UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
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DEC 2 3 2009

Ref: 8EPR-EP

Mr. George Mathieus
Administrator
Planning, Prevention and Assistance Division
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Re: TMDL Approvals for the Lower Blackfoot TPA

Dear Mr. Mathieus:

We have completed our review of the total maximum daily loads (TMDLs) as submitted by your office for the Lower Blackfoot River TMDL Planning Area (TPA). The TMDLs are included in the document entitled *Lower Blackfoot Total Maximum Daily Loads and Water Quality Improvement Plan* transmitted to us for review and approval on September 30, 2009. In accordance with the Clean Water Act (33 U.S.C. 1251 *et. seq.*), we approve all aspects of the TMDLs as developed for the Lower Blackfoot River TPA. Enclosure 1 to this letter provides a summary of the elements of the TMDLs and Enclosure 2 provides details of our review of the TMDLs.

Based on our review, we feel the separate TMDL elements listed in Enclosure 2 adequately address the pollutants of concern, taking into consideration seasonal variation and a margin of safety. In approving these TMDLs, EPA affirms that the TMDLs have been established at levels necessary to attain and maintain the applicable water quality standards and have the necessary components of approvable TMDLs.

Thank you for submitting these TMDLs for our review and approval. If you have any questions, the most knowledgeable person on my staff is Ron Steg and may be reached at (406) 457-5024.

Sincerely,

Jerry Anderson, Acting ARA

Eddie A. Sierra
Acting Assistant Regional Administrator
Office of Ecosystems Protection
and Remediation

Enclosure

cc: Claudia Massman, Attorney
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Enclosure 1 – Lower Blackfoot River TMDL Summary

Water Body Name	Water Body ID	Impaired Beneficial Uses							Cycle First Listed (Pollutants Only)	Cause of Impairment	Pollutant for Which TMDL has been prepared	DEQ Action	TMDL End Points		Wasteload Allocations		Load Allocations		TMDL[1]	MOS
		Aquatic Life	Cold Water Fishery	Warm Water Fishery	Drinking Water	Recreation	Agriculture	Industry					Indicator	Threshold Values	WLA (Tons/year)	WLA Permitted Facilities (Permit Number)	LA	(Tons/year)		
East Fork Ashby Creek	MT76F005_050	P	P	NA	F	F	F	F	1996	Sedimentation/ Siltation	Sediment	TMDL	Pool Frequency (Count/Mile)	≥50	NA	NA	Road Crossings	40	67	Implicit
													Residual Pool Depth (ft)	≥0.8			Livestock Grazing	20		
													% riffle surface fines <6mm	≤37			Timber Harvest	5		
																	Mining	1		
																	Rural Residential	1		
																	Total	67		
									2006	Phosphorus (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
									2006	Nitrate/Nitrite	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
										Alteration in stream-side or littoral vegetative covers	NA	Addressed by Sediment TMDL	NA	NA	NA	NA	NA	NA	NA	NA
West Fork Ashby Creek	MT76F005_020	P	P	NA	F	F	F	F	1988	Sedimentation/ Siltation	Sediment	TMDL	% riffle surface fines <6mm	≤45	NA	NA	Road Crossings	43	72	Implicit
													Pool Frequency (Count/Mile)	≥50			Livestock Grazing	11		
													Residual Pool Depth (ft)	≥0.8			Timber Harvest	11		
																	Rural Residential	7		
																	Total	72		
									2006	Phosphorus (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
										Alteration in stream-side or littoral vegetative covers	NA	Addressed by Sediment TMDL	NA	NA	NA	NA	NA	NA	NA	NA
Belmont Creek	MT76F005_070	P	P	NA	F	F	F	F	1992	Sedimentation/ Siltation	NA	TMDL	% riffle surface fines <6mm (by channel type)	≤20	NA	NA	Road Crossings	223	751	Implicit
													Pool Frequency (Count/Mile by channel type)	≥48			Livestock Grazing	390		
													Residual Pool Depth (in ft by channel type)	≥1.1			Timber Harvest	131		
																	Hay Production	7		
																	Total	751		
Camus Creek	MT76F006_080	P	P	NA	F	F	F	F	1988	Sedimentation/ Siltation	Sediment	TMDL	% riffle surface fines <6mm	≤36	NA	NA	Road Crossings	237	720	Implicit
													Pool Frequency (Count/Mile)	≥50			Hay Production	248		
													Residual Pool Depth (ft)	≥1			Livestock Grazing	109		
																	Rural Residential	68		
																	Timber Harvest	58		
																	Total	720		
									2006	Phosphorus (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
										Low Flow Alterations	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
Day Gulch	MT76F006_080	X	X	NA	X	X	X	X	1996	Sedimentation/	NA	No	% riffle surface fines <6mm	≤20	NA	NA	NA	NA	NA	NA

Water Body Name	Water Body ID	Impaired Beneficial Uses							Cycle First Listed (Pollutant Only)	Cause of Impairment	Pollutant for Which TMDL has been prepared	DEQ Action	TMDL End Points		Wasteload Allocations		Load Allocations		TMDL[1]	MOS
		Aquatic Life	Cold Water Fishery	Warm Water Fishery	Drinking Water	Recreation	Agriculture	Industry					Indicator	Threshold Values	WLA (Tons/ year)	WLA Permitted Facilities (Permit Number)	LA	(Tons/ year)		
										Siltation		Action	Pool Frequency (Count/Mile)	≥48						
													Residual Pool Depth (ft)	≥1.1						
										Flow Alteration	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
										Habitat Alteration	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
Upper Elk Creek	MT76F006-031	P	P	NA	F	F	F	F	1988	Sedimentation/ Siltation	Sediment	TMDL	% riffle surface fines <6mm (by channel type)	≤45	NA	NA	Road Crossings	51	202	Implicit
													Pool Frequency (Count/Mile by channel type)	≥50			Timber Harvest	85		
													Residual Pool Depth (in ft by channel type)	≥0.08			Mining	64		
																	Livestock Grazing	2		
																	Total	202		
									2000	Cadmium	NA	No Action	Chronic Aquatic Life at Hardness 160 mg/L $CaCO_3$	≤0.38 ug/L	NA	NA	NA	NA	NA	NA
									2000	Nitrate	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
										Physical Substrate Habitat Alterations	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
Lower Elk Creek	MT76F006-032	P	P	NA	F	F	F	F	1988	Sedimentation/ Siltation	Sediment	TMDL	% riffle surface fines <6mm	≤36	NA	NA	Hay Production	227	433	Implicit
													Pool Frequency (Count/Mile)	≥50			Livestock Grazing	87		
													Residual Pool Depth (ft)	≥1			Road Crossings	67		
																	Mining	43		
																	Timber Harvest	5		
																	Rural Residential	4		
																	Total	433		
									2000	Temperature	Temperature	TMDL	% Woody Bankline Vegetation Extent	≥69	NA	NA	Hay Production and Livestock Grazing	$1.7X10^6$ kcal/day	Daily - $1.2X10^8$ kcal/day Instantaneous Max - 20 kcal/sec	Implicit
													% Reduction in W:D Ratio (2 reaches)	≥22						
													% July-August Flow Augmentation	≥15						
																	Natural Background	$1.19X10^8$ kcal/day		
										Alteration in stream-side or littoral vegetative covers	NA	Addressed by Sediment TMDL	NA	NA	NA	NA	NA	NA	NA	NA
Keno Creek	MT76F002_018	X	X	NA	X	F	F	F	1996	Sedimentation/ Siltation	Sediment	TMDL	% riffle surface fines <6mm	≤45	NA	NA	Road Crossings	21	26	Implicit
													Pool Frequency (Count/Mile)	≥50			Timber Harvest	5		
													Residual Pool Depth (ft)	≥0.8			Total	26		
									1996	Temperature	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
Washoe Creek	MT76F002_090	P	P	NA	F	P	F	F	1994	Sedimentation/ Siltation	Sediment	TMDL	% riffle surface fines <6mm	≤45	NA	NA	Timber Harvest	40	109	Implicit
													Pool Frequency (Count/Mile)	≥50			Rural Residential	35		

Water Body Name	Water Body ID	Impaired Beneficial Uses							Cycle First Listed (Pollutants Only)	Cause of Impairment	Pollutant for Which TMDL has been prepared	DEQ Action	TMDL End Points		Wasteload Allocations		Load Allocations		TMDL[1]	MOS
		Aquatic Life	Cold Water Fishery	Warm Water Fishery	Drinking Water	Recreation	Agriculture	Industry					Indicator	Threshold Values	WLA (Tons/year)	WLA Permitted Facilities (Permit Number)	LA	(Tons/year)		
													Residual Pool Depth (ft)	≥1			Hay Production	15		
																	Livestock Grazing	17		
																	Road Crossings	2		
																	Total	109		
									2006	Nitrate/Nitrite	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
									2006	Phosphorus (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
									2006	Total Kjehldahl Nitrogen (TKN)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
										Chlorophyll-a	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
Union Creek	MT76F006_010	N	N	NA	F	P	F	F	1990	Solids (Suspended/ Bedload)	Sediment	TMDL	% riffle surface fines <6mm (by channel type)	≤37	NA	NA	Hay Production	1936	2871	Implicit
													Pool Frequency (Count/Mile by channel type)	≥50			Road Crossings	235		
													Residual Pool Depth (in ft by channel type)	≥0.06			Livestock Grazing	339		
																	Rural Residential	309		
																	Timber Harvest	152		
																	Total	2971		
									1990	Temperature	Temperature	TMDL	% Woody Bankline Vegetation Extent	≥76	NA	NA	Composite to Hay Production and Livestock Grazing	$2.9X10^6$ kcal/day	Daily - $7.3X10^7$ kcal/day Instantaneous Max. - 844 kcal/sec	Implicit
													% Reduction in W:D Ratio (2 reaches)	≥16						
													% July-August Flow Augmentation	≥15						
																	Natural Background	$3.4X10^5$ kcal/day		
									2000	Arsenic	NA	No Action	Chronic Aquatic Life (ug/L)	>10	NA	NA	NA	NA	NA	NA
									2000	Copper	NA	No Action	Chronic Aquatic Life at Hardness 130 mg/L $CaCO_3$ (ug/L)	> 9	NA	NA	NA	NA	NA	NA
									>2008	Iron	Iron	TMDL	Chronic Aquatic Life (ug/L)	>1000	Copper Cliff Mine Source	0.8 lbs/day at 0.25 cfs	Natural Background	0.40 lbs/day at 0.25 cfs	1.35 lbs/day at 0.25 cfs	Explicit 0.14 lbs/day at 0.25 cfs
									2000	Phosphorus (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
										Physical substrate habitat alterations	NA	Addressed by Sediment TMDL	Na	NA	NA	NA	NA	NA	NA	NA
Blackfoot River Belmont Cr to Mouth	MT76F001_033	P	P	NA	F	F	F	F	2000	Ammonia (Un-ionized)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
Blackfoot River (Monture Creek	MT76F001_032	P	P	NA	F	F	F	F	1996	Nitrogen (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA

Water Body Name	Water Body ID	Impaired Beneficial Uses							Cycle First Listed (Pollutants Only)	Cause of Impairment	Pollutant for Which TMDL has been prepared	DEQ Action	TMDL End Points		Wasteload Allocations		Load Allocations		TMDL[1]	MOS
		Aquatic Life	Cold Water Fishery	Warm Water Fishery	Drinking Water	Recreation	Agriculture	Industry					Indicator	Threshold Values	WLA (Tons/year)	WLA Permitted Facilities (Permit Number)	LA	(Tons/year)		
to Belmont Creek)									1996	Phosphorus (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA
									2000	Temperature (Total)	NA	No Action	NA	NA	NA	NA	NA	NA	NA	NA

[1] Units Variable
Sediment - Annual in Table (Tons/Yr)
Sediment - Daily (lbs/day) distributed by mean daily discharge
Temperature - Daily (kcal/day); Instantaneous Max (kcal/sec)

ENCLOSURE 2

EPA REGION VIII TMDL REVIEW

TMDL Document Info:

Document Name:	**Lower Blackfoot Total Maximum Daily Loads and Water Quality Improvement Plan**
Submitted by:	**Montana Department of Environmental Quality**
Date Received:	**September 30, 2009**
Review Date:	**November 30, 2009**
Reviewer:	**Jason Gildea**
Rough Draft / Public Notice / Final Draft?	**Final**
Notes:	

Reviewers Final Recommendation(s) to EPA Administrator (used for final draft review only):

- ☒ Approve
- ☐ Partial Approval
- ☐ Disapprove
- ☐ Insufficient Information

Approval Notes to Administrator: Based on the review presented below, I recommend approval of the TMDLs submitted in this document.

This document provides a standard format for EPA Region 8 to provide comments to state TMDL programs on TMDL documents submitted to EPA for either formal or informal review. All TMDL documents are evaluated against the minimum submission requirements and TMDL elements identified in the following 8 sections:

1. Problem Description
   - 1.1. TMDL Document Submittal Letter
   - 1.2. Identification of the Waterbody, Impairments, and Study Boundaries
   - 1.3. Water Quality Standards
2. Water Quality Target
3. Pollutant Source Analysis
4. TMDL Technical Analysis
   - 4.1. Data Set Description
   - 4.2. Waste Load Allocations (WLA)
   - 4.3. Load Allocations (LA)
   - 4.4. Margin of Safety (MOS)
   - 4.5. Seasonality and variations in assimilative capacity
5. Public Participation
6. Monitoring Strategy
7. Restoration Strategy
8. Daily Loading Expression

Lower Blackfoot TMDL Count

Number of TMDLs:	12
Number of Waterbody/Pollutant Combinations addressed by TMDLs:	12
Number of Sediment TMDLs:	9
Number of Metals TMDLs:	1
Number of Temperature TMDLs:	2

The waterbodies addressed by the sediment, nutrient, temperature, and metals TMDLS are listed in Tables 2, 3, and 4, respectively (these tables are appended to the end of this document). The waterbody segments are not referenced to the NHD within the subject document. However, MTDEQ's internal databases do link between their waterbody ID and NHD.

TMDLs were not completed for 18 waterbody-pollutant combinations because of lack of sufficient credible data – these segments are also summarized in Table 1. EPA assumes that additional data will be collected for these waterbodies and/or they will be reassessed, and TMDLs will be completed at a future point in time.

2.0 Water Quality Standards

TMDL documents should provide a complete description of the water quality standards for the waterbodies addressed, including a listing of the designated uses and an indication of whether the uses are being met, not being met, or not assessed. If a designated use was not assessed as part of the TMDL analysis (or not otherwise recently assessed), the documents should provide a reason for the lack of assessment (e.g., sufficient data was not available at this time to assess whether or not this designated use was being met).

Water quality criteria (WQC) are established as a component of water quality standard at levels considered necessary to protect the designated uses assigned to that waterbody. WQC identify quantifiable targets and/or qualitative water quality goals which, if attained and maintained, are intended to ensure that the designated uses for the waterbody are protected. TMDLs result in maintaining and attaining water quality standards by determining the appropriate maximum pollutant loading rate to meet water quality criteria, either directly, or through a surrogate measurable target. The TMDL document should include a description of all applicable water quality criteria for the impaired designated uses and address whether or not the criteria are being attained, not attained, or not evaluated as part of the analysis. If the criteria were not evaluated as part of the analysis, a reason should be cited (e.g. insufficient data were available to determine if this water quality criterion is being attained).

Minimum Submission Requirements:

☒ The TMDL must include a description of the applicable State/Tribal water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the anti-degradation policy. (40 C.F.R. §130.7(c)(1)).

☒ The purpose of a TMDL analysis is to determine the assimilative capacity of the waterbody that corresponds to the existing water quality standards for that waterbody, and to allocate that assimilative capacity between the significant sources. Therefore, all TMDL documents must be written to meet the existing water quality standards for that waterbody (CWA §303(d)(1)(C)).

Note: In some circumstances, the load reductions determined to be necessary by the TMDL analysis may prove to be infeasible and may possibly indicate that the existing water quality standards and/or assessment methodologies may be erroneous. However, the TMDL must still be determined based on existing water quality standards. Adjustments to water quality standards and/or assessment methodologies may be evaluated separately, after the completion of the TMDL.

☒ The TMDL document should describe the relationship between the pollutant of concern and the water quality standard the pollutant load is intended to meet. This information is necessary for EPA to evaluate whether or not attainment of the prescribed pollutant loadings will result in attainment of the water quality standard in question.

☒ If a standard includes multiple criteria for the pollutant of concern, the document should demonstrate that the TMDL value will result in attainment of all related criteria for the pollutant. For example, both acute and chronic values (if present in the WQS) should be addressed in the document, including consideration of magnitude, frequency and duration requirements.

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

The Lower Blackfoot TMDL document includes a description of all applicable water quality standards associated with sediment, temperature, and metals (i.e., arsenic, cadmium, copper, and iron) and addresses whether or not the criteria are being attained, not attained, or not evaluated. Standards are discussed in Section 2.5

3.0 Water Quality Targets

TMDL analyses establish numeric targets that are used to determine whether water quality standards are being achieved. Quantified water quality targets or endpoints should be provided to evaluate each listed pollutant/water body combination addressed by the TMDL, and should represent achievement of applicable water quality standards and support of associated beneficial uses. For pollutants with numeric water quality standards, the numeric criteria are generally used as the water quality target. For pollutants with narrative standards, the narrative standard should be translated into a measurable value. At a minimum, one target is required for each pollutant/water body combination. It is generally desirable, however, to include several targets that represent achievement of the standard and support of beneficial uses (e.g., for a sediment impairment issue it may be appropriate to include a variety of targets representing water column sediment such as TSS, embeddeness, stream morphology, up-slope conditions and a measure of biota).

Minimum Submission Requirements:

☒ The TMDL should identify a numeric water quality target(s) for each waterbody pollutant combination. The TMDL target is a quantitative value used to measure whether or not the applicable water quality standard is attained.

Generally, the pollutant of concern and the numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. Occasionally, the pollutant of concern is different from the parameter that is the subject of the numeric water quality target (e.g., when the pollutant of concern is phosphorus and the numeric water quality target is expressed as a numerical dissolved oxygen criterion). In such cases, the TMDL should explain the linkage between the pollutant(s) of concern, and express the quantitative relationship between the TMDL target and pollutant of concern. In all cases, TMDL targets must represent the attainment of current water quality standards.

☒ When a numeric TMDL target is established to ensure the attainment of a narrative water quality criterion, the methodology used to determine the numeric target, and the link between the pollutant of concern and the narrative water quality criterion should all be described in the TMDL document. Any additional information supporting the numeric target and linkage should also be included in the document.

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

Temperature Targets

Temperature targets are described in Section 7.1. The temperature standard was directly applied as a target, and evaluated using the SNTEMP model. Using the model and numeric temperature standard numeric targets were developed for the sources that contributed most to the cause of impairment. These include bank line woody vegetation, flow augmentation, and width to depth ratio.

Sediment

Sediment targets are presented in Section 5.1 of the Lower Blackfoot TMDL document. A suite of targets and supplemental indicators have been established to represent Montana's narrative sediment standards. The targets have been stratified into three categories based on the linkage between the target parameter and beneficial use support: Tier 1, Tier 2, and Supplemental. In general terms, the Tier 1 targets must be met and the Tier 2 and Supplemental targets are used to provide supporting information in a weight of evidence approach.

Metals

Surface water quality standards for metals were directly applied as water quality targets (Section 6.2).

4.0 Pollutant Source Analysis

A TMDL analysis is conducted when a pollutant load is known or suspected to be exceeding the loading capacity of the waterbody. Logically then, a TMDL analysis should consider all sources of the pollutant of concern in some manner. The detail provided in the source assessment step drives the rigor of the pollutant load allocation. In other words, it is only possible to specifically allocate quantifiable loads or load reductions to each significant source (or source category) when the relative load contribution from each source has been estimated. Therefore, the pollutant load from each significant source (or source category) should be identified and quantified to the maximum practical extent. This may be accomplished using site-specific monitoring data, modeling, or application of other assessment techniques. If insufficient time or resources are available to accomplish this step, a phased/adaptive management approach can be employed so long as the approach is clearly defined in the document.

Minimum Submission Requirements:

☒ The TMDL should include an identification of all potentially significant point and nonpoint sources of the pollutant of concern, including the geographical location of the source(s) and the quantity of the loading, e.g., lbs/per day. This information is necessary for EPA to evaluate the WLA, LA and MOS components of the TMDL.

☒ The level of detail provided in the source assessment should be commensurate with the nature of the watershed and the nature of the pollutant being studied. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of both the natural background loads and the nonpoint source loads.

☒ Natural background loads should not be assumed to be the difference between the sum of known and quantified anthropogenic sources and the existing *in situ* loads (e.g. measured in stream) unless it can be demonstrated that all significant anthropogenic sources of the pollutant of concern have been identified, characterized, and properly quantified.

☒ The sampling data relied upon to discover, characterize, and quantify the pollutant sources should be included in the document (e.g. a data appendix) along with a description of how the data were analyzed to characterize and quantify the pollutant sources. A discussion of the known deficiencies and or gaps in the data set and their potential implications should also be included.

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

Temperature

Assessment of thermal conditions of 303(d) listed streams consisted of:

- Analysis of temperature monitoring data collected by Montana FWP from 1994-2004.
- Assessment of shade from aerial photography and field measurements.
- Deployment of stream temperature sensors to record data from June through September.
- Retrieval of sensors and recorded data.
- Analysis of temperature monitoring data, and
- Temperature modeling using the Stream Network Temperature (SNTEMP) model (Section 7.0 and Appendix H).

Temperature source assessment is presented in Section 7.1. The following sources were considered: shade, flow alterations and channel widening.

Sediment

Potentially significant sediment sources considered in the Lower Blackfoot TPA include hill slope erosion, stream bank erosion, road crossings, and culvert failure. Hill slope erosion was quantified using SWAT in combination with a post processing methodology through which sediment delivery was assumed to occur only within 350 feet of the stream channel in areas with greater than a 3 percent slope (document Section 8.1.1). Appendix D provides a summary of the SWAT modeling analysis.

Stream bank erosion was quantified through direct measurements on selected streams. The measurements and loading estimates from the selected streams were then extrapolated to all streams. Appendix E provides further details.

Sediment loading from road crossings and culvert failure was derived from measured data that were then applied to all known road crossings in the watersheds.

Metals

The metals source assessment is presented in Section 6.5. Metals source assessment consisted of a review of the available GIS layers of active and inactive mines, surface water permitting records for discharge permits located in the planning area, synoptic stream sampling during both high and low flow events, and a field assessment of channel conditions for sediment transport and temperature logger placement which allowed crews to identify visible sources of near-stream metals loading.

4.1 TMDL Technical Analysis

TMDL determinations should be supported by a robust data set and an appropriate level of technical analysis. This applies to **all** of the components of a TMDL document. It is vitally important that the technical basis for **all** conclusions be articulated in a manner that is easily understandable and readily apparent to the reader.

A TMDL analysis determines the maximum pollutant loading rate that may be allowed to a waterbody without violating water quality standards. The TMDL analysis should demonstrate an understanding of the relationship between the rate of pollutant loading into the waterbody and the resultant water quality impacts. This stressor → response relationship between the pollutant and impairment and between the selected targets, sources, TMDLs, and load allocations needs to be clearly articulated and supported by an appropriate level of technical analysis. Every effort should be made to be as detailed as possible, and to base all conclusions on the best available scientific principles.

The pollutant loading allocation is at the heart of the TMDL analysis. TMDLs apportion responsibility for taking actions by allocating the available assimilative capacity among the various point, nonpoint, and natural pollutant sources. Allocations may be expressed in a variety of ways, such as by individual discharger, by tributary watershed, by source or land use category, by land parcel, or other appropriate scale or division of responsibility.

The pollutant loading allocation that will result in achievement of the water quality target is expressed in the form of the standard TMDL equation:

$$TMDL = \sum LAs + \sum WLAs + MOS$$

Where:

TMDL = Total Pollutant Loading Capacity of the waterbody

LAs = Pollutant Load Allocations

WLAs = Pollutant Wasteload Allocations

MOS = The portion of the Load Capacity allocated to the Margin of safety.

Minimum Submission Requirements:

☒ A TMDL must identify the loading capacity of a waterbody for the applicable pollutant, taking into consideration temporal variations in that capacity. EPA regulations define loading capacity as the greatest amount of a pollutant that a water can receive without violating water quality standards (40 C.F.R. §130.2(f)).

☒ The total loading capacity of the waterbody should be clearly demonstrated to equate back to the pollutant load allocations through a balanced TMDL equation. In instances where numerous LA, WLA and seasonal TMDL capacities make expression in the form of an equation cumbersome, a table may be substituted as long as it is clear that the total TMDL capacity equates to the sum of the allocations.

☒ The TMDL document should describe the methodology and technical analysis used to establish and quantify the cause-and-effect relationship between the numeric target and the identified pollutant sources. In many instances, this method will be a water quality model.

☒ It is necessary for EPA staff to be aware of any assumptions used in the technical analysis to understand and evaluate the methodology used to derive the TMDL value and associated loading allocations. Therefore, the TMDL document should contain a description of any important assumptions (including the basis for those assumptions) made in developing the TMDL, including but not limited to:

(1) the spatial extent of the watershed in which the impaired waterbody is located and the spatial extent of the TMDL technical analysis;
(2) the distribution of land use in the watershed (e.g., urban, forested, agriculture);
(3) a presentation of relevant information affecting the characterization of the pollutant of concern and its allocation to sources such as population characteristics, wildlife resources, industrial activities etc…;
(4) present and future growth trends, if taken into consideration in determining the TMDL and preparing the TMDL document (e.g., the TMDL could include the design capacity of an existing or planned wastewater treatment facility);
(5) an explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments; chlorophyll *a* and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices.

☒ The TMDL document should contain documentation supporting the TMDL analysis, including an inventory of the data set used, a description of the methodology used to analyze the data, a discussion of strengths and weaknesses in the analytical process, and the results from any water quality modeling used. This information is necessary for EPA to review the loading capacity determination, and the associated load, wasteload, and margin of safety allocations.

☒ TMDLs must take critical conditions (e.g., steam flow, loading, and water quality parameters, seasonality, etc…) into account as part of the analysis of loading capacity (40 C.F.R. §130.7(c)(1)). TMDLs should define applicable critical conditions and describe the approach used to determine both point and nonpoint source loadings under such critical conditions. In particular, the document should discuss the approach used to compute and allocate nonpoint source loadings, e.g., meteorological conditions and land use distribution.

☐ Where both nonpoint sources and NPDES permitted point sources are included in the TMDL loading allocation, and attainment of the TMDL target depends on reductions in the nonpoint source loads, the TMDL document must include a demonstration that nonpoint source loading reductions needed to implement the load allocations are actually practicable [40 CFR 130.2(i) and 122.44(d)].

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

Sediment

An adequate technical analysis has been completed. Summary information is presented in the main body of the document and supporting analyses/data are presented in appendices. However, the technical analysis that has been performed may be more complicated than necessary. For example, sufficient analysis was completed to calculate the TMDL and allocations when source specific loads and controllable loads were calculated for hill slope erosion, stream bank erosion, road crossings, and culvert failure. However, the analysis was complicated when additional work was then completed to allocate to a complete different set of source categories (i.e., grazing, hay production, silviculture, placer mining, etc.).

Temperature

An adequate technical analysis has been performed. The SNTEMP model was applied to evaluate a variety of scenarios in consideration of the sources that exist, the naturally occurring condition, and the applicable water quality standards. Further, uncertainties are acknowledged and an adaptive management strategy is provided in Section 8.3.4 to address them.

Metals

An adequate technical analysis for metals has been performed.

4.1.1 *Data Set Description*

TMDL documents should include a thorough description and summary of all available water quality data that are relevant to the water quality assessment and TMDL analysis. An inventory of the data used for the TMDL analysis should be provided to document, for the record, the data used in decision making. This also provides the reader with the opportunity to independently review the data. The TMDL analysis should make use of all readily available data for the waterbody under analysis unless the TMDL writer determines that the data are not relevant or appropriate. For relevant data that were known but rejected, an explanation of why the data were not utilized should be provided (e.g., samples exceeded holding times, data collected prior to a specific date were not considered timely, etc...).

Minimum Submission Requirements:

☒ TMDL documents should include a thorough description and summary of all available water quality data that are relevant to the water quality assessment and TMDL analysis such that the water quality impairments are clearly defined and linked to the impaired beneficial uses and appropriate water quality criteria.

☐ The TMDL document submitted should be accompanied by the data set utilized during the TMDL analysis. If possible, it is preferred that the data set be provided in an electronic format and referenced in the document. If electronic submission of the data is not possible, the data set may be included as an appendix to the document.

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments: The data and technical analyses for all three pollutants addressed are summarized in the main body of the document and presented in the appendices.

4.1.2 *Waste Load Allocations (WLA):*

Waste Load Allocations represent point source pollutant loads to the waterbody. Point source loads are typically better understood and more easily monitored and quantified than nonpoint source loads. Whenever practical, each point source should be given a separate waste load allocation. All NPDES permitted dischargers that discharge the pollutant under analysis directly to the waterbody should be identified and given separate waste load allocations. The finalized WLAs are required to be incorporated into future NPDES permit renewals.

Minimum Submission Requirements:

☒ EPA regulations require that a TMDL include WLAs for all significant and or NPDES permitted point sources of the pollutant. TMDLs must identify the portion of the loading capacity allocated to individual existing and/or future point source(s) (40 C.F.R. §130.2(h), 40 C.F.R. §130.2(i)). In some cases, WLAs may cover more than one discharger, e.g., if the source is contained within a general permit. If no allocations are to be made to point sources, then the TMDL should include a value of zero for the WLA.

☐ All NPDES permitted dischargers given WLA as part of the TMDL should be identified in the TMDL, including the specific NPDES permit numbers, their geographical locations, and their associated waste load allocations.

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information ☐ No-action

Summary and Comments: There are no permitted point source discharges in the Lower Blackfoot TPA. However, for the Union Creek TMDL, the seep discharge to Union Creek adjacent to the Copper Creek mining district is assumed to be caused by adjacent mining sources, and is considered a point source, thus the iron TMDL for Union Creek consists of a load allocation for the natural background sources, a wasteload allocation (WLA) for the discharge from the Copper Cliff source, plus an explicit MOS.

4.1.3 *Load Allocations (LA):*

Load allocations include the nonpoint source, natural, and background loads. These types of loads are typically more difficult to quantify than point source loads, and may include a significant degree of uncertainty. Often it is necessary to group these loads into larger categories and estimate the loading rates based on limited monitoring data and/or modeling results. The background load represents a composite of all upstream pollutant loads into the waterbody. In addition to the upstream nonpoint and upstream natural load, the background load often includes upstream point source loads that are not given specific waste load allocations in this particular TMDL analysis. In instances where nonpoint source loading rates are particularly difficult to quantify, a performance-based allocation approach, in which a detailed monitoring plan and adaptive management strategy are employed for the application of BMPs, may be appropriate.

Minimum Submission Requirements:

☒ EPA regulations require that TMDL expressions include LAs which identify the portion of the loading capacity attributed to nonpoint sources and to natural background. Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. §130.2(g)). Load allocations may be included for both existing and future nonpoint source loads. Where possible, load allocations should be described separately for natural background and nonpoint sources.

☒ Load allocations assigned to natural background loads should not be assumed to be the difference between the sum of known and quantified anthropogenic sources and the existing *in situ* loads (e.g., measured in stream) unless it can be demonstrated that all significant anthropogenic sources of the pollutant of concern have been identified and given proper load or waste load allocations.

Recommendation:
☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

Sediment

DEQ has chosen to allocate to land uses and appears to have done so appropriately. The minimum submission requirements have been met. However, while this may be more practical from an implementation perspective, it has complicated the technical analysis and likely resulted in more work than necessary.

Temperature

The temperature TMDLs have been allocated to the significant sources of thermal loading and/or surrogates that affect thermal loading.

Metals

The load allocation for metals is applied appropriately to natural background.

1.6.4 Margin of Safety (MOS):

Natural systems are inherently complex. Any mathematical relationship used to quantify the stressor › response relationship between pollutant loading rates and the resultant water quality impacts, no matter how rigorous, will include some level of uncertainty and error. To compensate for this uncertainty and ensure water quality standards will be attained, a margin of safety is required as a component of each TMDL. The MOS may take the form of a explicit load allocation (e.g., 10 lbs/day), or may be implicitly built into the TMDL analysis through the use of conservative assumptions and values for the various factors that determine the TMDL pollutant load → water quality effect relationship. Whether explicit or implicit, the MOS should be supported by an appropriate level of discussion that addresses the level of uncertainty in the various components of the TMDL technical analysis, the assumptions used in that analysis, and the relative effect of those assumptions on the final TMDL. The discussion should demonstrate that the MOS used is sufficient to ensure that the water quality standards would be attained if the TMDL pollutant loading rates are met. In cases where there is substantial uncertainty regarding the linkage between the proposed allocations and achievement of water quality standards, it may be necessary to employ a phased or adaptive management approach (e.g., establish a monitoring plan to determine if the proposed allocations are, in fact, leading to the desired water quality improvements).

Minimum Submission Requirements:

☒ TMDLs must include a margin of safety (MOS) to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C). 40 C.F.R. §130.7(c)(1)). EPA's 1991 TMDL Guidance explains that the MOS may be implicit (i.e., incorporated into the TMDL through conservative assumptions in the analysis) or explicit (i.e., expressed in the TMDL as loadings set aside for the MOS).

- ☒ If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS should be identified and described. The document should discuss why the assumptions are considered conservative and the effect of the assumption on the final TMDL value determined.
- ☒ If the MOS is explicit, the loading set aside for the MOS should be identified. The document should discuss how the explicit MOS chosen is related to the uncertainty and or potential error in the linkage analysis between the WQS, the TMDL target, and the TMDL loading rate.
- ☐ If, rather than an explicit or implicit MOS, the TMDL relies upon a phased approach to deal with large and/or unquantifiable uncertainties in the linkage analysis, the document should include a description of the planned phases for the TMDL as well as a monitoring plan and adaptive management strategy.

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

Sediment

The document provides an implicit margin of safety through conservative assumptions and the use of an adaptive management strategy

Temperature

A margin of safety has been provided by focusing the analysis on, and establishing allocations based on the warmest period of the year. Additionally, an adaptive management strategy is provided to address uncertainties.

Metals

A 10% explicit margin of safety has been provided for the Union Creek metals TMDL.

4.1.4 *Seasonality and variations in assimilative capacity:*

The TMDL relationship is a factor of both the loading rate of the pollutant to the waterbody and the amount of pollutant the waterbody can assimilate and still attain water quality standards. Water quality standards often vary based on seasonal considerations. Therefore, it is appropriate that the TMDL analysis consider seasonal variations, such as critical flow periods (high flow, low flow), when establishing TMDLs, targets, and allocations.

Minimum Submission Requirements:

☒ The statute and regulations require that a TMDL be established with consideration of seasonal variations. The TMDL must describe the method chosen for including seasonal variability as a factor. (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)).

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

Sediment

The annual approach is appropriate for the situation, and, the daily approach that is presented in Section Appendix K addresses natural variations that occur throughout the year.

Temperature

Seasonality was addressed conservatively by focusing the analysis on, and establishing allocations based on the warmest period of the year

Metals

Seasonality for metals is addressed as follows:

- Metals concentrations and loading conditions are evaluated for both high flow and low flow conditions.
- Metals TMDLs incorporate stream flow as part of the TMDL equation.
- Metals targets apply year round, with monitoring criteria for target attainment developed to address seasonal water quality extremes associated with loading and hardness variations.

5.0 Monitoring Strategy

TMDLs may have significant uncertainty associated with the selection of appropriate numeric targets and estimates of source loadings and assimilative capacity. In these cases, a phased TMDL approach may be necessary. For Phased TMDLs, it is EPA's expectation that a monitoring plan will be included as a component of the TMDL document to articulate the means by which the TMDL will be evaluated in the field, and to provide for future supplemental data that will address any uncertainties that may exist when the document is prepared.

Minimum Submission Requirements:

☒ When a TMDL involves both NPDES permitted point source(s) and nonpoint source(s) allocations, and attainment of the TMDL target depends on reductions in the nonpoint source loads, the TMDL document should include a monitoring plan that describes the additional data to be collected to determine if the load reductions provided for in the TMDL are occurring.

☐ Under certain circumstances, a phased TMDL approach may be utilized when limited existing data are relied upon to develop a TMDL, and the State believes that the use of additional data or data based on better analytical techniques would likely increase the accuracy of the TMDL load calculation and merit development of a second phase TMDL. EPA recommends that a phased TMDL document or its implementation plan include a monitoring plan and a scheduled timeframe for revision of the TMDL. These elements would not be an intrinsic part of the TMDL and would not be approved by EPA, but may be necessary to support a rationale for approving the TMDL. http://www.epa.gov/owow/tmdl/tmdl_clarification_letter.pdf

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments: A monitoring strategy is provided in Section 9.0.

6.0 Restoration Strategy

The overall purpose of the TMDL analysis is to determine what actions are necessary to ensure that the pollutant load in a waterbody does not result in water quality impairment. Adding additional detail regarding the proposed approach for the restoration of water quality is not currently a regulatory requirement, but is considered a value added component of a TMDL document. During the TMDL analytical process, information is often gained that may serve to point restoration efforts in the right direction and help ensure that resources are spent in the most efficient manner possible. For example, watershed models used to analyze the linkage between the pollutant loading rates and resultant water quality impacts might also be used to conduct "what if" scenarios to help direct BMP installations to locations that provide the greatest pollutant reductions. Once a TMDL has been written and approved, it is often the responsibility of other water quality programs to see that it is implemented. The level of quality and detail provided in the restoration strategy will greatly influence the future success in achieving the needed pollutant load reductions.

Minimum Submission Requirements:

☒ EPA is not required to and does not approve TMDL implementation plans. However, in cases where a WLA is dependent upon the achievement of a LA, "reasonable assurance" is required to demonstrate the necessary LA called for in the document is practicable). A discussion of the BMPs (or other load reduction measures) that are to be relied upon to achieve the LA(s), and programs and funding sources that will be relied upon to implement

the load reductions called for in the document, may be included in the implementation/restoration section of the TMDL document to support a demonstration of "reasonable assurance".

Recommendation:
☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information ☐ No-action

Summary and Comments: Although not required, a conceptual restoration strategy is provided in Section 9.0 and Appendix J.

7.0 Daily Loading Expression

The goal of a TMDL analysis is to determine what actions are necessary to attain and maintain WQS. The appropriate averaging period that corresponds to this goal will vary depending on the pollutant and the nature of the waterbody under analysis. When selecting an appropriate averaging period for a TMDL analysis, primary concern should be given to the nature of the pollutant in question and the achievement of the underlying WQS. However, recent federal appeals court decisions have pointed out that the title TMDL implies a "daily" loading rate. While the most appropriate averaging period to be used for developing a TMDL analysis may vary according to the pollutant, a daily loading rate can provide a more practical indication of whether or not the overall needed load reductions are being achieved. When limited monitoring resources are available, a daily loading target that takes into account the natural variability of the system can serve as a useful indicator for whether or not the overall load reductions are likely to be met. Therefore, a daily expression of the required pollutant loading rate is a required element in all TMDLs, in addition to any other load averaging periods that may have been used to conduct the TMDL analysis. The level of effort spent to develop the daily load indicator should be based on the overall utility it can provide as an indicator for the total load reductions needed.

Minimum Submission Requirements:

☒ The document should include an expression of the TMDL in terms of a daily load. However, the TMDL may also be expressed in temporal terms other than daily (e.g., an annual or monthly load). If the document expresses the TMDL in additional "non-daily" terms the document should explain why it is appropriate or advantageous to express the TMDL in the additional unit of measurement chosen.

Recommendation:
☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments:

Sediment

The sediment TMDLs are presented as tons/day in Appendix K.

Temperature

Daily temperature loadings are presented in Appendix I.

Metals

A flow based iron TMDL is presented for Union Creek which addresses daily loading.

8.0 Public Participation

EPA regulations require that the establishment of TMDLs be conducted in a process open to the public, and that the public be afforded an opportunity to participate. To meaningfully participate in the TMDL process it is necessary that stakeholders, including members of the general public, be able to understand the problem and the proposed solution. TMDL documents should include language that explains the issues to the general public in understandable terms, as well as provides additional detailed technical information for the scientific community. Notifications or solicitations for comments regarding the TMDL should be made available to the general public, widely circulated, and clearly identify the product as a TMDL and the fact that it will be submitted to EPA for review. When the final TMDL is submitted to EPA for approval, a copy of the comments received by the state and the state responses to those comments should be included with the document.

Minimum Submission Requirements:

☒ The TMDL must include a description of the public participation process used during the development of the TMDL (40 C.F.R. §130.7(c)(1)(ii)).

☒ TMDLs submitted to EPA for review and approval should include a summary of significant comments and the State's/Tribe's responses to those comments.

Recommendation:

☒ Approve ☐ Partial Approval ☐ Disapprove ☐ Insufficient Information

Summary and Comments: The public participation process is summarized in Section 10.0 and comments and responses associated with the Draft TMDL document are included in Appendix K.

Table 1. Stream Segments in the Lower Blackfoot TMDL Planning Area that Appear On Montana's 2006 303(D) List of Impaired Waters, their Associated Levels of Beneficial Use-Support, and Causes of Impairment.

Water Body Name	Water Body ID	Impaired Beneficial Uses							Cycle First Listed (Pollutants Only)	Cause of Impairment	Pollutant for Which TMDL has been prepared	DEQ Action
		Aquatic Life	Cold Water Fishery	Warm Water Fishery	Drinking Water	Recreation	Agriculture	Industry				
East Fork Ashby Creek	MT76F005_050	P	P	NA	F	F	F	F	1996	Sedimentation/Siltation	Sediment	TMDL
									2006	Phosphorus (Total)	NA	No Action
									2006	Nitrate/Nitrite	NA	No Action
										Alteration in stream-side or littoral vegetative covers	NA	Addressed by Sediment TMDL
West Fork Ashby Creek	MT76F005_020	P	P	NA	F	F	F	F	1988	Sedimentation/Siltation	Sediment	TMDL
									2006	Phosphorus (Total)	NA	No Action
										Alteration in stream-side or littoral vegetative covers	NA	Addressed by Sediment TMDL
Belmont Creek	MT76F005_070	P	P	NA	F	F	F	F	1992	Sedimentation/Siltation	Sediment	TMDL
Camus Creek	MT76F006_060	P	P	NA	F	F	F	F	1988	Sedimentation/Siltation	Sediment	TMDL
									2006	Phosphorus (Total)	NA	No Action
										Low Flow Alterations	NA	No Action
									1996	Thermal Modifications	NA	No Action
Day Gulch	MT76F006_080	X	X	NA	X	X	X	X	1996	Sedimentation/Siltation	NA	No Action
										Flow Alteration	NA	No Action
										Habitat Alteration	NA	No Action
Upper Elk Creek	MT76F006_031	P	P	NA	F	F	F	F	1988	Sedimentation/Siltation	Sediment	TMDL
									2000	Nitrogen (Nitrate)	NA	No Action
									2000	Cadmium	NA	No Action
										Physical substrate habitat alterations	NA	Addressed by Sediment TMDL

Water Body Name	Water Body ID	Impaired Beneficial Uses							Cycle First Listed (Pollutants Only)	Cause of Impairment	Pollutant for Which TMDL has been prepared	DEQ Action
		Aquatic Life	Cold Water Fishery	Warm Water Fishery	Drinking Water	Recreation	Agriculture	Industry				
Lower Elk Creek	MT76F006_032	P	P	NA	F	F	F	F	1988	Sedimentation/Siltation	Sediment	TMDL
									2000	Temperature	Temperature	TMDL
										Alteration in stream-side or littoral vegetative covers	NA	Addressed by Sediment TMDL
Keno Creek	MT76F002_018	X	X	NA	X	F	F	F	1996	Sedimentation/Siltation	Sediment	TMDL
									1996	Temperature	NA	No Action
Washoe Creek	MT76F002_090	P	P	NA	F	P	F	F	1994	Sedimentation/Siltation	Sediment	TMDL
									2006	Nitrate/Nitrite	NA	No Action
									2006	Phosphorus (Total)	NA	No Action
									2006	Total Kjehldahl Nitrogen (TKN)	NA	No Action
										Chlorophyll-a	NA	No Action
Union Creek	MT76F006_010	N	N	NA	F	P	F	F	1990	Solids (Suspended/Bedload)	Sediment	TMDL
									1990	Temperature	Temperature	TMDL
									2000	Arsenic	NA	No Action
									2000	Copper	NA	No Action
									>2008	Iron	Iron	TMDL
									2000	Phosphorus (Total)	NA	No Action
										Physical substrate habitat alterations	NA	Addressed by Sediment TMDL
Blackfoot River Belmont Cr to Mouth	MT76F001_033	P	P	NA	F	F	F	F	2000	Ammonia (Un-ionized)	NA	No Action
Blackfoot River (Monture Creek to Belmont Creek)	MT76F001_032	P	P	NA	F	F	F	F	1996	Nitrogen (Total)	NA	No Action
									1996	Phosphorus (Total)	NA	No Action
									2000	Temperature	NA	No Action

Legend:
F= Full Support; **P**= Partial Support; **N**= Not Supported, **T**= Threatened; **X**= Not Assessed (Insufficient Credible Data)

Table 2. Waterbody segments addressed by sediment TMDLs.

Water Body	Segment ID
East Fork Ashby Creek	MT76F005_050
West Fork Ashby Creek	MT76F005_020
Belmont Creek	MT76F005_070
Camus Creek	MT76F006_060
Upper Elk Creek	MT76F006_031
Lower Elk Creek	MT76F006_032
Keno Creek	MT76F002_018
Washoe Creek	MT76F002_090
Union Creek	MT76F006_010

Table 3. Waterbody segments addressed by temperature TMDLs.

Water Body Name	Water Body ID
Lower Elk Creek	MT76F006_032
Union Creek	MT76F006_010

Table 4. Waterbody segments addressed by metals (i.e., iron) TMDLs.

Water Body Name	Water Body ID
Union Creek	MT76F006_010