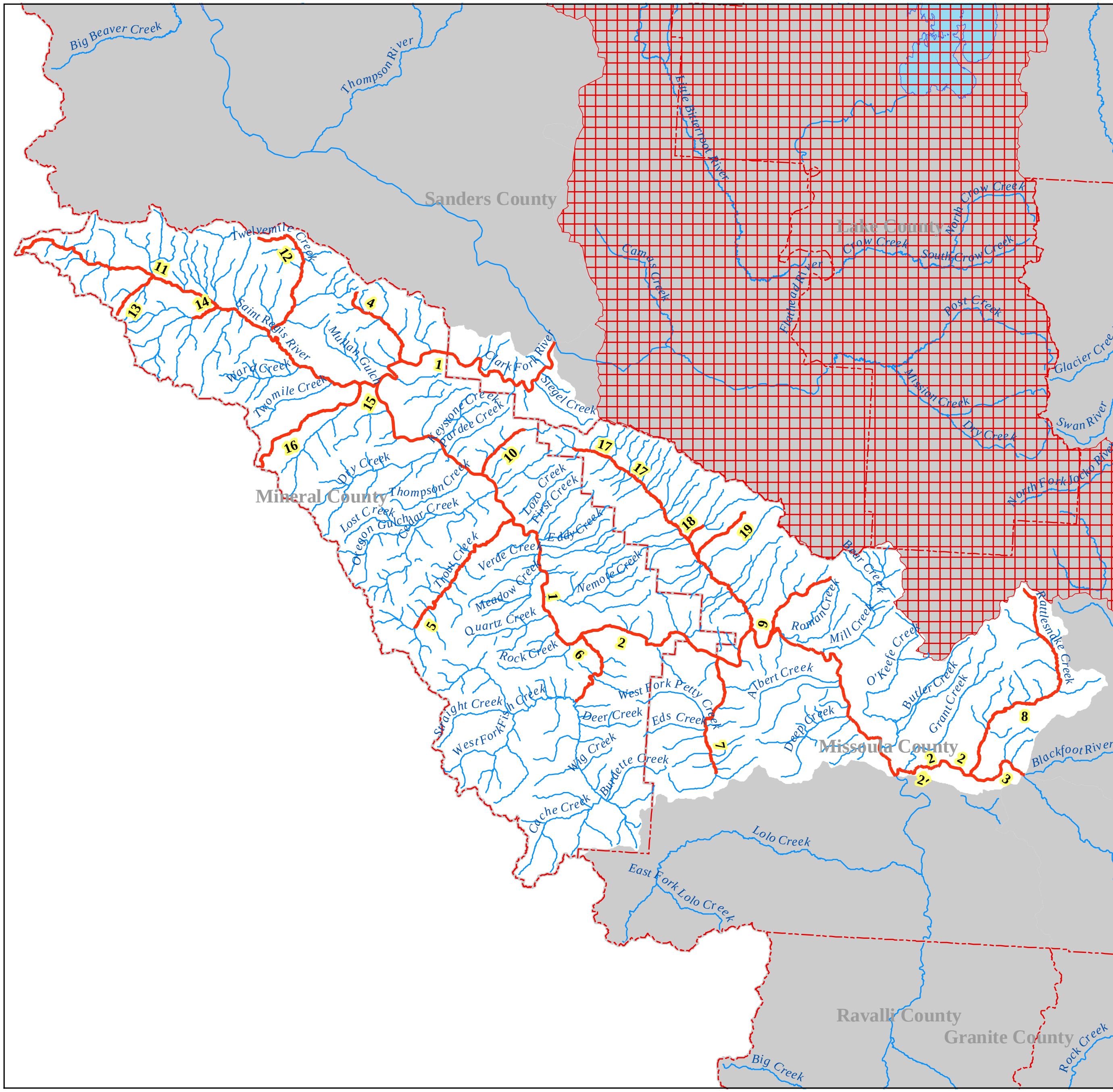
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)

Watershed

MIDDLE CLARK FORK

USGS HUC: 17010204



Sanders County
Lake County
Mineral County
Missoula County
Ravalli County
Granite County
Big Beaver Creek
Thompson River
Little Bitterroot River
Camas Creek
Flathead River
Crow Creek
North Crow Creek
South Crow Creek
Post Creek
Mission Creek
Dry Creek
Glacier Creek
Swan River
North Fork Jocko River
Twelvemile Creek
Saint Regis River
Mullan Gulch
Ward Creek
Twomile Creek
Clark Fork River
Siegel Creek
Keystone Creek
Pardee Creek
Dry Creek
Thompson Creek
Lost Creek
Oregon Gulch
Cedar Creek
Lolo Creek
First Creek
Eddy Creek
Trout Creek
Verde Creek
Meadow Creek
Quartz Creek
Nemote Creek
Rock Creek
Straight Creek
West Fork Fish Creek
Fish Creek
Deer Creek
Wig Creek
Burdette Creek
Cache Creek
West Fork Petty Creek
Petty Creek
Eds Creek
Albert Creek
Deep Creek
Bear Creek
Roman Creek
Mill Creek
O'Keefe Creek
Butler Creek
Grant Creek
Rattlesnake Creek
Blackfoot River
Lolo Creek
East Fork Lolo Creek
Big Creek
Rock Creek

Waters Assessed as not fully supporting one or more beneficial uses.

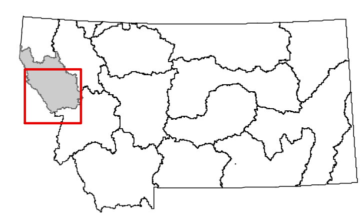
County Boundary

Indian Reservation

N

0 5 10 20

Miles



Submajor Basin: Lower Clark Fork

Hydrologic Unit Code 17010204 Watershed MIDDLE CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76M001_010	CLARK FORK RIVER from the Flathead R to Fish Cr	5	60 M	B-1	P	P		N	X	F	F	Copper Metals Nutrients Lead	Mill Tailings Resource Extraction Municipal Point Sources
2	MT76M001_020	CLARK FORK RIVER from Fish Cr to Rattlesnake Cr	5	52.6 M	B-1	P	P		N	P	F	F	Metals Organic enrichment/Low DO Nutrients Phosphorus Algal Grwth/Chlorophyll a	Mill Tailings Municipal Point Sources Resource Extraction Industrial Point Sources
3	MT76M001_030	CLARK FORK RIVER from Rattlesnake Cr to the Blackfoot R	5	6.3 M	B-1	N	N		F	X	F	F	Metals Nutrients	Mill Tailings Upstream Impoundment Industrial Point Sources Resource Extraction Hydromodification
4	MT76M002_010	TAMARACK CREEK, Headwaters to the mouth (Clark Fork R)	4C	8.7 M	B-1	X	P		X	X	X	X	Other habitat alterations Fish habitat degradation	Hydromodification
5	MT76M002_050	TROUT CREEK from headwaters to the mouth (Clark Fork R)	5	14.7 M	B-1	P	P		X	X	F	F	Other habitat alterations Fish habitat degradation Turbidity	Silviculture Land Disposal Wastewater

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010204 Watershed MIDDLE CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT76M002_060	FISH CREEK from West and South Forks to the mouth (Clark Fork R)	4C	9.1 M	B-1	F	P		X	F	F	F	Other habitat alterations Fish habitat degradation	Construction Highway/Road/Bridge Construction
7	MT76M002_090	PETTY CREEK from headwaters to the mouth (Clark Fork R)	5	11.6 M	B-1	P	P		X	P	X	X	Siltation Flow alteration Other habitat alterations Algal Grwth/Chlorophyll a Thermal modifications	Agriculture Grazing related Sources Construction Highway/Road/Bridge Construction
8	MT76M002_120	RATTLESNAKE CREEK from headwaters to the mouth (Clark Fork R)	4C	23.3 M	A-Closed	F	P		F	X	F	F	Flow alteration	Hydromodification Dam Construction
9	MT76M002_150	SIXMILE CREEK from headwaters to the mouth (Clark Fork R)	4C	8.9 M	B-1	P	P		X	X	X	X	Other habitat alterations	Silviculture Agriculture Grazing related Sources
10	MT76M002_180	FLAT CREEK, Headwaters to mouth (Clark Fork)	5	5.6 M	B-1	N	N		N	N	N	P	Metals Lead Siltation Other habitat alterations	Resource Extraction Abandoned mining Highway Maintenance and Runoff Unpaved Road Runoff

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010204 Watershed MIDDLE CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
11	MT76M003_010	ST. REGIS RIVER from headwaters to the mouth (Clark Fork R)	5	38.6 M	B-1	P	P		F	F	F	F	Siltation Thermal modifications Flow alteration Other habitat alterations	Highway/Road/Bridge Construction Channelization Construction Hydromodification Bridge Construction Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Bank or Shoreline Modification/Destabilization
12	MT76M003_020	TWELVEMILE CREEK from headwaters to the mouth (ST. Regis R)	5	13.4 M	B-1	P	P		F	F	F	F	Siltation Thermal modifications Other habitat alterations	Silviculture Logging Road Construction/Maintenance Hydromodification Channelization Bridge Construction Highway Maintenance and Runoff
13	MT76M003_030	SILVER CREEK from headwaters to the mouth (ST. Regis R)	4C	4.9 M	A-1	F	P		F	F	F	F	Flow alteration	Construction Highway/Road/Bridge Construction Hydromodification Flow Regulation/Modification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010204 Watershed MIDDLE CLARK FORK

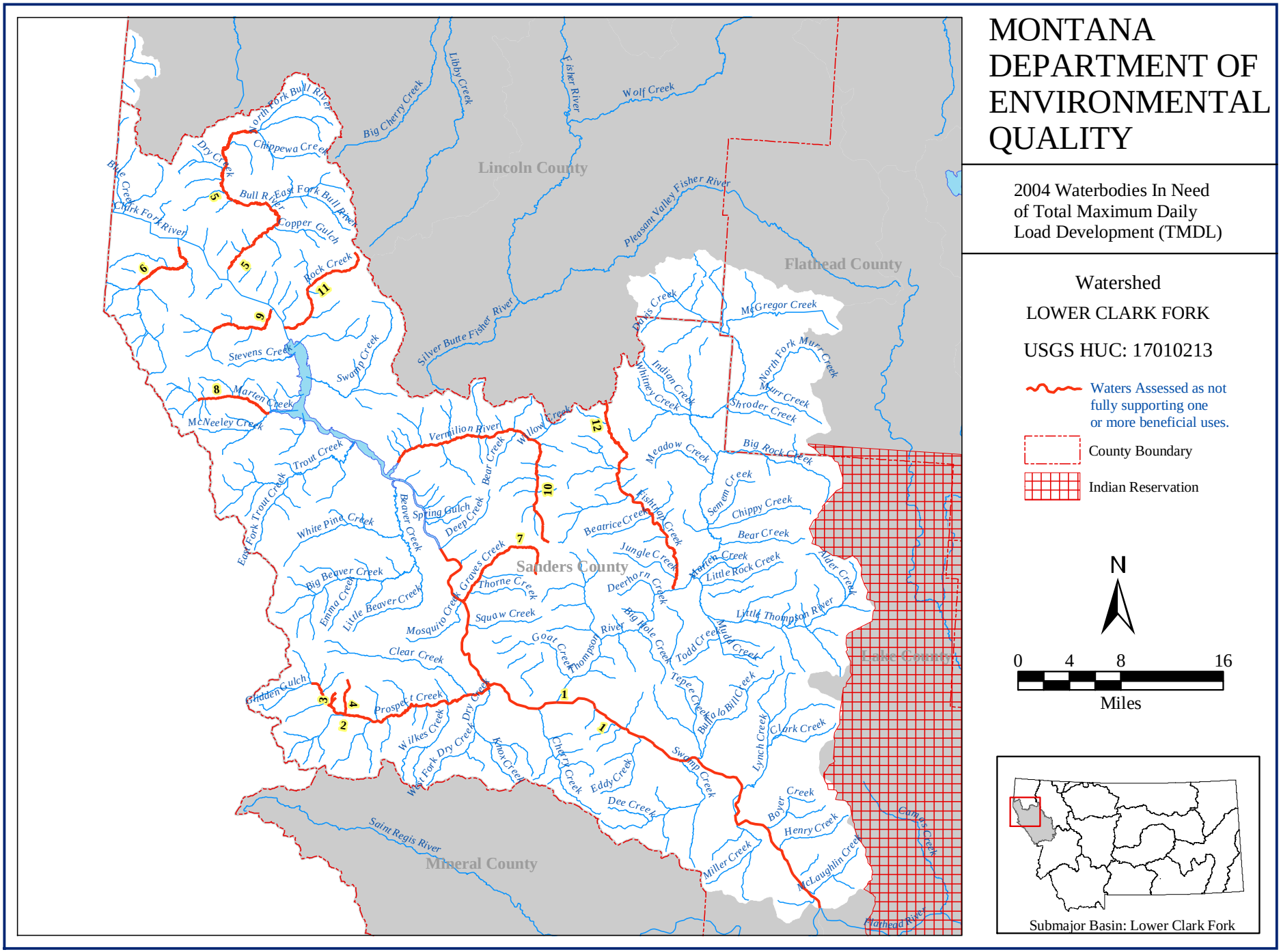
ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
14	MT76M003_040	BIG CREEK from the East and Middle Forks to the mouth (ST. Regis R)	5	3.4 M	B-1	P	P		F	F	F	F	Siltation Thermal modifications	Hydromodification Channelization Habitat Modification (other than Hydromodification) Removal of Riparian Vegetation Bank or Shoreline Modification/Destabilization
15	MT76M003_070	LITTLE JOE CREEK from North Fork to the mouth (ST. Regis R)	5	3.1 M	B-1	P	P		F	F	F	F	Siltation Other habitat alterations	Construction Highway/Road/Bridge Construction
16	MT76M003_080	NORTH FORK LITTLE JOE CREEK, Headwaters to the mouth (Little Joe Cr)	5	10.7 M	B-1	P	P		F	F	F	F	Siltation	Construction Highway/Road/Bridge Construction
17	MT76M004_010	NINEMILE CREEK from headwaters to the mouth (Clark Fork R)	5	25.5 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Agriculture Abandoned mining Bank or Shoreline Modification/Destabilization Grazing related Sources Resource Extraction Habitat Modification (other than Hydromodification)
18	MT76M004_031	McCORMICK CREEK from Little McCormick Cr. to the mouth (Ninemile Cr)	4C	1.9 M	B-1	P	P		X	X	X	X	Other habitat alterations	Resource Extraction Abandoned mining Channelization Hydromodification

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010204 Watershed MIDDLE CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
19	MT76M004_070	KENNEDY CREEK from headwaters to the mouth (Ninemile Cr)	5	6.2 M	B-1	N	N		N	P	F	F	Metals Flow alteration Other habitat alterations	Agriculture Abandoned mining Resource Extraction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed


MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
2004 Waterbodies In Need of Total Maximum Daily Load Development (TMDL)
Watershed
LOWER CLARK FORK
USGS HUC: 17010213
Waters Assessed as not fully supporting one or more beneficial uses.
County Boundary
Indian Reservation
N
0 4 8 16
Miles
Submajor Basin: Lower Clark Fork
Lincoln County
Flathead County
Sanders County
Lake County
Mineral County
North Fork Bull River
Libby Creek
Big Cherry Creek
Fisher River
Wolf Creek
Pleasant Valley Fisher River
Silver Butte Fisher River
Dry Creek
Chippewa Creek
Bull River
East Fork Bull River
Blue Creek
Clark Fork River
Copper Gulch
Rock Creek
Stevens Creek
Swamp Creek
Marten Creek
McNeeley Creek
Vermilion River
Willow Creek
Bear Creek
Trout Creek
East Fork Trout Creek
White Pine Creek
Beaver Creek
Spring Gulch
Deep Creek
Big Beaver Creek
Emma Creek
Little Beaver Creek
Mosquito Creek
Graves Creek
Thorne Creek
Squaw Creek
Clear Creek
Bidden Gulch
Prospect Creek
Wilkes Creek
West Fork Dry Creek
Dry Creek
Knox Creek
Cherry Creek
Eddy Creek
Dee Creek
Saint Regis River
Davis Creek
McGregor Creek
Indian Creek
Whitney Creek
North Fork Murr Creek
Murr Creek
Shroder Creek
Meadow Creek
Big Rock Creek
Semen Creek
Chippy Creek
Fishtrap Creek
Beatrice Creek
Jungle Creek
Bear Creek
Martin Creek
Little Rock Creek
Alder Creek
Deerhorn Creek
Little Thompson River
Big Hole Creek
Todd Creek
Muddy Creek
Goat Creek
Thompson River
Tepee Creek
Buffalo Bill Creek
Lynch Creek
Clark Creek
Swamp Creek
Boyer Creek
Henry Creek
McLaughlin Creek
Miller Creek
Garnet Creek
Flathead River

Hydrologic Unit Code 17010213 Watershed LOWER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
1	MT76N001_010	CLARK FORK RIVER from the Flathead R to Noxon Reservoir	5	58.9 M	B-1	F	P		N	F	F	F	Cadmium Other habitat alterations Metals	Abandoned mining Dam Construction Resource Extraction Hydromodification
2	MT76N003_020	PROSPECT CREEK from headwaters to the mouth (Clark Fork R)	5	18.9 M	B-1	N	N		N	F	F	F	Other habitat alterations Metals	Silviculture Agriculture Grazing related Sources Resource Extraction Mine Tailings
3	MT76N003_021	ANTIMONY CREEK DRAINAGE headwaters to mouth (Prospect Creek)	5	2 M		N	N		N	X	X	X	Metals Arsenic Lead	Resource Extraction Mill Tailings
4	MT76N003_022	COX GULCH headwaters to mouth (Prospect Cr)	5	3 M		N	N		N	X	N	X	Metals Lead	Resource Extraction Mill Tailings
5	MT76N003_040	BULL RIVER from the North Fork to the mouth (Cabinet Gorge Reservoir)	5	24.7 M	B-1	P	P		X	F	F	F	Siltation Other habitat alterations	Silviculture Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010213 Watershed LOWER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
6	MT76N003_060	ELK CREEK from headwaters to the mouth (Cabinet Gorge Reservoir)	4A	8.1 M	B-1	F	T		F	F	F	F	Flow alteration Other habitat alterations	Agriculture Crop-related Sources Grazing related Sources Construction Highway/Road/Bridge Construction
7	MT76N003_080	GRAVES CREEK from headwaters to the mouth (Clark Fork R)	4C	10.6 M	B-1	P	P		X	X	F	F	Other habitat alterations	Agriculture Grazing related Sources
8	MT76N003_090	MARTEN CREEK from headwaters to the mouth (Noxon Reservoir)	5	6.7 M	B-1	P	P		X	X	F	F	Siltation Other habitat alterations	Silviculture Logging Road Construction/Maintenance
9	MT76N003_100	PILGRIM CREEK from headwaters to the mouth (Cabinet Gorge Reservoir)	4C	7 M	A-1	P	P		X	F	F	F	Other habitat alterations	Channelization Bank or Shoreline Modification/Destabilization Hydromodification Habitat Modification (other than Hydromodification)
10	MT76N003_130	VERMILION RIVER from headwaters to the mouth (Noxon Reservoir)	4C	22.5 M	B-1	P	P		X	X	F	F	Other habitat alterations	Silviculture Bank or Shoreline Modification/Destabilization Habitat Modification (other than Hydromodification)
11	MT76N003_190	ROCK CREEK Headwaters to mouth below the Noxon Dam	4C	10.9 M	B-1	P	P		F	F	F	F	Fish habitat degradation Other habitat alterations	Silviculture

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code 17010213 Watershed LOWER CLARK FORK

ID	Segment ID	Waterbody Segment	List Catagory	Size	Use Class	Use Support							Probable Causes of Impairment	Probable Sources of Impairment
						Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind		
12	MT76N005_010	FISHTRAP CREEK from headwaters to the mouth (Thompson R)	5	19.8 M	B-1	P	P		X	F	F	F	Other habitat alterations Siltation	Silviculture Construction Highway/Road/Bridge Construction

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

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APPENDIX A
Water Quality Assessment Process and Methods

Introduction

The water quality assessment of streams, lakes and wetlands to identify "impaired" waters is an important step in a process intended to ensure that all waterbodies in the state will have water quality adequate to support all of their intended beneficial uses. The process was developed and shaped by legal mandates, water quality standards, the tools and techniques of water quality monitoring, the availability of information, and the resources that can be devoted to assessment efforts.

In overview, the main steps of this process in Montana are:

1. State waters are classified under a system that identifies the beneficial uses that each waterbody will be expected to support. State waters in Montana initially were classified in 1955 and the system has been substantially modified over the years.

2. State water quality standards identify the water quality conditions that must be met for a waterbody to support each beneficial use.

3. Many entities and organizations collect data (for many different reasons) which indicate the quality of waters and their compliance with the applicable water quality standards.

4. The Department of Environmental Quality (DEQ) searches out the available data and identifies waterbodies for which there are "sufficient credible data" to make valid and reliable determinations of beneficial use support.

5. When sufficient data are available for a waterbody, DEQ compares the data with water quality criteria and guidelines to make "beneficial use-support determinations." Waterbodies that do not fully support all applicable uses are considered to be "threatened" or "impaired".

6. Impaired and threatened waters are prioritized and scheduled for the development of plans to correct their impaired condition. (Additional data may be collected before planning starts to verify existing conditions or to further identify the causes and sources of impairment).

7. Plans are developed identifying actions that will be taken to improve water quality so that the waterbody can fully support the applicable beneficial uses.

8. Planned actions are implemented and monitoring is done to ensure that water quality improves at least as much as necessary for the waterbody to fully support its beneficial uses.

This appendix will focus on steps 4 and 5 from the above list, discussing in detail the process and methods employed by Montana DEQ to accomplish these two steps. To provide background information for this detailed discussion of Steps 4 and 5, an overview will first be provided of steps 1-3.

Montana Water-Use Classification

Montana waterbodies are classified according to the present and future beneficial uses that they should be capable of supporting (75-5-301 MCA). The state Water-Use Classification System (ARM 17.30.604-629) identifies the following beneficial uses:

- Drinking, culinary use, and food processing
- Aquatic life support for fishes and associated aquatic life, waterfowl, and furbearers
- Bathing, swimming, recreation and aesthetics
- Agriculture water supply
- Industrial water supply

The current use classification of each waterbody in Montana was assigned on the basis of its actual or anticipated uses in the early 1970s**.** Waterbodies are classified primarily by: 1) the level of protection that they require; 2) the type of fisheries that they support (warm water or cold water) or; 3) their natural ability to support use for drinking water, agriculture etc. The use classification was designed for streams, so some of the uses designated by the classification system are not always applicable to lakes and wetlands. The designated beneficial uses for each class in the system are as follows:

A-CLOSED – Waters are suitable for drinking, culinary and food processing purposes after simple. Also suitable for swimming, recreation, and growth and propagation of fishes and associated aquatic life (although access restrictions to protect public health may limit actual use).

A-1 – Waters are suitable for drinking, culinary, and food processing purposes after conventional treatment for removal of naturally present impurities. Also suitable for bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

B-1 – Waters are suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

B-2 – Waters are suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

B-3 – Waters are suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

C-1 – Waters are suitable for bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

C-2 – Waters are suitable for bathing, swimming and recreation; growth and marginal propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.

C-3 – Waters are suitable for bathing, swimming, and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers. Naturally marginal for drinking, culinary, and food processing purposes, agriculture and industrial water supply.

I – (Impaired) The State of Montana has a goal to improve these waters to fully support the following uses: drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply**.**

A waterbody is considered to support its beneficial uses when it meets the water quality standards established to protect those uses. A waterbody is considered to be impaired when there is a violation of the water quality standards established to protect any of the applicable beneficial uses. In some cases the violation of a standard will result in the impairment of only a single use; in other situations the violation of one or more standards may result in the impairment of all uses for the applicable classification.

Water Quality Standards

Montana water quality standards include both use-specific components (ARM 17.30.621 - 629) and general provisions (ARM 17.30.635 - 646). Standards may be either numerical or narrative. The use-specific standards vary depending on the water-use classification, whereas the general provisions apply to all state waters. Narrative standards provide a minimum level of protection to state waters and may be used to limit the discharge of pollutants, or the concentration of pollutants in waters not covered under numerical standards (F.R. 36765).

Montana has established numerical water quality standards relating to:

- Chronic and acute factors affecting aquatic life (Circular WQB-7)
- Human health (Circular WQB-7)
- Fecal coliform levels (ARM 17.30.620-629).
- Changes in pH, turbidity, color, and temperature (ARM 17.30.620-637).

Some water quality standards can be specified in absolute, numerical terms, such as "acute aquatic life standards," or “chronic aquatic life standards” which limit the average concentration of a toxic over a period of time. Many others, however, are defined in terms of change from what would naturally exist, such as "no increase above naturally occurring condition" or "Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 8.5 must be less than 0.5 pH units."

Montana narrative water quality standards encompass two basic concepts:

- Activities which would result in nuisance aquatic life are prohibited (ARM 17.30.637)
- No increases are allowed above naturally occurring conditions of sediment, settleable solids, oils or floating solids, which are harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife (ARM 17.30.620-629).

DEQ interprets nuisance aquatic life as excessive biomass (e.g., alga growth) or the dominance of an undesirable species. "Naturally occurring" refers to conditions or materials present from events over which man has no control, or from developed land where “reasonable” land, soil, and water conservation practices have been applied. Conditions resulting from reasonable operation of dams in existence July 1, 1971, are considered natural (75-5-306 MCA).

Section 17.30.602 (21) of the Montana Surface Water Quality Standards and Procedures defines "reasonable" land, soil, and water conservation practices as follows:

> *Reasonable land, soil, and water conservation practices" means methods, measures, or practices that protect present and reasonably anticipated beneficial uses. These practices include but are not limited to structural and nonstructural controls and operation and maintenance procedures. Appropriate practices may be applied before, during, or after pollution-producing activities.*

DEQ interprets "reasonably anticipated beneficial uses" to be all the uses designated for the stream's classification.

Reasonable land, soil, and water conservation practices are not always accomplished by using best management practices (BMP's). BMP's are land management practices that provide a degree of protection for water quality, but they may not be sufficient to achieve compliance with water quality standards and protect beneficial uses. Therefore, reasonable land, soil, and water conservation practices generally include MBPS, but additional measures may be required to achieve compliance with water quality standards and restore beneficial uses.

Reference Condition

DEQ uses reference condition to determine if narrative water quality standards are being achieved. The term "Reference condition" is defined as the condition of a waterbody capable of supporting its present and future beneficial uses when all reasonable land, soil, and water conservation practices have been applied. In other words, reference condition reflects a waterbody's greatest potential for water quality given historic land use activities.

DEQ applies the reference condition approach for making beneficial use-support determinations for certain pollutants (such as sediment) that have specific narrative standards. All classes of waters are subject to the provision that there can be no increase above naturally occurring concentrations of sediment and settable solids, oils, or floating solids sufficient to create a nuisance or render the water harmful, detrimental or injurious. These levels depend on site-specific factors, so the reference condition approach is used.

Also, Montana water quality standards do not contain specific provisions addressing nutrients (nitrogen and phosphorus), or detrimental modification of habitat or flow. However, these factors are known to adversely affect beneficial uses under certain conditions or combination of conditions. The reference condition approach is used to determine if beneficial uses are supported when nutrients and flow or habitat modifications are present.

Waterbodies used to determine reference conditions are not necessarily pristine or perfectly suited to giving the best possible support to all possible beneficial uses. Reference condition also does not reflect an effort to turn the clock back to conditions that may have existed before human settlement, but is intended to accommodate natural variations in biological communities, water chemistry, etc. due to climate, bedrock, soils, hydrology and other natural physiochemical differences. The intention is to differentiate between natural conditions and widespread or significant alterations of biology, chemistry or hydrogeomorphology due to human activity. Therefore, reference condition should reflect minimum impacts from human activities. It attempts to identify the potential condition that could be attained (given historical land use) by the application of reasonable land, soil and water conservation practices. DEQ realizes that presettlement water quality conditions usually are not attainable.

Comparisons of conditions in a waterbody to reference waterbody conditions must be made during similar season and/or hydrologic conditions for both waters. For example, the TSS of a stream at base flow during the summer should not be compared to the TSS of reference condition that would occur during a runoff event in the spring. In addition, a comparison should not be made to the lowest or highest TSS values of a reference site, which represent the outer boundaries of reference condition.

The following methods may be used to determine reference conditions:

Primary Approach

- Comparing conditions in a waterbody to baseline data from minimally impaired waterbodies that are in a nearby watershed or in the same region having similar geology, hydrology, morphology, and/or riparian habitat.
- Evaluating historical data relating to condition of the waterbody in the past.
- Comparing conditions in a waterbody to conditions in another portion of the same waterbody, such as an unimpaired segment of the same stream.

Secondary Approach

- Reviewing literature (e.g., a review of studies of fish populations, etc. that were conducted on similar waterbodies that are least impaired).
- Seeking expert opinion (e.g., expert opinion from a regional fisheries biologist who has a good understanding of the waterbody's fisheries health or potential).
- Applying quantitative modeling (e.g., applying sediment transport models to determine how much sediment is entering a stream based on land use information, etc.).

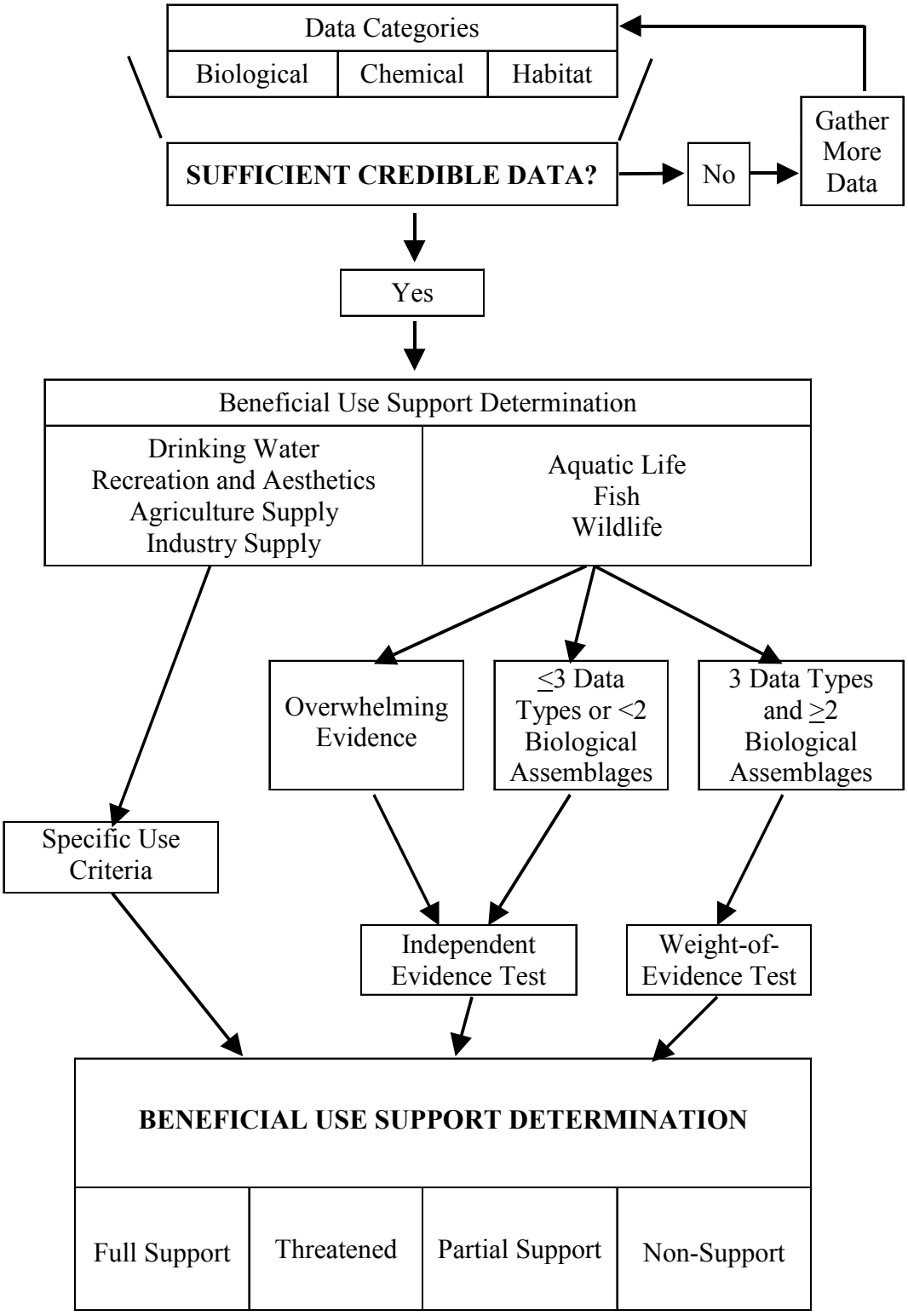
DEQ uses the primary approach for determining reference condition if adequate regional reference data are available and uses the secondary approach to estimate reference condition when there are no regional data. DEQ often uses more than one approach to determine reference condition, especially when regional reference condition data are sparse or nonexistent.

Assessment Process Overview

Impaired state waters that do not fully support their beneficial uses are identified primarily during the biennial development of the state's Integrated Water Quality Report. The 1997 Legislature amended state water quality law to require that impairment determinations must be supported by sufficient credible data to ensure that such determinations are justified (75-5-702 MCA). Based on this legislation and the applicable sections of the federal Water Quality Act, DEQ adopted the following principles making water quality assessments:

- DEQ shall consider all currently available data, including information or data obtained from federal, state, and local agencies, private entities, or individuals with an interest in water quality protection.
- DEQ shall use explicit "sufficient credible data" guidelines to assess the validity and reliability of the data available for making beneficial use-support determinations. A data management system will be used to track and document the data sufficiency and beneficial use support determinations.
- DEQ shall use the guidelines in making any changes to beneficial use support determinations. The data and information used will be available for public review.

Figure 1. Sufficient Credible Data Assessment & Beneficial Use-Support Determination Process



As part of its 2000 list update, DEQ developed and documented a methodology for making sufficient credible data and beneficial use determinations. First, DEQ reviewed general EPA guidelines for making beneficial use determinations and refined them into a beneficial use-support assessment process applicable to Montana. Next, DEQ identified the data required for this assessment process and drafted guidelines for evaluating data validity and reliability. These initial guidelines for sufficient credible data and beneficial use determination were then subjected to an intensive, iterative process of review and refinement to produce and adopt a final methodology, which is described in the following pages.

For each waterbody, the entire review is documented on an Excel spreadsheet so anyone can examine the basis and rationale for the DEQ decisions. Data reports and other data sources considered in the reviews are identified within the spreadsheet. The spreadsheet also documents how the available data are assessed to determine if they are sufficient and credible for making beneficial use-support determinations. The rationale for use-support determinations is documented by means of rating tables and assessor's comments. Finally, the assessment methods employed for making the use-support determinations are recorded and the probable causes and sources of impairment are identified.

Identification of Available Water Quality Data

In recent years, DEQ's water quality monitoring data along with information from other selected sources have been incorporated into DEQ's water quality reference library and computerized water quality databases. These records are updated as new monitoring data is collected by DEQ or obtained from others sources. Then, at the beginning of each reassessment cycle, DEQ sends out requests for information to several hundred individuals, organizations, and agencies involved in water quality monitoring and management. Responses to these requests provide useful information as well as references to additional materials available from other sources. The data and information obtained from outside sources are combined with the results derived from DEQ's ongoing monitoring efforts to provide the basis for water quality assessments.

While most of the data obtained in these ways are valuable, some are not. Some information can not be reliably interpreted because there is inadequate documentation of such basic elements as the specific location, time, and methods employed in collecting the data. In other cases large amounts of raw data have been collected but never processed or analyzed by the collecting agency. The main reason data are collected but not analyzed is cost, and since it would have be prohibitive for DEQ to assume the processing cost, such raw data usually are considered not readily available for the beneficial use assessment. In some cases old data are not used when newer data are available to provide a better indicator of current water quality conditions. However, some older data provide indicators of reference condition or of changes in water quality resulting from land use change.

Sufficient Credible Data Assessment

Montana law requires DEQ to use sufficient credible data (SCD) to make beneficial use-support determinations. The law defines SCD as "chemical physical or biological monitoring data alone or in combination with narrative information that supports a finding as to whether a waterbody is achieving compliance with applicable water quality standards" (75-5-103 MCA).

DEQ developed data quality objectives (DQOs) to ensure that data are sufficient and credible for evaluating whether beneficial uses are fully supported. These DQOs apply only to beneficial use-support decisions. They are not intended or designed for use in determining compliance with permits for enforcement purposes

or for the development of TMDL plans. Those activities often require additional information.

The DQOs were developed to ensure that beneficial use-support determinations would be made with a reasonable level of confidence. It must be recognized however that the art and science of water quality assessment is complex, that methods of assessment change over time, and that the factors affecting the quality of particular waterbodies change. In recognition of these realities state law requires DEQ to review and revise beneficial use-support determinations at intervals not to exceed 5 years.

In any water quality assessment process there is always a risk of concluding that a water is impaired when it truly is not or concluding that a water is not impaired when it is. Either of these errors involves a cost. Concluding that a waterbody is impaired when it is not results in a cost in resources and dollars for collecting additional information, preparing a TMDL plan, and perhaps implementing unnecessary corrective measures. Concluding that a waterbody is not impaired when it actually is means that existing human health threats and environmental degradation will not be addressed.

The process DEQ uses to determine if data are sufficient and credible for making beneficial use-support decisions is summarized in Figure 2. The concepts underlying this process came from an EPA model for assessing the beneficial uses of streams using a combination of physical (habitat), biological, and chemical monitoring (U. S. EPA 1997). The model defines the relationship between parameters such as fish and benthic macroinvertebrate indices that directly measure the condition of the biotic community and its response over time to stressors, and parameters that directly measure stressors such as levels of pH, nutrients, and toxicants. EPA recommends that states incorporate a suite of parameters in their monitoring programs to evaluate attainment of beneficial uses. For example, EPA recommends that monitoring for aquatic life use support include the collection of habitat and community level biological data and the measurement of chemical parameters in water and sediment.

Sufficient Credible Data Decision Tables

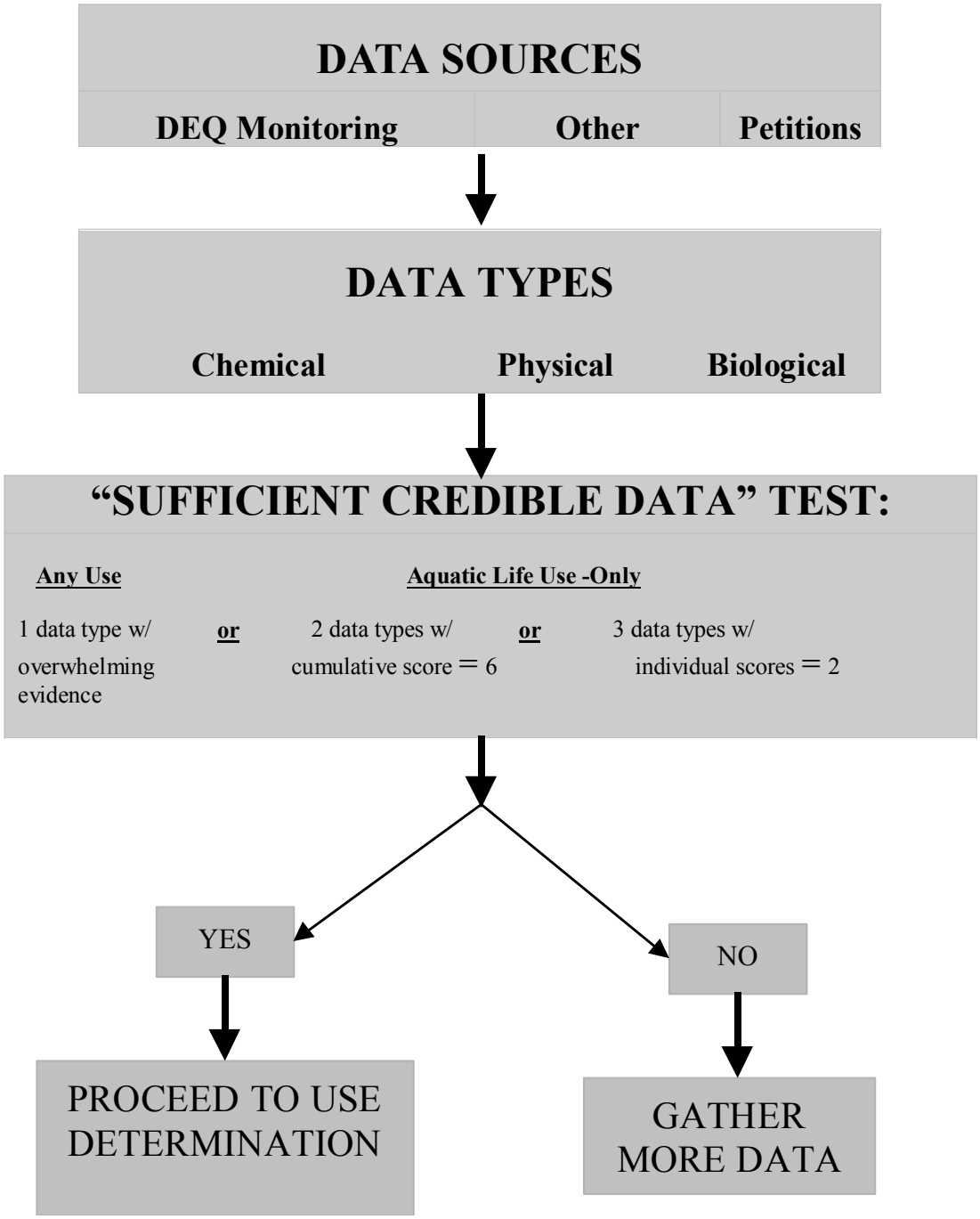
The SCD decision process employs decision tables. The tables DEQ employed for determining if data are sufficient and credible for making aquatic life use-support determinations for streams are modified versions of tables that were recommended by EPA (1997). DEQ has developed additional SCD decision tables to determine if data are sufficient and credible for making aquatic life use-support determinations for lakes and wetlands and for other beneficial use-support determinations such as drinking water and contact recreation. **[All tables will be found at the end of this appendix.]**

The tables focus the SCD process on four components that contribute to data validity and reliability for water quality assessment:

- Technical soundness of methodology
- Spatial/temporal coverage
- Data quality
- Data currency

The process of deciding if there are sufficient credible data to evaluate use support of each beneficial use takes into account all of these four individual components. In most cases a finding of sufficient credible data will result when several types of data have been collected over a period of time using sound technical methods and there are no indications of recent changes to the waterbody that would invalidate the results obtained. The SCD decision tables are specifically designed to help the evaluator determine when the total package of available information is adequate.

Figure 2. Sufficient Credible Data Assessment: Flow Diagram



Overwhelming Evidence

There are situations where a single set of data is all that is needed to tell the evaluator that a particular beneficial use is or is not supported. For example a single set of water chemistry data may be sufficient to establish that a waterbody is not fit for use as a source of drinking water. In such situations **where a single data set irrefutably proves that an impairment exists, an impairment determination may be based on this "overwhelming evidence."**

When a set of data is being reviewed for possible use as overwhelming evidence that data is evaluated directly for the factors of technical soundness of methodology, spatial/temporal coverage, data quality, and data currency. Data cannot be overwhelming evidence unless the methods used for collection and analysis meet the most stringent standards for reliability and validity. It must be certain that the data is representative of actual current waterbody conditions. It must be representative of the spatial extent of the water and of relevant temporal parameters. Data more than three or four years old are not to be used as overwhelming evidence unless there is a strong basis for concluding that conditions have not changed since the data were collected. Data (which do pass these evaluations of validity, reliability, and relevance) normally constitute overwhelming evidence when they document,

For aquatic life uses:

- A clearly valid, reliable, and relevant exceedence of an acute or chronic aquatic life standard of sufficient magnitude and/or duration to ensure that a "real" impairment exists.
- A 50% exceedence of a narrative standard (e.g. sediment levels in an impaired stream reach are determined to be 50% greater than sediment levels of an appropriate reference site).
- Activities that negatively impact habitat by more than 50% (e.g. less than 50% of a stream corridor has adequate riparian habitat when compared to potential or reference condition).
- Activities that negatively impact biological communities by more than 50% (e.g. a fish population reduced to less than 50% of its potential due to sedimentation; or macroinvertebrate communities less than 50% of those in reference waters).

For fishery uses:

- The presence of significant non-natural barriers to fish movement or migration. Note: conditions resulting from the reasonable operation of dams in existence since July 1, 1971, are considered natural (75-5-306 MCA).
- Chronic de-watering of a considerable section of the waterbody.

It should be noted that overwhelming evidence can establish that a waterbody is fully supported (e.g. direct rigorous measurement of the biological community indicates that aquatic life use is fully supported).

Aquatic Life/Fisheries SCD

The aquatic life beneficial use is a broad descriptor intended to protect fish, invertebrates, aquatic plants, and associated wildlife. All of the water classes defined under the Montana Water-Use Classification system require that the rated waters support the beneficial use of "growth and propagation of fishes and associated aquatic life waterfowl and furbearers" (ARM 17.30.604-624). The aquatic life/fisheries SCD tables (Tables 1-3 for streams and Tables 4-6 for lakes) provide a systematic but flexible approach for making decisions concerning the level of information required for aquatic life beneficial use-support determinations. It is a holistic approach entailing consideration of data from the following three data categories:

Physical/habitat – includes qualitative and/or quantitative riparian and aquatic vegetation information, and hydrogeomorphic characteristics and functions. For example, data may include stream reach habitat surveys with photos to document impairments, and physical measurements of the stream channel, such as pebble counts and channel cross sections.

Biology – includes chlorophyll *a* data; and aquatic biological assemblage data relating to fish, macroinvertebrates, and algae; and wildlife community characteristics. Measurements often include population estimates, biomass, number and relative abundance of sensitive or pollution-tolerant species, diversity, and distribution.

Chemistry/toxicity – includes bioassays; temperature and total suspended sediment data; and chemistry data such as concentrations of toxicants, nutrients, and dissolved oxygen.

Aquatic Life/Fisheries SCD tables for each data category assist the reviewer in evaluating and documenting whether data are sufficient and credible by using the following data components to score the data: 1) technical soundness 2) spatial/temporal coverage, 3) quality, and 4) currency. The overall score for each data category ranges from 1 to 4. Data given a higher score provide a higher level of information for making an aquatic life use-support determination. For example, the component scores for the biological data category might be: 2 for technical soundness, 3 for spatial/temporal coverage, 3 for quality and, 2 for currency. In this situation, the reviewer would usually assign the biology data category an overall score of 2 or 3 depending on his/her interpretation of how useful the data are for making an aquatic life/fisheries beneficial use-support determination.

The overall data category score usually is not just the numerical average of the component scores. For example, if the data currency component scores a 1 and the other components each score a 4, the reviewer may assign an overall score of 1, because the data do not indicate current conditions. The reviewer documents the rationale used to make the overall scoring decision for each data category at the bottom of each table.

The overall scores from the three data categories are added together (ignoring any score of "1") to obtain a SCD score for the aquatic life/fisheries data. If the total SCD score is at least 6 (all three data categories have overall scores of 2 or more, or if two data categories score 3 or more), the reviewer concludes there are sufficient credible data to make use-support determinations for the aquatic life and fisheries beneficial uses.

DEQ infers that a waterbody's associated wildlife communities are protected if no data indicate impairment to wildlife and the aquatic life and fishery beneficial uses are determined to be fully supported. However, DEQ would determine that a waterbody's aquatic life beneficial use is not fully supported if data show that the associated wildlife populations are impaired. Also, DEQ may require additional information before making an aquatic life use-support determination if sources of impairment to wildlife such as elevated metals in the food chain resulting from land use practices are probable and if information regarding probable causes of impairment are not provided in the available data set.

Drinking Water, and Recreation and Aesthetics SCD

DEQ also uses decision tables to determine if data are sufficient and credible for making drinking water, and recreation/aesthetics beneficial use-support determinations (Tables 7 and 8). For these uses the evaluation

of multiple data categories is not necessary and the four components of data adequacy are not numerically scored but are simply rated as sufficient or insufficient. The DEQ reviewer then decides on the overall sufficiency of the data after consideration of the component ratings, and documents the rationale used to make the decision at the bottom of each table.

Agricultural and Industrial Water Supply SCD

DEQ has not developed SCD decision tables for making beneficial use-support determinations for agriculture and industry. Generally if there are sufficient credible data for making beneficial use-support determinations for aquatic life, drinking water, and recreation, then data are also sufficient to make determinations for agriculture and industry. However, the reviewer may require additional information concerning salinity and toxicity to make beneficial use-support decisions for agriculture if sources of impairment to agriculture are probable and information regarding probable causes of impairment are not provided in the available data set.

Ephemeral Streams and Wetlands

DEQ regulations define ephemeral streams as waterbodies that receive water only in direct response to precipitation or snowmelt, and which are always located above the water table (ARM 17.30.602). DEQ defines ephemeral wetlands as state waterbodies that have surface water for less than 90 days per year. Only narrative water quality standards apply to ephemeral waterbodies. DEQ usually assesses only aquatic life use support for ephemeral waterbodies and requires only physical/habitat data (minimum SCD score = 3). However, DEQ recommends that chemistry/toxicity or biological data should be collected when it is practical and appropriate for evaluating aquatic life use support or the use support of other beneficial uses.

Beneficial Use Support Determination

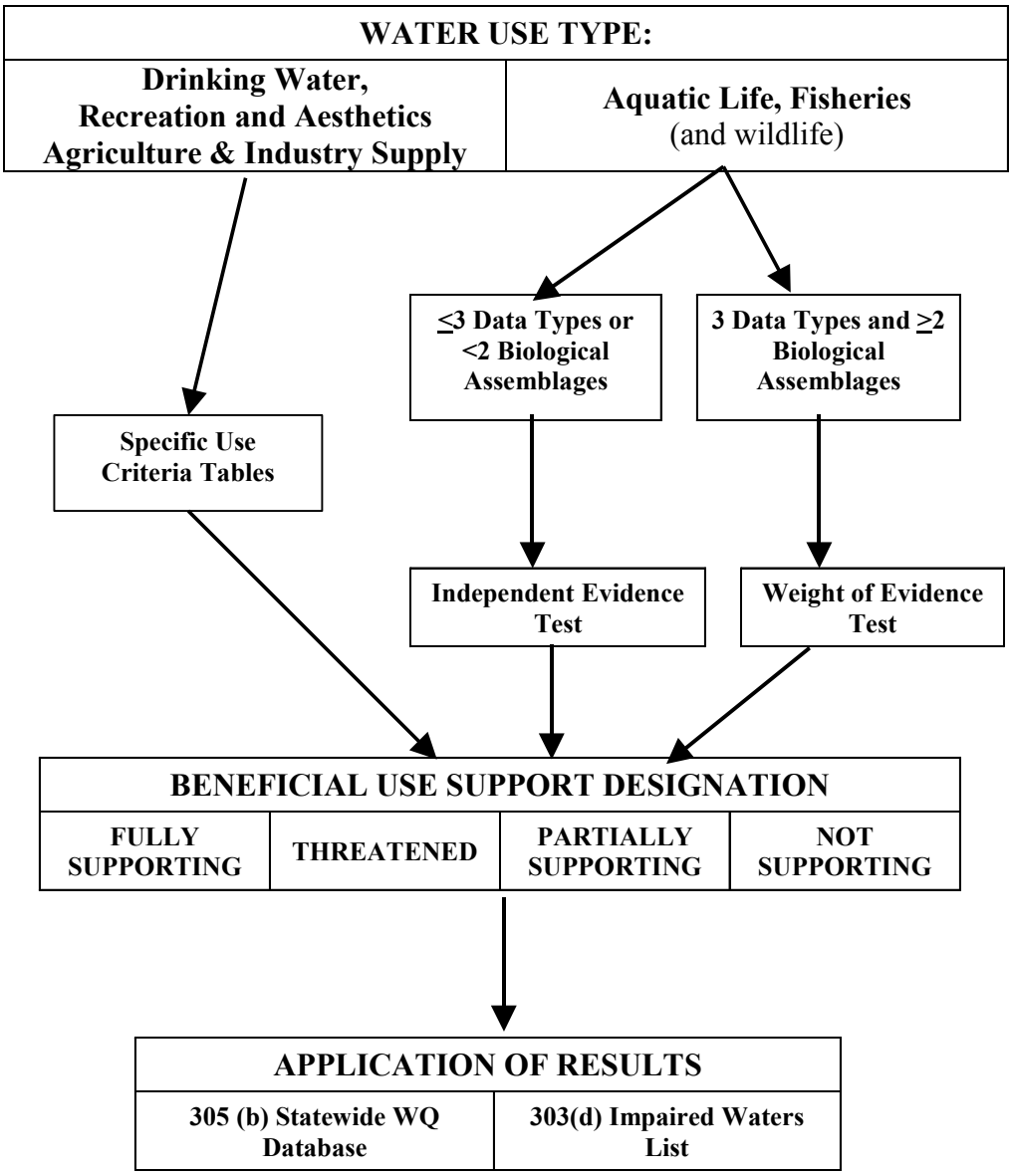
Once it has been determined that there are sufficient credible data to evaluate a waterbody, the assessment process moves to determining the level of beneficial use support required for each use of that waterbody by the Montana Water-Use Classifications. Figure 3 displays a flow diagram for the beneficial use support evaluation process.

DEQ conducts beneficial use-support determinations (BUDs) in order to document which state waterbodies are impaired due to anthropogenic impacts on water quality. Beneficial use-support determinations include the following categories (EPA 1997):

- Full support
- Partial support
- Non-support
- Threatened

A waterbody is considered to be "fully supporting" its beneficial uses when the water quality standards established to protect those uses are met. When one or more beneficial uses are not fully supported due to human activities the waterbody may be rated as either "not supporting" or "partially supporting" the affected use or uses. A "threatened" rating indicates that there is evidence that one or more fully supported uses may soon be impaired. The support determinations for the various uses of a waterbody usually will not all be the same because the standards used to determine use support are different for each use.

Figure 3. Beneficial Use-support Determination Flow Diagram



DEQ has found from nearly 45 years of working with the Montana Water-Use Classification System that the actual support for the mix of beneficial uses defined for the different classes can best be addressed by examining the following categories:

- Aquatic Life (considers all life forms which make up and depend on the aquatic ecosystem)
- Cold Water Fishery **or** Warm Water Fishery
- Drinking Water Supply (protects culinary and food-processing use)
- Recreation and Aesthetics (bathing, swimming, boating, fishing, etc.)
- Agriculture Supply
- Industry Supply

Only those categories that apply to the beneficial uses specified for each water-use classification are evaluated for the waters in that classification. For example, a waterbody classified C-1 would not be assessed for use support of drinking water supply or warm water fishery since neither category applies to the waterbody's designated beneficial uses.

EPA considers fish consumption to be a beneficial use but Montana law does not recognize this use. Therefore, DEQ considers fish consumption when making aquatic life and fisheries, and recreation and aesthetics beneficial use-support determinations for impairment listing purposes.

Threatened Uses

Montana water quality law (75-5-103 MCA) defines the term "threatened waterbody" to mean:

> *A waterbody or stream segment for which sufficient credible data and calculated increases in loads show that the waterbody or stream segment is fully supporting its designated uses but threatened for a particular designated use because of:*
>
> *(a) proposed sources that are not subject to pollution prevention or control actions required by a discharge permit, the nondegradation provisions, or reasonable land, soil, and water conservation practices; or*
>
> *(b) Documented adverse pollution trends.*

DEQ has not developed decision tables to determine if specific uses are threatened. Instead, DEQ considers that a beneficial use may be threatened if:

- Data show a decline in the conditions supporting the beneficial use, listed in the beneficial use support decision table or
- Activities proposed for the watershed would be sources of pollution that are not subject to pollution prevention or control actions required by a discharge permit or
- Activities for which a permit is required are occurring within the watershed without a permit or;
- Reasonable land soil and water conversation practices are not being implemented.

A DEQ reviewer assigning a determination of "threatened" to a waterbody beneficial use is required to identify the information used and rationale for making this determination.

Aquatic Life and Fisheries Beneficial Use Determination

The broad range of factors that must be considered in assessing support for the aquatic life/fisheries uses make the assessment of support for these uses more complex than the assessment of support for other uses. Depending on the type and amount of information available, DEQ has developed two distinct tests which may be employed to make aquatic life/fisheries support decisions.

The "**weight-of-evidence test**" is a process for making aquatic life use support decisions when there is a high level of information. DEQ uses this if there are sufficient and credible data in all three of the data categories and if two or more biological assemblages were assessed (minimum score = 3). The assemblages employed must be adequate to reflect any probable impairment. Conclusions drawn from each data category are combined using the weight-of-evidence test to produce the final aquatic life use-support determination employing the following guidelines in combination with Beneficial Use-Support Decision Tables 9 and 10.

- **Fully Supporting** requires all data categories to indicate the waterbody is unimpaired or least impaired, or no more than one data category (i.e. physical/habitat biology or chemistry/toxicity) indicate moderate impairment; **OR** no more than one biological assemblage indicates moderate impairment (the biological community that indicates impairment must be at least 50% of reference condition).

- **Partially Supporting** requires two or more data categories indicating moderate impairment or one data category indicating severe impairment (i.e. physical/habitat biology or chemistry/toxicity) with the remaining data categories indicating that the waterbody is unimpaired or least impaired; **OR** two biological assemblages indicating moderate impairment; or one biological assemblage indicating less than 50% of reference condition.

- **Not Supporting** requires one or more data categories indicating moderate impairment in combination with a separate category indicating severe impairment; **OR** two biological assemblages indicating less than 50% of reference condition.

The **"independent-evidence test"** is a decision process DEQ uses to make aquatic life use-support determinations if only one or two of the data categories are used (physical/habitat biology or chemical/toxicity); or if all three categories are used but only one biological assemblage (e.g. fish) was assessed or the biological data category's score was < 3.

The independent-evidence test is used when a full suite of data is not available but what is available provides a basis for making an aquatic life use-support determination. For example data indicating that a stream segment experiences frequent dewatering may be an adequate basis for determining that the aquatic life/fisheries beneficial use is impaired. The factors listed in Tables 9 and 10 are directly applied to interpret the use support of each beneficial use. If all available data indicate that a waterbody is "unimpaired/least impaired" then the beneficial use-support determination would be fully supporting. Data indicating that a beneficial use is "moderately impaired" would result in the waterbody being listed as partially supporting, while data indicating that a beneficial use is "severely impaired" would result in the waterbody being listed as not supporting the beneficial use being evaluated.

Beneficial Use Determination - Other Uses

Reaching beneficial use determinations for the drinking water, recreation and aesthetics, agriculture supply and industrial supply uses is a relatively straightforward process. For these uses, criteria based on the relevant water quality standards are listed in Tables 11, 12, 13, and 14. The available data for a waterbody are evaluated using the listed criteria, and an overall use support assignment is made based on consideration of all the criteria for which relevant data are available. In some situations the overall rating will result from clear evidence of support or impairment associated with one or two criteria; other determinations may be derived from indications of water quality derived from the entire set of criteria that apply to a particular use.

Petitions

Under Montana law any person can petition DEQ to change any beneficial use support decision by providing the data necessary to support the requested change (75-5-702 MCA). For example a petition to reconsider a DEQ partial support determination for aquatic life could be based on data from multiple biological assemblages (i.e. fish, macroinvertebrates, algae) which clearly demonstrate that aquatic life is not impacted by any of the listed probable causes and sources of impairment. DEQ beneficial use-support determinations also could be appealed by providing data that clearly demonstrates that the causes of impairment are due to naturally occurring conditions.

When DEQ receives a petition it conducts a sufficient credible data assessment. All available data including both the data used to make the original determination and those provided with the petition are reviewed to ensure that there are sufficient credible data to provide a basis for a valid beneficial use determination. Then the normal tests and table criteria are used to make a beneficial use-support determination. This process must be completed within 60 days of the petition submittal. If DEQ determines that the original determination should be revised, it must provide public notice of the proposed change and allow 60 days for public comment prior to taking final action.

Literature Cited

U.S. EPA. 1997. Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) EPA-841-B-97-002A.

Table 1. Biology Sufficient Credible Data Decision Table for Aquatic Life Use (Streams)

Score	Technical Components	Spatial/Temporal Coverage	Data Quality	Data Currency
1	-Visual observations of biota were made with no true assessment - Simple documentation. - Unable to make a comparison to reference condition. - Relative abundance data of fish that are not supplemented with quantitative data or can not be interpreted by a biologist. - Fish creel surveys with limited supplemental information.	- very limited monitoring - data are extrapolated from other sites	-Data precision and sensitivity is very low or unknown. - Qualified professional does not provide any oversight. - Poor taxonomic resolution	- Data are not relevant; biological communities may have changed significantly since the assessment was made.
2	- Only one assemblage was assessed (e.g., RBP Protocols). - Probable sources and causes of impairment are documented. - Reference condition can be approximated by a professional scientist. - Relative fish abundance data that can be interpreted by a qualified professional or also includes quantitative fish density.	-Limited to a single sampling - Limited sampling for site-specific studies	- Data precision and sensitivity are low to moderate. - Data were collected following appropriate protocols; however individuals had limited training. - Qualified professional provided oversight. - Good taxonomic resolution.	- It is unlikely that the biological communities have changed significantly since the survey was conducted.
3	- Two assemblages assessed or one assemblage with quantitative (e.g., biomass) measurements also made following standard operating procedures (SOPs). - Often includes biotic index interpretations. - Fisheries data often includes information about growth rates, age class and condition; The entire fish assemblage is targeted. - Reference condition can be determined with a reasonable degree of confidence and used as a basis for assessment.	-Monitoring normally occurs during a single season. - Monitoring may include site specific studies; However, also has limited spatial coverage of the stream reach.	- Data have moderate precision and sensitivity. - Qualified professional performs survey or provides training; the individual making the survey is well trained. - Qualified professional performs the survey. - Detailed taxonomic resolution	- Data were collected recently or it is very unlikely that the biological community has changed significantly since the survey was conducted.
4	-Two or more assemblages assessed and often includes quantitative measurements following SOPs. -Reference condition is well understood and is used as the basis of the assessment. -Often includes biotic index interpretations	-Surveys conducted for multiple years and/or seasons - Broad coverage of sites - Often uses targeted or probabilistic design	-High precision and sensitivity. -Assessment performed by a highly experienced qualified professional.	-Data are current; there is no doubt that the biological survey reflects current conditions.

Table 2. Chemistry/Toxicity Sufficient Credible Data Decision Table for Aquatic Life Use (Streams)

Score	Technical Components	Spatial/Temporal Coverage	Data Quality	Data Currency
1	-Best professional judgment based on land use data or source locations - Chemical parameters analyzed are limited and do not provide sufficient information concerning probable causes of impairment.	- Low spatial and temporal coverage - limited data at critical periods - Limited period of record (e.g. one day)	-Data precision and sensitivity is very low or unknown and data appear to be an outlier (suspect). - High detection limits make the data difficult or impossible to interpret. QC protocols indicate contamination, etc. QA/QC protocols were not followed.	-Data do not reflect current conditions.
2	- Usually grab or composite water quality samples - Synthesis of historical information on fish contamination levels -Screening models based on loading data (not calibrated or verified) - Sediment contamination data (e.g., metal scans) -Limited chemical parameters ; however probable impairment causes are targeted and probable sources of impairment documented. - Reference condition can be approximated by a professional. -Acute or Chronic WET; or Acute ambient; or acute sediment tests	-Moderate spatial and/or temporal coverage.. -Data collected at critical periods (e.g., spring, summer, spawning season) -Short period of record but good spatial coverage -Quarterly sampling	- Data quality and sensitivity are low to moderate. - Data were collected following appropriate protocols but individuals had limited training. - Low detection limits -QC indicates there was no contamination, etc. -low replication used for toxicity tests	- Data are substantially older than ideal, but appear to be a reasonable indicator of current conditions.
3	- Series of grab or composite samples (diurnal coverage as appropriate) - Calibrated models - Width/depth integrated sampling - Combination of two or more analyses of the following: water column, sediment, chlorophyll; toxicity testing; bioaccumulation data (e.g., fish consumption advisory data). -Reference condition can be determined with a reasonable degree of confidence and used as a basis for assessment. -2-3 Acute or Chronic Ambient; or Acute sediment; or Acute and Chronic WET tests for effluent dominated system	-Broad spatial and temporal coverage of site with sufficient frequency and coverage to capture acute events. -Typically monthly sampling during key periods. -Lengthy period of record (sampled over a period of months for >2 years)	- Data have moderate precision and sensitivity. - Professional scientist provides training; the individual collecting the samples is well trained. - Qualified professional collects samples; Data is analyzed in a competent laboratory that uses methods with low detection limits -QC documents where there are no sampling or analytical errors. - Moderate replication used for toxicity tests	Data are older than ideal, but there are no indications that conditions have changed significantly.
4	-Combination of three or more of the following: water column chemistry, sediment chemistry, chlorophyll or bioaccumulation data; or toxicity testing. >3 acute and chronic ambient tests; or acute or chronic sediment tests.	Broad spatial (several) and temporal coverage (monthly sampling during key periods for > 3 yrs) of site with sufficient frequency and parameter coverage to capture acute events, chronic conditions and all other potential impacts.	-High precision and sensitivity. -Data collected and analyzed by qualified professionals following detailed QA/QC protocols. -High replication used for toxicity tests	-Data are current,. generally less than 5 years old, and/or there is high certainty that conditions have not changed since data were collected.

Table 3. Habitat/Physical Sufficient Credible Data Decision Table for Aquatic Life Use (Streams)

Score	Technical Components	Spatial/Temporal Coverage	Data Quality	Data Currency
1	-Habitat characteristics were observed visually with no true assessment -Only has documentation of land use practices that might alter habitat. - No attempt to compare to reference condition; observed impacts are likely to be natural.	Sporadic visits; assessments are only made at limited access points such as road crossings.	-Data precision and sensitivity are very low or unknown. - Data were not collected by trained individuals following appropriate protocols.	-Data are not relevant; habitat has likely changed significantly since the assessment was made.
2	- Visual observations of habitat characteristics were made with simple assessment. - Land use maps used to characterize watershed condition; Probable sources of impairment are documented. - Reference Condition can be approximated by a qualified professional.	-Limited to annual visit and non-specific to season; -Limited spatial coverage -Site specific studies	- Data precision and sensitivity are low - Data were collected following appropriate protocols; however individuals had limited training. - Qualified professional involved only through correspondence.	- It is unlikely that the habitat has changed significantly since the assessment was made.
3	- Use of visual-based habitat assessment following SOPs (e.g., Stream Reach Assessment and PFC). - Documentation includes photographs. - Assessment includes quantitative measurements of selected parameters. - Data on land use are used to supplement assessment. - Reference condition can be determined with a reasonable degree of confidence and used as a basis for assessment.	-Assessment normally occurs during a single season. - Assessment is broad; often covering the entire stream reach or region. - An attempt was made to access the stream reach wherever possible.	- Data have moderate precision and sensitivity. - Professional biologist performs survey or provides training; the individual making the assessment is well trained. - Professional biologist or hydrologist performs the assessment.	- Data were collected recently or it is very unlikely that the habitat has changed significantly since the assessment was made.
4	-Assessment of habitat based on quantitative measurements of instream parameters, channel morphology and floodplain characteristics. -Reference condition is well understood and is used as the basis of the assessment.	-Good access of the entire stream reach including private property. - Helicopter surveys, etc. -Data from multiple years.	-High precision and sensitivity. -Assessment was performed by highly experienced professional.	-Data are current; There is no doubt that the assessment reflects current conditions.

Table 4. Biology Sufficient Credible Data Tables for Aquatic Life Use (Lakes and Wetlands)

Score	Technical Components	Spatial/Temporal Coverage	Data Quality	Data Currency
1	- Simple documentation, visual observations only(no true assessment) - Unable to make a comparison to reference condition. - Relative abundance data of fish is not supplemented with quantitative data or can not be interpreted by a qualified professional. - Fish creel surveys with limited supplemental information.	- Very limited monitoring	-Data precision and sensitivity are very low or unknown. - Professional biologist does not provide any oversight. - Poor taxonomic resolution	-Data do not reflect current conditions.
2	- Only one biological assemblage was surveyed or observed (usually fish or algae for lakes; and waterfowl, vegetation or macroinvertebrates for wetlands); includes documentation sufficient for interpretation by qualified professional. - Probable sources and causes of impairment are documented. - Reference condition can be approximated by a qualified professional.	-Limited to a single sampling - Limited sampling for site-specific studies	- Data precision and sensitivity are low to moderate. - Data were collected or observations were made following appropriate protocols, but individuals had limited training. - Professional biologist provided oversight. - Good taxonomic resolution.	- Data are substantially older than ideal, but there is reason to believe that current conditions are reasonably represented.
3	- Relative abundance data or well-documented observations for two biological assemblages such as fish, algae, macroinvertebrates, amphibians, etc., with quantitative (e.g. population, growth rates, primary production, age class, size, condition) data for at least one assemblage. - May include biotic index interpretations. -The entire fish assemblage may not be targeted but all fish species sampled were identified. - Reference condition can be determined with a reasonable degree of confidence and used as a basis for assessment.	-Monitoring normally occurs during a single season. - Monitoring may include site specific studies, but has limited spatial coverage	- Data have moderate precision and sensitivity. - Qualified professional performs survey or provides training; the individual making the survey is well trained. - Qualified professional performs the survey or makes observations. - Detailed taxonomic resolution	Data are older than ideal, but there are no indications that conditions have changed significantly.
4	-Two or more assemblages were surveyed and assessed; includes quantitative measurements for at least two assemblages following detailed SOPs. -Reference condition is well understood and is used as the basis of the assessment. -The fish survey was designed to sample the entire fish assemblage. -Often includes biotic index interpretations	-Surveys conducted for multiple years and/or seasons - Broad coverage of sites - Often uses targeted or probabilistic design	-High precision and sensitivity. -Assessment performed by a highly experienced professional biologist. -Detailed taxonomic resolution	-Data are current, generally less than five years old, and/or there is certainty that the conditions have not changed..

Table 5. Chemistry/Toxicity Sufficient Credible Data Tables for Aquatic Life Use (Lakes and Wetlands)

Score	Technical Components	Spatial/Temporal Coverage	Data Quality	Data Currency
1	-Best professional judgment based on land use data or source locations -Limited chemical analyses which do not provide sufficient information concerning probable causes of impairment. -Data extrapolated when homogeneous conditions are expected	- Low spatial and temporal coverage - limited data at critical periods - Limited period of record (e.g. one day)	-Data precision and sensitivity are very low or unknown and data appear to be an outlier (suspect). - High detection limits make the data difficult to interpret. -QA/QC protocols not followed.	-Data do not reflect current conditions.
2	- Usually grab or composite water quality samples -Screening models based on loading data (not calibrated or verified) - Sediment contamination data (e.g. metal scans) - fish consumption advisories -Chemical parameters limited; however, probable causes of impairment were targeted and documented. - Reference condition can be approximated by a professional. -Acute or Chronic WET; or Acute ambient; or acute sediment tests - Synthesis of historical information on fish contamination levels for lakes - N/P ratios calculated for lakes -Trophic status determined for lakes using at least two of the following; TOC, transparency, primary production, phytoplankton density and/or biomass, total nitrogen, total phosphorus or chlorophyll a.	-Moderate spatial and/or temporal coverage. -Data collected at critical periods (Lakes sampled near turnover, late winter and/or mid-summer; Wetlands sampled in the spring or summer) -Short period of record; but good spatial coverage -Quarterly sampling or targeted seasonal-sampling. - Several parameters often collected over several years (e.g., Secchi Depth).	- Data quality and sensitivity are low to moderate. - Data was collected following appropriate protocols; however individuals had limited training. - Low detection limits -QC indicate there was no contamination or other problems. -low replication used for toxicity tests	- Data are substantially older than ideal, but there is reason to believe that they reasonably indicate current conditions.
3	- Series of grab or composite samples (depth-integrated, diurnal coverage, hypolimnion and epilimnion sampling as appropriate) - Calibrated models - Combination of two or more analyses of the following: water column, sediment, chlorophyll; toxicity testing; primary production; bioaccumulation. -Reference condition can be determined with a reasonable degree of confidence and used as a basis for assessment. -2-3 Acute or Chronic Ambient; or Acute sediment; or Acute and Chronic WET tests for effluent dominated system -trophic status determined using Secchi depth, total phosphorus and chlorophyll a; and includes a dissolved oxygen/temperature profile(s) for lakes. -N/P ratios calculated for lakes	-Broad spatial and temporal coverage of site with sufficient frequency and coverage to capture acute events (lakes sampled near turnover; late winter or mid summer; wetlands sampled late winter/early spring and mid-summer). -Typically monthly sampling during key periods. -Lengthy period of record (sampled over a period of months for >2 years)	- Data have moderate precision and sensitivity. - Qualified professional provides training; the individual collecting the samples is well trained. - Qualified professional collects samples; Data are analyzed in a competent laboratory that uses methods with low detection limits -QC documents that there are no sampling or analytical errors. - Moderate replication used for toxicity tests	Data are older than ideal, but there are no indications that conditions have changed significantly.
4	-Combination of three or more of the following: water column chemistry, sediment chemistry, chlorophyll a, primary production, bioaccumulation data or toxicity testing. - Includes trophic status, dissolved oxygen profiles and N/P ratios (lakes) >3 acute and chronic ambient tests; or acute or chronic sediment tests. - Includes sediment core sampling	Broad spatial (several) and temporal coverage (monthly sampling during key periods for > 3 yrs) of site with sufficient frequency and parameter coverage to capture acute events, chronic conditions and other potential impacts.	-High precision and sensitivity. -Data collected and analyzed by professionals following detailed QA/QC protocols. -high replication used for toxicity tests	-Data are current, generally less than 5 years old, and/or it is essentially certain that conditions have not changed since they were collected.

Table 6. Physical/Habitat Sufficient Credible Data Tables for Aquatic Life Use (Lakes and Wetlands)

Score	Technical Components	Spatial/Temporal Coverage	Data Quality	Data Currency
1	-Habitat characteristics were observed visually with no true assessment - Simple documentation of practices that might alter habitat. - No attempt to compare to reference condition; observations are likely to be natural.	Sporadic visits; assessments only at limited areas.	-Assessment precision and sensitivity are very low or unknown. - Assessment was not conducted by trained individuals.	-Data do not reflect current conditions.
2	- Visual observations of habitat characteristics or impairments (e.g. shoreline erosion, fluctuating water levels, siltation, riparian and aquatic vegetation, grazing, buffer zones, spawning areas, wildlife habitat/use) were made with simple assessment. - Use of land use maps to characterize watershed condition; probable impairment causes & sources documented. - Reference condition can be approximated by a qualified professional.	-Limited to annual visit and non-specific to season; -Limited spatial coverage -Site specific studies	- Assessment precision and sensitivity are low - Assessment was undertaken following appropriate protocols, but individuals had limited training. - Qualified professional involved only through correspondence.	- Data are substantially older than ideal, but there is reason to believe they reasonably indicate current conditions.
3	- Use of visual-based habitat assessment following SOPs; and/or includes a detailed interpretation. - Documentation includes photographs - Sources and causes of impairment are well documented and understood. - Information concerning surrounding land use and/or reservoir management activities is used to supplement assessment. - Reference condition can be determined with a reasonable degree of confidence and used as a basis for assessment.	-Assessment normally occurs during a single season. - Assessment is broad; often covering the entire water body.	- Data have moderate precision and sensitivity. - Qualified professional provides training; the individual making the assessment is well trained. - Qualified professional performs the assessment and makes interpretations.	- Data are older than ideal, but there are no indications that conditions have changed significantly.
4	-- Assessment includes quantitative measurements of selected parameters. -Aerial photographs, satellite images or infrared photographs are used as part of the assessment. Detailed studies conducted to determine impacts to habitat caused by dam operations, etc. -Reference condition is well understood and is used as the basis of the assessment.	-Assessment is broad; often covering the entire water body; data collected from multiple years. -Aerial surveys that are ground truthed.	-High precision and sensitivity. -Assessment was performed by a qualified professional following detailed protocols.	- Data are current, generally less than five years old, and/or it is essentially certain that the conditions have not changed since data were collected.

Table 7. Drinking Water Sufficient Credible Data Decision Table

Level of Information	Technical Component	Spatial/Temporal Coverage	Data Quality	Data Currency
Insufficient Data	- Probable impairments to drinking water were not measured. -Impairments are inferred. -Probable sources of impairment were not documented.	-Limited temporal coverage (less than quarterly sampling for <3 years). -Data not collected at critical times -Limited spatial coverage that does not adequately target probable impairments (e.g., one location) - Limited water quality data with no exceedences of standards, but sediment data indicate contamination, and/ or probable sources of impairment are located in the watershed.	-Data precision and sensitivity are low or unknown. - QC protocols not followed or indicate contamination. -Detection limits are too high. -Samples not properly preserved	- Data do not reflect current conditions.
Sufficient Credible Data	-Total recoverable metals were measured. - Total and dissolved metals were measured. -Organic compounds were measured -Sampling and analysis includes sediment. -Probable sources of impairment were documented.	-Human health water quality standards are exceeded. -A sufficient number of parameters were analyzed through sampling at least quarterly; or sampling adequately targeted critical time periods for >3 years. -Good spatial coverage or well-targeted sampling locations. -Limited water quality data with no exceedences of standards, sediment data do not have elevated metals and/or organic compounds and no probable sources of impairment are located in the watershed.	-Data precision and sensitivity moderate. -QA/QC protocols are followed. - Low detection limits	-Data likely reflects current conditions. - There have not been any significant changes in activities occurring in the watershed since the data were collected.

Note: For this guidance document, exceedence is defined as a pollutant level that violates Montana's water quality standards

Table 8. Recreation and Aesthetics Sufficient Credible Data Decision Table

Level of Information	Technical Component	Spatial/Temporal Coverage	Data Quality	Data Currency
Insufficient Data	-Observations of algae blooms, odors, turbidity, aesthetics, etc. without documentation. -Observations made about flows or water levels without documentation. -Observations made concerning surface scums, pollution, toxins, etc. without documentation.	- Very limited water chemistry or fecal coliform data. -Data not collected at critical times such as during the summer for swimming. Limited spatial coverage that does not adequately target probable causes of impairments (e.g., one location). -Limited temporal cover	-Data precision and sensitivity are low or unknown. - QA/QC protocols were not followed. -Samples not properly collected or preserved; or exceed holding times. -Poor documentation	- Data do not reflect current conditions.
Sufficient Credible Data	-Observations of algae blooms, odors, turbidity, aesthetics, etc., well documented. - Documentation includes photos. -Probable sources of impairment identified; probable causes of impairment measured or well documented (toxins, dewatering, etc). -Chlorophyll *a* data collected -Fecal coliform data collected -Fish consumption advisories resulting from anthropogenic impairment -Information concerning beach closures. -Sechii disk data (lakes). -Long-time local residents provide consistent historical perspectives regarding their observation of changes in water quality over time.	-Good temporal coverage of observations, photo documentation, fecal coliform data, etc. -Data and observations are targeted during the summer months. -Good spatial coverage or well targeted sampling location(s). -Limited water quality data or documentation; however, data indicate severe impairment.	-Data precision and sensitivity moderate. -QA/QC protocols are followed. - Low detection limits	-Data likely reflect current conditions. -There have been no significant activity changes in the watershed since the data were collected.

Table 9. Aquatic Life/Fisheries Use Support Decision Table for Streams

DATA CATEGORY (Streams) 1. CHEMISTRY	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
1(a) TOXICITY (e.g., WET Tests)	Bioassay test indicates no acute or chronic toxicity	Bioassay test indicates chronic toxicity	Bioassay test indicates acute toxicity
1(b) CHEMICAL TOXICANTS - (trace metals, ammonia, chlorine, organics, pesticides, etc.) 1, 2 *Acute and Chronic Water Quality Standards*	For any pollutant: No exceedence of acute or chronic standards, and/or the chronic standards are exceeded by less than 10% no more than once for one parameter in a three-year period when measurements were taken at least four times/year (quarterly).	For any pollutant: Acute standards are exceeded by less than 25%; and/or chronic standards are exceeded by 10-50%; and/or water quality standards are exceeded in no more than 10% of the measurements from a large data set.	For any pollutant: Acute standards are exceeded by at least 25%; and/or chronic standards are exceeded by more than 50%; and/or water quality standards are exceeded in more than 10% of the measurements from a large data set.
Sediment Chemistry (Toxicants, e.g., metals and organic compounds)	Sediment trace metal concentrations are similar to reference condition.	Sediment trace metal concentrations are moderately higher than reference condition.	Sediment trace metal concentrations are substantially higher than reference condition.
Models	Predictive models do not indicate impairment.	Predictive models indicate moderate impairment.	Predictive models indicate severe impairment.
Bioaccumulation (e.g., fish tissue)	Pollutants are not bioaccumulated or are only slightly above background levels.	Bioaccumulation of pollutant is moderately above background levels.	Bioaccumulation of pollutant is substantially higher than background levels.

1 **Note: When possible, use the average concentration of samples collected over a 96 hour period and compare directly to chronic standard values; one data point (n=1) is sufficient if no other data were collected within 96 hours. If a single grab sample is the only result available, no reference site has been established and *no likely sources* are evident, then the magnitude of the exceedence of Chronic Aquatic Life/Fisheries Standards should fall toward the upper (e.g., 25%-50%) range before a "moderately impaired" call is made. This does not prelude use of the W.O.E. test.**

2 **Note: Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, expert opinion or modeling.**

Table 9. Aquatic Life/Fisheries Use Support Decision Table for Streams *(Cont.)*

DATA CATEGORY (Streams)	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
1(c) CHEMISTRY (Nutrients, dissolved oxygen, pH, TSS, turbidity, and temperature) [3] [4] [5] *Water quality Standards*	Water quality standards are not exceeded for any pollutant; or the measurements are similar to reference condition; and/or for one parameter only, the water quality standard was randomly exceeded by less than 10% in no more than 10% of the measurements from a large data set.	Water quality standards are exceeded by less than or equal to 50%; Parameters that do not have numeric values will be compared to reference condition; and/or the water quality standards are exceeded for 11 to 25% of the measurements from a large data set.	Water quality standards are exceeded by more than 50%; Parameters that do not have numeric values will be compared to reference condition; and/or the water quality standards are exceeded by more than 25% of the measurements from a large data set.
Nutrients	Nutrient concentrations are similar to reference condition.	Nutrient concentrations are moderately higher than reference condition.	Nutrient concentrations are substantially higher than reference condition.
Sediment	Total Suspended Sediment or turbidity measurements are similar to reference condition.	Total Suspended Sediment or turbidity measurements are moderately higher than reference condition.	Total Suspended Sediment or turbidity measurements are higher than reference condition.
Models	Predictive models indicate no impairment.	Predictive models indicate moderate impairment.	Predictive models indicate severe impairment.

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3 **Note: Dissolved Oxygen requires consideration of diel changes and the time of year (e.g., presence or absence of critical life stage); pH and temperature standards reflect deviations from natural. For pH and temperature a 110% exceedence of standards means a 10% exceedence of the maximum allowable change from natural.**

4 **Note: A large data set is 4 times/year for 3 years.**

5 **Note: Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, or expert opinion or modeling.**

Table 9. Aquatic Life/Fisheries Use Support Decision Table for Streams *(Cont.)*

DATA CATEGORY (Streams) 2. HABITAT	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
6 7 ***Habitat (e.g., evidence of excessive sediment or dredging)***	**Data indicate that the habitat is similar to reference condition. (channel morphology; substrate composition; bank/riparian structure)**	**Modification of habitat slight to moderate with some evidence of watershed erosion caused by land use activities. Channel modification slight to moderate.**	**Severe habitat alteration by channelization and dredging activities, bank failure or heavy watershed erosion.**
Flow	**Flow regime of the region. Dams built prior to July 1, 1971 are operated in a reasonable manner where impacts to aquatic life habitat are minimized.**	**Comparison to reference condition indicates that flow alterations have an impact on aquatic life habitat.**	**Comparison to reference condition indicates that flow alterations have severely impacted aquatic life habitat.**
Riparian Area	**The stream has riparian vegetation of natural types with minimal short-term impacts.**	**Limited riparian zones because of encroaching land use patterns.**	**Removal of riparian habitat is widespread.**
Stream Reach Survey	**The DEQ Stream Reach Survey score is greater than or equal to 75 percent of reference condition or the total possible score.**	**DEQ Stream Reach Survey score is between 25-75 percent of reference condition or of the total possible score.**	**The DEQ Stream Reach Survey score is less than or equal to 25 percent of reference condition or of the total possible score.**
Proper Functioning Condition	**Proper functioning condition**	**Functional- at risk**	**Nonfunctional**
Geomorphology (e.g. pattern, channel cross section, longitudinal profile, pebble count)	**Measurements indicate that the geomorphology is similar to reference condition.**	**Measurements indicate that the stream is moderately unstable.**	**Measurements indicate that the stream is extremely unstable (often Rosgen stream types F, G and D).**

6 **Note: DEQ is using habitat and reference condition to interpret narrative water quality standards that protect aquatic life use.**

7 **Note: Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, expert opinion or modeling.**

Table 9. Aquatic Life/Fisheries Use Support Decision Table for Streams *(Cont.)*

DATA CATEGORY (Streams) **3. BIOLOGY**	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
Biological Assemblages ***A) Macroinvertebrate*** ***B) Periphyton*** ***C) Fishery*** 8,9,10	**Data indicate functioning, sustainable biological assemblages, none of which have been modified significantly beyond the natural range of the reference condition (greater than 75 percent of reference condition).**	**At least one biological assemblage indicates moderate impairment when compared to reference condition (25-75 percent of reference condition).**	**At least one assemblage indicates severe impairment Data clearly indicate severe modification of the biological community when compared to reference condition (less than 25 percent of reference condition).**
Chlorophyll	**The benthic chlorophyll level is similar to reference condition; or the chlorophyll is no more than 100 mg/m^2.**	**The benthic chlorophyll level is moderately higher than reference condition; or the chlorophyll is greater than 100 and not more than 150 mg/m^2.**	**The benthic chlorophyll level is substantially greater than reference condition; or the chlorophyll is greater than 150 mg/m^2.**
Fish Survey (Population estimates)	**Sustainable (wild) fishery is greater than 75 percent of reference condition; or meets the goals of a DFWP management plan**	**Sustainable (wild) fishery population is 25-75 percent of reference condition; or the goals of a DFWP management plan are not met due to anthropogenic impacts to water quality.**	**The stream does not support a sustainable (wild) fishery due to anthropogenic impacts to water quality.**
Wildlife	**Associated wildlife populations are minimally impacted.**	**Associated wildlife populations have been moderately impacted.**	**Associated wildlife populations have been severely impacted.**

8 **Note: DEQ will work with DFWP to further develop fishery guidelines.**

9 **Note: Associated wildlife includes amphibians, waterfowl, and furbearers.**

10 **Note: Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, or expert opinion or modeling.**

Table 10. Aquatic Life Use Support Tables for Lakes and Wetlands (Fish, Aquatic Life, and Wildlife)

DATA CATEGORY (Lakes and Wetlands) **1. CHEMISTRY**	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
1(a) TOXICITY	**Bioassay test indicates that there is no acute or chronic toxicity**	**Bioassay test indicates chronic toxicity**	**Bioassay test indicates acute toxicity**
1(b) CHEMICAL (TOXICANTS - trace metals, ammonia, chlorine, organics, pesticides, etc.) [11] [12] ***Acute and Chronic Water Quality Standards***	**For any pollutant: No exceedence of acute or chronic standard values; and/or the chronic standards are exceeded by less than 10% no more than once for one parameter in a three year period when measurements were taken at least four times/year.**	**For any pollutant: Acute standards are exceeded by less than or equal to 25%; or chronic standards are exceeded by less than or equal to 50%; and/or water quality standards are exceeded in no more than 10% of the measurements from a large data set.**	**For any pollutant: Acute standards are exceeded by more than 25%; or chronic standards are exceeded by more than 50%; and/or water quality standards are exceeded in more than 10% of the measurements from a large data set.**
Sediment Chemistry (Toxicants, e.g., metals, Organic compounds)	**Sediment trace metal concentrations are similar to reference condition.**	**Sediment trace metal concentrations are moderately higher than reference condition.**	**Sediment trace metal concentrations are substantially higher than reference condition.**
Trophic Status	**Trophic status is similar to reference condition**	**Trophic status exceeds reference condition.**	**Trophic status is hyper-eutrophic.**
Models	**Predictive models do not indicate impairment**	**Predictive models indicate moderate impairment.**	**Predictive models indicate severe impairment**
Bioaccumulation (e.g., fish tissue, etc.)	**Pollutants are not bioaccumulated above background levels.**	**Bioaccumulation of pollutant is slightly above background levels.**	**Bioaccumulation of pollutant is substantially higher than background levels.**

11 **Note: When possible, use the average concentration of samples collected over a 96 hour period and compare directly to chronic standard values; one data point (n=1) is sufficient if no other data were collected within 96 hours.**

12 **Note: Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, expert opinion or modeling.**

Table 10. Aquatic Life Use Support Tables for Lakes and Wetlands (Fish, Aquatic Life, and Wildlife) (*cont.*)

DATA CATEGORY (Lakes and Wetlands)	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
1(c) CHEMISTRY (nutrients, dissolved oxygen, pH, TSS, turbidity and temperature) 13, 14, 15 ***Water Quality Standards***	**Water quality standard values are not exceeded for any pollutant; or the measurements are similar to reference condition; and/or for one parameter only the water quality standard was exceeded randomly by less than 10% in less than or equal to 10% of the measurements from a large data set.**	**Water quality standard values are exceeded by less than 50%; Parameters that do not have numeric values will be compared to reference condition; and/or the water quality standards are exceeded for 11 to 25% of the measurements from a large data set.**	**Water quality standard values are exceeded by greater than 50%; Parameters that do not have numeric values will be compared to reference condition; and/or the water quality standards are exceeded for greater than 25% of the measurements from a large data set.**
Nutrients	**Nutrient concentrations are similar to reference condition.**	**Nutrient concentrations are moderately higher than reference condition.**	**Nutrient concentrations are substantially higher than reference condition.**
Models	**Predictive models do not indicate impairment**	**Predictive models indicate moderate impairment.**	**Predictive models indicate severe impairment.**

13 **Note: Dissolved Oxygen requires consideration of diel changes and the time of year (e.g., presence or absence of critical life stage). pH and Temperature standards reflect deviations from natural. For pH and temperature a 10% exceedence of standards means a 10% exceedence of the maximum allowable change from natural.**

14 **Note: A large data set is 4 times/year for 3 years.**

15 **Note: : Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, expert opinion or modeling.**

Table 10. Aquatic Life Use Support Tables for Lakes and Wetlands (Fish, Aquatic Life, and Wildlife) (*cont.*)

DATA CATEGORY (Lakes and Wetlands) 2. HABITAT	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
Habitat 16 17	**Data indicate that the habitat is similar to reference condition.**	**Modification of habitat includes moderate evidence of impacts to the shoreline or littoral zone such as erosion or removal of native riparian or littoral vegetation.**	**Severe habitat alteration by shoreline erosion (bank failure) or removal of riparian or littoral vegetation .**
Sediment	**No significant deposition of sediments beyond reference condition.**	**Moderate levels of sediment are being transported to the lake from the watershed.**	**Excessive levels of sediment are being transported to the lake from the watershed.**
Water Level	**Water level fluctuation is similar to reference condition; or dams are operated in a reasonable manner where negative impacts to aquatic life are minimized.**	**Water level fluctuations have moderate impact on aquatic life habitat; or dam operations could be improved to benefit all designated beneficial uses, including aquatic life.**	**Water level fluctuations have severely impacted aquatic life habitat; or dams are not operated to support all designated beneficial uses, including aquatic life.**
Proper Functioning Condition or HGM Functional Assessment	**Proper Functioning Condition**	**Functional- at risk**	**Nonfunctional**
Habitat Assessment	**Habitat assessment indicate none/slight impairment**	**Habitat Assessment indicates moderate impairment**	**Habitat assessment indicates severe impairment.**

16 **Note: DEQ is using habitat and reference condition to interpret narrative water quality standards that protect aquatic life use.**

17 **Note: Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, expert opinion or modeling.**

Table 10. Aquatic Life Use Support Tables for Lakes and Wetlands (Fish, Aquatic Life, and Wildlife) (*cont.*)

DATA CATEGORY (Lakes and Wetlands) 3. BIOLOGY	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
Biological Assemblages ***- Fish*** ***- periphyton*** ***-phytoplankton*** ***- macroinvertebrates*** ***- zooplankton*** 18,19,20	**Data indicate functioning, sustainable biological assemblages, none of which have been modified significantly beyond the natural range of the reference condition (greater than 75 percent of reference condition remaining).**	**At least one biological assemblage indicates moderate impairment (25-75 percent of reference condition remaining).**	**At least one assemblage indicates severe impairment (less than 25 percent of reference condition remaining).**
Chlorophyll	**The chlorophyll levels are similar to reference condition.**	**The chlorophyll level is moderately higher than reference condition.**	**The chlorophyll level is substantially greater than reference condition.**
Paleolimnology	**Sediment core samples do not indicate impairments.**	**Sediment core samples show moderate changes in salinity, trophic status, sedimentation rates or alkalinity as a result of anthropogenic impacts.**	**Sediment core samples show excessive changes in salinity, trophic status, sedimentation rates or alkalinity as a result of anthropogenic impacts.**
Fishery Survey	**Fishery is similar to reference condition; or meets DFWP management goals.**	**Fish population is moderately impaired; or although there is a fishery, the DFWP management goals are not met due to anthropogenic impacts to water quality.**	**The lake does not support a fishery population due to anthropogenic impacts to water quality.**
Wildlife	**Impacts to associated wildlife populations are minimal.**	**Impacts to wildlife populations have been moderate.**	**Impacts to associated wildlife populations have been severe.**

18 **Note: DEQ will work with DFWP to further develop fishery guidelines.**

19 **Note: Associated wildlife includes amphibians, waterfowl, and furbearers.**

20 **Note: Reference Conditions may be determined through a combination of the following: Comparison of the water body to a least impaired stream, historical data showing previous condition of the water body, conditions in a less-impaired upstream or downstream segment of the same water body, conditions in a paired watershed, a review of pertinent literature, expert opinion or modeling.**

Table 11. Drinking Water Beneficial Use Support Decision Table

BENEFICIAL USE	**UNIMPAIRED OR** *LEAST IMPAIRED*	**MODERATELY IMPAIRED**	**SEVERELY IMPAIRED**
Drinking Water	**No human health standard exceedences.**	**Not Applicable**	**Exceedence of human health standards.**

Note: Assume drinking water will be treated prior to consumption (e.g., chlorination or filtration)

Note: For this guidance document, exceedence is defined as a violation of Montana's water quality standards.

Table 12. Contact Recreation Beneficial Use Support Decision Table

DATA OR INFORMATION	NOT/LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
Algae, Toxins etc.	**There are no excessive blue-green algae blooms, turbidity, odor, toxins, etc.; similar to reference condition.**	**Excessive blue-green algae blooms turbidity, odor, toxins, etc. moderately restrict swimming or boating.**	**Swimming or boating severely inhibited by excessive blue-green algae blooms, pathogens, turbidity, odor, toxins, etc.**
Chlorophyll	**The benthic chlorophyll level is similar to reference condition; or the chlorophyll is no more than 50 mg/m^2.**	**The benthic chlorophyll level moderately exceeds reference condition; or the chlorophyll is more than 50 mg/m^2 but not more than 100 mg/m^2.**	**The benthic chlorophyll level greatly exceeds reference condition; or the chlorophyll is more than 100 mg/m^2.**
Bathing Closure	**No bathing area closures.**	**Beach closures.**	**Lakewide bathing closures.**
Fecal Coliforms	**Fewer than 200 colonies fecal coliform per 100 ml for 90 percent of the samples collected in a 30-day period; or similar to reference condition.**	**No more than 10 percent of samples exceed 400 colonies fecal coliform per 100 ml during any 30-day period and probable sources are identified.**	**More than 10 percent of samples exceed 400 colonies fecal coliform per 100 ml in a 30 day period and probable sources are identified.**
De-watering	**Water quantity is similar to reference condition; dams are operated in a reasonable manner so recreation impairment is minimized.**	**Water body is partially dewatered and discourages recreation.**	**Water body is dewatered and can not be used for recreation.**

Table 13. Agriculture Supply Beneficial Use Support Decision Tables

DATA AND INFORMATION	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
Salinity (general)	**The water quality is similar to reference condition or does not restrict agricultural use.**	**Water salinity exceeds reference condition and discourages agricultural use.**	**Water salinity exceeds reference condition and can not be used for agriculture.**
Livestock (salinity)	**The water salinity is satisfactory for livestock and poultry; the specific conductance is less than 5000 uS/cm.**	**The water salinity limits use by livestock and poultry; Specific conductance is between 5000 and 15,000 uS/cm.**	**Livestock and poultry are unable to use the water due to high salinity; specific conductance is more than 15,000 uS/cm.**
Irrigation (salinity)	**The water is satisfactory for irrigation. The sodium adsorption Ratios are less than 4; or water may only impact sensitive crops. Specific conductance is less than 1500 uS/cm.**	**Irrigation water may have an adverse effect on soils. Sodium adsorption ratios are between 4 and 18; or water may have an adverse effect on crops and may require careful management. Specific conductivity is 1500-7500 uS/cm.**	**Irrigation water is likely to have an adverse effect on soils. Sodium adsorption ratios greater than 18; or water has an adverse effect on crops. Specific conductance is more than 7500 uS/cm.**
Toxicants	**Trace metal concentrations are similar to reference condition.**	**Trace metal concentrations and other toxicant concentrations exceed reference condition; however, the water can still be used for agriculture.**	**The water cannot be used for agriculture due to elevated trace metals or other toxicants.**

Table 14. Industry Supply Beneficial Use Support Decision Tables

DATA AND INFORMATION	UNIMPAIRED OR LEAST IMPAIRED	MODERATELY IMPAIRED	SEVERELY IMPAIRED
Salinity	**Salinity is similar to reference condition and/or the salinity does not restrict use by industry.**	**Salinity is above reference condition and discourages water use by industry.**	**Salinity is above reference condition and water cannot be used by industry.**
Turbidity	**Turbidity is similar to reference condition and/or the turbidity does not restrict use by industry.**	**Turbidity is above reference condition and discourages use by industry.**	**Turbidity is above reference condition and water cannot be used by industry.**
De-watering	**Water quantity is similar to reference condition.**	**Water body is partially de-watered and discourages use by industry.**	**Water body is de-watered and can not be used by industry.**

APPENDIX B: Water to be Monitored and Reassessed - Lacking Sufficient Credible Data (from 2000 303(d) list)

NOTE: All waters from the 1998 303(d) List not listed on the 2000 303(d) List due to a lack of sufficient credible data appear in this appendix. Those with a date listed in the "Assessed Year" column have since been assessed and found to be either impaired or fully supporting all uses.

WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
UPPER MISSOURI BASIN					
RED ROCK	RED ROCK RIVER between Lima Reservoir and Lower Red Rock Lake	10020001	MT41A001_020	30.5 Mi	
RED ROCK	CLARK CANYON RESERVOIR	10020001	MT41A002_010	4888 Ac	
RED ROCK	MEDICINE LODGE CREEK from headwaters to mouth (Horse Prairie Cr.)	10020001	MT41A003_010	32.2 Mi	
RED ROCK	BLOODY DICK CREEK from headwaters to mouth (Horse Prairie Cr)	10020001	MT41A003_100	32.3 Mi	
RED ROCK	SHEEP CREEK from Muddy Cr to mouth (Red Rock R)	10020001	MT41A003_150	9.8 Mi	
RED ROCK	UN-NAMED DRAINAGE T-14S R-8W S-9	10020001	MT41A003_210	1 Mi	
RED ROCK	PRICE CREEK, Headwaters to the mouth (Red Rock R)	10020001	MT41A004_010	8.6 Mi	
RED ROCK	FISH CREEK from headwaters to mouth (Metzel Cr.)	10020001	MT41A004_030	6.9 Mi	
RED ROCK	CORRAL CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_040	4.4 Mi	
RED ROCK	EAST FK CLOVER CREEK, Headwaters to mouth (Clover Cr-Wolvering Cr)	10020001	MT41A004_050	5.5 Mi	
RED ROCK	HELL ROARING CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_060	9 Mi	
RED ROCK	LONG CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_070	19.5 Mi	
RED ROCK	PEET CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_090	8.4 Mi	
RED ROCK	TOM CREEK Headwaters to upper Red Rock Lake	10020001	MT41A004_100	6.7 Mi	
RED ROCK	JONES CREEK Headwaters to Mud Cr T14S, R3W SEC 30,31, T15S R3W SEC 4	10020001	MT41A004_130	7.1 Mi	
RED ROCK	BEAN CREEK Headwaters to the Mouth (Red Rock R) T4S R3E	10020001	MT41A004_140	5.7 Mi	
BEAVERHEAD	FARLIN CREEK from headwaters to mouth (Grasshopper Cr) T6S R12W	10020002	MT41B002_020	6 Mi	
BEAVERHEAD	EAST FORK BLACKTAIL DEER CREEK, Headwaters to mouth (Blacktail Deer Cr	10020002	MT41B002_040	17.1 Mi	
BEAVERHEAD	EAST FORK DYCE CREEK from headwaters to mouth (Dyce Cr-Grasshopper Cr)	10020002	MT41B002_050	4.7 Mi	
BEAVERHEAD	WEST FK BLACKTAIL DEER CR, Headwaters to mouth (Blacktail Deer Cr)	10020002	MT41B002_060	15.9 Mi	
BEAVERHEAD	WEST FK DYCE CR, Headwaters to mouth (Dyce Cr - Grasshopper Cr)	10020002	MT41B002_070	4.6 Mi	
BEAVERHEAD	SPRING CREEK	10020002	MT41B002_080	14.8 Mi	
BEAVERHEAD	RATTLESNAKE CREEK from headwaters to mouth (Beaverhead R)	10020002	MT41B002_090	25.6 Mi	
BEAVERHEAD	CLARK CANYON CREEK, Headwaters to the mouth (Beaverhead R) T9S R10W	10020002	MT41B002_110	8 Mi	
BEAVERHEAD	RESERVOIR CREEK from headwaters to mouth (Grasshopper Cr)	10020002	MT41B002_120	12.3 Mi	
BEAVERHEAD	STONE CREEK below confluence with unnamed creek in NE, S34,T6S, R7W	10020002	MT41B002_131	7.3 Mi	
BEAVERHEAD	DYCE CREEK, confluence of East and West Forks to Grasshopper Cr	10020002	MT41B002_140	4.1 Mi	
BEAVERHEAD	STEEL CREEK, a tributary of Scudder Cr. T6S R12W	10020002	MT41B002_160	3.7 Mi	
BEAVERHEAD	TAYLOR CREEK, Headwaters to mouth (Grasshopper Cr)	10020002	MT41B002_170	11.5 Mi	
BEAVERHEAD	SCUDDER CREEK, Headwaters to the mouth (Grasshopper Cr) T6S R12W SEC 15,16	10020002	MT41B002_180	4.7 Mi	
BEAVERHEAD	INDIAN CREEK, Tributary to the East Fk Blacktail Deer Cr T11S R5W SEC 34.	10020002	MT41B002_190	2.7 Mi	
RUBY	WISCONSIN CREEK from headwaters to mouth (Leland Slough)	10020003	MT41C002_010	13.8 Mi	2002
RUBY	INDIAN CREEK from headwaters to mouth (Mill Cr-Ruby R)	10020003	MT41C002_030	11.3 Mi	2003
RUBY	CURRANT CREEK, Headwaters to mouth (Ramshorn Cr) T4S, R4W, S35	10020003	MT41C002_060	3.7 Mi	2003
RUBY	MILL GULCH, Trib. to Granite Cr-Alder Cr from Forest Boundary to Headwaters	10020003	MT41C002_070	3 Mi	2003
RUBY	CALIFORNIA CREEK tributary of Ruby R T-5S R-4W	10020003	MT41C002_090	10.9 Mi	2003
RUBY	GARDEN CREEK, Headwaters to mouth at Ruby Reservoir	10020003	MT41C002_100	7.3 Mi	2003
RUBY	MORMAN CREEK, Headwaters to mouth (Upper end of Ruby R Reservoir)	10020003	MT41C002_110	7.8 Mi	2003
RUBY	HARRIS CREEK, tributary to California Cr from Forest Boundary to Headwaters	10020003	MT41C002_120	2.9 Mi	2003

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
RUBY	COAL CREEK from headwaters to mouth (Middle Fork Ruby R)	10020003	MT41C003_020	8.3 Mi	2003
RUBY	COTTONWOOD CREEK from headwaters to mouth (Ruby R)	10020003	MT41C003_030	10.4 Mi	2002
RUBY	EAST FORK RUBY RIVER from headwaters to mouth (Ruby R)	10020003	MT41C003_040	8.3 Mi	2002
RUBY	WARM SPRINGS CREEK from headwaters to mouth (Ruby R)	10020003	MT41C003_050	8.6 Mi	2003
RUBY	SWEETWATER CREEK from headwaters to mouth (Ruby R)	10020003	MT41C003_060	23 Mi	2002
RUBY	NORTH FK GREENHORN CR from headwaters to confluence with South Fk	10020003	MT41C003_070	7.7 Mi	2003
RUBY	WEST FORK RUBY RIVER from headwaters to mouth (Ruby R)	10020003	MT41C003_080	7.4 Mi	2003
RUBY	MIDDLE FORK RUBY RIVER from Divide Cr to mouth (Ruby R)	10020003	MT41C003_090	10.5 Mi	2002
RUBY	POISON CREEK, Headwaters to mouth (Ruby R) T11S, R3W	10020003	MT41C003_110	5.3 Mi	2002
RUBY	BASIN CREEK, Headwaters to mouth (Middle Fork Ruby R) T11S, R3W	10020003	MT41C003_120	4.5 Mi	2002
RUBY	BURNT CREEK, Headwaters to mouth (Ruby R) T10S, R3W	10020003	MT41C003_130	5 Mi	2002
RUBY	HAWKEYE CREEK tributary to Ruby R (Middle Fork) T11S, R3W	10020003	MT41C003_140	3.6 Mi	2003
RUBY	SHOVEL CREEK, headwaters to mouth (Cabin Cr - Middle Fork Ruby R)	10020003	MT41C003_150	4 Mi	2003
RUBY	RUBY RIVER RESERVOIR	10020003	MT41C004_010	970.1 Ac	
BIG HOLE	CAMP CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D002_020	14.3 Mi	
BIG HOLE	DIVIDE CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D002_040	12.2 Mi	
BIG HOLE	GROSE CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D002_060	3.4 Mi	
BIG HOLE	SASSMAN GULCH from headwaters to mouth (Big Hole R)	10020004	MT41D002_070	6.5 Mi	
BIG HOLE	SEVEN SPRINGS CREEK Headwaters to mouth (Browns Gulch-Big Hole R)	10020004	MT41D002_080	3.3 Mi	
BIG HOLE	BIRCH CREEK headwaters to the National Forest Boundary	10020004	MT41D002_090	12.8 Mi	2002
BIG HOLE	Mc CLAIN CREEK Tributary to Moose Cr (Big Hole R)	10020004	MT41D002_130	3.1 Mi	
BIG HOLE	SOAP CREEK from headwaters to mouth (Big Hole R) T1S R9W S 23	10020004	MT41D002_140	8.3 Mi	
BIG HOLE	LOST CREEK in the Lower Big Hole Watershed T4S R9W SEC 17	10020004	MT41D002_180	7.8 Mi	
BIG HOLE	CHARCOAL GULCH tributary of the Big Hole R T 1S R 10W	10020004	MT41D003_010	3.8 Mi	
BIG HOLE	DELANO CREEK from headwaters to mouth (Jerry Cr)	10020004	MT41D003_030	2.3 Mi	
BIG HOLE	DEEP CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D003_040	7.9 Mi	2002
BIG HOLE	SIXMILE CREEK from headwaters to mouth (California Cr)	10020004	MT41D003_090	3.1 Mi	2002
BIG HOLE	SEVENMILE CREEK from headwaters to mouth (Deep Cr)	10020004	MT41D003_110	6.3 Mi	2002
BIG HOLE	TWELVEMILE CREEK from headwaters to mouth (Deep Cr)	10020004	MT41D003_120	8.9 Mi	2002
BIG HOLE	CORRAL CREEK from headwaters to mouth (Deep Cr)	10020004	MT41D003_130	5.1 Mi	2002
BIG HOLE	LA MARCHE CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D003_150	7.2 Mi	
BIG HOLE	FISHTRAP CREEK, confluence of West & Middle Fks to mouth (Big Hole R)	10020004	MT41D003_160	5.1 Mi	
BIG HOLE	PATTENGAIL CREEK from headwaters to mouth (Wise R)	10020004	MT41D003_210	18.8 Mi	2002
BIG HOLE	ELKHORN CREEK, Headwaters to mouth (Jacobson Cr-Wise R)	10020004	MT41D003_220	7.2 Mi	
BIG HOLE	GOLD CREEK from headwaters to mouth (Wise R)	10020004	MT41D003_230	4.8 Mi	
BIG HOLE	SCHULTZ CREEK from headwaters to mouth (Johnson Cr)	10020004	MT41D004_040	3.4 Mi	2002
BIG HOLE	TIE CREEK from headwaters to mouth (North Fork Big Hole R)	10020004	MT41D004_060	15.2 Mi	2003
BIG HOLE	TRAIL CREEK from Joseph Cr to mouth (North Fork Big Hole R)	10020004	MT41D004_080	10.1 Mi	2002
BIG HOLE	JOSEPH CREEK, Headwaters to mouth (Trail Cr-North Fork Big Hole R)	10020004	MT41D004_090	6.8 Mi	2002
BIG HOLE	ROCK CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D004_120	20.5 Mi	2002
BIG HOLE	LITTLE LAKE CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D004_130	17.6 Mi	2002

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
BIG HOLE	MINER CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D004_140	18.5 Mi	2002
BIG HOLE	PINE CREEK from headwaters to mouth (Andrus Cr. - Governor Cr.)	10020004	MT41D004_160	6.6 Mi	
BIG HOLE	FOX CREEK from headwaters to mouth (Governor Cr)	10020004	MT41D004_170	6.6 Mi	
BIG HOLE	FRANCIS CREEK from headwaters to mouth (Steel Cr) T3S R15W	10020004	MT41D004_200	7.9 Mi	
BIG HOLE	Mc VEY CREEK tributary to the Big Hole R T1S, R15W	10020004	MT41D004_210	8.6 Mi	
BIG HOLE	SAWLOG CREEK tributary to Big Hole R	10020004	MT41D004_230	5 Mi	
JEFFERSON	HALFWAY CREEK, Headwaters to mouth (Big Pipestone Cr-Jefferson R)	10020005	MT41G002_020	7.6 Mi	
JEFFERSON	LITTLE PIPESTONE CREEK, Headwaters to mouth (Big Pipestone Cr)	10020005	MT41G002_040	16.2 Mi	2002
JEFFERSON	NORWEGIAN CREEK from headwaters to mouth (Willow Cr Reservoir)	10020005	MT41G002_090	8.8 Mi	
JEFFERSON	CHERRY CREEK from headwaters to mouth (Jefferson R)	10020005	MT41G002_110	8.9 Mi	
JEFFERSON	DRY BOULDER CREEK from headwaters to mouth (Jefferson R)	10020005	MT41G002_120	14.7 Mi	
JEFFERSON	CHARCOAL CREEK from headwaters to mouth (Pony Cr)	10020005	MT41G002_150	2.5 Mi	
JEFFERSON	FITZ CREEK tributary to Little Whitetail Cr	10020005	MT41G002_160	4.8 Mi	
BOULDER	NORTH FK LITTLE BOULDER RIVER, Headwaters to the mouth (Little Boulder)	10020006	MT41E002_090	11.6 Mi	
BOULDER	McCARTHY CREEK from headwaters to the mouth (Boulder R)	10020006	MT41E002_110	6.7 Mi	
BOULDER	DRY CREEK from headwaters to the mouth (Boulder R)	10020006	MT41E002_120	15.1 Mi	
BOULDER	NURSERY CREEK from headwaters to mouth (Muskrat Cr-Boulder R)	10020006	MT41E002_130	1.1 Mi	
MADISON	BLAINE SPRING CREEK from headwaters to mouth (Madison R)	10020007	MT41F004_010	10.5 Mi	
MADISON	BEAVER CREEK from headwaters to the mouth (Quake Lake)	10020007	MT41F004_030	9.9 Mi	2003
MADISON	ELK RIVER from headwaters to the mouth (West Fork Madison R)	10020007	MT41F004_110	14.3 Mi	
MADISON	GAZELLE CREEK, Headwaters to the mouth (West Fork Madison R)	10020007	MT41F004_120	9.2 Mi	
MADISON	ANTELOPE CREEK from headwaters to mouth (Cliff Lake)	10020007	MT41F004_140	9 Mi	
MADISON	BUFORD CREEK Headwaters to the mouth (West Fork Madison R)	10020007	MT41F004_150	4 Mi	
GALLATIN	GALLATIN RIVER from Spanish Cr to Montana State border	10020008	MT41H001_020	52 Mi	
GALLATIN	SOUTH COTTONWOOD CREEK, Headwaters to the Middle Cr Assoc Ditch diversion	10020008	MT41H002_032	11.1 Mi	2003
GALLATIN	EAST GALLATIN RIVER from headwaters to Bridger Cr	10020008	MT41H003_010	7 Mi	
GALLATIN	EAST GALLATIN RIVER from Bridger Cr to Reese Cr	10020008	MT41H003_020	14.6 Mi	
GALLATIN	EAST GALLATIN RIVER from Reese Cr to the mouth (Gallatin R)	10020008	MT41H003_030	18.9 Mi	
GALLATIN	SOURDOUGH CREEK, Limestone Cr to the mouth (East Gallatin R)	10020008	MT41H003_040	4.7 Mi	
GALLATIN	JACKSON CREEK from headwaters to the mouth (Rocky Cr)	10020008	MT41H003_050	7 Mi	
GALLATIN	THOMPSON CREEK (or Thompson Spring), Headwaters to mouth (E Gallatin R)	10020008	MT41H003_090	7.4 Mi	
GALLATIN	BRIDGER CREEK, Headwaters to the mouth (East Gallatin R)	10020008	MT41H003_110	18.4 Mi	
GALLATIN	STONE CREEK from headwaters to the mouth (Bridger Cr)	10020008	MT41H003_120	5.6 Mi	
GALLATIN	HYALITE CREEK from headwaters to the Natl. Forest Boundary	10020008	MT41H003_131	15 Mi	
UPPER MISSOURI	MISSOURI RIVER from headwaters to Toston Dam	10030101	MT41I001_011	21 Mi	
UPPER MISSOURI	BATTLE CREEK from headwaters to the mouth (Sixteenmile Cr - Missouri R)	10030101	MT41I002_020	20.4 Mi	
UPPER MISSOURI	DRY CREEK from headwaters to the mouth (Missouri R)	10030101	MT41I002_080	16.7 Mi	
UPPER MISSOURI	MAGPIE GULCH from the headwaters to the mouth (Canyon Ferry Res)	10030101	MT41I002_110	12.7 Mi	
UPPER MISSOURI	SIXTEENMILE CREEK from Lost Cr to the mouth (Missouri R)	10030101	MT41I002_120	446.6 Mi	
UPPER MISSOURI	WHITE GULCH from headwaters to the mouth (Canyon Ferry Res)	10030101	MT41I002_130	13.2 Mi	
UPPER MISSOURI	CAVE GULCH from headwaters to mouth (Canyon Ferry Reservoir)	10030101	MT41I002_150	6.4 Mi	

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
UPPER MISSOURI	BOULDER CREEK from 3 Miles above mouth to mouth (Confederate Gulch)	10030101	MT41I002_160	3 Mi	
UPPER MISSOURI	BEAVER CREEK, Headwaters to Nelson	10030101	MT41I005_011	13.3 Mi	
UPPER MISSOURI	BEAVER CREEK, Nelson to the mouth (Missouri R below Hauser Dam)	10030101	MT41I005_012	5.3 Mi	
UPPER MISSOURI	TROUT CREEK from headwaters to the mouth (Hauser Lake)	10030101	MT41I005_020	20.1 Mi	
UPPER MISSOURI	SHEEP CREEK from headwaters to mouth (Little Prickly Pear Cr)	10030101	MT41I005_070	5.9 Mi	
UPPER MISSOURI	WOODSIDING GULCH Tributary to Little Prickly Pear Cr. T13N R4W Sec 33	10030101	MT41I005_080	2.2 Mi	
UPPER MISSOURI	SEVENMILE CREEK from headwaters to the mouth (Tenmile Cr)	10030101	MT41I006_160	7.8 Mi	2002
UPPER MISSOURI	NORTH FK WARM SPRINGS CREEK, Headwaters to mouth (Warmsprings Cr)	10030101	MT41I006_180	3.5 Mi	2002
UPPER MISSOURI	JACKSON CREEK, Headwaters to mouth (McClellan Cr-Prickly Pear Cr)	10030101	MT41I006_190	2.5 Mi	
UPPER MISSOURI	JENNIES FORK from headwaters to mouth (Silver Cr-Missouri R)	10030101	MT41I006_210	1.2 Mi	
UPPER MISSOURI	SKELLY GULCH tributary of Greenhorn Cr-Sevenmile Cr T10N R5W Sec 2	10030101	MT41I006_220	7.7 Mi	2002
UPPER MO-DEARBORN	MISSOURI RIVER from Little Prickly Pear Cr to Sheep Cr.	10030102	MT41Q001_021	21.3 Mi	
UPPER MO-DEARBORN	BOX ELDER CREEK from Spring Cr to mouth (Missouri R)	10030102	MT41Q002_050	15.9 Mi	
UPPER MO-DEARBORN	SOUTH FORK STICKNEY CREEK, Headwaters to the mouth (Stickney Cr-Missouri R)	10030102	MT41Q002_070	14.1 Mi	
UPPER MO-DEARBORN	MIDDLE FORK OF THE DEARBORN RIVER, Headwaters to the mouth (Dearborn R)	10030102	MT41Q003_020	13.5 Mi	2002
UPPER MO-DEARBORN	SOUTH FORK OF THE DEARBORN RIVER, Headwaters to the mouth (Dearborn R)	10030102	MT41Q003_030	15.8 Mi	2002
UPPER MO-DEARBORN	FLAT CREEK from Henry Cr to the mouth (Dearborn R)	10030102	MT41Q003_040	15.5 Mi	2002
SMITH	HOUND CREEK from Spring Cr to the mouth (Smith R)	10030103	MT41J002_020	6.2 Mi	
SMITH	BEAVER CREEK from headwaters to the mouth (Smith R)	10030103	MT41J002_040	19.6 Mi	
SMITH	ELK CREEK from headwaters to Camas Cr	10030103	MT41J002_060	9.7 Mi	
SMITH	THOMPSON GULCH from headwaters to the mouth (Smith R)	10030103	MT41J002_070	10.5 Mi	
SMITH	NEWLAN CREEK from headwaters to Newlan Res.	10030103	MT41J002_082	13.8 Mi	
SMITH	LITTLE CAMAS CREEK from headwaters to mouth (Camas Cr)	10030103	MT41J002_100	4 Mi	
SMITH	MOOSE CREEK from headwaters to the mouth (Sheep Cr)	10030103	MT41J002_120	10.9 Mi	
SUN	GIBSON RESERVOIR	10030104	MT41K004_010	1281.9 Ac	
SUN	WILLOW CREEK RESERVOIR	10030104	MT41K004_020	1355.6 Ac	
BELT	LITTLE BELT CREEK from the mouth three miles up stream	10030105	MT41U002_040	3 Mi	
LOWER MISSOURI BASIN					
TWO MEDICINE	TWO MEDICINE RIVER from Birch Cr to the mouth (Marias R)	10030201	MT41M001_010	4.3 Mi	
TWO MEDICINE	RAILROAD CREEK, Headwaters to the Blackfeet Reservation boundary	10030201	MT41M002_010	6.1 Mi	
TWO MEDICINE	SOUTH FORK TWO MEDICINE RIVER, Headwaters to the Blackfeet Res.	10030201	MT41M002_030	17.3 Mi	
TWO MEDICINE	SOUTH FORK BADGER CREEK, Headwaters to the mouth (Badger Cr)	10030201	MT41M002_050	10.9 Mi	
TWO MEDICINE	SOUTH FORK BIRCH CREEK, Headwaters to the mouth (Swift Res)	10030201	MT41M002_070	9.6 Mi	
TWO MEDICINE	BIRCH CREEK, Blacktail Cr to the mouth (Two Medicine R)	10030201	MT41M002_080	34.1 Mi	
TWO MEDICINE	NORTH FK DUPUYER CREEK, Wilderness boundary to mouth (Dupuyer Cr)	10030201	MT41M002_090	3.4 Mi	
TWO MEDICINE	SOUTH FK DUPUYER CREEK, Wilderness boundary to mouth (Dupuyer Cr)	10030201	MT41M002_100	4.6 Mi	
TWO MEDICINE	DUPUYER CREEK from North & South Forks to the mouth (Birch Cr)	10030201	MT41M002_110	37.6 Mi	
CUT BANK	OLD MAIDS COULEE from headwaters to the mouth (Cutbank Cr)	10030202	MT41L001_010	16.4 Mi	
CUT BANK	CUT BANK CREEK, Blackfeet Res. boundary to the mouth (Marias R)	10030202	MT41L001_040	23.1 Mi	
MARIAS	MARIAS RIVER, Tiber Reservoir to the Two Medicine R - Cut Bank Cr Confluence	10030203	MT41P001_010	60 Mi	

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
MARIAS	DRY FORK MARIAS RIVER from Spring Cr to the mouth (Marias R)	10030203	MT41P002_010	24 Mi	
MARIAS	DRY FORK MARIAS RIVER from headwaters to Spring Cr	10030203	MT41P002_020	31.3 Mi	
MARIAS	GOVERNMENT CREEK,Headwaters to the mouth (Corral Cr - Cottonwood Cr)	10030203	MT41P002_040	17.4 Mi	
MARIAS	TIBER RESERVOIR (Lake Elwell)	10030203	MT41P003_010	17500.1 Ac	
MARIAS	LAKE FRANCES Northwest of Conrad, MT	10030203	MT41P003_020	5536 Ac	
TETON	WILLOW CREEK from headwaters to the mouth (Deep Cr)	10030205	MT41O002_010	18.9 Mi	2002
TETON	DEEP CREEK from Willow Cr to the mouth (Teton R)	10030205	MT41O002_020	9 Mi	2003
TETON	BLACKLEAF CREEK from headwaters to Crow Cr	10030205	MT41O002_041	7.3 Mi	2002
TETON	BLACKLEAF CREEK from Crow Cr to the mouth (Muddy Cr)	10030205	MT41O002_042	19.8 Mi	2003
TETON	TETON SPRING CREEK from the city of Choteau to mouth (Teton R)	10030205	MT41O002_060	4.5 Mi	2002
TETON	TETON SPRING CREEK from headwaters to city of Choteau	10030205	MT41O002_070	8.5 Mi	2002
TETON	CLARK FORK OF MUDDY CREEK, Headwaters to mouth (Muddy Cr)	10030205	MT41O002_080	7.7 Mi	2003
TETON	BYNUM RESERVOIR	10030205	MT41O003_010	4120 Ac	*2003
TETON	EUREKA RESERVOIR	10030205	MT41O003_020	400.3 Ac	*2002
BULLWHACKER-DOG	BULLWHACKER CREEK Headwaters to the mouth (Missouri R)	10040101	MT41T002_010	37.5 Mi	2003
BULLWHACKER-DOG	DOG CREEK from Cutbank Cr to the mouth (Missouri R)	10040101	MT41T002_020	25.3 Mi	2003
BULLWHACKER-DOG	EAGLE CREEK from Dog Cr to the mouth (Missouri R)	10040101	MT41T002_030	18 Mi	2003
BULLWHACKER-DOG	EAGLE CREEK from headwaters to Dog Cr	10040101	MT41T002_040	20.1 Mi	2003
ARROW	COFFEE CREEK from headwaters to the mouth (Arrow Cr)	10040102	MT41R001_010	37.8 Mi	
ARROW	ARROW CREEK from Surprise Cr to the mouth (Missouri R)	10040102	MT41R001_020	64.8 Mi	
JUDITH	JUDITH RIVER from Ross Fork to Big Spring Cr	10040103	MT41S001_020	15.9 Mi	2002
JUDITH	WOLF CREEK from Dry Wolf Cr to the mouth (Judith R)	10040103	MT41S002_020	44.5 Mi	
JUDITH	SAGE CREEK from headwaters to mouth (Judith R)	10040103	MT41S002_050	63 Mi	
JUDITH	WILLOW CREEK from headwaters to mouth (Sage Cr - Judith R)	10040103	MT41S002_060	28.3 Mi	
JUDITH	ROSS FORK JUDITH RIVER from headwaters to mouth (Judith R)	10040103	MT41S002_070	51.3 Mi	
JUDITH	CASINO CREEK, Headwaters to mouth (Big Spring Cr)	10040103	MT41S004_040	11.6 Mi	2003
JUDITH	COTTONWOOD CREEK from headwaters to county road bridge in T14N R18E Sec18.	10040103	MT41S004_051	19 Mi	2002
JUDITH	COTTONWOOD CREEK from road bridge T14N R18E Sec18 to mouth (Big Spring Cr)	10040103	MT41S004_052	13.3 Mi	2003
FORT PECK RESERVOIR	ARMELLS CREEK, Deer Cr. to mouth at the Missouri R.	10040104	MT40E002_021	67.9 Mi	
FORT PECK RESERVOIR	TWO CALF CREEK, South Fork to the mouth (Missouri R)	10040104	MT40E002_030	11.2 Mi	
FORT PECK RESERVOIR	COW CREEK, Als Cr to the mouth (Missouri R)	10040104	MT40E002_040	31.5 Mi	
FORT PECK RESERVOIR	CK CREEK, Ruby Cr (Near Headwaters) to Fort Peck Reservoir	10040104	MT40E002_080	43.8 Mi	
FORT PECK RESERVOIR	SULLIVAN CREEK, tributary to Rock Cr near Landusky	10040104	MT40E002_110	0.7 Mi	*2003
FORT PECK RESERVOIR	SOURDOUGH COULEE, A tributary to Armells Cr	10040104	MT40E002_120	15.1 Mi	
FORT PECK RESERVOIR	FARGO COULEE, Headwaters to mouth at Amells Cr	10040104	MT40E002_130	23.2 Mi	
FORT PECK RESERVOIR	TIMBER CREEK, Headwaters to the mouth (Big Dry Cr Arm of Fort Peck Res)	10040104	MT40E003_010	81 Mi	
UPPER MUSSELSHELL	NORTH FORK MUSSELSHELL RIVER, Headwaters to confluence with the South Fk	10040201	MT40A002_010	34.4 Mi	
UPPER MUSSELSHELL	ANTELOPE CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_020	31.2 Mi	
UPPER MUSSELSHELL	TRAIL CREEK, Headwaters to mouth (North Fork Musselshell R)	10040201	MT40A002_030	9.3 Mi	
UPPER MUSSELSHELL	MILL CREEK, Headwaters to mouth (North Fork Musselshell R)	10040201	MT40A002_040	4.8 Mi	
UPPER MUSSELSHELL	MUD CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_060	31.5 Mi	

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UPPER MUSSELSHELL	FISH CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_070	86.7 Mi	
UPPER MUSSELSHELL	HALF BREED CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_090	16.6 Mi	
UPPER MUSSELSHELL	DEADMANS BASIN RESERVOIR T7N R18E Sec 22-27	10040201	MT40A005_010	1903 Ac	
UPPER MUSSELSHELL	LEBO LAKE T6N R13E SEC 1	10040201	MT40A005_020	314.1 Ac	
UPPER MUSSELSHELL	MARTINSDALE RESERVOIR T8N R12E	10040201	MT40A005_030	984.9 Ac	
MIDDLE MUSSELSHELL	NORTH WILLOW CREEK, Headwaters to the mouth (Musselshell R)	10040202	MT40C002_010	105 Mi	
FLATWILLOW	SNOOSE CREEK, Headwaters to mouth (Yellow Water Cr) T13N R25E SEC 20,21,22	10040203	MT40B001_030	7.1 Mi	
BOX ELDER	McDONALD CREEK, North and South Forks to mouth (Box Elder Cr)	10040204	MT40B002_010	72.5 Mi	
BOX ELDER	CHIPPEWA CREEK, Headwaters to one-half mile downstream	10040204	MT40B002_040	0.5 Mi	
LOWER MUSSELSHELL	CALF CREEK, Headwaters to the mouth (Musselshell R)	10040205	MT40C004_010	64.3 Mi	
LOWER MUSSELSHELL	LODGEPOLE CREEK, North & Middle Fks confluence to the mouth (Musselshell)	10040205	MT40C004_020	27 Mi	
LOWER MUSSELSHELL	BLOOD CREEK, Headwaters to mouth (Musselshell R)	10040205	MT40C004_030	59 Mi	2002
MIDDLE MILK	MILK RIVER, Whitewater Cr to Beaver Cr	10050004	MT40J001_020	38.2 Mi	
MIDDLE MILK	BEAVER CREEK, Beaver creek Reservoir to the mouth (Milk R)	10050004	MT40J002_010	22 Mi	
MIDDLE MILK	BULLHOOK CREEK, Headwaters to the Mouth (Milk R)	10050004	MT40J002_020	23.2 Mi	
MIDDLE MILK	LITTLE BOXELDER CREEK,Headwaters to the mouth (Milk R)	10050004	MT40J002_030	43.1 Mi	
BIG SANDY	BIG SANDY CREEK, Lonesome Lake Coulee to the mouth (Milk R)	10050005	MT40H001_010	37.1 Mi	2002
LODGE	LODGE CREEK, Canadian border to the mouth (Milk R)	10050007	MT40J003_010	73.4 Mi	
PEOPLES	PEOPLES CREEK,Headwaters to the Fort Belknap Reservation Boundary.	10050009	MT40I001_020	47.7 Mi	
PEOPLES	BIG HORN CREEK, Zortman Mine to Fort Belknap Reservation	10050009	MT40I001_030	0.8 Mi	2003
COTTONWOOD	BLACK COULEE, Headwaters to the mouth (Cottonwood Cr)	10050010	MT40J005_010	18.9 Mi	
COTTONWOOD	COTTONWOOD CREEK, Black Coulee to the mouth (Milk R)	10050010	MT40J005_020	54.1 Mi	
WHITEWATER	WHITEWATER CREEK, Canadian border to the mouth (Milk R)	10050011	MT40K001_010	61.7 Mi	
LOWER MILK	CHERRY CREEK from headwaters to the mouth (Milk R)	10050012	MT40O002_010	38.3 Mi	
LOWER MILK	BUGGY CREEK from headwaters to the mouth (Milk R)	10050012	MT40O002_020	41.8 Mi	
LOWER MILK	BEAVER CREEK from headwaters to mouth at Willow Cr	10050012	MT40O002_040	14.7 Mi	
FRENCHMAN	FRENCHMAN CREEK, Canadian border to the mouth (Milk R)	10050013	MT40L001_010	74.5 Mi	
BEAVER	BEAVER CREEK, Headwaters to the Fort Belknap Reservation boundary	10050014	MT40M001_011	4.8 Mi	
BEAVER	BEAVER CREEK, Fort Belknap Reservation boundary to Black Coulee	10050014	MT40M001_012	148.3 Mi	
BEAVER	FLAT CREEK, Headwaters to mouth (Beaver Cr)	10050014	MT40M002_010	33.2 Mi	
BEAVER	LARB CREEK, Headwaters to mouth (Beaver Cr)	10050014	MT40M002_020	73.8 Mi	
ROCK	EAGLE CREEK,Headwaters to the mouth (Willow Cr)	10050015	MT40N001_010	16 Mi	
REDWATER	EAST REDWATER CREEK from headwaters to mouth (Redwater R)	10060002	MT40P002_010	48.2 Mi	
REDWATER	PASTURE CREEK from headwaters to mouth at Redwater R	10060002	MT40P002_030	38.9 Mi	
POPLAR	POPLAR RIVER & MIDDLE FORK POPLAR RIVER, Canada to the Fort Peck Res.	10060003	MT40Q001_010	66.6 Mi	
POPLAR	BUTTE CREEK, Headwaters to the mouth (Poplar R)	10060003	MT40Q002_010	36.6 Mi	
POPLAR	EAST FORK POPLAR RIVER international border to the mouth (Poplar R)	10060003	MT40Q002_020	20.4 Mi	
CHARLIE-LITTLE MUDDY	CHARLIE CREEK from East and Middle Charlie Cr to the mouth (Missouri R)	10060005	MT40S004_010	31.2 Mi	
CHARLIE-LITTLE MUDDY	HARDSCRABBLE CREEK from headwaters to mouth (Missouri R)	10060005	MT40S004_020	32.6 Mi	
BIG MUDDY	MEDICINE LAKE	10060006	MT40R003_010	8599 Ac	
BIG MUDDY	HOMESTEAD LAKE, near Medicine Lake	10060006	MT40R003_020	1280 Ac	

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
YELLOWSTONE BASIN					
YELLOWSTONE HEAD	YELLOWSTONE RIVER from the Montana border to Reese Cr.	10070001	MT43B001_010	14.5 Mi	
YELLOWSTONE HEAD	BEAR CREEK, 1/2 mi below Jardine Mine to the mouth (Yellowstone R)	10070001	MT43B002_021	3.1 Mi	2002
YELLOWSTONE HEAD	BEAR CREEK, Headwaters to 1/2 mi below the Jardine Mine	10070001	MT43B002_022	8 Mi	
YELLOWSTONE HEAD	SODA BUTTE CREEK from headwaters to the McLaren Tailings.	10070001	MT43B002_032	1.1 Mi	2002
UPPER YELLOWSTONE	OTTER CREEK from headwaters to 2 mi downstream of Highway 191 bridge	10070002	MT43B004_012	25.6 Mi	
UPPER YELLOWSTONE	BIG TIMBER CREEK from headwaters to Swamp Cr.	10070002	MT43B004_022	25.7 Mi	
UPPER YELLOWSTONE	LOWER DEER CREEK from headwaters to 4 miles above mouth	10070002	MT43B004_032	22.2 Mi	
UPPER YELLOWSTONE	UPPER DEER CREEK from headwaters to 6.5 miles above the mouth	10070002	MT43B004_042	17.3 Mi	
UPPER YELLOWSTONE	BILLMAN CREEK from Livingston City Limit to the mouth (Yellowstone R)	10070002	MT43B004_051	1.9 Mi	2002
UPPER YELLOWSTONE	BILLMAN CREEK from headwaters to the Livingston City Limit	10070002	MT43B004_052	11.3 Mi	
UPPER YELLOWSTONE	TOM MINER CREEK from Tepee Cr. to the mouth (Yellowstone River)	10070002	MT43B004_061	0.8 Mi	2002
UPPER YELLOWSTONE	TOM MINER CREEK from 0.3 mi below Skully Cr. to Tepee Cr.	10070002	MT43B004_062	6.7 Mi	
UPPER YELLOWSTONE	TOM MINER CREEK headwaters to 0.3 mi below Skully Cr.	10070002	MT43B004_063	6.4 Mi	2002
UPPER YELLOWSTONE	MILL CREEK, Absaroka-Beartooth Wilderness boundary to NF boundary	10070002	MT43B004_072	12 Mi	
UPPER YELLOWSTONE	PINE CREEK, Absaroka-Beartooth Wilderness boundary to 1.6 miles above the mouth	10070002	MT43B004_082	3.3 Mi	2002
UPPER YELLOWSTONE	BIG CREEK from end of the road to NF Boundary	10070002	MT43B004_112	3.1 Mi	
UPPER YELLOWSTONE	MOL HERON CREEK, Yellowstone National Park boundary to mouth (Yellowstone R)	10070002	MT43B004_120	8.9 Mi	2003
UPPER YELLOWSTONE	BOULDER RIVER from NF boundary to 5 mi above the mouth (Yellowstone R)	10070002	MT43B004_132	27.8 Mi	
UPPER YELLOWSTONE	BOULDER RIVER from Box Canyon GS to NFBoundary	10070002	MT43B004_133	24.3 Mi	
UPPER YELLOWSTONE	BOULDER RIVER from headwaters to Box Canyon Guard Station	10070002	MT43B004_134	8.2 Mi	
UPPER YELLOWSTONE	SWEET GRASS CREEK from headwaters to the mouth (Yellowstone R)	10070002	MT43B004_150	77.3 Mi	
SHIELDS	POTTER CREEK from headwaters to the mouth (Shields R)	10070003	MT43A002_010	24.6 Mi	2002
SHIELDS	ANTELOPE CREEK from headwaters to the mouth (Shields R)	10070003	MT43A002_020	10 Mi	2002
SHIELDS	COTTONWOOD CREEK from headwaters to eight miles above the mouth	10070003	MT43A002_032	13.1 Mi	
SHIELDS	ROCK CREEK from headwaters to the mouth (Shields R)	10070003	MT43A002_050	21.2 Mi	
U. YELLOWSTONE-LB	YELLOWSTONE RIVER from Bridger Cr to Alkali Cr.	10070004	MT43F001_010	89.3 Mi	
U. YELLOWSTONE-LB	DUCK CREEK from headwaters to the mouth (Yellowstone R)	10070004	MT43F002_010	12.5 Mi	
U. YELLOWSTONE-LB	CANYON CREEK from headwaters to highway 532	10070004	MT43F002_022	11.7 Mi	
U. YELLOWSTONE-LB	KEYSER CREEK from headwaters to the mouth (Yellowstone R)	10070004	MT43F002_030	22 Mi	
U. YELLOWSTONE-LB	VALLEY CREEK from headwaters to the mouth (Yellowstone R)	10070004	MT43F002_040	13.7 Mi	
STILLWATER	STILLWATER RIVER from the West Fork to the mouth (Yellowstone R)	10070005	MT43C001_020	35.9 Mi	
STILLWATER	LODGEPOLE CREEK from headwaters to the mouth (Castle Cr)	10070005	MT43C002_010	5.9 Mi	
STILLWATER	BAD CANYON CREEK from headwaters to the mouth (Stillwater R)	10070005	MT43C002_020	10.4 Mi	
STILLWATER	CASTLE CREEK from headwaters to the mouth (West Fk Stillwater R)	10070005	MT43C002_030	10.5 Mi	
STILLWATER	GROVE CREEK from headwaters to five miles above the mouth	10070005	MT43C002_042	6.9 Mi	
STILLWATER	FISHTAIL CREEK from headwaters to the mouth (West Rosebud Cr)	10070005	MT43C002_050	13.9 Mi	
STILLWATER	EAST ROSEBUD CREEK, Morris Cr. to mouth (Rosebud Cr)	10070005	MT43C002_061	11.5 Mi	
STILLWATER	EAST ROSEBUD CREEK, A-B Wilderness boundary to Morris Cr.	10070005	MT43C002_062	8.4 Mi	2002
STILLWATER	JOE HILL CREEK from headwaters to the mouth (Stillwater R)	10070005	MT43C002_070	11.4 Mi	

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STILLWATER	BUTCHER CREEK from headwaters to highway 78	10070005	MT43C002_082	2.2 Mi	
STILLWATER	WEST ROSEBUD CREEK from headwaters to the mouth (Rosebud Cr)	10070005	MT43C002_090	33.2 Mi	
STILLWATER	ROSEBUD CREEK from the East and West Branches to the mouth (Stillwater R)	10070005	MT43C002_100	3.8 Mi	
STILLWATER	NYE CREEK from headwaters to the mouth (Stillwater R)	10070005	MT43C002_130	2.8 Mi	
CLARKS FK YELLOWSTN	CLARKS FORK YELLOWSTONE RIVER, Bridger Cr. to mouth (Yellowstone R)	10070006	MT43D001_011	41.3 Mi	2003
CLARKS FK YELLOWSTN	CLARKS FORK YELLOWSTONE RIVER, Montana border to Bridger Cr.	10070006	MT43D001_012	33.3 Mi	*2003
CLARKS FK YELLOWSTN	ELBOW CREEK from headwaters to the mouth (Clarks Fork)	10070006	MT43D002_010	32 Mi	
CLARKS FK YELLOWSTN	BEAR CREEK from headwaters to the mouth (Clarks Fork)	10070006	MT43D002_020	18.2 Mi	
CLARKS FK YELLOWSTN	BLUEWATER CREEK headwaters to nine miles above mouth	10070006	MT43D002_032	10 Mi	
CLARKS FK YELLOWSTN	SPRING CREEK, headwaters to mouth (Clakrs Fk)	10070006	MT43D002_040	11.6 Mi	
CLARKS FK YELLOWSTN	RED LODGE CREEK from headwaters to Cooney Reservoir	10070006	MT43D002_050	16.5 Mi	
CLARKS FK YELLOWSTN	WEST RED LODGE CR, A-B Wilderness boundary to mouth (Red Lodge Cr)	10070006	MT43D002_080	12 Mi	
CLARKS FK YELLOWSTN	WYOMING CREEK from the state line to the mouth (Rock Cr)	10070006	MT43D002_090	3.9 Mi	
CLARKS FK YELLOWSTN	SILVERTIP CREEK from the state line to the mouth (Clarks Fork)	10070006	MT43D002_100	18.4 Mi	
CLARKS FK YELLOWSTN	ROCK CREEK from state line to West Fork Rock Cr	10070006	MT43D002_132	16.5 Mi	2002
CLARKS FK YELLOWSTN	COTTONWOOD CREEK from headwaters to the mouth (Clarks Fork)	10070006	MT43D002_140	16.8 Mi	
CLARKS FK YELLOWSTN	SOUTH FORK BRIDGER CREEK tributary to Bridger Cr	10070006	MT43D002_180	7.8 Mi	
CLARKS FK YELLOWSTN	COONEY RESERVOIR	10070006	MT43D003_010	815.4 Ac	
CLARKS FK YELLOWSTN	BASIN CREEK LAKE T8S R19E SEC 7	10070006	MT43D003_100	8 Ac	
CLARKS FK YELLOWSTN	BIG MOOSE LAKE T9S R16E SEC 33BC	10070006	MT43D003_110	15 Ac	
CLARKS FK YELLOWSTN	BLACK CANYON LAKE T9S R18E SEC 5DB	10070006	MT43D003_120	82.3 Ac	
U. YELLOWSTN-POMP P.	YELLOWSTONE RIVER between Huntley Div. Dam and the Big Horn R	10070007	MT43Q001_011	62 Mi	
U. YELLOWSTN-POMP P.	FLY CREEK, Crow Indian Res. boundary to the mouth (Yellowstone R)	10070007	MT43Q002_010	53.9 Mi	
PRYOR	PRYOR CREEK, Crow Indian Res. Boundary to the mouth (Yellowstone R)	10070008	MT43E001_010	26.9 Mi	
LOWER BIGHORN	TULLOCK CREEK, Crow Indian Res. Boundary to the mouth (Bighorn R)	10080015	MT43R002_010	58.2 Mi	
UPPER TONGUE	TONGUE RIVER from the Wyoming border to Tongue R Reservoir	10090101	MT42B001_010	4.7 Mi	
UPPER TONGUE	TONGUE RIVER from Tongue R Dam to Hanging Woman Cr	10090101	MT42B001_020	34.5 Mi	
UPPER TONGUE	HANGING WOMAN CREEK from the Wyoming border to Stroud Cr	10090101	MT42B002_032	28.7 Mi	
LOWER TONGUE	TONGUE RIVER Hanging Woman Cr to diversion dam just above Pumpkin Cr	10090102	MT42C001_012	147.9 Mi	
LOWER TONGUE	OTTER CREEK from headwaters to the mouth (Tongue R)	10090102	MT42C002_020	103.6 Mi	
LOWER TONGUE	PUMPKIN CREEK from headwaters to the mouth (Tongue R)	10090102	MT42C002_060	171.9 Mi	
MIDDLE POWDER	POWDER RIVER mainstem from the border to the Little Powder R	10090207	MT42J001_010	76.2 Mi	
LITTLE POWDER	LITTLE POWDER RIVER from the border to the mouth (Powder R)	10090208	MT42I001_010	71.5 Mi	
LOWER POWDER	POWDER RIVER from Little Powder R and the mouthYellowstone R	10090209	MT42J003_010	144.3 Mi	
LOWER POWDER	STUMP CREEK, tributary to Powder R below Powderville	10090209	MT42J004_010	27.5 Mi	
MIZPAH	MIZPAH CREEK from headwaters to the mouth (Powder R)	10090210	MT42J005_010	149.8 Mi	
L YELLOWSTN-SUNDAY	YELLOWSTONE RIVER from the Cartersville Diversion Dam to the Powder R	10100001	MT42K001_010	87.9 Mi	
L YELLOWSTN-SUNDAY	CUSTER CREEK from headwaters to the mouth (Yellowstone R)	10100001	MT42K002_010	43.6 Mi	
L YELLOWSTN-SUNDAY	HARRIS CREEK from headwaters to the mouth (Yellowstone R)	10100001	MT42K002_020	26.1 Mi	
L YELLOWSTN-SUNDAY	SUNDAY CREEK from the North and South Forks to the mouth (Yellowstone R)	10100001	MT42K002_030	15.2 Mi	
L YELLOWSTN-SUNDAY	MUSTER CREEK from headwaters to the mouth (Yellowstone R)	10100001	MT42K002_040	30.6 Mi	

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L YELLOWSTN-SUNDAY	DEADMAN CREEK from headwaters to mouth (North Fork Sunday Cr)	10100001	MT42K002_060	16.7 Mi	
L YELLOWSTN-SUNDAY	STELLAR CREEK from headwaters to mouth (Little Porcupine Cr)	10100001	MT42K002_070	38.1 Mi	
L YELLOWSTN-SUNDAY	NORTH FORK SUNDAY CREEK, Custer/Rosebud Co. line to mainstem Sunday Cr.	10100001	MT42K002_080	33.4 Mi	
L YELLOWSTN-SUNDAY	SARPY CREEK, Crow Indian Reservation Boundary to the mouth (Yellowstone R)	10100001	MT42K002_090	87 Mi	
L YELLOWSTN-SUNDAY	EAST FORK SARPY CREEK from headwaters to the mouth (Sarpy Cr)	10100001	MT42K002_100	31.5 Mi	
L YELLOWSTN-SUNDAY	EAST FORK ARMELLS CREEK from Colstrip to the mouth (Armells Cr)	10100001	MT42K002_110	30.8 Mi	
L YELLOWSTN-SUNDAY	WEST FORK ARMELLS CREEK from headwaters to the mouth (Armells Cr)	10100001	MT42K002_120	31.7 Mi	
L YELLOWSTN-SUNDAY	LITTLE PORCUPINE CREEK, headwaters to mouth	10100001	MT42K002_160	108.4 Mi	
L YELLOWSTN-SUNDAY	EAST FORK ARMELLS CREEK from headwaters to Colstrip	10100001	MT42K002_170	21.5 Mi	
ROSEBUD	ROSEBUD CREEK from headwaters to the Northern Cheyennne Reservation	10100003	MT42A001_013	23 Mi	
LOWER YELLOWSTONE	YELLOWSTONE RIVER from Lower Yellowstone Diversion Dam to North Dakota	10100004	MT42M001_011	71.1 Mi	
LOWER YELLOWSTONE	BENNIE PEER CREEK from North Dakota border to the mouth (Yellowstone R)	10100004	MT42M002_010	9.3 Mi	
LOWER YELLOWSTONE	FOURMILE CREEK from headwaters to the North Dakota border	10100004	MT42M002_020	23.5 Mi	
LOWER YELLOWSTONE	FIRST HAY CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_030	29.4 Mi	
LOWER YELLOWSTONE	LONETREE CREEK from North and South Forks to the mouth (Yellowstone R)	10100004	MT42M002_040	28.7 Mi	
LOWER YELLOWSTONE	FOX CREEK and NORTH FORK FOX CREEK, Headwaters to mouth (Yellowstone R)	10100004	MT42M002_050	69.1 Mi	
LOWER YELLOWSTONE	O'BRIEN CREEK from the state line to the mouth (Yellowstone R)	10100004	MT42M002_060	13.1 Mi	
LOWER YELLOWSTONE	CRANE CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_070	21.5 Mi	
LOWER YELLOWSTONE	SMITH CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_080	41.5 Mi	
LOWER YELLOWSTONE	SHADEWELL CREEK from the state line to the mouth (Yellowstone R)	10100004	MT42M002_090	18.5 Mi	
LOWER YELLOWSTONE	COTTONWOOD CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_100	20.9 Mi	
LOWER YELLOWSTONE	BURNS CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_110	48.9 Mi	
LOWER YELLOWSTONE	MORGAN CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_120	18.6 Mi	
LOWER YELLOWSTONE	GLENDIVE CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_130	52.3 Mi	
LOWER YELLOWSTONE	CEDAR CREEK from 26 to 45 miles above the mouth.	10100004	MT42M002_142	19 Mi	
LOWER YELLOWSTONE	CEDAR CREEK from headwaters to 45 miles above the mouth.	10100004	MT42M002_143	15.9 Mi	
LOWER YELLOWSTONE	CABIN CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_150	96.8 Mi	
LOWER YELLOWSTONE	BRAKETT CREEK from headwaters to the mouth (Cherry Cr)	10100004	MT42M002_160	39.9 Mi	
LOWER YELLOWSTONE	CHERRY CREEK from headwaters to 20 miles above the mouth	10100004	MT42M002_172	43.4 Mi	
LOWER YELLOWSTONE	SEARS CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_180	12.3 Mi	
O'FALLON	PENNEL CREEK from headwaters to the mouth (O'Fallon Cr)	10100005	MT42L001_010	21.5 Mi	
O'FALLON	SANDSTONE CREEK from headwaters to the mouth (O'Fallon Cr)	10100005	MT42L001_020	72.1 Mi	2003
O'FALLON	O'FALLON CREEK from the mouth (Yellowstone R) 20 miles upstream	10100005	MT42L001_031	20 Mi	2003
O'FALLON	O'FALLON CREEK from 20 miles above the mouth to 40 miles above the mouth	10100005	MT42L001_032	20 Mi	*2003
O'FALLON	O'FALLON CREEK from headwaters to 40 miles above the mouth.	10100005	MT42L001_033	78.6 Mi	2003
UPPER LITTLE MISSOURI	LITTLE MISSOURI RIVER, Highway 323 bridge to the North Dakota Border	10110201	MT39F001_021	63 Mi	
UPPER LITTLE MISSOURI	LITTLE MISSOURI RIVER, Wyoming border to the Highway 323 bridge.	10110201	MT39F001_022	40 Mi	2003
COLUMBIA BASIN					
UPPER KOOTENAI	LIME CREEK from headwaters to mouth (Fortine Cr)	17010101	MT76D004_050	4.3 Mi	
UPPER KOOTENAI	THERRIAULT CREEK from headwaters to the Tabacco R	17010101	MT76D004_070	9 Mi	
FISHER	RAVEN CREEK, tributary to the Pleasant Valley Fisher R T26-27N, R29W,	17010102	MT76C001_030	3.1 Mi	

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APPENDIX B: Water to be Monitored and Reassessed - Lacking Sufficient Credible Data (from 2000 303(d) list)

NOTE: All waters from the 1998 303(d) List not listed on the 2000 303(d) List due to a lack of sufficient credible data appear in this appendix. Those with a date listed in the "Assessed Year" column have since been assessed and found to be either impaired or fully supporting all uses.

WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
YAAK	YAAK RIVER (or North Fork Yaak R) from Canadian border to East Fork confluence	17010103	MT76B001_020	4.2 Mi	
YAAK	SEVENTEEN MILE CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_010	15.1 Mi	
YAAK	LAP CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_020	4.8 Mi	
YAAK	SPREAD CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_060	12.2 Mi	
YAAK	PETE CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_070	10.1 Mi	
YAAK	SOUTH FORK YAAK RIVER from headwaters to mouth (Yaak R)	17010103	MT76B002_080	11 Mi	
YAAK	EAST FORK YAAK RIVER from headwaters to mouth (Yaak R)	17010103	MT76B002_100	13.9 Mi	
UPPER CLARK FORK	STORM LAKE CREEK from headwaters to mouth (Warm Springs Cr)	17010201	MT76G002_040	11 Mi	
UPPER CLARK FORK	MILL CREEK from headwaters to the section line between Sec 27 & 28, T4N, R11W	17010201	MT76G002_051	11.6 Mi	
UPPER CLARK FORK	WILLOW CREEK from headwaters to T4N, R10W, Sec30 (DABC)	17010201	MT76G002_061	5.5 Mi	
UPPER CLARK FORK	PETERSON CREEK from headwaters to Jack Cr	17010201	MT76G002_131	6.4 Mi	
UPPER CLARK FORK	MONARCH CREEK from headwaters to the mouth (Ontario Cr)	17010201	MT76G004_060	4.5 Mi	
UPPER CLARK FORK	SNOWSHOE CREEK from headwaters to the mouth (Little Blackfoot R)	17010201	MT76G004_080	10.7 Mi	
UPPER CLARK FORK	THREEMILE CREEK, Headwaters to Quigley Ranch Res.	17010201	MT76G004_111	6 Mi	
FLINT-ROCK	EAST FORK ROCK CREEK, East Fork Res to mouth (Middle Fork Rock Cr)	17010202	MT76E002_020	8.7 Mi	
FLINT-ROCK	BREWSTER CREEK from East Fork to mouth (Rock Cr)	17010202	MT76E002_050	4.5 Mi	
FLINT-ROCK	SOUTH FORK ANTELOPE CREEK Headwaters to mouth (Antelope Cr) T6N, R15W	17010202	MT76E002_060	2.8 Mi	
FLINT-ROCK	QUARTZ GULCH from forks to mouth (Basin Gulch)	17010202	MT76E002_070	3 Mi	
FLINT-ROCK	BASIN GULCH from headwaters to mouth (Quartz Gulch)	17010202	MT76E002_080	1.5 Mi	
FLINT-ROCK	EUREKA GULCH, confluence of Quartz Gulch and Basin Gulch to mouth (Rock Cr)	17010202	MT76E002_090	0.6 Mi	
FLINT-ROCK	SCOTCHMAN GULCH, Headwaters to mouth (Upper Willow Cr-Rock Cr)	17010202	MT76E002_100	7.1 Mi	
FLINT-ROCK	SLUICE GULCH from headwaters to mouth (Rock Cr)	17010202	MT76E002_110	6.1 Mi	
FLINT-ROCK	FLAT GULCH from headwaters to the mouth (Rock Cr)	17010202	MT76E002_120	2.9 Mi	
FLINT-ROCK	SAWPIT GULCH (Sawmill Gulch) Headwaters to the mouth (Upper Willow Cr).	17010202	MT76E002_130	2.1 Mi	
FLINT-ROCK	WILLIAMS GULCH from headwaters to the mouth (Rock Cr)	17010202	MT76E002_140	5.4 Mi	
FLINT-ROCK	CORNISH GULCH from forks to mouth (Rock Cr)	17010202	MT76E002_150	2.9 Mi	
FLINT-ROCK	MINERS GULCH, headwaters to Upper Willow Cr T8N, R15W	17010202	MT76E002_160	5.4 Mi	
FLINT-ROCK	BARNES CREEK from headwaters to mouth (Flint Cr)	17010202	MT76E003_070	8.3 Mi	
FLINT-ROCK	STEWART CREEK, Headwaters to mouth (So. Boulder Cr - Boulder Cr - Flint Cr)	17010202	MT76E003_080	0.8 Mi	
FLINT-ROCK	SMART CREEK T9N, R13W	17010202	MT76E003_110	11.2 Mi	
FLINT-ROCK	CAMP CREEK from headwaters to town of Philipsburg	17010202	MT76E003_130	1.8 Mi	
FLINT-ROCK	TENMILE CREEK from headwaters to mouth (Bear Cr-Clark Fork R)	17010202	MT76E004_030	4.9 Mi	
FLINT-ROCK	RATTLER GULCH headwaters to mouth (Clark Fork)	17010202	MT76E004_060	7.8 Mi	
FLINT-ROCK	DEEP CREEK, tributary to Bear Cr which joins the Clark Fork at Bearmouth	17010202	MT76E004_070	5.4 Mi	
BLACKFOOT	MARCUM CREEK from headwaters to mouth T14N R11W SEC 14	17010203	MT76F002_050	1.4 Mi	
BLACKFOOT	SANDBAR CREEK from forks to mouth (Willow Cr)	17010203	MT76F002_060	1.6 Mi	2002
BLACKFOOT	ARRASTRA CREEK from headwaters to mouth (Blackfoot R)	17010203	MT76F002_070	12.6 Mi	2002
BLACKFOOT	JEFFERSON CREEK from headwaters to 1 mile above Madison Gulch	17010203	MT76F003_021	3.6 Mi	
BLACKFOOT	BRAZIEL CREEK, 2.8 miles upstream from mouth (Nevada Cr) T12N R10W Sec 22	17010203	MT76F003_040	2.8 Mi	
BLACKFOOT	MCELWAIN CREEK, 2 miles upstream from mouth (Nevada Cr) T13N R12W Sec 27-28	17010203	MT76F003_050	2 Mi	
BLACKFOOT	MURRAY CREEK Headwaters to mouth (Douglas Cr) T12N R12W Sec 6	17010203	MT76F003_120	8.6 Mi	
BLACKFOOT	WALES CREEK from reservoir outlet to the mouth (Blackfoot R)	17010203	MT76F004_050	2 Mi	
BLACKFOOT	WARD CREEK from the headwaters to Browns Lake	17010203	MT76F004_060	9.8 Mi	2002
BLACKFOOT	RICHMOND CREEK from headwaters to mouth (Lake Alva)	17010203	MT76F005_020	3.7 Mi	
BLACKFOOT	DEER CREEK from headwaters to mouth (Seeley Lake)	17010203	MT76F005_030	10.3 Mi	
BLACKFOOT	WEST FORK CLEARWATER RIVER, Headwaters to mouth (Clearwater R)	17010203	MT76F005_040	14.3 Mi	
BLACKFOOT	BUCK CREEK from headwaters to mouth (Placid Cr-Clearwater R)	17010203	MT76F005_050	2.5 Mi	
BLACKFOOT	WEST FORK ASHBY CREEK, Headwaters to the mouth (Ashby Cr)	17010203	MT76F006_020	3.1 Mi	

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
BLACKFOOT	KENO CREEK from headwaters to the mouth (Elk Cr)	17010203	MT76F006_040	2.9 Mi	*2003
BLACKFOOT	EAST FORK ASHBY CREEK T13N R16W	17010203	MT76F006_050	3.9 Mi	
BLACKFOOT	CAMAS CREEK from 1 mile above mouth to mouth (Union Cr)	17010203	MT76F006_060	1 Mi	
BLACKFOOT	DAY GULCH Tributary to Elk Cr T12N R14W S-1	17010203	MT76F006_080	1.2 Mi	
BLACKFOOT	WASHOE CREEK Headwater to mouth (Union Cr)	17010203	MT76F006_090	6.1 Mi	
BLACKFOOT	NEVADA LAKE	17010203	MT76F007_020	352.6 Ac	
BLACKFOOT	SALMON LAKE	17010203	MT76F007_030	613 Ac	
MIDDLE CLARK FORK	CEDAR CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_020	16.9 Mi	
MIDDLE CLARK FORK	LOST CREEK from headwaters to the mouth (Oregon Gulch)	17010204	MT76M002_030	7 Mi	
MIDDLE CLARK FORK	OREGON GULCH from headwaters to the mouth (Cedar Cr)	17010204	MT76M002_040	10.9 Mi	
MIDDLE CLARK FORK	SOUTH FORK FISH CREEK from headwaters to the mouth (Fish Cr)	17010204	MT76M002_070	15.6 Mi	*2003
MIDDLE CLARK FORK	CACHE CREEK from headwaters to the mouth (South Fork Fish Cr)	17010204	MT76M002_080	11.2 Mi	
MIDDLE CLARK FORK	WEST FORK PETTY CREEK from headwaters to the mouth (Petty Cr)	17010204	MT76M002_100	7.4 Mi	
MIDDLE CLARK FORK	DEEP CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_110	9.4 Mi	
MIDDLE CLARK FORK	GRANT CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_130	18.3 Mi	
MIDDLE CLARK FORK	MILL CREEK from headwaters to the mouth (Clark Fork R near Frenchtown)	17010204	MT76M002_140	13.4 Mi	
MIDDLE CLARK FORK	NEMOTE CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_160	9.8 Mi	
MIDDLE CLARK FORK	DRY CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_170	15.3 Mi	
MIDDLE CLARK FORK	TWELVEMILE CREEK from headwaters to the mouth (ST. Regis R)	17010204	MT76M003_020	13.4 Mi	2002
MIDDLE CLARK FORK	SILVER CREEK from headwaters to the mouth (ST. Regis R)	17010204	MT76M003_030	4.9 Mi	2002
MIDDLE CLARK FORK	BIG CREEK from the East and Middle Forks to the mouth (ST. Regis R)	17010204	MT76M003_040	3.4 Mi	2002
MIDDLE CLARK FORK	DEER CREEK from headwaters to the mouth (ST. Regis R)	17010204	MT76M003_050	8.5 Mi	2002
MIDDLE CLARK FORK	WARD CREEK from headwaters to the mouth (ST. Regis R)	17010204	MT76M003_060	7.6 Mi	2002
MIDDLE CLARK FORK	LITTLE JOE CREEK from North Fork to the mouth (ST. Regis R)	17010204	MT76M003_070	3.1 Mi	2002
MIDDLE CLARK FORK	NORTH FORK LITTLE JOE CREEK, Headwaters to the mouth (Little Joe Cr)	17010204	MT76M003_080	10.7 Mi	2002
MIDDLE CLARK FORK	STONY CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_020	7.1 Mi	
MIDDLE CLARK FORK	McCORMICK CREEK from headwaters to Little McCormick Cr.	17010204	MT76M004_032	5.8 Mi	
MIDDLE CLARK FORK	JOSEPHINE CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_040	6 Mi	
MIDDLE CLARK FORK	BIG BLUE CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_050	4.5 Mi	
MIDDLE CLARK FORK	CEDAR CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_060	4.6 Mi	
MIDDLE CLARK FORK	LITTLE MCCORMICK CREEK from headwaters to mouth (McCormick Cr)	17010204	MT76M004_080	3.6 Mi	
BITTERROOT	EAST FORK BITTERROOT RIVER, A-P Wilderness boundary to the Bitterroot R	17010205	MT76H002_010	29.9 Mi	
BITTERROOT	REIMEL CREEK from headwaters to the mouth (East Fork Bitterroot R)	17010205	MT76H002_020	7.4 Mi	
BITTERROOT	MEADOW CREEK from headwaters to the mouth (East Fork Bitterroot R)	17010205	MT76H002_030	9.7 Mi	
BITTERROOT	MARTIN CREEK from headwaters to the mouth (Moose Cr)	17010205	MT76H002_050	11.7 Mi	
BITTERROOT	BUCK CREEK tributary to East Fork Bitterroot T2N, R16W	17010205	MT76H002_060	3.1 Mi	
BITTERROOT	NEZ PERCE FORK from headwaters to the mouth (West Fork Bitterroot R)	17010205	MT76H003_020	14.7 Mi	
BITTERROOT	DEER CREEK from headwaters to the mouth (West Fork Bitterroot R)	17010205	MT76H003_030	12.5 Mi	
BITTERROOT	DITCH CREEK tributary to West Fork Bitterroot. T1S, R22W, S14	17010205	MT76H003_060	2.7 Mi	
BITTERROOT	BASS CREEK, Selway-Bitterroot Wilderness boundary to mouth (Bitterroot R)	17010205	MT76H004_010	5.3 Mi	
BITTERROOT	ROARING LION CREEK, Selway-Bitterroot Wilderness boundary to the mouth	17010205	MT76H004_060	6.2 Mi	
BITTERROOT	WILLOW CREEK from headwaters to the mouth (Bitterroot R)	17010205	MT76H004_110	16.3 Mi	
BITTERROOT	MILLER CREEK from headwaters to the mouth (Bitterroot R)	17010205	MT76H004_130	16.8 Mi	
BITTERROOT	LICK CREEK Headwaters to mouth (Bitterroot R)	17010205	MT76H004_170	6.2 Mi	
BITTERROOT	MUDDY SPRING CREEK Tributary to Gold Cr - Burnt Fk of Bitterroot T7N, R19W, S2	17010205	MT76H004_180	2 Mi	
BITTERROOT	N BURNT FORK CREEK, from Burnt Fk Bitterroot R to Bitterroot R	17010205	MT76H004_200	10.4 Mi	2002
BITTERROOT	GRANITE CREEK from headwaters to the mouth (Lolo Cr)	17010205	MT76H005_030	8.5 Mi	2002
BITTERROOT	EAST FORK LOLO CREEK from headwaters to the mouth (Lolo Cr)	17010205	MT76H005_040	7.4 Mi	2002

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Year Assessed
BITTERROOT	WEST FORK LOLO CREEK from headwaters to the mouth (Lolo Cr)	17010205	MT76H005_050	6.8 Mi	2002
BITTERROOT	LOST PARK CREEK Tributary to East Fork (Lolo Cr)	17010205	MT76H005_060	5 Mi	2002
MIDDLE FORK FLATHEAD	SKYLAND CREEK from headwaters to mouth (Bear Cr)	17010207	MT76I002_020	5.5 Mi	
MIDDLE FORK FLATHEAD	CHALLENGE CREEK from headwaters to mouth (Granite Cr)	17010207	MT76I002_040	4.3 Mi	
FLATHEAD LAKE	ASHLEY CREEK from Ashley Lake to Smith Lake	17010208	MT76O002_010	14.8 Mi	
FLATHEAD LAKE	ASHLEY CREEK from bridge crossing on Kalispell airport road to the Flathead R	17010208	MT76O002_030	11.8 Mi	
FLATHEAD LAKE	SPRING CREEK from headwaters to mouth (Ashley Cr)	17010208	MT76O002_040	4.5 Mi	
SOUTH FORK FLATHEAD	HUNGRY HORSE RESERVOIR	17010209	MT76J002_010	21999 Ac	
SOUTH FORK FLATHEAD	SULLIVAN CREEK from headwaters to mouth (Hungry Horse Res)	17010209	MT76J003_010	15.3 Mi	
SOUTH FORK FLATHEAD	HUNGRY HORSE CREEK, Headwaters to mouth at Hungry Horse Res	17010209	MT76J003_060	6.1 Mi	
STILLWATER	LOGAN CREEK above Tally Lake	17010210	MT76P001_030	19.2 Mi	2004
STILLWATER	SHEPPARD CREEK, Headwaters to mouth (Griffin Cr - Logan Cr - Talley Lake)	17010210	MT76P001_050	14.4 Mi	
STILLWATER	HAND CREEK, headwaters to mouth (Griffin Cr)	17010210	MT76P001_060	5.3 Mi	
SWAN	LION CREEK from headwaters to mouth (Swan R)	17010211	MT76K003_050	14.6 Mi	
SWAN	SQUEEZER CREEK from headwaters to mouth (Goat Cr-Swan R)	17010211	MT76K003_070	9 Mi	
LOWER FLATHEAD	FLATHEAD RIVER, Flathead Reservation boundary to the mouth (Clark Fork R)	17010212	MT76L001_010	4.6 Mi	
LOWER FLATHEAD	LITTLE BITTERROOT RIVER, Hubbart Res to the Flathead Reservation Boundary	17010212	MT76L002_060	4.9 Mi	
LOWER FLATHEAD	SULLIVAN CREEK from headwaters to the Flathead Reservation	17010212	MT76L002_070	3.8 Mi	
LOWER CLARK FORK	CLARK FORK RIVER between Cabinet Gorge Reservoir and Noxon Dam	17010213	MT76N001_020	2.8 Mi	*2003
LOWER CLARK FORK	LYNCH CREEK from headwaters to the mouth (Clark Fork R)	17010213	MT76N003_010	13.7 Mi	
LOWER CLARK FORK	BEAVER CREEK from headwaters to the mouth (Noxon Reservoir)	17010213	MT76N003_030	23.9 Mi	
LOWER CLARK FORK	CLEAR CREEK from headwaters to the mouth (Prospect Cr)	17010213	MT76N003_050	13.7 Mi	
LOWER CLARK FORK	DRY CREEK from headwaters to the mouth (Prospect Cr)	17010213	MT76N003_070	4.2 Mi	
LOWER CLARK FORK	TROUT CREEK from West Fork to the mouth (Noxon Reservoir)	17010213	MT76N003_110	8.3 Mi	
LOWER CLARK FORK	WHITE PINE CREEK from headwaters to the mouth (Beaver Cr)	17010213	MT76N003_120	11.9 Mi	
LOWER CLARK FORK	SWAMP CREEK from below West Fork Swamp Cr to Clark Fork R T20N R27W	17010213	MT76N003_160	5 Mi	
LOWER CLARK FORK	HENRY CREEK Headwaters to confluence with Clark Fork R T20N, R25W	17010213	MT76N003_170	6.7 Mi	
LOWER CLARK FORK	DRY CREEK Headwaters to the confluence with the Bull R T28N, R33W	17010213	MT76N003_180	3.5 Mi	
LOWER CLARK FORK	FISHTRAP CREEK from headwaters to the mouth (Thompson R)	17010213	MT76N005_010	19.8 Mi	2003
LOWER CLARK FORK	WEST FORK FISHTRAP CREEK from headwaters to the mouth (Fishtrap Cr)	17010213	MT76N005_020	7.7 Mi	
LOWER CLARK FORK	McGREGOR CREEK from McGregor Lale to the mouth (Thompson R)	17010213	MT76N005_030	6.7 Mi	
LOWER CLARK FORK	LITTLE THOMPSON RIVER from headwaters to the mouth (Thompson R)	17010213	MT76N005_040	20.3 Mi	*2003
LOWER CLARK FORK	WEST FORK THOMPSON RIVER from headwaters to the mouth (Thompson R)	17010213	MT76N005_050	8.4 Mi	
LOWER CLARK FORK	LAZIER CREEK Tributary to the Thompson R	17010213	MT76N005_060	7.4 Mi	
LOWER CLARK FORK	MC GINNIS CREEK from headwaters to confluence with Little Thompson R	17010213	MT76N005_070	5.1 Mi	

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Appendix C: Waters with Use Support Assessments during the 2004 Reporting Cycle.

Planning Area	Sub-Basin	ID Number	Segment Name - Description
Little Missouri	10110201	MT39F001_021	LITTLE MISSOURI RIVER, Highway 323 bridge to the South Dakota Border
Little Missouri	10110201	MT39F001_022	LITTLE MISSOURI RIVER, Wyoming border to the Highway 323 bridge.
Big & Little Dry	10040105	MT40D001_010	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)
Big & Little Dry	10040106	MT40D004_010	LITTLE DRY CREEK, Headwaters to the mouth (Big Dry Cr)
Landusky	10040104	MT40E002_010	MONTANA GULCH, Headwaters (Gold Bug & Yellow Boy Mine Adits) to mouth (Rock Cr)
Landusky	10040104	MT40E002_050	ALDER GULCH T26N R24E SEC 13 TO T26N R25E SEC 16. Headwaters to Ruby Cr.
Landusky	10040104	MT40E002_070	RUBY GULCH, Headwaters to 1 Mi Below Zortman, MT T25N R25E SEC 16 TO SEC 7
Landusky	10040104	MT40E002_110	SULLIVAN CREEK, tributary to Rock Cr near Landusky
Landusky	10050009	MT40I001_030	BIG HORN CREEK, Zortman Mine to Fort Belknap Reservation
Landusky	10050009	MT40I001_050	LODGE POLE CREEK headwaters to Fort Belknap Reservation boundary
Lower Missouri	10060001	MT40S001_011	MISSOURI RIVER from Fort Peck Dam to the Milk R
Lower Missouri	10060001	MT40S001_012	MISSOURI RIVER from Milk R to the Poplar R
Lower Missouri	10060005	MT40S003_010	MISSOURI RIVER from the Poplar R to North Dakata
Beaverhead	10020002	MT41B001_020	BEAVERHEAD RIVER from Grasshopper Cr to mouth (Jefferson R)
Ruby	10020003	MT41C002_030	INDIAN CREEK from headwaters to mouth (Mill Cr-Ruby R)
Ruby	10020003	MT41C002_050	RAMSHORN CREEK from headwaters to mouth (Ruby R)
Ruby	10020003	MT41C002_060	CURRANT CREEK, Headwaters to mouth (Ramshorn Cr) T4S, R4W, S35
Ruby	10020003	MT41C002_070	MILL GULCH, Tributary to Granite Cr-Alder Cr from Forest Boundary to Headwaters T5S, R2W, S10
Ruby	10020003	MT41C002_090	CALIFORNIA CREEK tributary of Ruby R T-5S R-4W
Ruby	10020003	MT41C002_100	GARDEN CREEK, Headwaters to mouth at Ruby Reservoir
Ruby	10020003	MT41C002_110	MORMAN CREEK, Headwaters to mouth (Upper end of Ruby R Reservoir)
Ruby	10020003	MT41C002_120	HARRIS CREEK, tributary to California Cr from Forest Boundary to Headwaters T5S, R3W
Ruby	10020003	MT41C003_020	COAL CREEK from headwaters to mouth (Middle Fork Ruby R)
Ruby	10020003	MT41C003_050	WARM SPRINGS CREEK from headwaters to mouth (Ruby R)
Ruby	10020003	MT41C003_070	NORTH FK GREENHORN CR from headwaters to confluence with South Fk
Ruby	10020003	MT41C003_080	WEST FORK RUBY RIVER from headwaters to mouth (Ruby R)
Ruby	10020003	MT41C003_140	HAWKEYE CREEK headwaters to mouth (MF Ruby R)
Ruby	10020003	MT41C003_150	SHOVEL CREEK, headwaters to mouth (Cabin Cr - Middle Fork Ruby R)
Lower Big Hole	10020004	MT41D001_010	BIG HOLE RIVER from Divide Cr to the mouth (Jefferson R)
Middle Big Hole	10020004	MT41D001_020	BIG HOLE RIVER between Divide Cr and Pintlar Cr
Upper Big Hole	10020004	MT41D001_030	BIG HOLE RIVER above Pintlar Cr.
N.F. Big Hole	10020004	MT41D004_060	TIE CREEK from headwaters to mouth (North Fork Big Hole R)
Upper Madison	10020007	MT41F004_030	BEAVER CREEK from headwaters to the mouth (Quake Lake)
Lower Gallatin	10020008	MT41H001_010	GALLATIN RIVER from Spanish Cr to the mouth (Missouri R)
Lower Gallatin	10020008	MT41H002_031	SOUTH COTTONWOOD CREEK, Middle Cr Assoc Ditch diversion to the mouth (Gallatin R)
Lower Gallatin	10020008	MT41H002_032	SOUTH COTTONWOOD CREEK, Headwaters to the Middle Cr Assoc Ditch diversion
Lake Helena	10030101	MT41I006_050	PRICKLY PEAR CREEK from Spring Cr to Lump Gulch
Lower Smith	10030103	MT41J001_020	SMITH RIVER from Hound Cr. to the mouth (Missouri R)
Teton	10030205	MT41O001_010	TETON RIVER from Muddy Cr to the mouth (Marias R)

Appendix C: Waters with Use Support Assessments during the 2004 Reporting Cycle.

Planning Area	Sub-Basin	ID Number	Segment Name - Description
Teton	10030205	MT41O001_020	TETON RIVER from Deep Cr to Muddy Cr
Teton	10030205	MT41O001_030	TETON RIVER from North and South Forks to Deep Cr.
Teton	10030205	MT41O002_020	DEEP CREEK from Willow Cr to the mouth (Teton R)
Teton	10030205	MT41O002_042	BLACKLEAF CREEK from Cow Cr. to the mouth (Muddy Cr)
Teton	10030205	MT41O002_080	CLARK FORK OF MUDDY CREEK, Headwaters to mouth (Muddy Cr)
Teton	10030205	MT41O003_010	BYNUM RESERVOIR
Teton	10030205	MT41O003_020	EUREKA RESERVOIR
Teton	10030205	MT41O004_020	PRIEST BUTTE LAKE
Judith - Arrow	10040103	MT41S001_010	JUDITH RIVER from Big Spring Cr to the mouth (Missouri R)
Judith - Arrow	10040103	MT41S002_100	LAST CHANCE CREEK headwaters to mouth (Moccasin cr)
Big Springs	10040103	MT41S004_010	BIG SPRING CREEK from East Fork Big Spring Cr to Casino Cr
Big Springs	10040103	MT41S004_020	BIG SPRING CREEK from East Fork to mouth (Judith R)
Big Springs	10040103	MT41S004_030	BEAVER CREEK from headwaters to the mouth (Cottonwood Cr)
Big Springs	10040103	MT41S004_040	CASINO CREEK, Headwaters to mouth (Big Spring Cr)
Big Springs	10040103	MT41S004_052	COTTONWOOD CREEK from county road bridge at T14N R18E Sec18 to mouth (Big Spring Cr)
Bullwhacker-Dog	10040101	MT41T002_010	BULLWHACKER CREEK Headwaters to the mouth (Missouri R)
Bullwhacker-Dog	10040101	MT41T002_020	DOG CREEK from Cutbank Cr to the mouth (Missouri R)
Bullwhacker-Dog	10040101	MT41T002_030	EAGLE CREEK from Dog Cr to the mouth (Missouri R)
Bullwhacker-Dog	10040101	MT41T002_040	EAGLE CREEK from headwaters to Dog Cr
O'fallon	10100005	MT42L001_020	SANDSTONE CREEK from headwaters to the mouth (O'Fallon Cr)
O'fallon	10100005	MT42L001_031	O'FALLON CREEK from the mouth (Yellowstone R) to Mildred
O'fallon	10100005	MT42L001_032	O'FALLON CREEK from Mildred to the Fallon/Carter Co. line
O'fallon	10100005	MT42L001_033	O'FALLON CREEK headwaters to Fallon/Carter Co. line.
Paradise	10070001	MT43B002_010	REESE CREEK from the state border to the mouth (Yellowstone R)
Paradise	10070002	MT43B004_120	MOL HERON CREEK, Yellowstone National Park boundary to mouth (Yellowstone R)
Boulder - Big Timber	10070002	MT43B004_131	BOULDER RIVER from the mouth (Yellowstone R) five miles upstream
Boulder - Big Timber	10070002	MT43B004_141	EAST BOULDER RIVER from Elk Cr to the mouth (Boulder R)
Boulder - Big Timber	10070002	MT43B004_142	EAST BOULDER RIVER from NF boundary to Elk Cr
Boulder - Big Timber	10070002	MT43B004_143	EAST BOULDER RIVER from headwaters to the NF boundary
Clarks Fork	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Cr to mouth (Yellowstone R)
Clarks Fork	10070006	MT43D001_012	CLARKS FORK YELLOWSTONE RIVER, Montana border to Bridger Cr.
Cooke City	10070006	MT43D001_020	CLARKS FORK YELLOWSTONE RIVER from headwaters to the Montana Border
Fisher	17010102	MT76C001_010	FISHER RIVER from the Silver Butte / Pleasant Valley junction to the mouth (Kootenai R)
Rock	17010202	MT76E002_010	ROCK CREEK mainstem from headwaters to mouth (Clark Fork)
Flint	17010202	MT76E003_012	FLINT CREEK from Boulder Cr to mouth (Clark Fork)

Appendix C: Waters with Use Support Assessments during the 2004 Reporting Cycle.

Planning Area	Sub-Basin	ID Number	Segment Name - Description
Lower Blackfoot	17010203	MT76F001_033	BLACKFOOT RIVER from Belmont Cr. to mouth (Clark Fork)
Blackfoot Headwaters	17010203	MT76F002_040	BEARTRAP CREEK from Mike Horse Cr to the mouth (Blackfoot R)
Middle Blackfoot	17010203	MT76F005_060	BLANCHARD CREEK from the North Fork to the mouth (Clearwater R)
Lower Blackfoot	17010203	MT76F006_031	ELK CREEK from headwaters to Stinkwater Cr.
Lower Blackfoot	17010203	MT76F006_040	KENO CREEK from headwaters to the mouth (Elk Cr)
Upper Clark Fork	17010201	MT76G003_030	GERMAN GULCH headwaters to mouth (Silver Bow Cr)
Upper Clark Fork	17010201	MT76G003_031	BEEFSTRAIGHT CREEK Minnesota Gulch to mouth (German Gulch)
Little Blackfoot	17010201	MT76G004_010	LITTLE BLACKFOOT RIVER from Dog Cr to the mouth (Clark Fork R)
Bitterroot	17010205	MT76H001_010	BITTERROOT RIVER from the east and west forks to Skalkaho Cr
Bitterroot	17010205	MT76H001_020	BITTERROOT RIVER from Skalkaho Cr to Eightmile Cr
Lolo	17010205	MT76H001_030	BITTERROOT RIVER from Eightmile Cr to the mouth (Clark Fork R)
Bitterroot	17010205	MT76H002_070	LAIRD CREEK tributary to East Fork Bitterroot T1N, R20
Bitterroot	17010205	MT76H004_090	SLEEPING CHILD CREEK from headwaters to the mouth (Bitterroot R)
Bitterroot	17010205	MT76H004_100	SKALKAHO CREEK from headwaters to the mouth (Bitterroot R)
Bitterroot	17010205	MT76H004_160	NORTH FORK RYE CREEK, Headwaters to mouth (Rye Cr - Bitterroot R., So. of Darby)
Bitterroot	17010205	MT76H004_190	RYE CREEK, No Fork to mouth (Bitterroot R)
Bitterroot	17010205	MT76H005_080	NORTH CREEK, from headwaters to mouth (Granite Cr)
Flathead Headwaters	17010207	MT76I001_010	MIDDLE FORK FLATHEAD RIVER, Headwaters to mouth
Flathead Headwaters	17010209	MT76J001_020	SOUTH FORK FLATHEAD RIVER from Hungry Horse Res to Headwaters
Middle Clark Fork	17010204	MT76M001_010	CLARK FORK RIVER from the Flathead R to Fish Cr
Middle Clark Fork	17010204	MT76M001_020	CLARK FORK RIVER from Fish Cr to Rattlesnake Cr
Middle Clark Fork	17010204	MT76M002_060	FISH CREEK from West and South Forks to the mouth (Clark Fork R)
Middle Clark Fork	17010204	MT76M002_070	SOUTH FORK FISH CREEK from headwaters to the mouth (Fish Cr)
Lower Clark Fork	17010213	MT76N001_010	CLARK FORK RIVER from the Flathead R to Noxon Reservoir
Lower Clark Fork	17010213	MT76N001_020	CLARK FORK RIVER between Cabinet Gorge Reservoir and Noxon Dam
Lower Clark Fork	17010213	MT76N002_010	NOXON RESERVOIR
Prospect Creek	17010213	MT76N003_020	PROSPECT CREEK from headwaters to the mouth (Clark Fork R)
Prospect Creek	17010213	MT76N003_021	ANTIMONY CREEK DRAINAGE headwaters to mouth (Prospect Creek)
Prospect Creek	17010213	MT76N003_022	COX GULCH headwaters to mouth (Prospect Cr)
Thompson	17010213	MT76N004_010	THOMPSON RIVER from headwaters to mouth (Clark Fork)
Thompson	17010213	MT76N005_010	FISHTRAP CREEK from headwaters to the mouth (Thompson R)
Thompson	17010213	MT76N005_040	LITTLE THOMPSON RIVER from headwaters to the mouth (Thompson R)
Flathead - Stillwater	17010210	MT76P001_010	STILLWATER RIVER from Logan Cr to mouth
Flathead - Stillwater	17010210	MT76P001_030	LOGAN CREEK above Tally Lake

Appendix C: Waters with Use Support Assessments during the 2004 Reporting Cycle.

Planning Area	Sub-Basin	ID Number	Segment Name - Description
Flathead - Stillwater	17010210	MT76P003_010	WHITEFISH RIVER Whitefish Lake to the mouth, confluence with the Stillwater R
Flathead - Stillwater	17010210	MT76P003_020	SWIFT CREEK from headwaters (East and West Forks) to mouth (Whitefish Lake)
Flathead - Stillwater	17010210	MT76P003_030	EAST FORK SWIFT CREEK from headwaters to mouth (Swift Cr)
Flathead - Stillwater	17010210	MT76P003_040	WEST FORK SWIFT CREEK from headwaters to mouth (Swift Cr)
Flathead - Stillwater	17010210	MT76P003_050	CHICKEN CREEK 33N 23W 14

Appendix D: Impairment Cause Changes from 2002 to 2004.

Planning Area	Major Basin	HUC #	ID Number	Segment Name - Description	Listed Cause	Drop / Add
Beaverhead	Upper Missouri	10020002	MT41B001_020	BEAVERHEAD RIVER from Grasshopper Cr to mouth (Jefferson R)	Mercury	-
					Metals	-
					Riparian degradation	+
					Thermal modifications	+
Ruby	Upper Missouri	10020003	MT41C002_030	INDIAN CREEK from headwaters to mouth (Mill Cr-Ruby R)	Dewatering	+
					Fish habitat degradation	+
					Flow alteration	+
					Other habitat alterations	+
					Riparian degradation	+
Ruby	Upper Missouri	10020003	MT41C002_050	RAMSHORN CREEK from headwaters to mouth (Ruby R)	Lead	+
					Metals	+
					Siltation	+
Ruby	Upper Missouri	10020003	MT41C002_090	CALIFORNIA CREEK tributary of Ruby R T-5S R-4W	Bank erosion	+
					Other habitat alterations	+
					Siltation	+
Ruby	Upper Missouri	10020003	MT41C002_100	GARDEN CREEK, Headwaters to mouth at Ruby Reservoir	Bank erosion	+
					Other habitat alterations	+
					Riparian degradation	+
Ruby	Upper Missouri	10020003	MT41C002_110	MORMAN CREEK, Headwaters to mouth (Upper end of Ruby R Reservoir)	Other habitat alterations	+
					Siltation	+
Ruby	Upper Missouri	10020003	MT41C003_020	COAL CREEK from headwaters to mouth (Middle Fork Ruby R)	Bank erosion	+
					Other habitat alterations	+
					Riparian degradation	+
					Thermal modifications	+
Ruby	Upper Missouri	10020003	MT41C003_050	WARM SPRINGS CREEK from headwaters to mouth (Ruby R)	Bank erosion	+
					Other habitat alterations	+
					Riparian degradation	+
					Siltation	+
N.F. Big Hole	Upper Missouri	10020004	MT41D004_060	TIE CREEK from headwaters to mouth (North Fork Big Hole R)	Copper	-
					Metals	-
					Other habitat alterations	+
Lower Gallatin	Upper Missouri	10020008	MT41H001_010	GALLATIN RIVER from Spanish Cr to the mouth (Missouri R)	Lead	-
					Metals	-
Teton	Lower Missouri	10030205	MT41O002_020	DEEP CREEK from Willow Cr to the mouth (Teton R)	Bank erosion	-
Bullwhacker-Dog	Lower Missouri	10040101	MT41T002_020	DOG CREEK from Cutbank Cr to the mouth (Missouri R)	Siltation	+
					Nutrients	+
Judith - Arrow	Lower Missouri	10040103	MT41S002_100	LAST CHANCE CREEK headwaters to mouth (Moccasin cr)	Cyanide	+
					Metals	+
					Selenium	+
Big Springs	Lower Missouri	10040103	MT41S004_010	BIG SPRING CREEK from East Fork Big Spring Cr to Casino Cr	PCB's	+
Landusky	Lower Missouri	10040104	MT40E002_010	MONTANA GULCH, Headwaters (Gold Bug & Yellow Boy Mine Adits) to mouth (Rock Cr)	Cadmium	+
					Zinc	-
Landusky	Lower Missouri	10040104	MT40E002_050	ALDER GULCH T26N R24E SEC 13 TO T26N R25E SEC 16. Headwaters to Ruby Cr.	Nitrate	-
					Nutrients	-
Big & Little Dry	Lower Missouri	10040105	MT40D001_010	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)	Metals	-
					Other habitat alterations	+
					Riparian degradation	+
Landusky	Lower Missouri	10050009	MT40I001_030	BIG HORN CREEK, Zortman Mine to Fort Belknap Reservation	Arsenic	+
					Cadmium	+
					Metals	+
					Zinc	+

Appendix D: Impairment Cause Changes from 2002 to 2004.

Planning Area	Major Basin	HUC #	ID Number	Segment Name - Description	Listed Cause	Drop / Add
Landusky	Lower Missouri	10050009	MT40I001_050	LODGE POLE CREEK headwaters to Fort Belknap Reservation boundary	Cadmium	+
					Cause Unknown	+
					Mercury	+
					Metals	+
					Other habitat alterations	+
					Riparian degradation	+
Paradise	Yellowstone	10070001	MT43B002_010	REESE CREEK from the state border to the mouth (Yellowstone R)	Dewatering	-
					Flow alteration	-
					Other habitat alterations	+
Paradise	Yellowstone	10070002	MT43B004_120	MOL HERON CREEK, Yellowstone National Park boundary to mouth (Yellowstone R)	Nonpriority organics	-
					Thermal modifications	-
Boulder - Big Timber	Yellowstone	10070002	MT43B004_131	BOULDER RIVER from the mouth (Yellowstone R) five miles upstream	Dewatering	-
					Metals	+
Boulder - Big Timber	Yellowstone	10070002	MT43B004_142	EAST BOULDER RIVER from NF boundary to Elk Cr	Flow alteration	+
Clarks Fork Yellowstone	Yellowstone	10070006	MT43D001_011	CLARKS FORK YELLOWSTONE RIVER, Bridger Cr to mouth (Yellowstone R)	Algal Grwth/Chlorophyll a	+
					Flow alteration	+
					Nutrients	+
					Other habitat alterations	+
					Suspended solids	+
Fisher	Columbia	17010102	MT76C001_010	FISHER RIVER from the Silver Butte / Pleasant Valley junction to the mouth (Kootenai R)	Nutrients	-
					Other	-
					Salinity/TDS/chlorides	-
					Siltation	-
Upper Clark Fork	Columbia	17010201	MT76G003_030	GERMAN GULCH headwaters to mouth (Silver Bow Cr)	Selenium	+
Upper Clark Fork	Columbia	17010201	MT76G003_031	BEEFSTRAIGHT CREEK Minnesota Gulch to mouth (German Gulch)	Cyanide	+
Rock	Columbia	17010202	MT76E002_010	ROCK CREEK mainstem from headwaters to mouth (Clark Fork)	Metals	-
					Other habitat alterations	-
					Siltation	-
Flint	Columbia	17010202	MT76E003_012	FLINT CREEK from Boulder Cr to mouth (Clark Fork)	Phosphorus	-
Lower Blackfoot	Columbia	17010203	MT76F001_033	BLACKFOOT RIVER from Belmont Cr. to mouth (Clark Fork)	Metals	-
					Total toxics	-
					Unionized Ammonia	+
Middle Blackfoot	Columbia	17010203	MT76F005_060	BLANCHARD CREEK from the North Fork to the mouth (Clearwater R)	Flow alteration	+
Middle Clark Fork	Columbia	17010204	MT76M001_010	CLARK FORK RIVER from the Flathead R to Fish Cr	Cadmium	-
					Lead	+
Middle Clark Fork	Columbia	17010204	MT76M001_020	CLARK FORK RIVER from Fish Cr to Rattlesnake Cr	Phosphorus	+
Bitterroot	Columbia	17010205	MT76H001_010	BITTERROOT RIVER from the east and west forks to Skalkaho Cr	Copper	+
					Metals	+
Lolo	Columbia	17010205	MT76H001_030	BITTERROOT RIVER from Eightmile Cr to the mouth (Clark Fork R)	Copper	+
					Lead	+
					Metals	+
Bitterroot	Columbia	17010205	MT76H004_190	RYE CREEK, No Fork to mouth (Bitterroot R)	Nitrogen	+
					Phosphorus	+
Bitterroot	Columbia	17010205	MT76H005_080	NORTH CREEK, from headwaters to mouth (Granite Cr)	Other habitat alterations	-
					Siltation	-
Flathead - Stillwater	Columbia	17010210	MT76P001_030	LOGAN CREEK above Tally Lake	Flow alteration	+
					Other habitat alterations	+
					Siltation	+
Prospect Creek	Columbia	17010213	MT76N003_020	PROSPECT CREEK from headwaters to the mouth (Clark Fork R)	Salinity/TDS/sulfates	-
Prospect Creek	Columbia	17010213	MT76N003_021	ANTIMONY CREEK DRAINAGE headwaters to mouth (Prospect Creek)	Arsenic	+
					Lead	+

Appendix D: Impairment Cause Changes from 2002 to 2004.

Planning Area	Major Basin	HUC #	ID Number	Segment Name - Description	Listed Cause	Drop / Add
					Metals	+
Prospect Creek	Columbia	17010213	MT76N003_022	COX GULCH headwaters to mouth (Prospect Cr)	Lead	+
					Metals	+
Thompson	Columbia	17010213	MT76N005_010	FISHTRAP CREEK from headwaters to the mouth (Thompson R)	Other habitat alterations	+
					Siltation	+

Appendix E: Beneficial Use Designation Changes from 2002 to 2004

Planning Area	Major Basin	HUC #	ID Number	Segment Name - Description	2002 Support	UseName	2004 Support
Landusky	Lower Missouri	10040104	MT40E002_050	ALDER GULCH T26N R24E SEC 13 TO T26N R25E SEC 16. Headwaters to Ruby Cr.	P	Aquatic Life Support	N
					P	Warm Water Fishery	N
Landusky	Lower Missouri	10040104	MT40E002_070	RUBY GULCH, Headwaters to 1 Mi Below Zortman, MT T25N R25E SEC 16 TO SEC 7	X	Warm Water Fishery	N
Lower Missouri	Lower Missouri	10060001	MT40S001_011	MISSOURI RIVER from Fort Peck Dam to the Milk R	N	Drinking Water Supply	F
Lower Missouri	Lower Missouri	10060001	MT40S001_012	MISSOURI RIVER from Milk R to the Poplar R	X	Drinking Water Supply	F
Lower Missouri	Lower Missouri	10060005	MT40S003_010	MISSOURI RIVER from the Poplar R to North Dakota	F	Primary Contact (Recr)	X
Ruby	Upper Missouri	10020003	MT41C002_050	RAMSHORN CREEK from headwaters to mouth (Ruby R)	X	Aquatic Life Support	P
					X	Cold Water Fishery - Trout	P
					P	Primary Contact (Recr)	F
Ruby	Upper Missouri	10020003	MT41C003_050	WARM SPRINGS CREEK from headwaters to mouth (Ruby River)	X	Aquatic Life Support	P
					X	Cold Water Fishery - Trout	P
					X	Drinking Water Supply	F
					X	Agriculture	F
					X	Industrial	F
Lower Gallatin	Upper Missouri	10020008	MT41H001_010	GALLATIN RIVER from Spanish Cr to the mouth (Missouri R)	N	Aquatic Life Support	P
					N	Drinking Water Supply	F
Lower Gallatin	Upper Missouri	10020008	MT41H002_031	SOUTH COTTONWOOD CREEK, Middle Cr Assoc Ditch diversion to the mouth (Gallatin R)	X	Aquatic Life Support	P
					X	Cold Water Fishery - Trout	P
					X	Drinking Water Supply	F
					X	Agriculture	F
					X	Industrial	F
Lower Smith	Upper Missouri	10030103	MT41J001_020	SMITH RIVER from Hound Cr. to the mouth (Missouri R)	N	Aquatic Life Support	P
Big Springs	Lower Missouri	10040103	MT41S004_020	BIG SPRING CREEK from East Fork to mouth (Judith R)	F	Primary Contact (Recr)	P
Big Springs	Lower Missouri	10040103	MT41S004_030	BEAVER CREEK from headwaters to the mouth (Cottonwood Cr)	P	Drinking Water Supply	F
Big Springs	Lower Missouri	10040103	MT41S004_040	CASINO CREEK, Headwaters to mouth (Big Spring Cr)	X	Drinking Water Supply	F
Big Springs	Lower Missouri	10040103	MT41S004_052	COTTONWOOD CREEK from county road bridge at T14N R18E Sec18 to mouth (Big Spring Cr)	F	Agriculture	P

Support Key: F - Fully N-Not Supporting P - Parital T - Threatened X - Not Assessed

Appendix E: Beneficial Use Designation Changes from 2002 to 2004

Planning Area	Major Basin	HUC #	ID Number	Segment Name - Description	2002 Support	UseName	2004 Support
Paradise	Yellowstone	10070001	MT43B002_010	REESE CREEK from the state border to the mouth (Yellowstone R)	P	Aquatic Life Support	F
					X	Primary Contact (Recr)	F
					X	Drinking Water Supply	F
					X	Agriculture	F
					X	Industrial	F
Paradise	Yellowstone	10070002	MT43B004_120	MOL HERON CREEK, Yellowstone National Park boundary to mouth (Yellowstone R)	F	Cold Water Fishery - Trout	P
					P	Primary Contact (Recr)	F
					P	Industrial	F
Boulder - Big Timber	Yellowstone	10070002	MT43B004_142	EAST BOULDER RIVER from NF boundary to Elk Cr	X	Drinking Water Supply	F
Little Missouri	Yellowstone	10110201	MT39F001_021	LITTLE MISSOURI RIVER from county road 323 bridge to the South Dakota Border	F	Aquatic Life Support	X
					F	Warm Water Fishery	X
Middle Blackfoot	Columbia	17010203	MT76F005_060	BLANCHARD CREEK from the North Fork to the mouth (Clearwater R)	F	Primary Contact (Recr)	N
Upper Clark Fork	Columbia	17010201	MT76G003_030	GERMAN GULCH headwaters to mouth (Silver Bow Cr)	P	Aquatic Life Support	N
					P	Cold Water Fishery - Trout	N
					X	Primary Contact (Recr)	F
					X	Drinking Water Supply	F
					X	Agriculture	F
					X	Industrial	F
Little Blackfoot	Columbia	17010201	MT76G004_010	LITTLE BLACKFOOT RIVER from Dog Cr to the mouth (Clark Fork R)	N	Aquatic Life Support	P
					N	Cold Water Fishery - Trout	P
					N	Drinking Water Supply	P
Bitterroot	Columbia	17010205	MT76H001_010	BITTERROOT RIVER from the east and west forks to Skalkaho Cr	X	Drinking Water Supply	F
Bitterroot	Columbia	17010205	MT76H004_100	SKALKAHO CREEK from headwaters to the mouth (Bitterroot R)	P	Aquatic Life Support	F
					P	Cold Water Fishery - Trout	F
Bitterroot	Columbia	17010205	MT76H005_080	NORTH CREEK headwaters to mouth (Granite Cr)	P	Aquatic Life Support	X
					P	Cold Water Fishery - Trout	X
					F	Primary Contact (Recr)	X
					X	Drinking Water Supply	X
					F	Agriculture	X
					F	Industrial	X
Prospect Creek	Columbia	17010213	MT76N003_020	PROSPECT CREEK from headwaters to the mouth (Clark Fork R)	P	Aquatic Life Support	N
					P	Cold Water Fishery - Trout	N
Lower Clark Fork	Columbia	17010213	MT76N005_010	FISHTRAP CREEK from headwater to mouth (Thompson River)	X	Aquatic Life Support	P
					X	Cold Water Fishery - Trout	P
					X	Primary Contact (Recr)	F

Support Key: F - Fully N-Not Supporting P - Parital T - Threatened X - Not Assessed

APPENDIX F: Monitoring and Assessment Schedule for 2004 - 2006

WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Monitor & Assess	Assess Only
UPPER MISSOURI BASIN						
RED ROCK	RED ROCK RIVER between Lima Reservoir and Lower Red Rock Lake	10020001	MT41A001_020	30.5 Mi	✔	
RED ROCK	CLARK CANYON RESERVOIR	10020001	MT41A002_010	4888 Ac	✔	
RED ROCK	MEDICINE LODGE CREEK from headwaters to mouth (Horse Prairie Cr.)	10020001	MT41A003_010	32.2 Mi	✔	
RED ROCK	BLOODY DICK CREEK from headwaters to mouth (Horse Prairie Cr)	10020001	MT41A003_100	32.3 Mi	✔	
RED ROCK	SHEEP CREEK from Muddy Cr to mouth (Red Rock R)	10020001	MT41A003_150	9.8 Mi	✔	
RED ROCK	UN-NAMED DRAINAGE T-14S R-8W S-9	10020001	MT41A003_210	1 Mi	✔	
RED ROCK	PRICE CREEK, Headwaters to the mouth (Red Rock R)	10020001	MT41A004_010	8.6 Mi		✔
RED ROCK	FISH CREEK from headwaters to mouth (Metzel Cr.)	10020001	MT41A004_030	6.9 Mi		✔
RED ROCK	CORRAL CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_040	4.4 Mi		✔
RED ROCK	EAST FK CLOVER CREEK, Headwaters to mouth (Clover Cr-Wolvering Cr)	10020001	MT41A004_050	5.5 Mi	✔	
RED ROCK	HELL ROARING CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_060	9 Mi	✔	
RED ROCK	LONG CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_070	19.5 Mi		✔
RED ROCK	PEET CREEK from headwaters to mouth (Red Rock R)	10020001	MT41A004_090	8.4 Mi		✔
RED ROCK	TOM CREEK Headwaters to upper Red Rock Lake	10020001	MT41A004_100	6.7 Mi		✔
RED ROCK	JONES CREEK Headwaters to Mud Cr T14S, R3W SEC 30,31, T15S R3W SEC 4	10020001	MT41A004_130	7.1 Mi		✔
RED ROCK	BEAN CREEK Headwaters to the Mouth (Red Rock R) T4S R3E	10020001	MT41A004_140	5.7 Mi		✔
BEAVERHEAD	FARLIN CREEK from headwaters to mouth (Grasshopper Cr) T6S R12W	10020002	MT41B002_020	6 Mi	✔	
BEAVERHEAD	EAST FORK BLACKTAIL DEER CREEK, Headwaters to mouth (Blacktail Deer Cr	10020002	MT41B002_040	17.1 Mi		✔
BEAVERHEAD	EAST FORK DYCE CREEK from headwaters to mouth (Dyce Cr-Grasshopper Cr)	10020002	MT41B002_050	4.7 Mi	✔	
BEAVERHEAD	WEST FK BLACKTAIL DEER CR, Headwaters to mouth (Blacktail Deer Cr)	10020002	MT41B002_060	15.9 Mi		✔
BEAVERHEAD	WEST FK DYCE CR, Headwaters to mouth (Dyce Cr - Grasshopper Cr)	10020002	MT41B002_070	4.6 Mi	✔	
BEAVERHEAD	SPRING CREEK	10020002	MT41B002_080	14.8 Mi		✔
BEAVERHEAD	RATTLESNAKE CREEK from headwaters to mouth (Beaverhead R)	10020002	MT41B002_090	25.6 Mi	✔	
BEAVERHEAD	CLARK CANYON CREEK, Headwaters to the mouth (Beaverhead R) T9S R10W	10020002	MT41B002_110	8 Mi	✔	
BEAVERHEAD	RESERVOIR CREEK from headwaters to mouth (Grasshopper Cr)	10020002	MT41B002_120	12.3 Mi	✔	
BEAVERHEAD	STONE CREEK below confluence with unnamed creek in NE, S34,T6S, R7W	10020002	MT41B002_131	7.3 Mi		✔
BEAVERHEAD	DYCE CREEK, confluence of East and West Forks to Grasshopper Cr	10020002	MT41B002_140	4.1 Mi	✔	
BEAVERHEAD	STEEL CREEK, a tributary of Scudder Cr. T6S R12W	10020002	MT41B002_160	3.7 Mi	✔	
BEAVERHEAD	TAYLOR CREEK, Headwaters to mouth (Grasshopper Cr)	10020002	MT41B002_170	11.5 Mi	✔	
BEAVERHEAD	SCUDDER CREEK, Headwaters to the mouth (Grasshopper Cr) T6S R12W SEC 15,16	10020002	MT41B002_180	4.7 Mi	✔	
BEAVERHEAD	INDIAN CREEK, Tributary to the East Fk Blacktail Deer Cr T11S R5W SEC 34.	10020002	MT41B002_190	2.7 Mi		✔
RUBY	RUBY RIVER RESERVOIR	10020003	MT41C004_010	970.1 Ac	✔	
BIG HOLE	CAMP CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D002_020	14.3 Mi	✔	
BIG HOLE	DIVIDE CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D002_040	12.2 Mi		✔
BIG HOLE	GROSE CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D002_060	3.4 Mi		✔
BIG HOLE	SASSMAN GULCH from headwaters to mouth (Big Hole R)	10020004	MT41D002_070	6.5 Mi	✔	

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BIG HOLE	SEVEN SPRINGS CREEK Headwaters to mouth (Browns Gulch-Big Hole R)	10020004	MT41D002_080	3.3 Mi		✔
BIG HOLE	MACLEAN CREEK Tributary to Moose Cr (Big Hole R)	10020004	MT41D002_130	3.1 Mi		✔
BIG HOLE	SOAP CREEK from headwaters to mouth (Big Hole R) T1S R9W S 23	10020004	MT41D002_140	8.3 Mi		✔
BIG HOLE	LOST CREEK in the Lower Big Hole Watershed T4S R9W SEC 17	10020004	MT41D002_180	7.8 Mi		✔
BIG HOLE	CHARCOAL GULCH tributary of the Big Hole R T 1S R 10W	10020004	MT41D003_010	3.8 Mi		✔
BIG HOLE	DELANO CREEK from headwaters to mouth (Jerry Cr)	10020004	MT41D003_030	2.3 Mi		✔
BIG HOLE	LA MARCHE CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D003_150	7.2 Mi		✔
BIG HOLE	FISHTRAP CREEK, confluence of West & Middle Fks to mouth (Big Hole R)	10020004	MT41D003_160	5.1 Mi		✔
BIG HOLE	ELKHORN CREEK, Headwaters to mouth (Jacobson Cr-Wise R)	10020004	MT41D003_220	7.2 Mi		✔
BIG HOLE	GOLD CREEK from headwaters to mouth (Wise R)	10020004	MT41D003_230	4.8 Mi		✔
BIG HOLE	PINE CREEK from headwaters to mouth (Andrus Cr. - Governor Cr.)	10020004	MT41D004_160	6.6 Mi		✔
BIG HOLE	FOX CREEK from headwaters to mouth (Governor Cr)	10020004	MT41D004_170	6.6 Mi		✔
BIG HOLE	FRANCIS CREEK from headwaters to mouth (Steel Cr) T3S R15W	10020004	MT41D004_200	7.9 Mi		✔
BIG HOLE	Mc VEY CREEK tributary to the Big Hole R T1S, R15W	10020004	MT41D004_210	8.6 Mi		✔
BIG HOLE	SAWLOG CREEK tributary to Big Hole R	10020004	MT41D004_230	5 Mi		✔
JEFFERSON	HALFWAY CREEK, Headwaters to mouth (Big Pipestone Cr-Jefferson R)	10020005	MT41G002_020	7.6 Mi		✔
JEFFERSON	NORWEGIAN CREEK from headwaters to mouth (Willow Cr Reservoir)	10020005	MT41G002_090	8.8 Mi		✔
JEFFERSON	CHERRY CREEK from headwaters to mouth (Jefferson R)	10020005	MT41G002_110	8.9 Mi		✔
JEFFERSON	DRY BOULDER CREEK from headwaters to mouth (Jefferson R)	10020005	MT41G002_120	14.7 Mi		✔
JEFFERSON	CHARCOAL CREEK from headwaters to mouth (Pony Cr)	10020005	MT41G002_150	2.5 Mi		✔
JEFFERSON	FITZ CREEK tributary to Little Whitetail Cr	10020005	MT41G002_160	4.8 Mi		✔
BOULDER	NORTH FK LITTLE BOULDER RIVER, Headwaters to the mouth (Little Boulder)	10020006	MT41E002_090	11.6 Mi	✔	
BOULDER	McCARTHY CREEK from headwaters to the mouth (Boulder R)	10020006	MT41E002_110	6.7 Mi	✔	
BOULDER	DRY CREEK from headwaters to the mouth (Boulder R)	10020006	MT41E002_120	15.1 Mi	✔	
BOULDER	NURSERY CREEK from headwaters to mouth (Muskrat Cr-Boulder R)	10020006	MT41E002_130	1.1 Mi	✔	
MADISON	BLAINE SPRING CREEK from headwaters to mouth (Madison R)	10020007	MT41F004_010	10.5 Mi		✔
MADISON	ELK RIVER from headwaters to the mouth (West Fork Madison R)	10020007	MT41F004_110	14.3 Mi		✔
MADISON	GAZELLE CREEK, Headwaters to the mouth (West Fork Madison R)	10020007	MT41F004_120	9.2 Mi		✔
MADISON	ANTELOPE CREEK from headwaters to mouth (Cliff Lake)	10020007	MT41F004_140	9 Mi		✔
MADISON	BUFORD CREEK Headwaters to the mouth (West Fork Madison R)	10020007	MT41F004_150	4 Mi		✔
GALLATIN	GALLATIN RIVER from Spanish Cr to Montana State border	10020008	MT41H001_020	52 Mi	✔	
GALLATIN	SOUTH COTTONWOOD CREEK, Headwaters to the Middle Cr Assoc Ditch diversion	10020008	MT41H002_032	11.1 Mi	✔	
GALLATIN	EAST GALLATIN RIVER from headwaters to Bridger Cr	10020008	MT41H003_010	7 Mi	✔	
GALLATIN	EAST GALLATIN RIVER from Bridger Cr to Reese Cr	10020008	MT41H003_020	14.6 Mi	✔	
GALLATIN	EAST GALLATIN RIVER from Reese Cr to the mouth (Gallatin R)	10020008	MT41H003_030	18.9 Mi	✔	
GALLATIN	SOURDOUGH CREEK, Limestone Cr to the mouth (East Gallatin R)	10020008	MT41H003_040	4.7 Mi	✔	
GALLATIN	JACKSON CREEK from headwaters to the mouth (Rocky Cr)	10020008	MT41H003_050	7 Mi	✔	

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GALLATIN	THOMPSON CREEK (or Thompson Spring), Headwaters to mouth (E Gallatin R)	10020008	MT41H003_090	7.4 Mi	✔	
GALLATIN	BRIDGER CREEK, Headwaters to the mouth (East Gallatin R)	10020008	MT41H003_110	18.4 Mi	✔	
GALLATIN	STONE CREEK from headwaters to the mouth (Bridger Cr)	10020008	MT41H003_120	5.6 Mi	✔	
GALLATIN	HYALITE CREEK from headwaters to the Natl. Forest Boundary	10020008	MT41H003_131	15 Mi	✔	
UPPER MISSOURI	MISSOURI RIVER from headwaters to Toston Dam	10030101	MT41I001_011	21 Mi	✔	
UPPER MISSOURI	BATTLE CREEK from headwaters to the mouth (Sixteenmile Cr - Missouri R)	10030101	MT41I002_020	20.4 Mi	✔	
UPPER MISSOURI	DRY CREEK from headwaters to the mouth (Missouri R)	10030101	MT41I002_080	16.7 Mi	✔	
UPPER MISSOURI	MAGPIE GULCH from the headwaters to the mouth (Canyon Ferry Res)	10030101	MT41I002_110	12.7 Mi	✔	
UPPER MISSOURI	SIXTEENMILE CREEK from Lost Cr to the mouth (Missouri R)	10030101	MT41I002_120	446.6 Mi	✔	
UPPER MISSOURI	WHITE GULCH from headwaters to the mouth (Canyon Ferry Res)	10030101	MT41I002_130	13.2 Mi	✔	
UPPER MISSOURI	CAVE GULCH from headwaters to mouth (Canyon Ferry Reservoir)	10030101	MT41I002_150	6.4 Mi	✔	
UPPER MISSOURI	BOULDER CREEK from 3 Miles above mouth to mouth (Confederate Gulch)	10030101	MT41I002_160	3 Mi	✔	
UPPER MISSOURI	BEAVER CREEK, Headwaters to Nelson	10030101	MT41I005_011	13.3 Mi	✔	
UPPER MISSOURI	BEAVER CREEK, Nelson to the mouth (Missouri R below Hauser Dam)	10030101	MT41I005_012	5.3 Mi	✔	
UPPER MISSOURI	TROUT CREEK from headwaters to the mouth (Hauser Lake)	10030101	MT41I005_020	20.1 Mi	✔	
UPPER MISSOURI	SHEEP CREEK from headwaters to mouth (Little Prickly Pear Cr)	10030101	MT41I005_070	5.9 Mi	✔	
UPPER MISSOURI	WOODSIDING GULCH Tributary to Little Prickly Pear Cr. T13N R4W Sec 33	10030101	MT41I005_080	2.2 Mi	✔	
UPPER MISSOURI	JACKSON CREEK, Headwaters to mouth (McClellan Cr-Prickly Pear Cr)	10030101	MT41I006_190	2.5 Mi		✔
UPPER MISSOURI	JENNIES FORK from headwaters to mouth (Silver Cr-Missouri R)	10030101	MT41I006_210	1.2 Mi		✔
UPPER MO-DEARBORN	MISSOURI RIVER from Little Prickly Pear Cr to Sheep Cr.	10030102	MT41Q001_021	21.3 Mi	✔	
UPPER MO-DEARBORN	BOX ELDER CREEK from Spring Cr to mouth (Missouri R)	10030102	MT41Q002_050	15.9 Mi	✔	
UPPER MO-DEARBORN	SOUTH FORK STICKNEY CREEK, Headwaters to the mouth (Stickney Cr-Missouri R)	10030102	MT41Q002_070	14.1 Mi	✔	
SMITH	HOUND CREEK from Spring Cr to the mouth (Smith R)	10030103	MT41J002_020	6.2 Mi		✔
SMITH	BEAVER CREEK from headwaters to the mouth (Smith R)	10030103	MT41J002_040	19.6 Mi	✔	
SMITH	ELK CREEK from headwaters to Camas Cr	10030103	MT41J002_060	9.7 Mi	✔	
SMITH	THOMPSON GULCH from headwaters to the mouth (Smith R)	10030103	MT41J002_070	10.5 Mi	✔	
SMITH	NEWLAN CREEK from headwaters to Newlan Res.	10030103	MT41J002_082	13.8 Mi	✔	
SMITH	LITTLE CAMAS CREEK from headwaters to mouth (Camas Cr)	10030103	MT41J002_100	4 Mi	✔	
SMITH	MOOSE CREEK from headwaters to the mouth (Sheep Cr)	10030103	MT41J002_120	10.9 Mi	✔	
SUN	GIBSON RESERVOIR	10030104	MT41K004_010	1281.9 Ac	✔	
SUN	WILLOW CREEK RESERVOIR	10030104	MT41K004_020	1355.6 Ac	✔	
BELT	LITTLE BELT CREEK from the mouth three miles up stream	10030105	MT41U002_040	3 Mi	✔	
LOWER MISSOURI BASIN						
TWO MEDICINE	TWO MEDICINE RIVER from Birch Cr to the mouth (Marias R)	10030201	MT41M001_010	4.3 Mi		✔
TWO MEDICINE	RAILROAD CREEK, Headwaters to the Blackfeet Reservation boundary	10030201	MT41M002_010	6.1 Mi		✔
TWO MEDICINE	SOUTH FORK TWO MEDICINE RIVER, Headwaters to the Blackfeet Res.	10030201	MT41M002_030	17.3 Mi		✔
TWO MEDICINE	SOUTH FORK BADGER CREEK, Headwaters to the mouth (Badger Cr)	10030201	MT41M002_050	10.9 Mi		✔

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TWO MEDICINE	SOUTH FORK BIRCH CREEK, Headwaters to the mouth (Swift Res)	10030201	MT41M002_070	9.6 Mi		✔
TWO MEDICINE	BIRCH CREEK, Blacktail Cr to the mouth (Two Medicine R)	10030201	MT41M002_080	34.1 Mi		✔
TWO MEDICINE	NORTH FK DUPUYER CREEK, Wilderness boundary to mouth (Dupuyer Cr)	10030201	MT41M002_090	3.4 Mi		✔
TWO MEDICINE	SOUTH FK DUPUYER CREEK, Wilderness boundary to mouth (Dupuyer Cr)	10030201	MT41M002_100	4.6 Mi		✔
TWO MEDICINE	DUPUYER CREEK from North & South Forks to the mouth (Birch Cr)	10030201	MT41M002_110	37.6 Mi		✔
CUT BANK	OLD MAIDS COULEE from headwaters to the mouth (Cutbank Cr)	10030202	MT41L001_010	16.4 Mi		✔
CUT BANK	CUT BANK CREEK, Blackfeet Res. boundary to the mouth (Marias R)	10030202	MT41L001_040	23.1 Mi		✔
MARIAS	MARIAS RIVER, Tiber Reservoir to the Two Medicine R - Cut Bank Cr Confluence	10030203	MT41P001_010	60 Mi	✔	
MARIAS	DRY FORK MARIAS RIVER from Spring Cr to the mouth (Marias R)	10030203	MT41P002_010	24 Mi	✔	
MARIAS	DRY FORK MARIAS RIVER from headwaters to Spring Cr	10030203	MT41P002_020	31.3 Mi	✔	
MARIAS	GOVERNMENT CREEK,Headwaters to the mouth (Corral Cr - Cottonwood Cr)	10030203	MT41P002_040	17.4 Mi	✔	
MARIAS	TIBER RESERVOIR (Lake Elwell)	10030203	MT41P003_010	17500.1 Ac	✔	
MARIAS	LAKE FRANCES Northwest of Conrad, MT	10030203	MT41P003_020	5536 Ac	✔	
TETON	BLACKLEAF CREEK from Crow Cr to the mouth (Muddy Cr)	10030205	MT41O002_042	19.8 Mi		✔
TETON	BYNUM RESERVOIR	10030205	MT41O003_010	4120 Ac		✔
TETON	EUREKA RESERVOIR	10030205	MT41O003_020	400.3 Ac		✔
BULLWHACKER-DOG	BULLWHACKER CREEK Headwaters to the mouth (Missouri R)	10040101	MT41T002_010	37.5 Mi		✔
BULLWHACKER-DOG	DOG CREEK from Cutbank Cr to the mouth (Missouri R)	10040101	MT41T002_020	25.3 Mi		✔
BULLWHACKER-DOG	EAGLE CREEK from Dog Cr to the mouth (Missouri R)	10040101	MT41T002_030	18 Mi		✔
BULLWHACKER-DOG	EAGLE CREEK from headwaters to Dog Cr	10040101	MT41T002_040	20.1 Mi		✔
ARROW	COFFEE CREEK from headwaters to the mouth (Arrow Cr)	10040102	MT41R001_010	37.8 Mi	✔	
ARROW	ARROW CREEK from Surprise Cr to the mouth (Missouri R)	10040102	MT41R001_020	64.8 Mi	✔	
JUDITH	WOLF CREEK from Dry Wolf Cr to the mouth (Judith R)	10040103	MT41S002_020	44.5 Mi	✔	
JUDITH	SAGE CREEK from headwaters to mouth (Judith R)	10040103	MT41S002_050	63 Mi	✔	
JUDITH	WILLOW CREEK from headwaters to mouth (Sage Cr - Judith R)	10040103	MT41S002_060	28.3 Mi	✔	
JUDITH	ROSS FORK JUDITH RIVER from headwaters to mouth (Judith R)	10040103	MT41S002_070	51.3 Mi	✔	
FORT PECK RESERVOIR	ARMELLS CREEK, Deer Cr. to mouth at the Missouri R.	10040104	MT40E002_021	67.9 Mi	✔	
FORT PECK RESERVOIR	TWO CALF CREEK, South Fork to the mouth (Missouri R)	10040104	MT40E002_030	11.2 Mi	✔	
FORT PECK RESERVOIR	COW CREEK, Als Cr to the mouth (Missouri R)	10040104	MT40E002_040	31.5 Mi	✔	
FORT PECK RESERVOIR	CK CREEK, Ruby Cr (Near Headwaters) to Fort Peck Reservoir	10040104	MT40E002_080	43.8 Mi	✔	
FORT PECK RESERVOIR	SULLIVAN CREEK, tributary to Rock Cr near Landusky	10040104	MT40E002_110	0.7 Mi	✔	
FORT PECK RESERVOIR	SOURDOUGH COULEE, A tributary to Armells Cr	10040104	MT40E002_120	15.1 Mi	✔	
FORT PECK RESERVOIR	FARGO COULEE, Headwaters to mouth at Amells Cr	10040104	MT40E002_130	23.2 Mi	✔	
FORT PECK RESERVOIR	TIMBER CREEK, Headwaters to the mouth (Big Dry Cr Arm of Fort Peck Res)	10040104	MT40E003_010	81 Mi	✔	
UPPER MUSSELSHELL	NORTH FORK MUSSELSHELL RIVER, Headwaters to confluence with the South Fk	10040201	MT40A002_010	34.4 Mi	✔	
UPPER MUSSELSHELL	ANTELOPE CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_020	31.2 Mi	✔	
UPPER MUSSELSHELL	TRAIL CREEK, Headwaters to mouth (North Fork Musselshell R)	10040201	MT40A002_030	9.3 Mi	✔	

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UPPER MUSSELSHELL	MILL CREEK, Headwaters to mouth (North Fork Musselshell R)	10040201	MT40A002_040	4.8 Mi	✔	
UPPER MUSSELSHELL	MUD CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_060	31.5 Mi	✔	
UPPER MUSSELSHELL	FISH CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_070	86.7 Mi	✔	
UPPER MUSSELSHELL	HALF BREED CREEK, Headwaters to the mouth (Musselshell R)	10040201	MT40A002_090	16.6 Mi	✔	
UPPER MUSSELSHELL	DEADMANS BASIN RESERVOIR T7N R18E Sec 22-27	10040201	MT40A005_010	1903 Ac	✔	
UPPER MUSSELSHELL	LEBO LAKE T6N R13E SEC 1	10040201	MT40A005_020	314.1 Ac	✔	
UPPER MUSSELSHELL	MARTINSDALE RESERVOIR T8N R12E	10040201	MT40A005_030	984.9 Ac	✔	
MIDDLE MUSSELSHELL	NORTH WILLOW CREEK, Headwaters to the mouth (Musselshell R)	10040202	MT40C002_010	105 Mi	✔	
FLATWILLOW	SNOOSE CREEK, Headwaters to mouth (Yellow Water Cr) T13N R25E SEC 20,21,22	10040203	MT40B001_030	7.1 Mi	✔	
BOX ELDER	McDONALD CREEK, North and South Forks to mouth (Box Elder Cr)	10040204	MT40B002_010	72.5 Mi		✔
BOX ELDER	CHIPPEWA CREEK, Headwaters to one-half mile downstream	10040204	MT40B002_040	0.5 Mi	✔	
LOWER MUSSELSHELL	CALF CREEK, Headwaters to the mouth (Musselshell R)	10040205	MT40C004_010	64.3 Mi	✔	
LOWER MUSSELSHELL	LODGEPOLE CREEK, North & Middle Fks confluence to the mouth (Musselshell)	10040205	MT40C004_020	27 Mi	✔	
UPPER MILK	MILK RIVER, Eastern U.S. border crossing to Fresno Reservoir	10050002	MT40F003_010	31.9 Mi	✔	
MIDDLE MILK	BEAVER CREEK, Beaver creek Reservoir to the mouth (Milk R)	10050004	MT40J002_010	22 Mi	✔	
MIDDLE MILK	BULLHOOK CREEK, Headwaters to the Mouth (Milk R)	10050004	MT40J002_020	23.2 Mi	✔	
MIDDLE MILK	LITTLE BOXELDER CREEK,Headwaters to the mouth (Milk R)	10050004	MT40J002_030	43.1 Mi	✔	
LODGE	LODGE CREEK, Canadian border to the mouth (Milk R)	10050007	MT40J003_010	73.4 Mi	✔	
PEOPLES	PEOPLES CREEK,Headwaters to the Fort Belknap Reservation Boundary.	10050009	MT40I001_020	47.7 Mi	✔	
PEOPLES	BIG HORN CREEK, Zortman Mine to Fort Belknap Reservation	10050009	MT40I001_030	0.8 Mi	✔	
COTTONWOOD	BLACK COULEE, Headwaters to the mouth (Cottonwood Cr)	10050010	MT40J005_010	18.9 Mi	✔	
COTTONWOOD	COTTONWOOD CREEK, Black Coulee to the mouth (Milk R)	10050010	MT40J005_020	54.1 Mi	✔	
WHITEWATER	WHITEWATER CREEK, Canadian border to the mouth (Milk R)	10050011	MT40K001_010	61.7 Mi	✔	
LOWER MILK	CHERRY CREEK from headwaters to the mouth (Milk R)	10050012	MT40O002_010	38.3 Mi	✔	
LOWER MILK	BUGGY CREEK from headwaters to the mouth (Milk R)	10050012	MT40O002_020	41.8 Mi	✔	
LOWER MILK	BEAVER CREEK from headwaters to mouth at Willow Cr	10050012	MT40O002_040	14.7 Mi	✔	
FRENCHMAN	FRENCHMAN CREEK, Canadian border to the mouth (Milk R)	10050013	MT40L001_010	74.5 Mi	✔	
BEAVER	BEAVER CREEK, Headwaters to the Fort Belknap Reservation boundary	10050014	MT40M001_011	4.8 Mi		✔
BEAVER	BEAVER CREEK, Fort Belknap Reservation boundary to Black Coulee	10050014	MT40M001_012	148.3 Mi		✔
BEAVER	FLAT CREEK, Headwaters to mouth (Beaver Cr)	10050014	MT40M002_010	33.2 Mi	✔	
BEAVER	LARB CREEK, Headwaters to mouth (Beaver Cr)	10050014	MT40M002_020	73.8 Mi	✔	
ROCK	EAGLE CREEK,Headwaters to the mouth (Willow Cr)	10050015	MT40N001_010	16 Mi		✔
REDWATER	EAST REDWATER CREEK from headwaters to mouth (Redwater R)	10060002	MT40P002_010	48.2 Mi		✔
REDWATER	PASTURE CREEK from headwaters to mouth at Redwater R	10060002	MT40P002_030	38.9 Mi		✔
POPLAR	POPLAR RIVER & MIDDLE FORK POPLAR RIVER, Canada to the Fort Peck Res.	10060003	MT40Q001_010	66.6 Mi	✔	
POPLAR	BUTTE CREEK, Headwaters to the mouth (Poplar R)	10060003	MT40Q002_010	36.6 Mi	✔	
POPLAR	EAST FORK POPLAR RIVER international border to the mouth (Poplar R)	10060003	MT40Q002_020	20.4 Mi	✔	

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WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Monitor & Assess	Assess Only
CHARLIE-LITTLE MUDDY	CHARLIE CREEK from East and Middle Charlie Cr to the mouth (Missouri R)	10060005	MT40S004_010	31.2 Mi	✔	
CHARLIE-LITTLE MUDDY	HARDSCRABBLE CREEK from headwaters to mouth (Missouri R)	10060005	MT40S004_020	32.6 Mi	✔	
BIG MUDDY	MEDICINE LAKE	10060006	MT40R003_010	8599 Ac	✔	
BIG MUDDY	HOMESTEAD LAKE, near Medicine Lake	10060006	MT40R003_020	1280 Ac	✔	
YELLOWSTONE BASIN						
YELLOWSTONE HEAD	YELLOWSTONE RIVER from the Montana border to Reese Cr.	10070001	MT43B001_010	14.5 Mi	✔	
YELLOWSTONE HEAD	BEAR CREEK, Headwaters to 1/2 mi below the Jardine Mine	10070001	MT43B002_022	8 Mi		✔
UPPER YELLOWSTONE	OTTER CREEK from headwaters to 2 mi downstream of Highway 191 bridge	10070002	MT43B004_012	25.6 Mi	✔	
UPPER YELLOWSTONE	BIG TIMBER CREEK from headwaters to Swamp Cr.	10070002	MT43B004_022	25.7 Mi	✔	
UPPER YELLOWSTONE	LOWER DEER CREEK from headwaters to 4 miles above mouth	10070002	MT43B004_032	22.2 Mi	✔	
UPPER YELLOWSTONE	UPPER DEER CREEK from headwaters to 6.5 miles above the mouth	10070002	MT43B004_042	17.3 Mi	✔	
UPPER YELLOWSTONE	BILLMAN CREEK from headwaters to the Livingston City Limit	10070002	MT43B004_052	11.3 Mi	✔	
UPPER YELLOWSTONE	TOM MINER CREEK from 0.3 mi below Skully Cr. to Tepee Cr.	10070002	MT43B004_060	6.7 Mi		✔
UPPER YELLOWSTONE	MILL CREEK, Absaroka-Beartooth Wilderness boundary to NF boundary	10070002	MT43B004_072	12 Mi		✔
UPPER YELLOWSTONE	BIG CREEK from end of the road to NF Boundary	10070002	MT43B004_112	3.1 Mi	✔	
UPPER YELLOWSTONE	MOL HERON CREEK, Yellowstone National Park boundary to mouth (Yellowstone R)	10070002	MT43B004_120	8.9 Mi		✔
UPPER YELLOWSTONE	BOULDER RIVER from NF boundary to 5 mi above the mouth (Yellowstone R)	10070002	MT43B004_132	27.8 Mi		✔
UPPER YELLOWSTONE	BOULDER RIVER from Box Canyon GS to NFBoundary	10070002	MT43B004_133	24.3 Mi		✔
UPPER YELLOWSTONE	BOULDER RIVER from headwaters to Box Canyon Guard Station	10070002	MT43B004_134	8.2 Mi		✔
UPPER YELLOWSTONE	SWEET GRASS CREEK from headwaters to the mouth (Yellowstone R)	10070002	MT43B004_150	77.3 Mi	✔	
SHIELDS	COTTONWOOD CREEK from headwaters to eight miles above the mouth	10070003	MT43A002_032	13.1 Mi		✔
SHIELDS	ROCK CREEK from headwaters to Little Rock Cr.	10070003	MT43A002_052	10.8 Mi		✔
U. YELLOWSTONE-LB	YELLOWSTONE RIVER from Bridger Cr to Alkali Cr.	10070004	MT43F001_010	89.3 Mi	✔	
U. YELLOWSTONE-LB	DUCK CREEK from headwaters to the mouth (Yellowstone R)	10070004	MT43F002_010	12.5 Mi	✔	
U. YELLOWSTONE-LB	CANYON CREEK from headwaters to highway 532	10070004	MT43F002_022	11.7 Mi	✔	
U. YELLOWSTONE-LB	KEYSER CREEK from headwaters to the mouth (Yellowstone R)	10070004	MT43F002_030	22 Mi	✔	
U. YELLOWSTONE-LB	VALLEY CREEK from headwaters to the mouth (Yellowstone R)	10070004	MT43F002_040	13.7 Mi	✔	
STILLWATER	STILLWATER RIVER from the West Fork to the mouth (Yellowstone R)	10070005	MT43C001_020	35.9 Mi	✔	
STILLWATER	LODGEPOLE CREEK from headwaters to the mouth (Castle Cr)	10070005	MT43C002_010	5.9 Mi	✔	
STILLWATER	BAD CANYON CREEK from headwaters to the mouth (Stillwater R)	10070005	MT43C002_020	10.4 Mi	✔	
STILLWATER	CASTLE CREEK from headwaters to the mouth (West Fk Stillwater R)	10070005	MT43C002_030	10.5 Mi	✔	
STILLWATER	GROVE CREEK from headwaters to five miles above the mouth	10070005	MT43C002_042	6.9 Mi	✔	
STILLWATER	FISHTAIL CREEK from headwaters to the mouth (West Rosebud Cr)	10070005	MT43C002_050	13.9 Mi	✔	
STILLWATER	EAST ROSEBUD CREEK, Morris Cr. to mouth (Rosebud Cr)	10070005	MT43C002_061	11.5 Mi	✔	
STILLWATER	EAST ROSEBUD CREEK, A-B Wilderness boundary to Morris Cr.	10070005	MT43C002_062	8.4 Mi	✔	
STILLWATER	JOE HILL CREEK from headwaters to the mouth (Stillwater R)	10070005	MT43C002_070	11.4 Mi	✔	
STILLWATER	BUTCHER CREEK from headwaters to highway 78	10070005	MT43C002_082	2.2 Mi	✔	

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STILLWATER	WEST ROSEBUD CREEK from headwaters to the mouth (Rosebud Cr)	10070005	MT43C002_090	33.2 Mi	✔	
STILLWATER	ROSEBUD CREEK from the East and West Branches to the mouth (Stillwater R)	10070005	MT43C002_100	3.8 Mi	✔	
STILLWATER	NYE CREEK from headwaters to the mouth (Stillwater R)	10070005	MT43C002_130	2.8 Mi	✔	
CLARKS FK YELLOWSTN	CLARKS FORK YELLOWSTONE RIVER, Montana border to mouth (Yellowstone R)	10070006	MT43D001_010	74.6 Mi		✔
CLARKS FK YELLOWSTN	ELBOW CREEK from headwaters to the mouth (Clarks Fork)	10070006	MT43D002_010	32 Mi	✔	
CLARKS FK YELLOWSTN	BEAR CREEK from headwaters to the mouth (Clarks Fork)	10070006	MT43D002_020	18.2 Mi	✔	
CLARKS FK YELLOWSTN	BLUEWATER CREEK headwaters to nine miles above mouth	10070006	MT43D002_032	10 Mi	✔	
CLARKS FK YELLOWSTN	SPRING CREEK, headwaters to mouth (Clakrs Fk)	10070006	MT43D002_040	11.6 Mi	✔	
CLARKS FK YELLOWSTN	RED LODGE CREEK from headwaters to Cooney Reservoir	10070006	MT43D002_050	16.5 Mi		✔
CLARKS FK YELLOWSTN	WEST RED LODGE CR, A-B Wilderness boundary to mouth (Red Lodge Cr)	10070006	MT43D002_080	12 Mi		✔
CLARKS FK YELLOWSTN	WYOMING CREEK from the state line to the mouth (Rock Cr)	10070006	MT43D002_090	3.9 Mi	✔	
CLARKS FK YELLOWSTN	SILVERTIP CREEK from the state line to the mouth (Clarks Fork)	10070006	MT43D002_100	18.4 Mi	✔	
CLARKS FK YELLOWSTN	COTTONWOOD CREEK from headwaters to the mouth (Clarks Fork)	10070006	MT43D002_140	16.8 Mi	✔	
CLARKS FK YELLOWSTN	SOUTH FORK BRIDGER CREEK tributary to Bridger Cr	10070006	MT43D002_180	7.8 Mi	✔	
CLARKS FK YELLOWSTN	COONEY RESERVOIR	10070006	MT43D003_010	815.4 Ac	✔	
CLARKS FK YELLOWSTN	BASIN CREEK LAKE T8S R19E SEC 7	10070006	MT43D003_100	8 Ac	✔	
CLARKS FK YELLOWSTN	BIG MOOSE LAKE T9S R16E SEC 33BC	10070006	MT43D003_110	15 Ac	✔	
CLARKS FK YELLOWSTN	BLACK CANYON LAKE T9S R18E SEC 5DB	10070006	MT43D003_120	82.3 Ac	✔	
U. YELLOWSTN-POMP P.	YELLOWSTONE RIVER between Huntley Div. Dam and the Big Horn R	10070007	MT43Q001_011	62 Mi	✔	
U. YELLOWSTN-POMP P.	FLY CREEK, Crow Indian Res. boundary to the mouth (Yellowstone R)	10070007	MT43Q002_010	53.9 Mi	✔	
PRYOR	PRYOR CREEK, Crow Indian Res. Boundary to the mouth (Yellowstone R)	10070008	MT43E001_010	26.9 Mi	✔	
LOWER BIGHORN	TULLOCK CREEK, Crow Indian Res. Boundary to the mouth (Bighorn R)	10080015	MT43R002_010	58.2 Mi	✔	
UPPER TONGUE	TONGUE RIVER from the Wyoming border to Tongue R Reservoir	10090101	MT42B001_010	4.7 Mi		✔
UPPER TONGUE	TONGUE RIVER from Tongue R Dam to Hanging Woman Cr	10090101	MT42B001_020	34.5 Mi		✔
UPPER TONGUE	HANGING WOMAN CREEK from the Wyoming border to Stroud Cr	10090101	MT42B002_032	28.7 Mi		✔
LOWER TONGUE	TONGUE RIVER Hanging Woman Cr to diversion dam just above Pumpkin Cr	10090102	MT42C001_012	147.9 Mi		✔
LOWER TONGUE	OTTER CREEK from headwaters to the mouth (Tongue R)	10090102	MT42C002_020	103.6 Mi		✔
LOWER TONGUE	PUMPKIN CREEK from headwaters to the mouth (Tongue R)	10090102	MT42C002_060	171.9 Mi		✔
MIDDLE POWDER	POWDER RIVER mainstem from the border to the Little Powder R	10090207	MT42J001_010	76.2 Mi		✔
LITTLE POWDER	LITTLE POWDER RIVER from the border to the mouth (Powder R)	10090208	MT42I001_010	71.5 Mi		✔
LOWER POWDER	POWDER RIVER from Little Powder R and the mouthYellowstone R	10090209	MT42J003_010	144.3 Mi		✔
LOWER POWDER	STUMP CREEK, tributary to Powder R below Powderville	10090209	MT42J004_010	27.5 Mi		✔
MIZPAH	MIZPAH CREEK from headwaters to the mouth (Powder R)	10090210	MT42J005_010	149.8 Mi		✔
L YELLOWSTN-SUNDAY	YELLOWSTONE RIVER from the Cartersville Diversion Dam to the Powder R	10100001	MT42K001_010	87.9 Mi	✔	
L YELLOWSTN-SUNDAY	CUSTER CREEK from headwaters to the mouth (Yellowstone R)	10100001	MT42K002_010	43.6 Mi	✔	
L YELLOWSTN-SUNDAY	HARRIS CREEK from headwaters to the mouth (Yellowstone R)	10100001	MT42K002_020	26.1 Mi	✔	
L YELLOWSTN-SUNDAY	SUNDAY CREEK from the North and South Forks to the mouth (Yellowstone R)	10100001	MT42K002_030	15.2 Mi	✔	

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L YELLOWSTN-SUNDAY	MUSTER CREEK from headwaters to the mouth (Yellowstone R)	10100001	MT42K002_040	30.6 Mi	✔	
L YELLOWSTN-SUNDAY	DEADMAN CREEK from headwaters to mouth (North Fork Sunday Cr)	10100001	MT42K002_060	16.7 Mi	✔	
L YELLOWSTN-SUNDAY	STELLAR CREEK from headwaters to mouth (Little Porcupine Cr)	10100001	MT42K002_070	38.1 Mi	✔	
L YELLOWSTN-SUNDAY	NORTH FORK SUNDAY CREEK, Custer/Rosebud Co. line to mainstem Sunday Cr.	10100001	MT42K002_080	33.4 Mi	✔	
L YELLOWSTN-SUNDAY	SARPY CREEK, Crow Indian Reservation Boundary to the mouth (Yellowstone R)	10100001	MT42K002_090	87 Mi	✔	
L YELLOWSTN-SUNDAY	EAST FORK SARPY CREEK from headwaters to the mouth (Sarpy Cr)	10100001	MT42K002_100	31.5 Mi	✔	
L YELLOWSTN-SUNDAY	EAST FORK ARMELLS CREEK from Colstrip to the mouth (Armells Cr)	10100001	MT42K002_110	30.8 Mi	✔	
L YELLOWSTN-SUNDAY	WEST FORK ARMELLS CREEK from headwaters to the mouth (Armells Cr)	10100001	MT42K002_120	31.7 Mi	✔	
L YELLOWSTN-SUNDAY	LITTLE PORCUPINE CREEK, headwaters to mouth	10100001	MT42K002_160	108.4 Mi	✔	
L YELLOWSTN-SUNDAY	EAST FORK ARMELLS CREEK from headwaters to Colstrip	10100001	MT42K002_170	21.5 Mi	✔	
ROSEBUD	ROSEBUD CREEK from headwaters to the Northern Cheyennne Reservation	10100003	MT42A001_013	23 Mi	✔	
LOWER YELLOWSTONE	YELLOWSTONE RIVER from Lower Yellowstone Diversion Dam to North Dakota	10100004	MT42M001_011	71.1 Mi	✔	
LOWER YELLOWSTONE	BENNIE PEER CREEK from North Dakota border to the mouth (Yellowstone R)	10100004	MT42M002_010	9.3 Mi	✔	
LOWER YELLOWSTONE	FOURMILE CREEK from headwaters to the North Dakota border	10100004	MT42M002_020	23.5 Mi	✔	
LOWER YELLOWSTONE	FIRST HAY CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_030	29.4 Mi	✔	
LOWER YELLOWSTONE	LONETREE CREEK from North and South Forks to the mouth (Yellowstone R)	10100004	MT42M002_040	28.7 Mi	✔	
LOWER YELLOWSTONE	FOX CREEK and NORTH FORK FOX CREEK, Headwaters to mouth (Yellowstone R)	10100004	MT42M002_050	69.1 Mi	✔	
LOWER YELLOWSTONE	O'BRIEN CREEK from the state line to the mouth (Yellowstone R)	10100004	MT42M002_060	13.1 Mi	✔	
LOWER YELLOWSTONE	CRANE CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_070	21.5 Mi	✔	
LOWER YELLOWSTONE	SMITH CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_080	41.5 Mi	✔	
LOWER YELLOWSTONE	SHADEWELL CREEK from the state line to the mouth (Yellowstone R)	10100004	MT42M002_090	18.5 Mi	✔	
LOWER YELLOWSTONE	COTTONWOOD CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_100	20.9 Mi	✔	
LOWER YELLOWSTONE	BURNS CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_110	48.9 Mi	✔	
LOWER YELLOWSTONE	MORGAN CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_120	18.6 Mi	✔	
LOWER YELLOWSTONE	GLENDIVE CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_130	52.3 Mi	✔	
LOWER YELLOWSTONE	CEDAR CREEK from 26 to 45 miles above the mouth.	10100004	MT42M002_142	19 Mi	✔	
LOWER YELLOWSTONE	CEDAR CREEK from headwaters to 45 miles above the mouth.	10100004	MT42M002_143	15.9 Mi	✔	
LOWER YELLOWSTONE	CABIN CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_150	96.8 Mi	✔	
LOWER YELLOWSTONE	BRAKETT CREEK from headwaters to the mouth (Cherry Cr)	10100004	MT42M002_160	39.9 Mi	✔	
LOWER YELLOWSTONE	CHERRY CREEK from headwaters to 20 miles above the mouth	10100004	MT42M002_172	43.4 Mi	✔	
LOWER YELLOWSTONE	SEARS CREEK from headwaters to the mouth (Yellowstone R)	10100004	MT42M002_180	12.3 Mi	✔	
COLUMBIA BASIN						
UPPER KOOTENAI	LIME CREEK from headwaters to mouth (Fortine Cr)	17010101	MT76D004_050	4.3 Mi		✔
UPPER KOOTENAI	THERRIAULT CREEK from headwaters to the Tabacco R	17010101	MT76D004_070	9 Mi		✔
FISHER	RAVEN CREEK, tributary to the Pleasant Valley Fisher R T26-27N, R29W,	17010102	MT76C001_030	3.1 Mi	✔	
YAAK	YAAK RIVER (or North Fork Yaak R) from Canadian border to East Fork confluence	17010103	MT76B001_020	4.2 Mi		✔
YAAK	SEVENTEEN MILE CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_010	15.1 Mi		✔

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YAAK	LAP CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_020	4.8 Mi		✔
YAAK	SPREAD CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_060	12.2 Mi		✔
YAAK	PETE CREEK from headwaters to mouth (Yaak R)	17010103	MT76B002_070	10.1 Mi		✔
YAAK	SOUTH FORK YAAK RIVER from headwaters to mouth (Yaak R)	17010103	MT76B002_080	11 Mi		✔
YAAK	EAST FORK YAAK RIVER from headwaters to mouth (Yaak R)	17010103	MT76B002_100	13.9 Mi		✔
UPPER CLARK FORK	STORM LAKE CREEK from headwaters to mouth (Warm Springs Cr)	17010201	MT76G002_040	11 Mi	✔	
UPPER CLARK FORK	MILL CREEK from headwaters to the section line between Sec 27 & 28, T4N, R11W	17010201	MT76G002_051	11.6 Mi	✔	
UPPER CLARK FORK	WILLOW CREEK from headwaters to T4N, R10W, Sec30 (DABC)	17010201	MT76G002_061	5.5 Mi	✔	
UPPER CLARK FORK	PETERSON CREEK from headwaters to Jack Cr	17010201	MT76G002_131	6.4 Mi	✔	
UPPER CLARK FORK	MONARCH CREEK from headwaters to the mouth (Ontario Cr)	17010201	MT76G004_060	4.5 Mi	✔	
UPPER CLARK FORK	SNOWSHOE CREEK from headwaters to the mouth (Little Blackfoot R)	17010201	MT76G004_080	10.7 Mi	✔	
UPPER CLARK FORK	THREEMILE CREEK, Headwaters to Quigley Ranch Res.	17010201	MT76G004_111	6 Mi	✔	
FLINT-ROCK	EAST FORK ROCK CREEK, East Fork Res to mouth (Middle Fork Rock Cr)	17010202	MT76E002_020	8.7 Mi	✔	
FLINT-ROCK	BREWSTER CREEK from East Fork to mouth (Rock Cr)	17010202	MT76E002_050	4.5 Mi	✔	
FLINT-ROCK	SOUTH FORK ANTELOPE CREEK Headwaters to mouth (Antelope Cr) T6N, R15W	17010202	MT76E002_060	2.8 Mi	✔	
FLINT-ROCK	QUARTZ GULCH from forks to mouth (Basin Gulch)	17010202	MT76E002_070	3 Mi	✔	
FLINT-ROCK	BASIN GULCH from headwaters to mouth (Quartz Gulch)	17010202	MT76E002_080	1.5 Mi	✔	
FLINT-ROCK	EUREKA GULCH, confluence of Quartz Gulch and Basin Gulch to mouth (Rock Cr)	17010202	MT76E002_090	0.6 Mi	✔	
FLINT-ROCK	SCOTCHMAN GULCH, Headwaters to mouth (Upper Willow Cr-Rock Cr)	17010202	MT76E002_100	7.1 Mi	✔	
FLINT-ROCK	SLUICE GULCH from headwaters to mouth (Rock Cr)	17010202	MT76E002_110	6.1 Mi	✔	
FLINT-ROCK	FLAT GULCH from headwaters to the mouth (Rock Cr)	17010202	MT76E002_120	2.9 Mi	✔	
FLINT-ROCK	SAWPIT GULCH (Sawmill Gulch) Headwaters to the mouth (Upper Willow Cr).	17010202	MT76E002_130	2.1 Mi	✔	
FLINT-ROCK	WILLIAMS GULCH from headwaters to the mouth (Rock Cr)	17010202	MT76E002_140	5.4 Mi	✔	
FLINT-ROCK	CORNISH GULCH from forks to mouth (Rock Cr)	17010202	MT76E002_150	2.9 Mi	✔	
FLINT-ROCK	MINERS GULCH, headwaters to Upper Willow Cr T8N, R15W	17010202	MT76E002_160	5.4 Mi	✔	
FLINT-ROCK	BARNES CREEK from headwaters to mouth (Flint Cr)	17010202	MT76E003_070	8.3 Mi	✔	
FLINT-ROCK	STEWART CREEK, Headwaters to mouth (So. Boulder Cr - Boulder Cr - Flint Cr)	17010202	MT76E003_080	0.8 Mi	✔	
FLINT-ROCK	SMART CREEK T9N, R13W	17010202	MT76E003_110	11.2 Mi	✔	
FLINT-ROCK	CAMP CREEK from headwaters to town of Philipsburg	17010202	MT76E003_130	1.8 Mi	✔	
FLINT-ROCK	TENMILE CREEK from headwaters to mouth (Bear Cr-Clark Fork R)	17010202	MT76E004_030	4.9 Mi	✔	
FLINT-ROCK	RATTLER GULCH headwaters to mouth (Clark Fork)	17010202	MT76E004_060	7.8 Mi	✔	
FLINT-ROCK	DEEP CREEK, tributary to Bear Cr which joins the Clark Fork at Bearmouth	17010202	MT76E004_070	5.4 Mi	✔	
BLACKFOOT	MARCUM CREEK from headwaters to mouth T14N R11W SEC 14	17010203	MT76F002_050	1.4 Mi		✔
BLACKFOOT	JEFFERSON CREEK from headwaters to 1 mile above Madison Gulch	17010203	MT76F003_021	3.6 Mi		✔
BLACKFOOT	BRAZIEL CREEK, 2.8 miles upstream from mouth (Nevada Cr) T12N R10W Sec 22	17010203	MT76F003_040	2.8 Mi		✔
BLACKFOOT	MCELWAIN CREEK, 2 miles upstream from mouth (Nevada Cr) T13N R12W Sec 27-28	17010203	MT76F003_050	2 Mi		✔
BLACKFOOT	MURRAY CREEK Headwaters to mouth (Douglas Cr) T12N R12W Sec 6	17010203	MT76F003_120	8.6 Mi		✔

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BLACKFOOT	WALES CREEK from reservoir outlet to the mouth (Blackfoot R)	17010203	MT76F004_050	2 Mi		✔
BLACKFOOT	RICHMOND CREEK from headwaters to mouth (Lake Alva)	17010203	MT76F005_020	3.7 Mi		✔
BLACKFOOT	DEER CREEK from headwaters to mouth (Seeley Lake)	17010203	MT76F005_030	10.3 Mi		✔
BLACKFOOT	WEST FORK CLEARWATER RIVER, Headwaters to mouth (Clearwater R)	17010203	MT76F005_040	14.3 Mi		✔
BLACKFOOT	BUCK CREEK from headwaters to mouth (Placid Cr-Clearwater R)	17010203	MT76F005_050	2.5 Mi	✔	
BLACKFOOT	WEST FORK ASHBY CREEK, Headwaters to the mouth (Ashby Cr)	17010203	MT76F006_020	3.1 Mi	✔	
BLACKFOOT	KENO CREEK from headwaters to the mouth (Elk Cr)	17010203	MT76F006_040	2.9 Mi	✔	
BLACKFOOT	EAST FORK ASHBY CREEK T13N R16W	17010203	MT76F006_050	3.9 Mi	✔	
BLACKFOOT	CAMAS CREEK from 1 mile above mouth to mouth (Union Cr)	17010203	MT76F006_060	1 Mi	✔	
BLACKFOOT	DAY GULCH Tributary to Elk Cr T12N R14W S-1	17010203	MT76F006_080	1.2 Mi	✔	
BLACKFOOT	WASHOE CREEK Headwater to mouth (Union Cr)	17010203	MT76F006_090	6.1 Mi	✔	
BLACKFOOT	NEVADA LAKE	17010203	MT76F007_020	352.6 Ac		✔
BLACKFOOT	SALMON LAKE	17010203	MT76F007_030	613 Ac		✔
MIDDLE CLARK FORK	CEDAR CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_020	16.9 Mi		✔
MIDDLE CLARK FORK	LOST CREEK from headwaters to the mouth (Oregon Gulch)	17010204	MT76M002_030	7 Mi	✔	
MIDDLE CLARK FORK	OREGON GULCH from headwaters to the mouth (Cedar Cr)	17010204	MT76M002_040	10.9 Mi	✔	
MIDDLE CLARK FORK	SOUTH FORK FISH CREEK from headwaters to the mouth (Fish Cr)	17010204	MT76M002_070	15.6 Mi	✔	
MIDDLE CLARK FORK	CACHE CREEK from headwaters to the mouth (South Fork Fish Cr)	17010204	MT76M002_080	11.2 Mi	✔	
MIDDLE CLARK FORK	WEST FORK PETTY CREEK from headwaters to the mouth (Petty Cr)	17010204	MT76M002_100	7.4 Mi	✔	
MIDDLE CLARK FORK	DEEP CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_110	9.4 Mi	✔	
MIDDLE CLARK FORK	GRANT CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_130	18.3 Mi	✔	
MIDDLE CLARK FORK	MILL CREEK from headwaters to the mouth (Clark Fork R near Frenchtown)	17010204	MT76M002_140	13.4 Mi	✔	
MIDDLE CLARK FORK	NEMOTE CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_160	9.8 Mi	✔	
MIDDLE CLARK FORK	DRY CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M002_170	15.3 Mi	✔	
MIDDLE CLARK FORK	STONY CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_020	7.1 Mi		✔
MIDDLE CLARK FORK	McCORMICK CREEK from headwaters to Little McCormick Cr.	17010204	MT76M004_032	5.8 Mi		✔
MIDDLE CLARK FORK	JOSEPHINE CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_040	6 Mi		✔
MIDDLE CLARK FORK	BIG BLUE CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_050	4.5 Mi		✔
MIDDLE CLARK FORK	CEDAR CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_060	4.6 Mi		✔
MIDDLE CLARK FORK	LITTLE MCCORMICK CREEK from headwaters to mouth (McCormick Cr)	17010204	MT76M004_080	3.6 Mi		✔
BITTERROOT	EAST FORK BITTERROOT RIVER, A-P Wilderness boundary to the Bitterroot R	17010205	MT76H002_010	29.9 Mi		✔
BITTERROOT	REIMEL CREEK from headwaters to the mouth (East Fork Bitterroot R)	17010205	MT76H002_020	7.4 Mi		✔
BITTERROOT	MEADOW CREEK from headwaters to the mouth (East Fork Bitterroot R)	17010205	MT76H002_030	9.7 Mi		✔
BITTERROOT	MARTIN CREEK from headwaters to the mouth (Moose Cr)	17010205	MT76H002_050	11.7 Mi		✔
BITTERROOT	BUCK CREEK tributary to East Fork Bitterroot T2N, R16W	17010205	MT76H002_060	3.1 Mi		✔
BITTERROOT	NEZ PERCE FORK from headwaters to the mouth (West Fork Bitterroot R)	17010205	MT76H003_020	14.7 Mi		✔
BITTERROOT	DEER CREEK from headwaters to the mouth (West Fork Bitterroot R)	17010205	MT76H003_030	12.5 Mi		✔

APPENDIX F: Monitoring and Assessment Schedule for 2004 - 2006

WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Monitor & Assess	Assess Only
BITTERROOT	DITCH CREEK tributary to West Fork Bitterroot. T1S, R22W, S14	17010205	MT76H003_060	2.7 Mi		✔
BITTERROOT	BASS CREEK, Selway-Bitterroot Wilderness boundary to mouth (Bitterroot R)	17010205	MT76H004_010	5.3 Mi		✔
BITTERROOT	ROARING LION CREEK, Selway-Bitterroot Wilderness boundary to the mouth	17010205	MT76H004_060	6.2 Mi	✔	
BITTERROOT	WILLOW CREEK from headwaters to the mouth (Bitterroot R)	17010205	MT76H004_110	16.3 Mi	✔	
BITTERROOT	MILLER CREEK from headwaters to the mouth (Bitterroot R)	17010205	MT76H004_130	16.8 Mi	✔	
BITTERROOT	LICK CREEK Headwaters to mouth (Bitterroot R)	17010205	MT76H004_170	6.2 Mi	✔	
BITTERROOT	MUDDY SPRING CREEK Tributary to Gold Cr - Burnt Fk of Bitterroot T7N, R19W, S2	17010205	MT76H004_180	2 Mi	✔	
BITTERROOT	NORTH CREEK from Headwaters to mouth (Granite Cr)	17010205	MT76H005_080	4.3 Mi	✔	
MIDDLE FORK FLATHEAD	SKYLAND CREEK from headwaters to mouth (Bear Cr)	17010207	MT76I002_020	5.5 Mi		✔
MIDDLE FORK FLATHEAD	CHALLENGE CREEK from headwaters to mouth (Granite Cr)	17010207	MT76I002_040	4.3 Mi		✔
FLATHEAD LAKE	ASHLEY CREEK from Ashley Lake to Smith Lake	17010208	MT76O002_010	14.8 Mi	✔	
FLATHEAD LAKE	ASHLEY CREEK from bridge crossing on Kalispell airport road to the Flathead R	17010208	MT76O002_030	11.8 Mi	✔	
FLATHEAD LAKE	SPRING CREEK from headwaters to mouth (Ashley Cr)	17010208	MT76O002_040	4.5 Mi		✔
SOUTH FORK FLATHEAD	HUNGRY HORSE RESERVOIR	17010209	MT76J002_010	21999 Ac		✔
SOUTH FORK FLATHEAD	SULLIVAN CREEK from headwaters to mouth (Hungry Horse Res)	17010209	MT76J003_010	15.3 Mi		✔
SOUTH FORK FLATHEAD	HUNGRY HORSE CREEK, Headwaters to mouth at Hungry Horse Res	17010209	MT76J003_060	6.1 Mi		✔
STILLWATER	LOGAN CREEK above Tally Lake	17010210	MT76P001_030	19.2 Mi		✔
STILLWATER	SHEPPARD CREEK, Headwaters to mouth (Griffin Cr - Logan Cr - Talley Lake)	17010210	MT76P001_050	14.4 Mi	✔	
STILLWATER	HAND CREEK, headwaters to mouth (Griffin Cr)	17010210	MT76P001_060	5.3 Mi	✔	
SWAN	LION CREEK from headwaters to mouth (Swan R)	17010211	MT76K003_050	14.6 Mi	✔	
SWAN	SQUEEZER CREEK from headwaters to mouth (Goat Cr-Swan R)	17010211	MT76K003_070	9 Mi	✔	
LOWER FLATHEAD	FLATHEAD RIVER, Flathead Reservation boundary to the mouth (Clark Fork R)	17010212	MT76L001_010	4.6 Mi	✔	
LOWER FLATHEAD	LITTLE BITTERROOT RIVER, Hubbart Res to the Flathead Reservation Boundary	17010212	MT76L002_060	4.9 Mi	✔	
LOWER FLATHEAD	SULLIVAN CREEK from headwaters to the Flathead Reservation	17010212	MT76L002_070	3.8 Mi	✔	
LOWER CLARK FORK	CLARK FORK RIVER between Cabinet Gorge Reservoir and Noxon Dam	17010213	MT76N001_020	2.8 Mi	✔	
LOWER CLARK FORK	LYNCH CREEK from headwaters to the mouth (Clark Fork R)	17010213	MT76N003_010	13.7 Mi	✔	
LOWER CLARK FORK	BEAVER CREEK from headwaters to the mouth (Noxon Reservoir)	17010213	MT76N003_030	23.9 Mi	✔	
LOWER CLARK FORK	CLEAR CREEK from headwaters to the mouth (Prospect Cr)	17010213	MT76N003_050	13.7 Mi		✔
LOWER CLARK FORK	DRY CREEK from headwaters to the mouth (Prospect Cr)	17010213	MT76N003_070	4.2 Mi		✔
LOWER CLARK FORK	TROUT CREEK from West Fork to the mouth (Noxon Reservoir)	17010213	MT76N003_110	8.3 Mi	✔	
LOWER CLARK FORK	WHITE PINE CREEK from headwaters to the mouth (Beaver Cr)	17010213	MT76N003_120	11.9 Mi	✔	
LOWER CLARK FORK	SWAMP CREEK from below West Fork Swamp Cr to Clark Fork R T20N R27W	17010213	MT76N003_160	5 Mi	✔	
LOWER CLARK FORK	HENRY CREEK Headwaters to confluence with Clark Fork R T20N, R25W	17010213	MT76N003_170	6.7 Mi	✔	
LOWER CLARK FORK	DRY CREEK Headwaters to the confluence with the Bull R T28N, R33W	17010213	MT76N003_180	3.5 Mi		✔
LOWER CLARK FORK	FISHTRAP CREEK from headwaters to the mouth (Thompson R)	17010213	MT76N005_010	19.8 Mi	✔	
LOWER CLARK FORK	WEST FORK FISHTRAP CREEK from headwaters to the mouth (Fishtrap Cr)	17010213	MT76N005_020	7.7 Mi	✔	
LOWER CLARK FORK	McGREGOR CREEK from McGregor Lale to the mouth (Thompson R)	17010213	MT76N005_030	6.7 Mi	✔	

APPENDIX F: Monitoring and Assessment Schedule for 2004 - 2006

WATERSHED	SEGMENT NAME - Description	HUC #	ID Number	Size & Units	Monitor & Assess	Assess Only
LOWER CLARK FORK	LITTLE THOMPSON RIVER from headwaters to the mouth (Thompson R)	17010213	MT76N005_040	20.3 Mi	✔	
LOWER CLARK FORK	WEST FORK THOMPSON RIVER from headwaters to the mouth (Thompson R)	17010213	MT76N005_050	8.4 Mi	✔	
LOWER CLARK FORK	LAZIER CREEK Tributary to the Thompson R	17010213	MT76N005_060	7.4 Mi	✔	
LOWER CLARK FORK	MC GINNIS CREEK from headwaters to confluence with Little Thompson R	17010213	MT76N005_070	5.1 Mi	✔	

APPENDIX G: Planning Area Impaired Waters Scheduled for TMDL Completion through Year 2006

TMDL Completion Year	PLANNING AREA	SEGMENT NAME - Description	HUC #	ID Number	Size / Units
2004	Big & Little Dry	BIG DRY CREEK, Steves Fork to mouth (Fort Peck Reservoir)	10040105	MT40D001_010	96.1 Mi
2004	Big Spring	BEAVER CREEK from headwaters to the mouth (Cottonwood Cr)	10040103	MT41S004_030	21.6 Mi
2004	Big Spring	BIG SPRING CREEK from East Fork Big Spring Cr to Casino Cr	10040103	MT41S004_010	1.9 Mi
2004	Big Spring	BIG SPRING CREEK from East Fork to mouth (Judith R)	10040103	MT41S004_020	28.7 Mi
2004	Big Spring	CASINO CREEK, Headwaters to mouth (Big Spring Cr)	10040103	MT41S004_040	11.6 Mi
2004	Big Spring	COTTONWOOD CREEK from county road bridge at T14N R18E Sec18 to mouth (Big Spring Cr)	10040103	MT41S004_052	13.3 Mi
2004	Bitterroot - Headwaters	GILBERT CREEK a tributary to Laird Cr, East Fork Bitterroot R T1N, R20W	17010205	MT76H002_080	2.3 Mi
2004	Bitterroot - Headwaters	LAIRD CREEK tributary to East Fork Bitterroot T1N, R20	17010205	MT76H002_070	5.7 Mi
2004	Bitterroot - Headwaters	McCLAIN CREEK from headwaters to mouth (Bitterroot R)	17010205	MT76H004_150	5.3 Mi
2004	Bitterroot - Headwaters	MOOSE CREEK from headwaters to the mouth (East Fork Bitterroot R)	17010205	MT76H002_040	10.1 Mi
2004	Bitterroot - Headwaters	OVERWHICH CREEK from headwaters to the mouth (West Fk Bitterroot R)	17010205	MT76H003_050	19.1 Mi
2004	Bitterroot - Headwaters	WEST FORK BITTERROOT RIVER from headwaters to the mouth (Bitterroot R)	17010205	MT76H003_010	39.4 Mi
2004	Blackfoot - Headwaters	ARRASTRA CREEK from headwaters to mouth (Blackfoot R)	17010203	MT76F002_070	12.6 Mi
2004	Blackfoot - Headwaters	BLACKFOOT RIVER from Belmont Cr. to mouth (Clark Fork)	17010203	MT76F001_033	21.9 Mi
2004	Blackfoot - Headwaters	BLACKFOOT RIVER from Landers Fork to Nevada Cr	17010203	MT76F001_020	48.3 Mi
2004	Blackfoot - Headwaters	BLACKFOOT RIVER from Monture Cr. to Belmont Cr.	17010203	MT76F001_032	23.9 Mi
2004	Blackfoot - Headwaters	BLACKFOOT RIVER from Nevada Cr to Monture Cr	17010203	MT76F001_031	21.9 Mi
2004	Blackfoot - Headwaters	POORMAN CREEK from headwaters to the mouth (Blackfoot R)	17010203	MT76F002_030	14 Mi
2004	Blackfoot - Headwaters	SANDBAR CREEK from forks to mouth (Willow Cr)	17010203	MT76F002_060	1.6 Mi
2004	Blackfoot - Headwaters	WILLOW CREEK from Sandbar Cr to mouth, T15N R7W (Blackfoot R)	17010203	MT76F002_020	2.8 Mi
2004	Bobtail	BOBTAIL CREEK, headwaters to mouth (Kootenai R)	17010101	MT76D002_080	10 Mi
2004	Bullwhacker- Dog		10040101		
2004	Dearborn	DEARBORN RIVER from Falls Cr to the mouth (Missouri R)	10030102	MT41Q003_010	48.6 Mi
2004	Dearborn	FLAT CREEK from Henry Cr to the mouth (Dearborn R)	10030102	MT41Q003_040	15.5 Mi
2004	Dearborn	SOUTH FORK OF THE DEARBORN RIVER, Headwaters to the mouth (Dearborn R)	10030102	MT41Q003_030	15.8 Mi
2004	Flathead - Headwaters	COAL CREEK from headwaters to South Fork	17010206	MT76Q002_070	9 Mi
2004	Flathead - Headwaters	COAL CREEK from South Fork to mouth (North Fork Flathead)	17010206	MT76Q002_080	10 Mi
2004	Flathead - Headwaters	GRANITE CREEK, Confluence of Dodge Cr & Challenge Cr to mouth (Middle Fk Flathead)	17010207	MT76I002_010	8.2 Mi
2004	Flathead - Headwaters	MORRISON CREEK from headwaters to mouth (Middle Fk Flathead R)	17010207	MT76I002_050	14.8 Mi
2004	Flathead - Headwaters	RED MEADOW CREEK from headwaters to mouth (North Fork Flathead R)	17010206	MT76Q002_020	13.9 Mi
2004	Flathead - Headwaters	SOUTH FORK COAL CREEK from headwaters to mouth (CoaL Cr)	17010206	MT76Q002_040	8.1 Mi
2004	Flathead - Headwaters	WHALE CREEK from headwaters to mouth (North Fork Flathead R)	17010206	MT76Q002_030	21.3 Mi
2004	Grave Cr. (part of Tobacco)	GRAVE CREEK from Foundation Cr to the mouth (Fortine Cr)	17010101	MT76D004_060	15.9 Mi
2004	Ninemile	KENNEDY CREEK from headwaters to the mouth (Ninemile Cr)	17010204	MT76M004_070	6.2 Mi
2004	Ninemile	NINEMILE CREEK from headwaters to the mouth (Clark Fork R)	17010204	MT76M004_010	25.5 Mi
2004	Sun	FORD CREEK, from mouth 2 miles upstream (Smith Cr-Elk Cr-Sun R)	10030104	MT41K002_020	2 Mi
2004	Sun	FREEZEOUT LAKE	10030104	MT41K004_030	3500 Ac
2004	Sun	MUDDY CREEK from headwaters to the mouth (Sun R)	10030104	MT41K002_010	31.8 Mi
2004	Sun	SUN RIVER from Gibson Dam to Muddy Cr	10030104	MT41K001_010	80.3 Mi
2004	Sun	SUN RIVER from Muddy Cr to the mouth (Missouri R)	10030104	MT41K001_020	17.1 Mi

APPENDIX G: Planning Area Impaired Waters Scheduled for TMDL Completion through Year 2006

TMDL Completion Year	PLANNING AREA	SEGMENT NAME - Description	HUC #	ID Number	Size / Units
2004	Swan	GOAT CREEK from headwaters to Squeezer Cr.	17010211	MT76K003_031	9 Mi
2004	Swan	GOAT CREEK from Squeezer Cr. to mouth (Swan R)	17010211	MT76K003_032	0.8 Mi
2004	Swan	JIM CREEK from West Fk to mouth (Swan R)	17010211	MT76K003_010	3.8 Mi
2004	Swan	PIPER CREEK from Moore Cr. to mouth (Swan R)	17010211	MT76K003_062	3.7 Mi
2004	Swan	SWAN LAKE	17010211	MT76K002_010	2680 Ac
2004	Tongue	HANGING WOMAN CREEK from Stroud Cr to the mouth (Tongue R)	10090101	MT42B002_031	18.5 Mi
2004	Tongue	TONGUE RIVER RESERVOIR	10090101	MT42B003_010	3500 Ac
2004	Powder		10090207		
2004	Rosebud (Rosebud Cr. drainage of Yellowstone-Rosebud)	ROSEBUD CREEK, N. Cheyenne Res. Boundary to irrigation dam 3.8 mi above mouth	10100003	MT42A001_012	105.8 Mi
2004	Yaak	WEST FORK YAAK RIVER [excluding Canadian portion] headwaters to mouth (Yaak R)	17010103	MT76B002_090	19.8 Mi
2005	Big Hole - North Fork	JOHNSON CREEK, Headwaters to mouth (North Fork Big Hole R)	10020004	MT41D004_030	13.9 Mi
2005	Big Hole - North Fork	JOSEPH CREEK, Headwaters to mouth (Trail Cr-North Fork Big Hole R)	10020004	MT41D004_090	6.8 Mi
2005	Big Hole - North Fork	MUSSIGBROD CREEK, Headwaters to mouth (North Fork Big Hole R)	10020004	MT41D004_020	12.7 Mi
2005	Big Hole - North Fork	RUBY CREEK from headwaters to mouth (North Fork Big Hole R)	10020004	MT41D004_100	13.8 Mi
2005	Big Hole - North Fork	TIE CREEK from headwaters to mouth (North Fork Big Hole R)	10020004	MT41D004_060	15.2 Mi
2005	Big Hole - North Fork	TRAIL CREEK from headwaters to Joseph Cr	10020004	MT41D004_070	11.5 Mi
2005	Big Hole - North Fork	TRAIL CREEK from Joseph Cr to mouth (North Fork Big Hole R)	10020004	MT41D004_080	10.1 Mi
2005	Big Hole - upper	BIG HOLE RIVER above Pintlar Cr.	10020004	MT41D001_030	55.5 Mi
2005	Big Hole - upper	DOOLITTLE CR tributary to the Big Hole R T1S, R14W	10020004	MT41D004_220	4.9 Mi
2005	Big Hole - upper	GOVERNOR CREEK, Headwaters to mouth (Big Hole R - So. of Jackson)	10020004	MT41D004_150	17.5 Mi
2005	Big Hole - upper	ROCK CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D004_120	20.5 Mi
2005	Big Hole - upper	STEEL CREEK from headwaters to mouth (Big Hole R)	10020004	MT41D004_190	15.3 Mi
2005	Boulder - Big Timber	BOULDER RIVER from the mouth (Yellowstone R) five miles upstream	10070002	MT43B004_131	5 Mi
2005	Boulder - Big Timber	EAST BOULDER RIVER from Elk Cr to the mouth (Boulder R)	10070002	MT43B004_141	3.1 Mi
2005	Boulder - Big Timber	EAST BOULDER RIVER from NF boundary to Elk Cr	10070002	MT43B004_142	3 Mi
2005	Cut Bank - Two Medicine		10030201		
2005	Flatwillow - Boxelder	CHICAGO GULCH, Headwaters to the mouth (Fords Cr)	10040204	MT40B002_020	3.1 Mi
2005	Flatwillow - Boxelder	COLLAR GULCH, Headwaters to mouth (Fords Cr)	10040204	MT40B002_030	6.1 Mi
2005	Flatwillow - Boxelder	FLATWILLOW CREEK, Headwaters to the Highway 87 bridge	10040203	MT40B001_021	32.8 Mi
2005	Flatwillow - Boxelder	FLATWILLOW CREEK, Highway 87 bridge to the mouth (Musselshell R)	10040203	MT40B001_022	83.9 Mi
2005	Flatwillow - Boxelder	NORTH FORK FLATWILLOW CREEK, Headwaters to confluence with South Fork	10040203	MT40B001_040	24.9 Mi
2005	Fort Peck Reservoir & Lower Missouri	BIG MUDDY CREEK from Canada to northern boundary of Fort Peck Reservation	10060006	MT40R001_020	114 Mi
2005	Fort Peck Reservoir & Lower Missouri	BIG MUDDY CREEK northern Fort Peck Res. boundary to the mouth (Missouri R)	10060006	MT40R001_010	80.8 Mi
2005	Fort Peck Reservoir & Lower Missouri	FORT PECK RESERVOIR	10040104	MT40E004_010	245000 Ac
2005	Fort Peck Reservoir & Lower Missouri	PORCUPINE CREEK junction of West and Middle Forks to mouth (Milk R)	10050016	MT40O003_010	45.6 Mi

APPENDIX G: Planning Area Impaired Waters Scheduled for TMDL Completion through Year 2006

TMDL Completion Year	PLANNING AREA	SEGMENT NAME - Description	HUC #	ID Number	Size / Units
2005	Lake Helena	CLANCY CREEK from headwaters to the mouth (Prickly Pear Cr)	10030101	MT41I006_120	11.6 Mi
2005	Lake Helena	CORBIN CREEK from headwaters to the mouth (Spring Cr)	10030101	MT41I006_090	2.5 Mi
2005	Lake Helena	FOOL HEN CREEK, Headwaters to mouth (Virgina Cr-Canyon Cr- Little Prickly Pear Cr)	10030101	MT41I005_060	1.7 Mi
2005	Lake Helena	GOLCONDA CREEK, Headwaters to the mouth (Prickly Pear Cr) T 7N, R3W	10030101	MT41I006_070	3.7 Mi
2005	Lake Helena	GRANITE CREEK, Headwaters to mouth (Greenhorn Cr - Sevenmile Cr - Tenmile Cr)	10030101	MT41I006_170	1.6 Mi
2005	Lake Helena	LAKE HELENA	10030101	MT41I007_010	1600 Ac
2005	Lake Helena	LUMP GULCH from headwaters to the mouth (Prickly Pear Cr)	10030101	MT41I006_130	14.5 Mi
2005	Lake Helena	MIDDLE FK WARM SPRINGS CREEK, Headwaters to mouth (Warm Springs Cr - Prickly Pear Cr)	10030101	MT41I006_100	2.7 Mi
2005	Lake Helena	NORTH FK WARM SPRINGS CREEK, Headwaters to mouth (Warmsprings Cr - Prickly Pear)	10030101	MT41I006_180	3.5 Mi
2005	Lake Helena	PRICKLY PEAR CREEK from headwaters to Spring Cr	10030101	MT41I006_060	8.7 Mi
2005	Lake Helena	PRICKLY PEAR CREEK from Helena WWTP Discharge Ditch to Lake Helena	10030101	MT41I006_020	9.1 Mi
2005	Lake Helena	PRICKLY PEAR CREEK from Highway 433 Crossing to Helena WWTP Discharge	10030101	MT41I006_030	2.2 Mi
2005	Lake Helena	PRICKLY PEAR CREEK from Lake Helena to Hauser Lake	10030101	MT41I006_010	4.1 Mi
2005	Lake Helena	PRICKLY PEAR CREEK from Lump Gulch to Montana Highway 433 Crossing	10030101	MT41I006_040	8.9 Mi
2005	Lake Helena	PRICKLY PEAR CREEK from Spring Cr to Lump Gulch	10030101	MT41I006_050	7 Mi
2005	Lake Helena	SEVENMILE CREEK from headwaters to the mouth (Tenmile Cr)	10030101	MT41I006_160	7.8 Mi
2005	Lake Helena	SILVER CREEK from headwaters to the mouth (Lake Helena)	10030101	MT41I006_150	21.6 Mi
2005	Lake Helena	SKELLY GULCH tributary of Greenhorn Cr-Sevenmile Cr T10N R5W Sec 2	10030101	MT41I006_220	7.7 Mi
2005	Lake Helena	SPRING CREEK from Corbin Cr to the mouth (Prickly Pear Cr)	10030101	MT41I006_080	1.7 Mi
2005	Lake Helena	TENMILE CREEK From the Helena PWS intake above Rimini to the Helena WT plant.	10030101	MT41I006_142	7.7 Mi
2005	Lake Helena	TENMILE CREEK from the Helena WT plant to the mouth (Prickly Pear Cr)	10030101	MT41I006_143	15.9 Mi
2005	Lake Helena	TENMILE CREEK, headwaters to the Helena PWS intake above Rimini	10030101	MT41I006_141	6 Mi
2005	Lake Helena	WARM SPRINGS CREEK from the Middle Fork to the mouth (Prickly Pear Cr)	10030101	MT41I006_110	3 Mi
2005	Lake Mary Ronan (part of Flathead-Stillwater)	LAKE MARY RONAN	17010208	MT76O004_020	1520 Ac
2005	Little Missouri	LAMESTEER NATIONAL WILDLIFE REFUGE T12N R60E Sec 15	10110204	MT39G002_010	80 Ac
2005	Little Missouri	THOMPSON CREEK, State line to mouth	10110201	MT39F001_010	35.9 Mi
2005	Missouri - mainstem	MISSOURI RIVER from Fort Peck Dam to the Milk R	10060001	MT40S001_011	3.3 Mi
2005	Missouri - mainstem	MISSOURI RIVER from Milk R to the Poplar R	10060001	MT40S001_012	84.3 Mi
2005	Missouri - mainstem	MISSOURI RIVER from the Poplar R to North Dakata	10060005	MT40S003_010	94.8 Mi
2005	O'Fallon		10100005		
2005	Prospect Creek (part of Lower Clark Fork)	ANTIMONY CREEK DRAINAGE headwaters to mouth (Prospect Creek)	17010213	MT76N003_021	2 Mi
2005	Prospect Creek (part of Lower Clark Fork)	COX GULCH headwaters to mouth (Prospect Cr)	17010213	MT76N003_022	3 Mi
2005	Prospect Creek (part of Lower Clark Fork)	PROSPECT CREEK from headwaters to the mouth (Clark Fork R)	17010213	MT76N003_020	18.9 Mi
2005	Redwater (Missouri triutaries only)	HORSE CREEK from headwaters to mouth at Redwater R near Circle, MT	10060002	MT40P002_020	29 Mi
2005	Redwater (Missouri triutaries only)	NELSON CREEK, Headwaters to the mouth (Big Dry Cr Arm of Fort Peck Res)	10040104	MT40E003_020	22.7 Mi
2005	Redwater (Missouri triutaries only)	PRAIRIE ELK CREEK from the East and Middle Forks to the mouth (Missouri R)	10060001	MT40S002_010	37.5 Mi
2005	Redwater (Missouri triutaries only)	REDWATER RIVER from Hell Cr. to Buffalo Springs Cr.	10060002	MT40P001_012	8 Mi

APPENDIX G: Planning Area Impaired Waters Scheduled for TMDL Completion through Year 2006

TMDL Completion Year	PLANNING AREA	SEGMENT NAME - Description	HUC #	ID Number	Size / Units
2005	Redwater (Missouri triutaries only)	SAND CREEK from the forks to the mouth (Missouri R)	10060001	MT40S002_030	19.3 Mi
2005	Ruby	ALDER GULCH from headwaters to mouth (Ruby R)	10020003	MT41C002_040	18.8 Mi
2005	Ruby	BASIN CREEK, Headwaters to mouth (Middle Fork Ruby R) T11S, R3W	10020003	MT41C003_120	4.5 Mi
2005	Ruby	BURNT CREEK, Headwaters to mouth (Ruby R) T10S, R3W	10020003	MT41C003_130	5 Mi
2005	Ruby	CALIFORNIA CREEK tributary of Ruby R T-5S R-4W	10020003	MT41C002_090	10.9 Mi
2005	Ruby	COAL CREEK from headwaters to mouth (Middle Fork Ruby R)	10020003	MT41C003_020	8.3 Mi
2005	Ruby	COTTONWOOD CREEK from headwaters to mouth (Ruby R)	10020003	MT41C003_030	10.4 Mi
2005	Ruby	GARDEN CREEK, Headwaters to mouth at Ruby Reservoir	10020003	MT41C002_100	7.3 Mi
2005	Ruby	MIDDLE FORK RUBY RIVER from Divide Cr to mouth (Ruby R)	10020003	MT41C003_090	10.5 Mi
2005	Ruby	MILL CREEK from headwaters to mouth (Ruby R)	10020003	MT41C002_020	19.6 Mi
2005	Ruby	MORMAN CREEK, Headwaters to mouth (Upper end of Ruby R Reservoir)	10020003	MT41C002_110	7.8 Mi
2005	Ruby	POISON CREEK, Headwaters to mouth (Ruby R) T11S, R3W	10020003	MT41C003_110	5.3 Mi
2005	Ruby	RAMSHORN CREEK from headwaters to mouth (Ruby R)	10020003	MT41C002_050	11.8 Mi
2005	Ruby	RUBY RIVER from Ruby Dam to the mouth (Beaverhead R)	10020003	MT41C001_010	47.9 Mi
2005	Ruby	RUBY RIVER from the East and West Forks to Ruby Reservoir	10020003	MT41C001_020	37.9 Mi
2005	Ruby	SWEETWATER CREEK from headwaters to mouth (Ruby R)	10020003	MT41C003_060	23 Mi
2005	Ruby	WISCONSIN CREEK from headwaters to mouth (Leland Slough)	10020003	MT41C002_010	13.8 Mi
2005	Shields	SHIELDS RIVER from Cottonwood Cr. to the mouth (Yellowstone R)	10070003	MT43A001_011	20.3 Mi
2005	Shields	SHIELDS RIVER from headwaters to Cottonwood Cr	10070003	MT43A001_012	41.6 Mi
2005	St. Regis	BIG CREEK from the East and Middle Forks to the mouth (ST. Regis R)	17010204	MT76M003_040	3.4 Mi
2005	St. Regis	LITTLE JOE CREEK from North Fork to the mouth (ST. Regis R)	17010204	MT76M003_070	3.1 Mi
2005	St. Regis	NORTH FORK LITTLE JOE CREEK, Headwaters to the mouth (Little Joe Cr)	17010204	MT76M003_080	10.7 Mi
2005	St. Regis	ST. REGIS RIVER from headwaters to the mouth (Clark Fork R)	17010204	MT76M003_010	38.6 Mi
2005	St. Regis	TWELVEMILE CREEK from headwaters to the mouth (ST. Regis R)	17010204	MT76M003_020	13.4 Mi
2006	Beaverhead	BEAVERHEAD RIVER from Clark Canyon Dam to Grasshopper Cr	10020002	MT41B001_010	12 Mi
2006	Beaverhead	BEAVERHEAD RIVER from Grasshopper Cr to mouth (Jefferson R)	10020002	MT41B001_020	63 Mi
2006	Beaverhead	BLACKTAIL DEER CREEK from headwaters to mouth (Beaverhead R)	10020002	MT41B002_030	48 Mi
2006	Beaverhead	FRENCH CREEK from headwaters to mouth (Rattlesnake Cr-Beaverhead R)	10020002	MT41B002_100	40 Mi
2006	Beaverhead	GRASSHOPPER CREEK from headwaters to the mouth (Beaverhead R)	10020002	MT41B002_010	7 Mi
2006	Beaverhead	STONE CREEK above confluence with unnamed creek in NE, S34, T6S, R7W	10020002	MT41B002_132	7 Mi
2006	Benton Lake	BENTON LAKE T22N R3E	10030102	MT41Q005_020	5600 Ac
2006	Benton Lake	LAKE CREEK from headwaters to the mouth (Benton Lake)	10030102	MT41Q002_010	19.6 Mi
2006	Blackfoot - middle	BLANCHARD CREEK from the North Fork to the mouth (Clearwater R)	17010203	MT76F005_060	2.3 Mi
2006	Blackfoot - middle	KLEINSCHMIDT CREEK from mouth 1.5 miles upstream	17010203	MT76F004_110	1.5 Mi
2006	Blackfoot - middle	WARD CREEK from the headwaters to Browns Lake	17010203	MT76F004_060	9.8 Mi
2006	Flathead-Stillwater	FISH CREEK from headwaters to mouth (Ashley Lake)	17010208	MT76O002_050	2.4 Mi
2006	Flathead-Stillwater	LOGAN CREEK above Tally Lake	17010210	MT76P001_030	19.2 Mi
2006	Flathead-Stillwater	STILLWATER RIVER from Logan Cr to mouth	17010210	MT76P001_010	44.1 Mi
2006	Flathead-Stillwater	SWIFT CREEK from headwaters (East and West Forks) to mouth (Whitefish Lake)	17010210	MT76P003_020	16.5 Mi

APPENDIX G: Planning Area Impaired Waters Scheduled for TMDL Completion through Year 2006

TMDL Completion Year	PLANNING AREA	SEGMENT NAME - Description	HUC #	ID Number	Size / Units
2006	Flathead-Stillwater	WEST FORK SWIFT CREEK from headwaters to mouth (Swift Cr)	17010210	MT76P003_040	8.5 Mi
2006	Flathead-Stillwater	WHITEFISH LAKE	17010210	MT76P004_010	3349.9 Ac
2006	Flathead-Stillwater	WHITEFISH RIVER Whitefish Lake to the mouth, confluence with the Stillwater R	17010210	MT76P003_010	23.7 Mi
2006	Madison - upper	RED CANYON CREEK from headwaters to the mouth (Hebgen Lake)	10020007	MT41F006_020	5.6 Mi
2006	Madison - upper	SOUTH FORK MADISON RIVER from headwaters to Hebgen Lake	10020007	MT41F006_010	17.5 Mi
2006	Marias - Willow	PONDERA CREEK/COULEE, Headwaters to the mouth (Marias R)	10030203	MT41P002_030	118.5 Mi
2006	Marias - Willow	CORRAL CREEK, Headwaters to mouth at Government-Cottonwood Crs	10030203	MT41P002_050	19.2 Mi
2006	Marias - Willow	EAGLE CREEK from headwaters to mouth at Tiber Reservoir.	10030204	MT41P004_020	45.7 Mi
2006	Marias - Willow	OILMONT WETLAND, T35N R1W Sec31	10030204	MT41P005_010	9 Ac
2006	Nevada	BUFFALO GULCH, headwaters to mouth (Nevada Cr)	17010203	MT76F003_130	6.3 Mi
2006	Nevada	DOUGLAS CREEK from headwaters to Murray Cr.	17010203	MT76F003_081	12.6 Mi
2006	Nevada	DOUGLAS CREEK from Murray Cr. to mouth (Nevada Cr)	17010203	MT76F003_082	9.3 Mi
2006	Nevada	NEVADA CREEK from headwaters to Nevada Lake	17010203	MT76F003_011	18.3 Mi
2006	Nevada	NEVADA CREEK from Nevada Lake to the mouth (Blackfoot R)	17010203	MT76F003_012	24.9 Mi
2006	Nevada	NEVADA SPRING CREEK from headwaters to mouth (Nevada Cr)	17010203	MT76F003_100	2.9 Mi
2006	Nevada	WASHINGTON CREEK from Cow Gulch to the mouth (Nevada Cr)	17010203	MT76F003_072	4.3 Mi
2006	Tobacco (includes Therriault)	EDNA CREEK from headwaters to mouth (Fortine Cr)	17010101	MT76D004_030	10.2 Mi
2006	Tobacco (includes Therriault)	FORTINE CREEK from its source to the confluence with Grave Cr	17010101	MT76D004_020	30.7 Mi
2006	Tobacco (includes Therriault)	TOBACCO RIVER from confluence of Grave Cr & Fortine Cr to mouth (Lake Koocanusa)	17010101	MT76D004_010	13.5 Mi

APPENDIX H -- MONTANA'S EPA APPROVED TMDLs

Waterbody Name	Parameter/ Pollutant	Water Quality Goal/Endpoint	TMDL	Approval Date
Deep Creek*	**Sediment** **Flow** **Temperature**	**Sediment:** 30% substrate fines(<6.35mm) **TSS:** 0.26 slope of TSS v. Q plot **Temperature**: >73 degrees F. in only 10 days annually **Biotic:** 3,000 female trout captured/year	TSS load same as ref reach 50% reduction in erosive bands 2275' increase in channel length 3-9 cfs min. flow	Oct. 15, 1996
Clark Fork River* HUC 17010204 4 segments: MT76G001-1, MT76G001-2, MT76G001-3, MT76G001-4, HUC 17010201 3 segments: MT76M001-1, MT76M001-2, MT76M001-3	**Total nitrogen (7)** **Total phosphorus (7)**	**Algae:** 100 mg/m2 (summer mean) **chlorophyll a:** 150 mg/m2 (peak) chlorophyll a **Phosphorus**: 30 ug/l total P upstream of Reserve St. **Nitrogen**: 300 ug/l total N **Nutrient ratio:** 15:1 N:P	(kg/day) **Clark Fork below Deer Lodge** Total N: 52 Total P: 0.84 **Clark Fork above Missoula** Total N: 689 Total P: 59 **Clark Fork Below Stone Container** Total N: 801 Total P: 77	Oct. 10, 1998
Elk Creek* (Lower Clark Fork R.)	**Sediment**	Restoration of native trout	50% reduction in annual sediment load at the mouth of Elk Creek	Dec. 7, 1998
Teton River* (near Chouteau)	**Salinity**	Specific Conductance of 1000 micromhos/cm (at 25 deg C) total dissolved solids (TDS) of 700 mg/l (TMDL endpoints measured at Teton River at State Highway 221 Bridge)	TMDL = Qdown Cdown = Cup + $Q_{PB}C_{PB}$ **where:** Qdown = flow in Teton River below Priest Butte outlet Cdown = TMDL endpoint (i.e. 1000 umhos/cm or 400 mg/l TDS) Qup = upstream flow in Teton River Cup =upstream concentration of either specific conductivity or TDS $Q_{PB=}$ flow in Priest Butte outlet C_{PB}= concentration of either specific conductivity of TDS in Priest Butte outlet	Mar. 23, 1999

APPENDIX H -- MONTANA'S EPA APPROVED TMDLs

Waterbody Name	Parameter/ Pollutant	Water Quality Goal/Endpoint	TMDL	Approval Date
Teton River* (near Chouteau)	**Sediment**	Narrative Standard: "No increases are allowed above naturally occurring concentrations of sediment, settleable solids, oils or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife"(ARM 17.30.629(f)) # Beneficial Use Standard: "...suitable for bathing, swimming and recreation, growth and propogation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers." (ARM 17.30.6529(l)) [The success of meeting these standards will be guaged by monitoring physical and biological parameters such as: flow, total suspended solids, temperature, conductivity, pH. amount of bank erosion, stream cross sections, pebble counts, photoplots, macroinvertebrates and fish . A goal of approximately 155 mg/1 sediment concentration (suspended and bedload combined) during a stable flow of 150 cfs has been suggested as a reasonable target for ambient sediment levels.]	25% reduction in long term sediment yield TMDL partially implemented by: restoration of 54% of eroding banks increase in stream length by 4 percent (i.e., increase in channel sinuosity) maximum flow target of 100 cfs at Careless Canal diversion and 80 cfs at mouth of Careless Creek	Sept. 20, 2001
Lone Tree Creek	**Nitrogen**	- 1 mg/l total Kjeldahl nitrogen - periphyton pollution index of 2.00 or greater	* 80 percent reduction in long term nitrogen load * TMDL partially implemented by: * restoration of riparian areas along 37% of the stream miles to a proper function condition (PFC) * re-activation of 0.25 mile of abandoned channel	Sept. 20, 2001
Flathead Lake*	**Nitrogen Phosphorus**	- 80 g Carbon/m2/yr - no declining trend in hypolimnionic dissolved oxygen - no measurable blooms of Anabaena or other pollution algae - 1.0 ug/l chlorophyll a maintaining or decreasing near-shore algal growth on rocks - 5.0 ug/l total phosphorus - <0.5 ug/l soluble reactive phosphorus - 95 ug/l total nitrogen - 30 ug/l nitrate+nitrate - <1.0 ug/l ammonia	25% reduction in long term nitrogen and phosphorus loads	Mar. 30, 2002

APPENDIX H -- MONTANA'S EPA APPROVED TMDLs

Waterbody Name	Parameter/ Pollutant	Water Quality Goal/Endpoint	TMDL	Approval Date
Sage Creek*	**Salinity**	**Narrative Standard:** "State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges tha will create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life")ARM 17.30.637 (l) (d).) **Beneficial Use Standard:** "...suitable for culinary and food process purposes, after conventional treatment, and for bathing, swimming and recreation, propagation of non-salmonid fishes and associated aquatic life, waterfowl and furbearers, and agricultural and industrial water supply." (ARM 17.30.625). A **goal** of approximately 1250 mg/l total dissolved solids (TDS) or 1600 mhos/cm specific conductance (SC). (These metrics reflect about the same amount of salinity in Sage Creek.)	The Sage Creek TMDL is expressed in pounds per day of TDS using the following formula based on flow: TMDL = 1250 mg/l x flow x 5.39 where, flow = stream flow in cfs 5.39 = conversion factor TMDL partially implemented by reducing groundwater levels in saline seep recharge areas.	Apr. 22, 2002
Big Sandy Creek*	**Salinity**	**Narrative Standard:** "State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges tha will create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life" (ARM 17.30.637 (l) (d)) **Beneficial Use Standard:** "...suitable for culinary and food process purposes, after conventional treatment, and for bathing, swimming and recreation, growth and propagation of non-salmonid fishes and association aquatic life, waterfowl and furbearers, and agricultural and industrial water supply." (ARM 17.30.625). **A goal** of approximately 1250 mg/l total dissolved solids (TDS) or 1600 mhos/cm specific conductance (SC). (These metrics reflect about the same amount of salinity in Sage Creek.)	The Big Sandy Creek TMDL is expressed in pounds per day of TDS using the following formula based on flow: TMDL = 1000 mg/l x flow x 5.39 where, flow = stream flow in cfs 5.39 = conversion factor TMDL partially implemented by applying agricultural BMPS	Apr. 22, 2002

APPENDIX H -- MONTANA'S EPA APPROVED TMDLs

Waterbody Name	Parameter/ Pollutant	Water Quality Goal/Endpoint	TMDL	Approval Date
Cooke City TMDL Planning Area: **Daisy Creek** (metals, pH, sediment), **Stillwater River** (metals, sediment) **Fisher Creek** (metals, pH, sediment), **Clarks Fork of the Yellowstone River** (metals, pH), **Miller Creek** (metals), **Soda Butte Creek** (metals)	**Metals (6) pH (3) Sediment (3)**	New World Mining District restoration efforts currently underway for mine disturbances from sources within the Daisy , Fisher, and Miller Creek drainages. *Additional Nation Forest Service erosion control practices and mine restoration efforts where needed (all waterbodies) *Further characterization and possible restoration of mine disturbances on private lands (for some water bodies; key strategy component for Soda Butte Creek drainage). *Significant water quality and related monitoring including additional source characterization (all water bodies). *Adaptive management approach to identify any necessary changes to targets, TMDLs or load allocations (all waterbodies). *Numeric values for aquatic life support. *Numeric values for drinking water/domestic use support. Elimination of objectionable deposits and turbidity from metal precipitates. Non-toxic levels in stream sediments. Biota at greater than or equal to 75% of reference conditions. Stream habitat conditions within 25% of reference stream.	Based on numeric concentration targets multiplied by stream flow. Metals TMDLs used as surrogates for pH. Based on yearly loads and percent reductions in loading (metals load reductions of 97 to 38 %, and 27% fine sediment load reduction to not more than 25 % above reference).	Jan. 6, 2003
Big Creek (N.Fk. Flathead R)	**Sediment -** (Watershed Restoration Plan also restores 'other habitat alterations, bank erosion and fish habitat degradation)	Full support of a cold water fishery is the primary goal of this watershed restoration plan, with a target of attainment of reference conditions in Big Creek -This translates to the first target of less than 30 percent fines less than 6.4 mm. -The second objective would be to reduce the amount of streambank erosion occurring in the most sensitive impaired reaches of Big Creek, to not significantly greater than 125% of the erosion rate of the monitored reference reaches, based on a statistically valid comparison. -The third objective is to reduce the sediment input from upland and stream channel sources, through the successful revegetation and/or armoring of at least 75% of the identified sediment sources.	The load allocation is a performance based approach addressing virtually all of the identified impairment sources -The soil erosion from cutslopes, ditches and road surface on 75 miles of reclaimed roads, is a WEPP-modeled reduction of approximately 26 tons annually. - Applying revegetation, drainage, and stabilization treatments to streambank slumps in Big Creek, reducing streambank erosion by 75 to 95 %. - Improve road surface/stream crossings to current Montana BMP's by upsizing approximately 77 culverts (reducing road/stream crossing sedimentation by 60 to 90 %) and adding approximately 35 stream crossing crossdrains (resulting in a WEPP modeled sediment reduction of approximately 9 tons annually).	May 9, 2003
Upper Lolo Creek TMDL Planning Area - West Fork Lolo Cr., East Fork Lolo Cr., Granite Cr., Lee Cr. & Lost Park Cr.	**Sediment (5)** (Plan also restores 'Thermal modifications' for Granite Creek)	Full support of aquatic life/cold water fishery is the primary goal of this watershed restoration plan, through reduction in silviculture/roads and highway sedimentation sources. -This translates to the first set of target of less than 21 to 31 percent fines less than 6 mm depending on Rosgen stream type. -The second set of targets (pool frequency, V*, entrenchment ratio, width/depth ratio and sinuosity) will be set through the plan's monitoring program.	The load allocations are based on stream specific reductions in sediment loads from roads and the highway. These load reductions range from 33 to 56% reductions in human-caused loads. Implementation strategies include: recalim forest roads to meet Montana BMPs; recalim surplus forest roads; improve and upgrade existing culverts; improve Highway 12 use and maitenance of sediment traps, plowing techniques and guardrail cleaning, and reduce fish passage barriers.	June 24, 2003

APPENDIX H -- MONTANA'S EPA APPROVED TMDLs

Waterbody Name	Parameter/ Pollutant	Water Quality Goal/Endpoint	TMDL	Approval Date
Blackfoot Headwaters - Blackfoot R.-abv. Landers Fk. (cadmium, copper, iron, lead, manganese, zinc); **Blackfoot R. -blw. Landers Fk.** (aluminum, cadmium, iron, zinc); **Beartrap Cr.** (cadmium, copper, iron, lead, manganese, zinc); **Mike Horse Cr.** (aluminum, cadmium, copper, iron, lead, manganese, zinc), **Sandbar Cr.** (aluminum, copper, iron, manganese) & **Poorman Cr**. (cadmium, copper, lead)	**Metals: (30)** (Waterbody / pollutant combinations from mining disturbances)	Blackfoot waters achieve numeric metals concentrations in the water column for aquatic life/fishery and for domestic water use support, *Metals in stream sediments may not impede beneficial uses. *Biota (periphyton, macroinvertebrates) equal to or better than reference conditions. *Elimination of objectionable deposits from metal precipatates.	Based on numeric metals concentration targets multiplied by stream flow. UBMC restoration efforts for mine distrubances in Mike Horse Cr., Beartrap Cr. and Blcackfoot R.. Adaptive mangement approach using future monitoring, application of most protective numeric standard, sediment chemistry targets and use of biota targets equal or better than reference condition.	Oct. 10, 2003
Teton River TMDL Planning Area -11 Sediment, TDS/SC, Nutrients, Thermal Modification TMDLs: Priest Butte Lake (TDS/SC, selenium), **Teton River** (TDS/SC, sediment, thermal modification), **Willow Creek** (sediment), **Deep Creek** (sediment, nutrients), **Teton Spring Cr,** (sediment, thermal modification, nutrients)	**TDS/SC: (2) Selenium: (1) Sediment: (4) Thermal modification: (2) Nutrients: (2)**	Teton waters achieve water quality standards for nutrients, thermal modification, sediment and TDS/SC through application of BMPs for effects of the 1964 flood and/or for agricultural land uses and associated practices.	TDS/SC reductions of 14% to 23% in maximum SC, and 0% to 34% reductions in average SC concentrations. Daily selenium discharge target for largest selinium seep area. 80% of the stream's linear distance have the appropriate channel pattern, form, function, and riparian conditions for sediment reduction. Thermal modification targets for stream channel morphology, instream flow regimes, and shade-providing riparian vegetative community. Measued nutrient reductions of 0 to 57% and Chl **a** reductions of 4% to 168%.	Nov. 26, 2003