

APPENDIX A – TABLE OF IMPAIRED WATERBODIES AND WATERSHED DESCRIPTION MAPS

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Table A-1. Status of Waterbody Impairments in the Boulder-Elkhorn TPA based on the 2012 Integrated Report

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category ¹	Impairment Cause Status ²
BASIN CREEK, headwaters to mouth (Boulder River)	MT41E002_030	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	Addressed by Sediment TMDL in this document
		Arsenic	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Mercury	Metal	Addressed in separate TMDL Document
		Sedimentation / Siltation	Sediment	Sediment TMDL contained in this document
		Zinc	Metal	Addressed in separate TMDL Document
BIG LIMBER GULCH, headwaters to mouth (Cataract Creek-Boulder River)	MT41E002_140	Lead	Metal	Addressed in separate TMDL Document
		Mercury	Metal	Addressed in separate TMDL Document
BISON CREEK, headwaters to mouth (Boulder River)	MT41E002_070	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	Addressed by Sediment TMDL in this document
		Copper	Metal	Addressed in separate TMDL Document
		Iron	Metal	Addressed in separate TMDL Document
		Nitrates	Nutrient	Not impaired based on updated assessment
BOULDER RIVER, headwaters to Basin Creek	MT41E001_010	Cadmium	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Iron	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Zinc	Metal	Addressed in separate TMDL Document
BOULDER RIVER, Basin Creek to Town of Boulder	MT41E001_021	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Cadmium	Metals	Addressed in separate TMDL Document
		Copper	Metals	Addressed in separate TMDL Document
		Iron	Metals	Addressed in separate TMDL Document
		Lead	Metals	Addressed in separate TMDL Document
		Silver	Metals	Addressed in separate TMDL Document
		Zinc	Metals	Addressed in separate TMDL Document

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Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category ¹	Impairment Cause Status ²
BOULDER RIVER, Town of Boulder to Cottonwood Creek	MT41E001_022	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	Addressed by Sediment TMDL in this document
		Copper	Metals	Addressed in separate TMDL Document
		Iron	Metals	Addressed in separate TMDL Document
		Lead	Metals	Addressed in separate TMDL Document
		Low Flow Alterations	Not a Pollutant	Addressed by Temperature TMDL in this document
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
		Silver	Metals	Addressed in separate TMDL Document
		Temperature, water	Temperature	Temperature TMDL contained in this document
		Zinc	Metal	Addressed in separate TMDL Document
BOULDER RIVER, Cottonwood Creek to the mouth (Jefferson Slough), T1N R3W S2	MT41E001_030	Alteration in stream-side or littoral vegetative covers	Not a Pollutant	Addressed by Sediment TMDL in this document
		Arsenic	Metal	Addressed in separate TMDL Document
		Cadmium	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Low Flow Alterations	Not a Pollutant	Addressed by Temperature TMDL in this document
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
		Temperature, water	Temperature	Temperature TMDL contained in this document
		Zinc	Metal	Addressed in separate TMDL Document
CATARACT CREEK, headwaters to mouth (Boulder River)	MT41E002_020	Arsenic	Metal	Addressed in separate TMDL Document
		Cadmium	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Mercury	Metal	Addressed in separate TMDL Document
		Nitrogen, Nitrate	Nutrient	Not impaired based on updated assessment
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
		Zinc	Metal	Addressed in separate TMDL Document

Table A-1. Status of Waterbody Impairments in the Boulder-Elkhorn TPA based on the 2012 Integrated Report

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category ¹	Impairment Cause Status ²
ELKHORN CREEK, headwaters to Wood Gulch	MT41E002_061	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed by Sediment TMDL in this document
		Arsenic	Metal	Addressed in separate TMDL Document
		Cadmium	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Low Flow Alterations	Not a Pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
		Zinc	Metal	Addressed in separate TMDL Document
ELKHORN CREEK, Wood Gulch to the mouth (Unnamed Canal/Ditch), T5N R3W S21	MT41E002_062	Cadmium	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Low Flow Alterations	Not a Pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
		Zinc	Metal	Addressed in separate TMDL Document
HIGH ORE CREEK, headwaters to mouth (Boulder River)	MT41E002_040	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed by Sediment TMDL in this document
		Arsenic	Metal	Addressed in separate TMDL Document
		Cadmium	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Mercury	Metal	Addressed in separate TMDL Document
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
		Temperature, water	Temperature	Temperature TMDL contained in this document
		Total Suspended Solids (TSS)	Sediment	Addressed by Sediment TMDL in this document
		Zinc	Metal	Addressed in separate TMDL Document
LITTLE BOULDER RIVER, headwaters to mouth (Boulder River)	MT41E002_080	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Copper	Metal	Addressed in separate TMDL Document
		Physical substrate habitat alterations	Not a Pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Zinc	Metal	Addressed in separate TMDL Document

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Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category ¹	Impairment Cause Status ²
LOWLAND CREEK, headwaters to mouth (Boulder River)	MT41E002_050	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Aluminum	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Physical substrate habitat alterations	Not a Pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Silver	Metal	Addressed in separate TMDL Document
MCCARTY CREEK, headwaters to mouth (Boulder River)	MT41E002_110	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed by Sediment TMDL in this document
		Fish-Passage Barrier	Not a pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Low flow alterations	Not a pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Phosphorus (Total)	Nutrient	TP TMDL contained in this document
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
MUSKRAT CREEK, headwaters to mouth (Boulder River)	MT41E002_100	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed by Sediment TMDL in this document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
NORTH FORK LITTLE BOULDER RIVER, headwaters to mouth (Little Boulder River)	MT41E002_090	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed by Sediment TMDL in this document
		Nitrogen (Total)	Nutrients	Not impaired based on updated assessment
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
NURSERY CREEK, headwaters (east branch) to mouth (Muskrat Creek)	MT41E002_130	Nitrate/Nitrite (Nitrite + Nitrate as N)	Nutrient	NO ₂ +NO ₃ TMDL contained in this document
		Nitrogen (Total)	Nutrient	TN TMDL contained in this document
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document

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Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category ¹	Impairment Cause Status ²
UNCLE SAM GULCH, headwaters to mouth (Cataract Creek)	MT41E002_010	Alteration in stream-side or littoral vegetative covers	Not a pollutant	Addressed by Sediment TMDL in this document
		Arsenic	Metal	Addressed in separate TMDL Document
		Cadmium	Metal	Addressed in separate TMDL Document
		Copper	Metal	Addressed in separate TMDL Document
		Lead	Metal	Addressed in separate TMDL Document
		Nitrogen, Nitrate	Nutrient	NO ₂ +NO ₃ TMDL contained in this document
		Other flow regime alterations	Not a pollutant	Addressed within document (Sections 8 & 9); not linked to a TMDL
		Sedimentation/Siltation	Sediment	Sediment TMDL contained in this document
		Turbidity	Sediment	Addressed by sediment TMDL in this document
		Zinc	Metal	Addressed in separate TMDL Document

¹ Metals impairments are addressed in the “Boulder-Elkhorn Metals TMDLs and Framework Water Quality Improvement Plan” published December 2012. The document can be found on DEQ’s website at: <http://deq.mt.gov/wqinfo/TMDL/finalReports.mcp>.

² TN = Total Nitrogen, TP = Total Phosphorus, NO₂+NO₃ = Nitrite + Nitrate



Figure A-1. Location of the Boulder-Elkhorn TMDL Planning Area

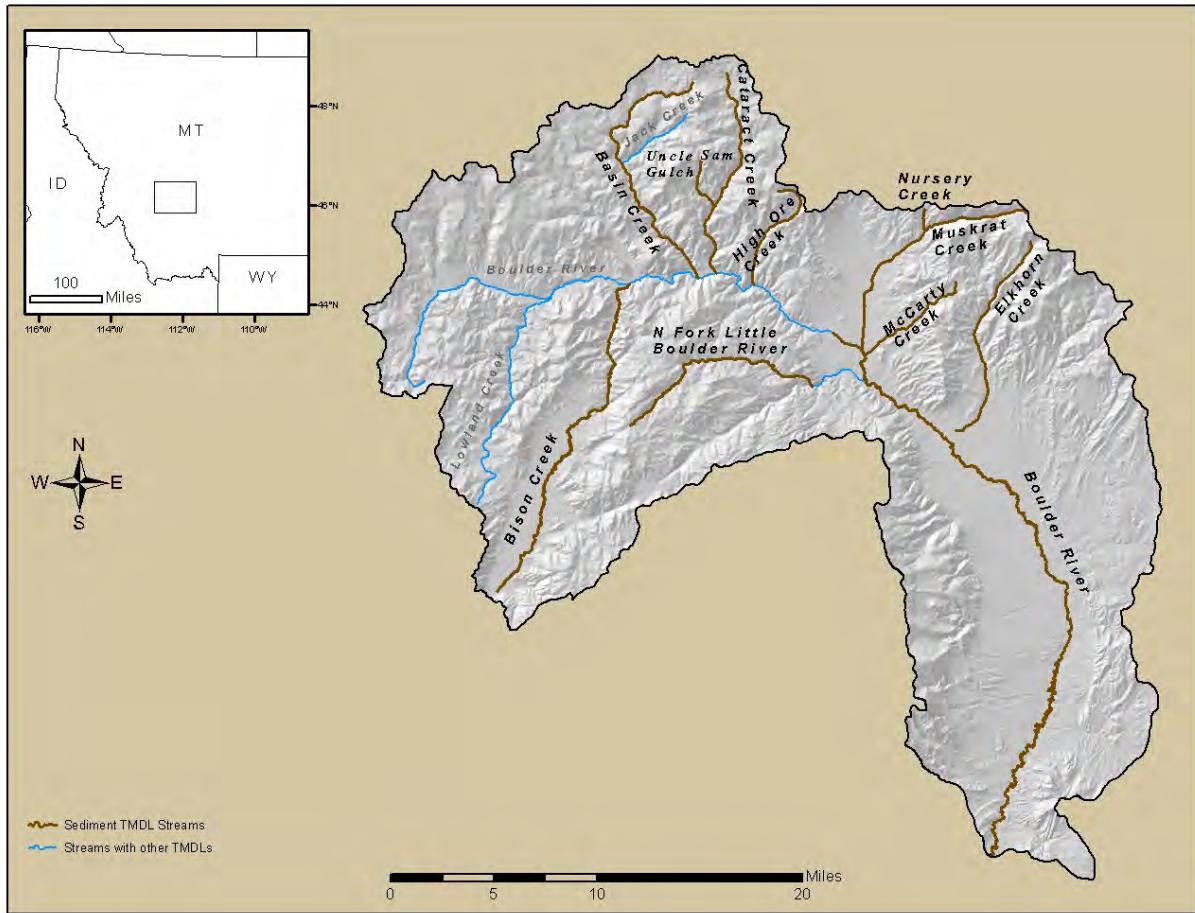


Figure A-2. Sediment TMDL Streams

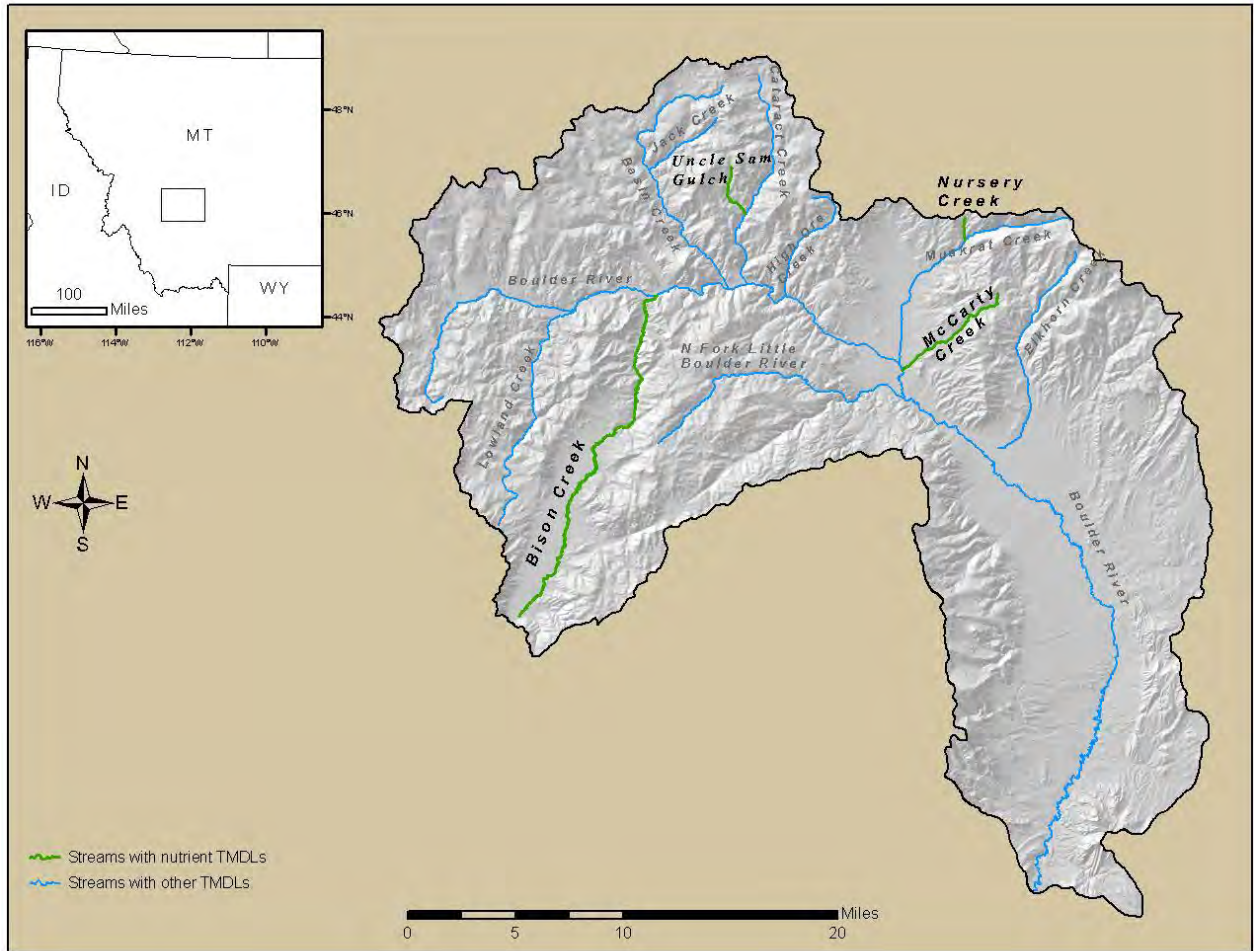


Figure A-3. Nutrient TMDL Streams

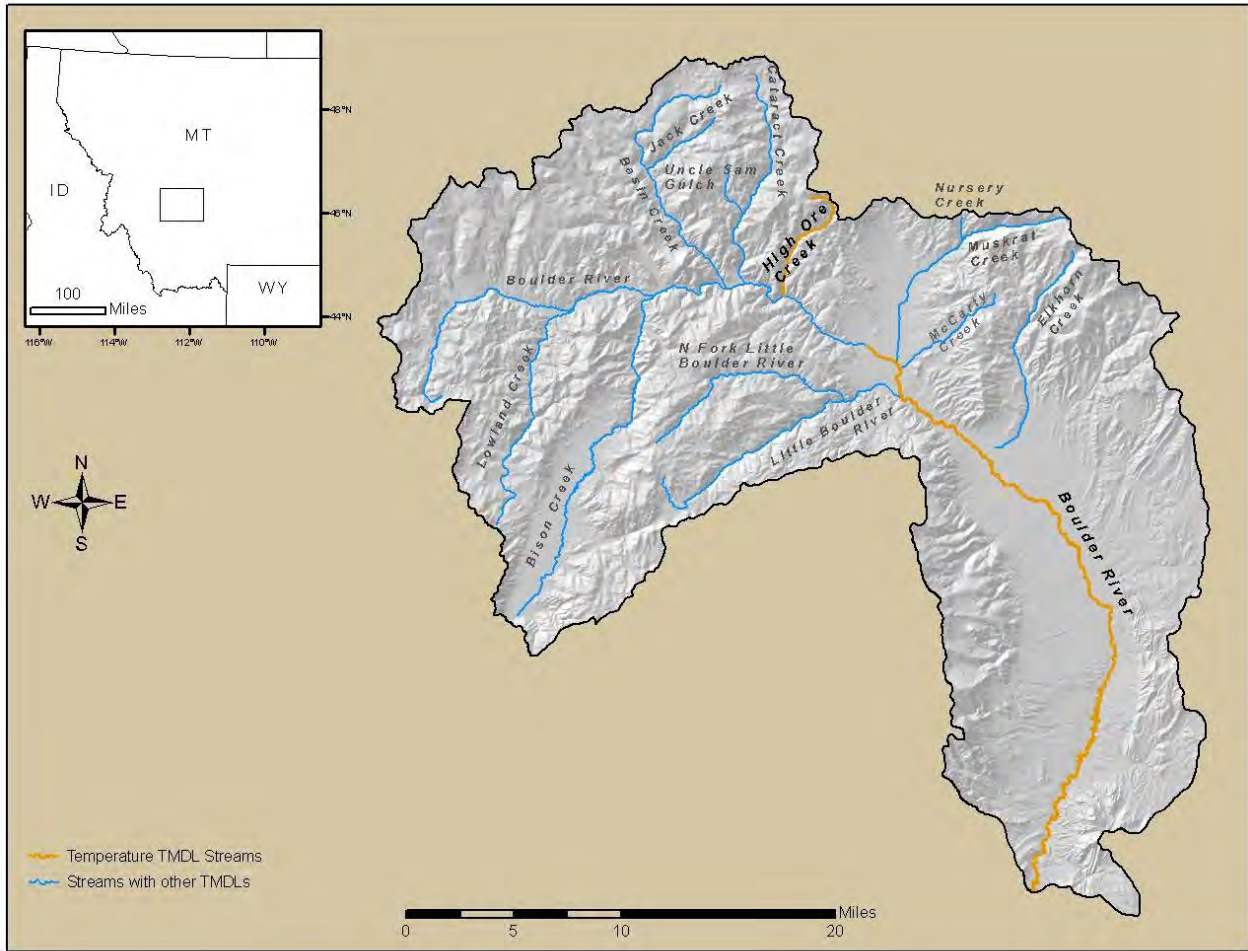


Figure A-4. Temperature TMDL Streams

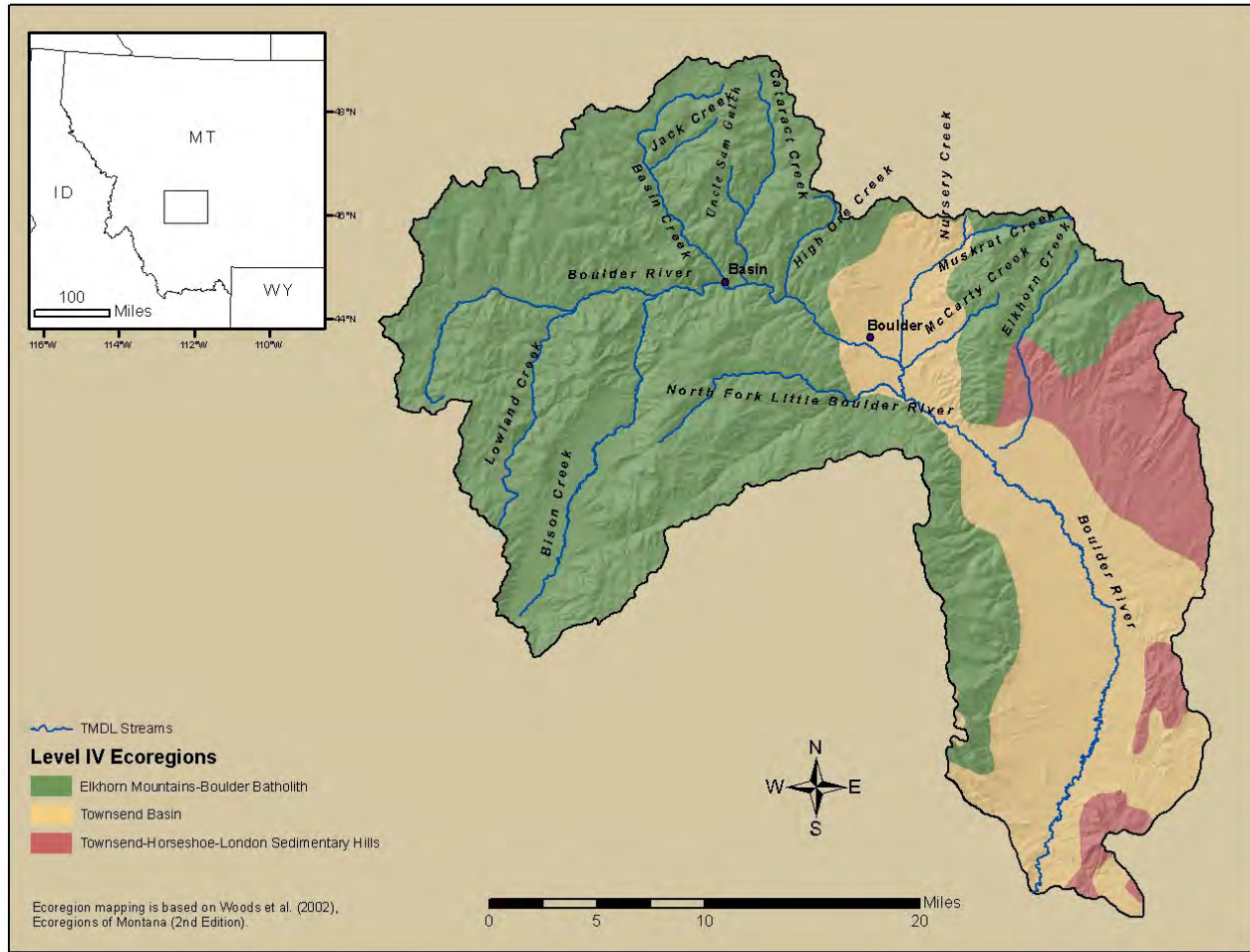


Figure A-5. Ecoregions

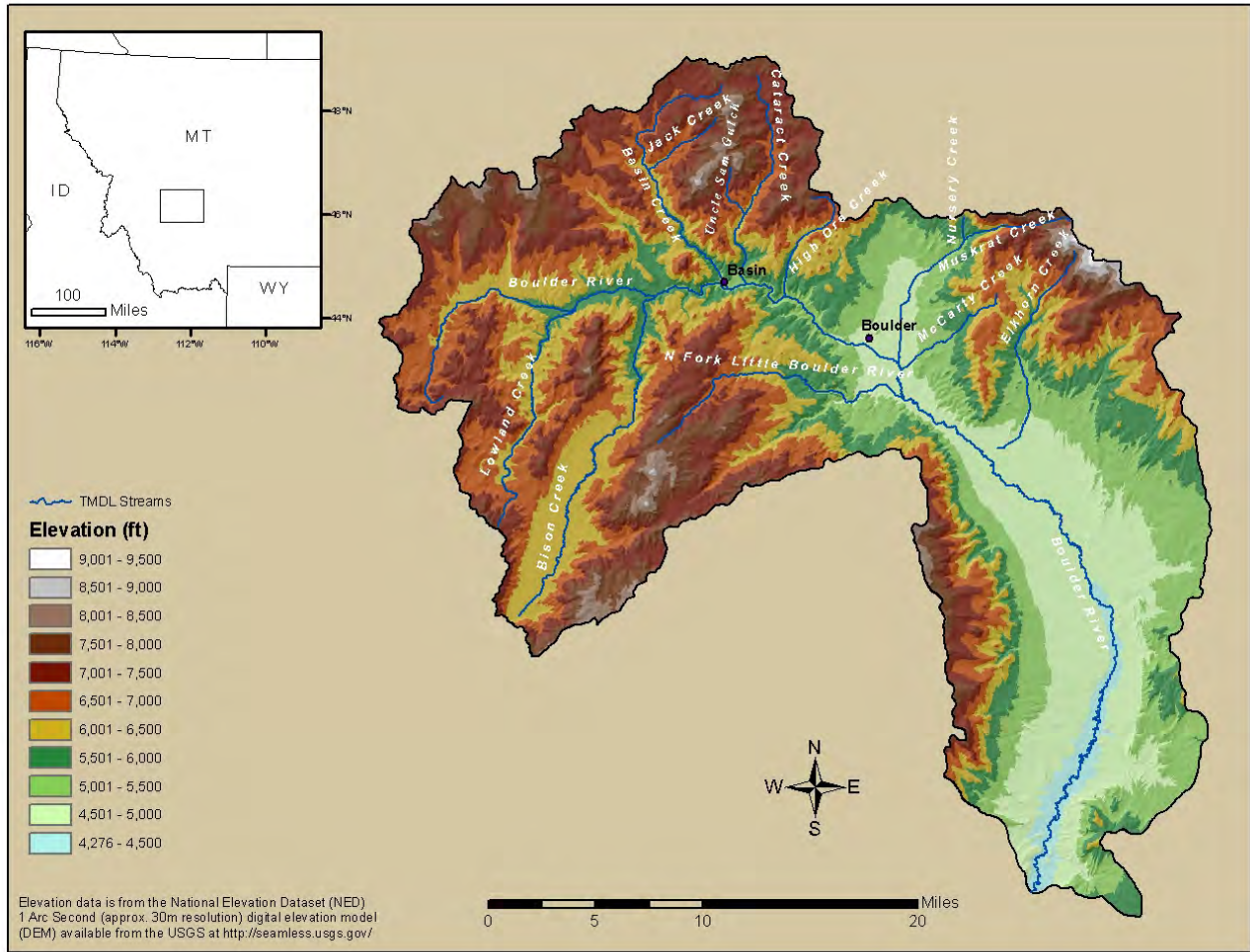


Figure A-6. Topography

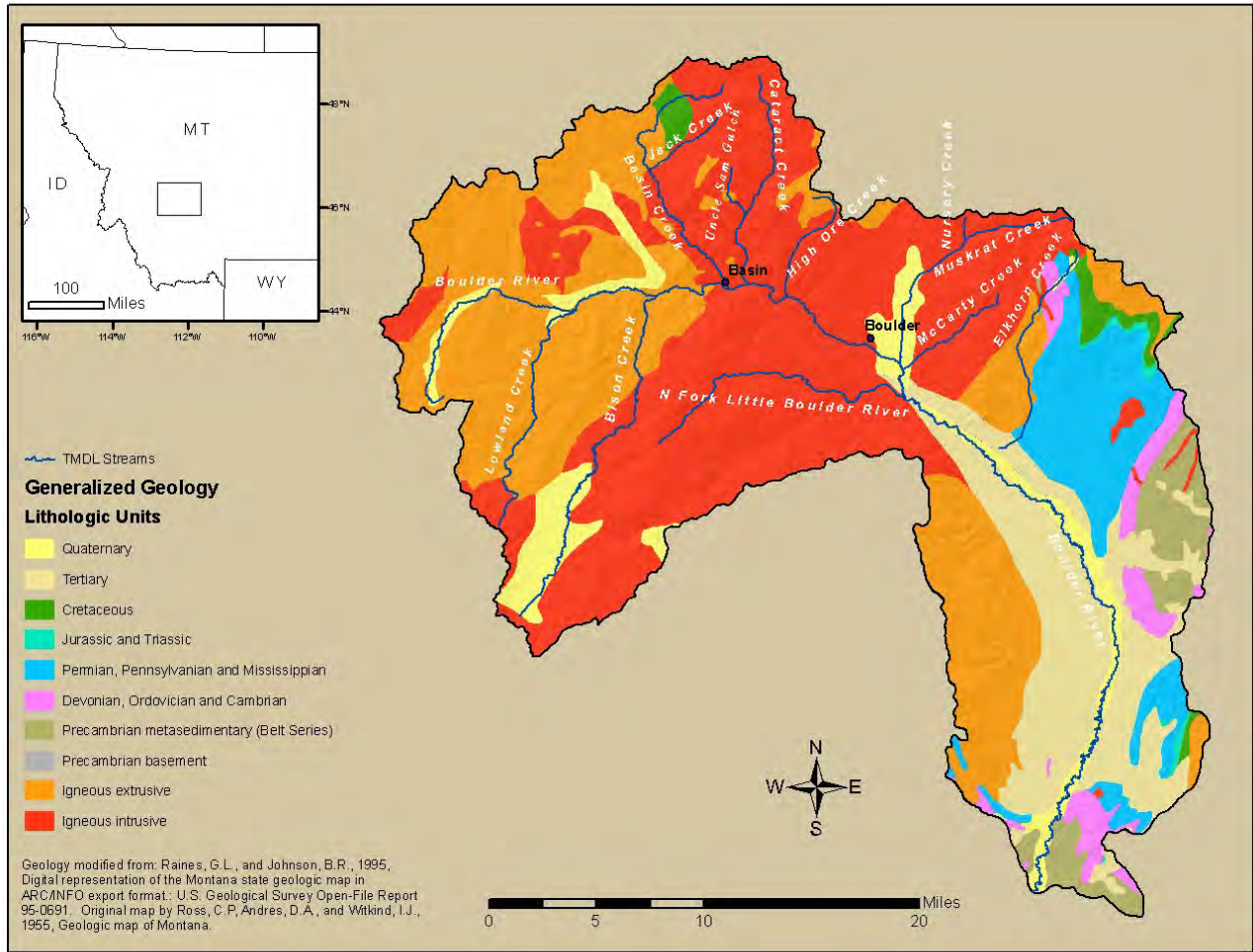


Figure A-7. Geology

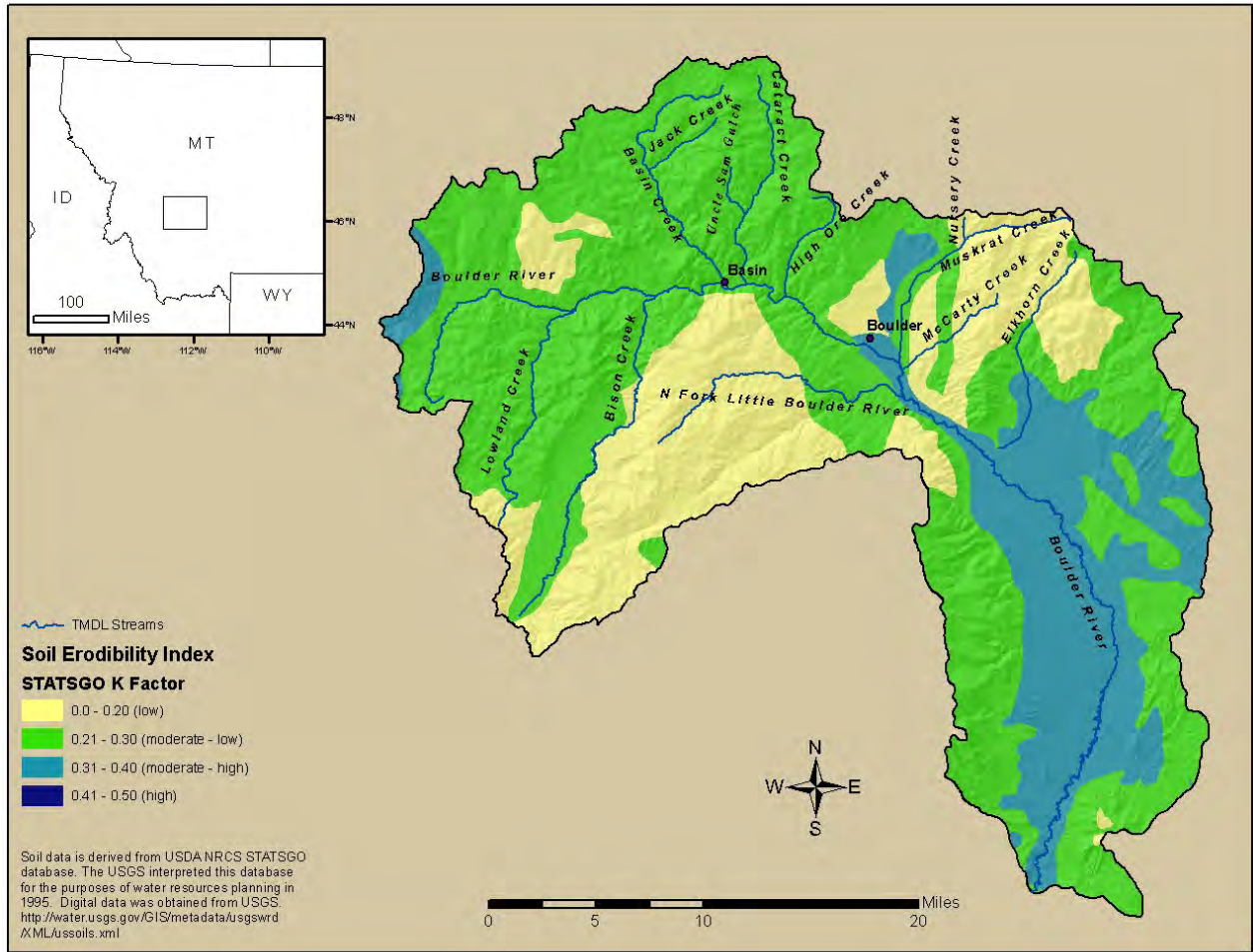


Figure A-8. Soil Erodibility

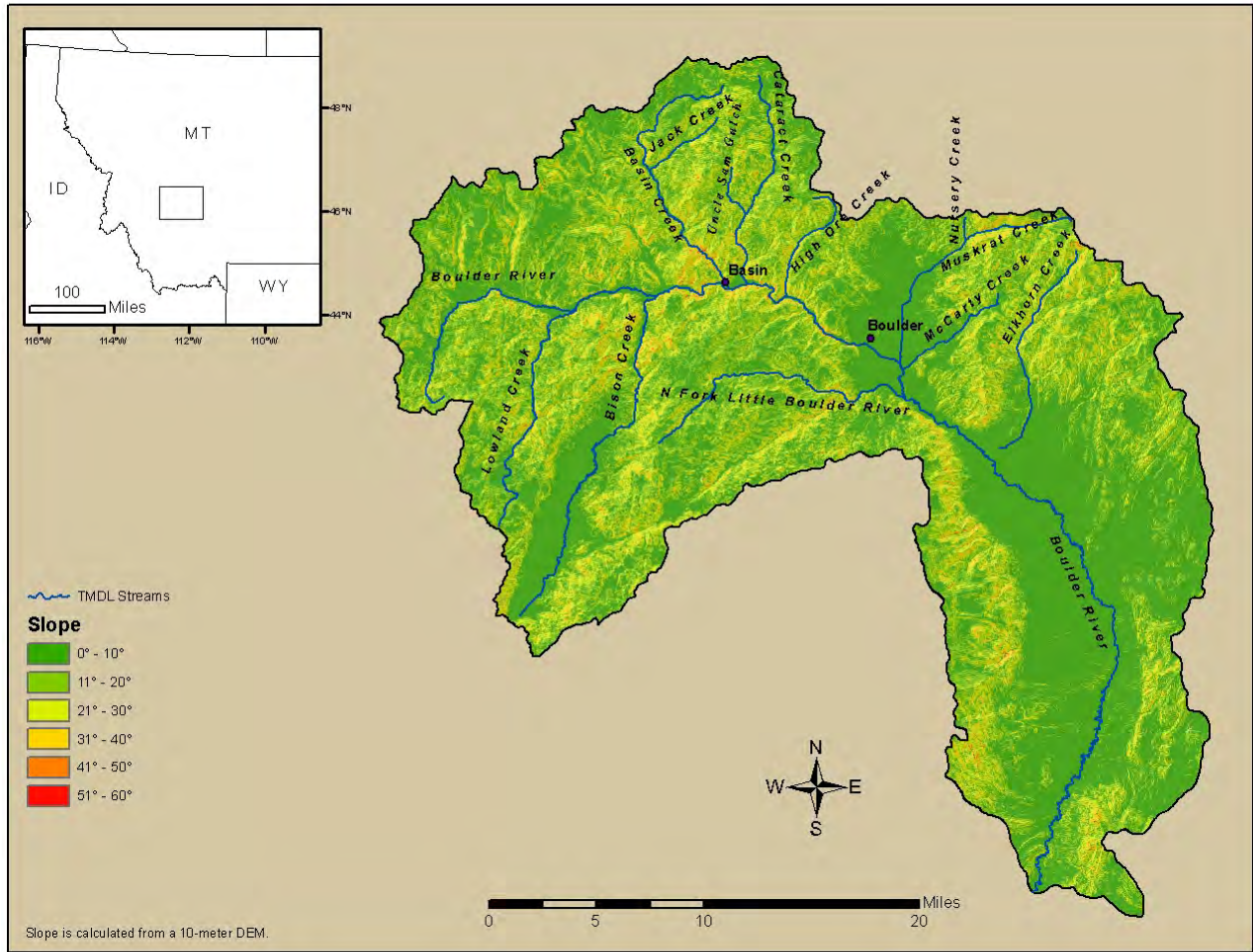


Figure A-9. Land Surface Slope

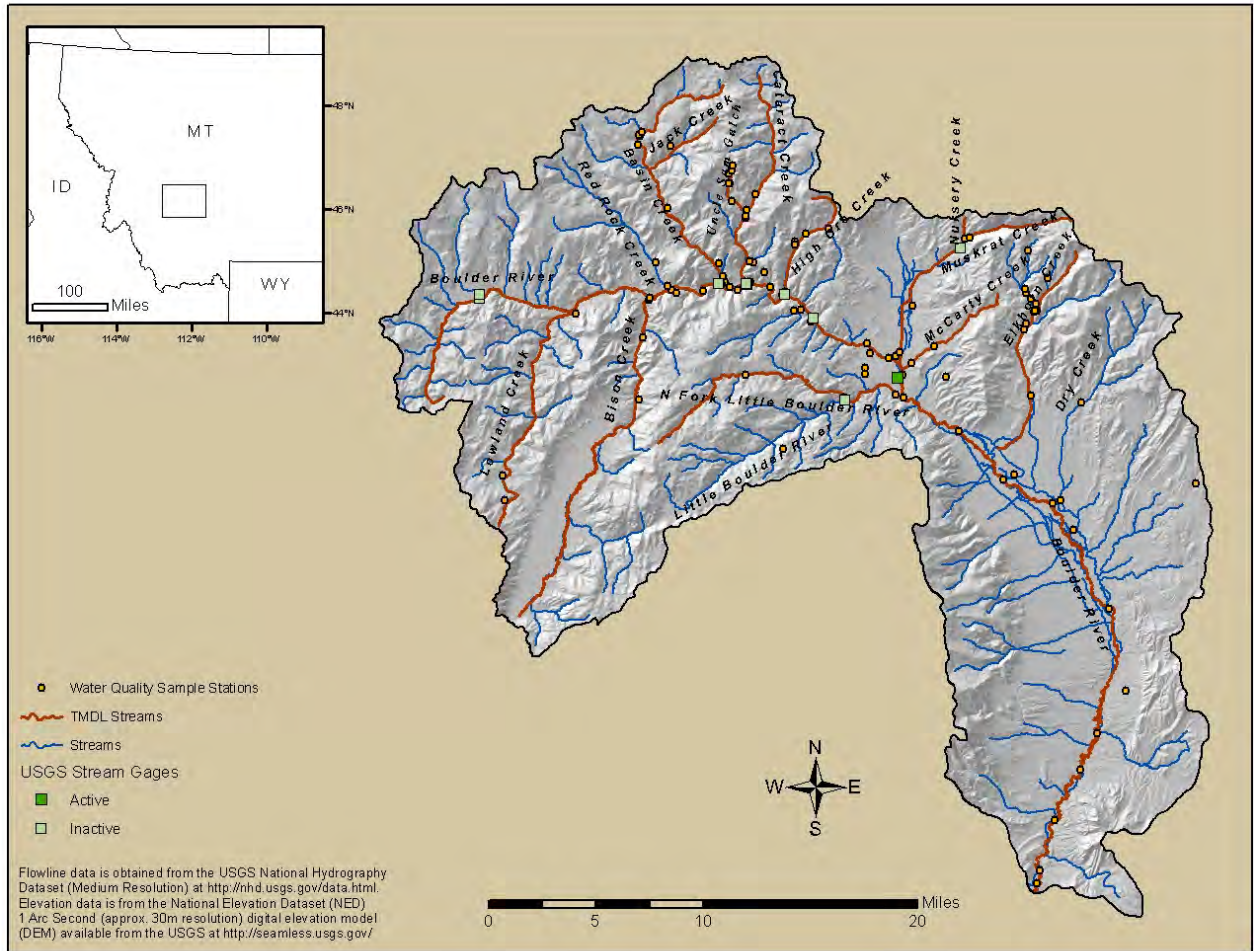


Figure A-10. Hydrography

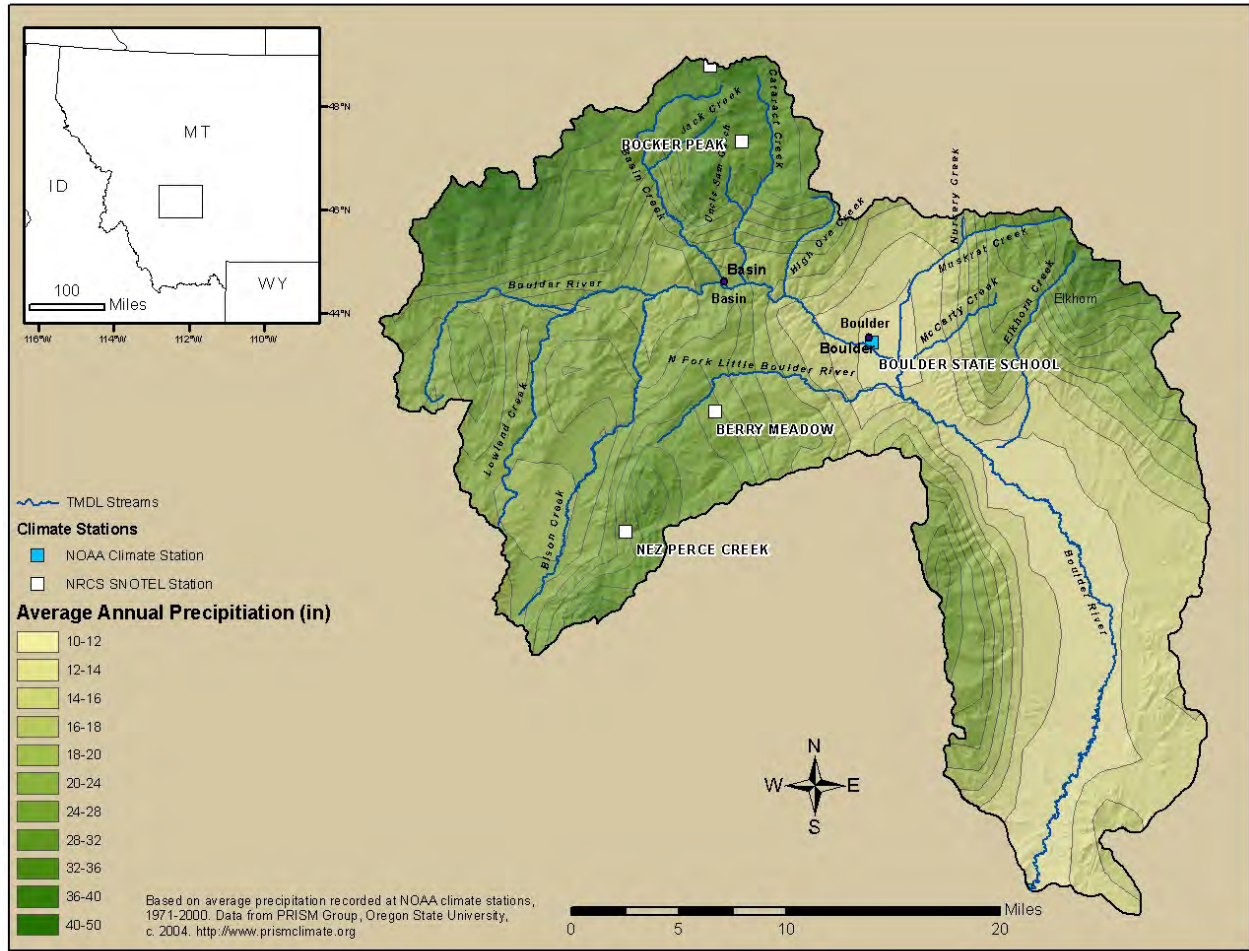


Figure A-11. Average Annual Precipitation

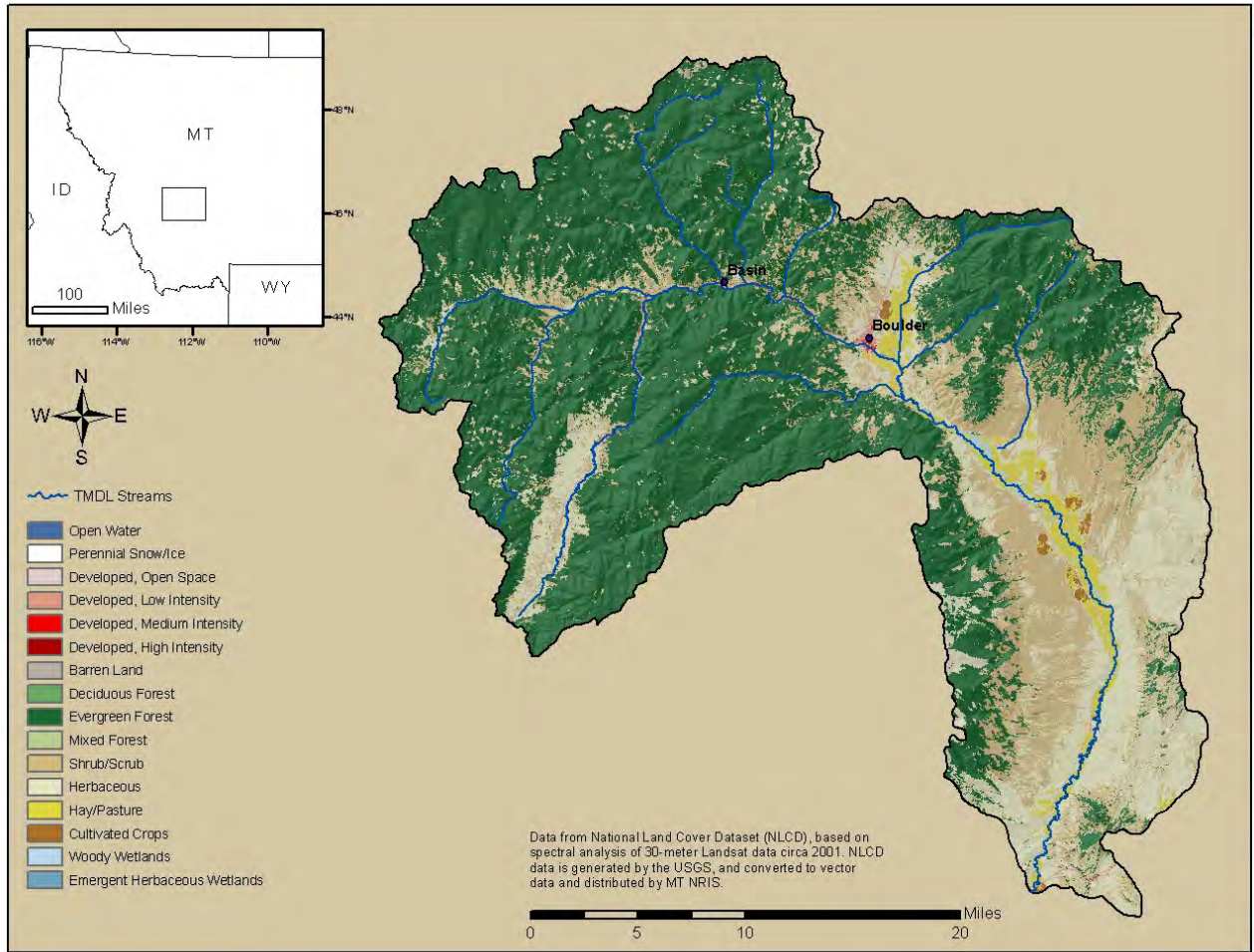


Figure A-12. Land Cover

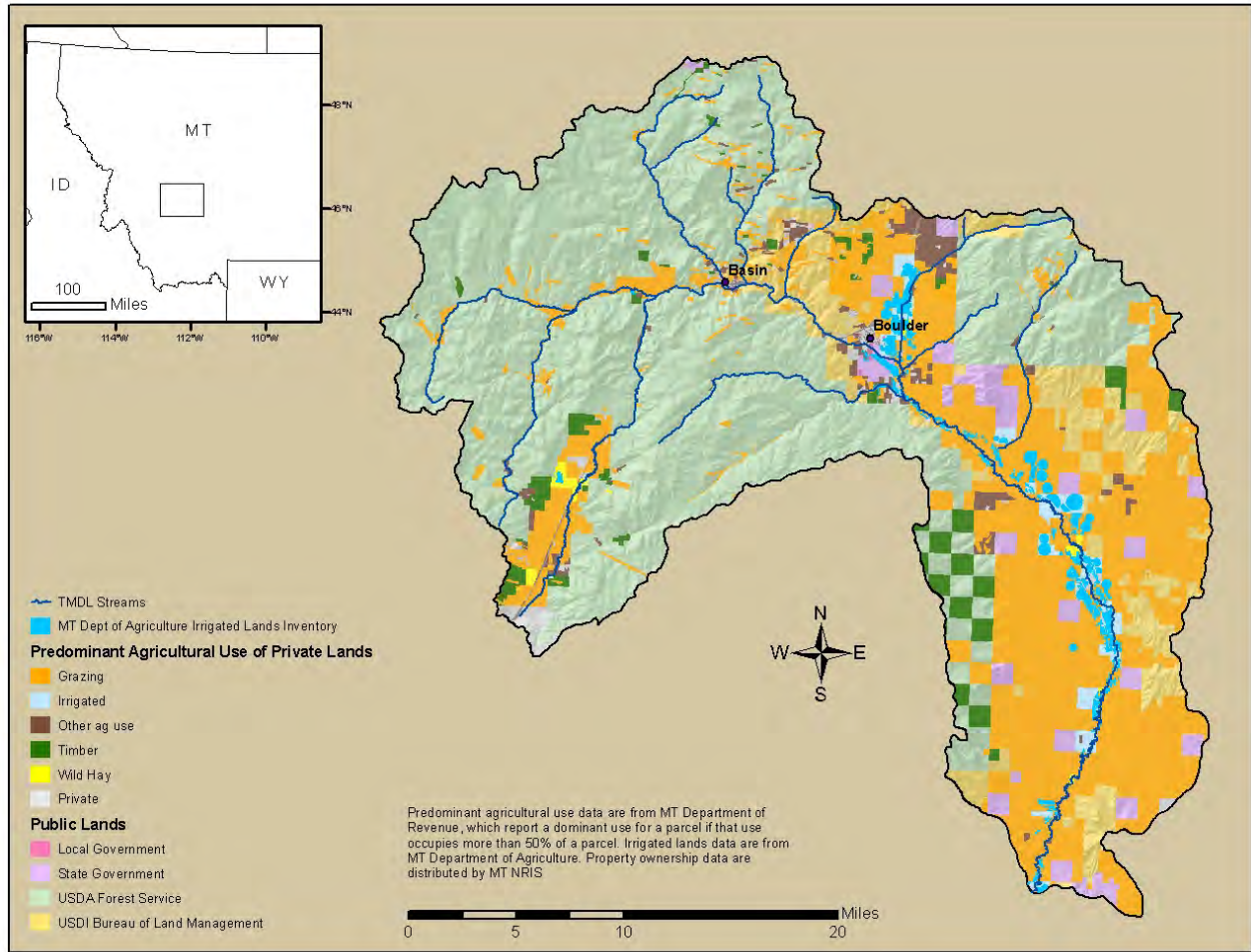


Figure A-13. Agricultural Use of Private Lands

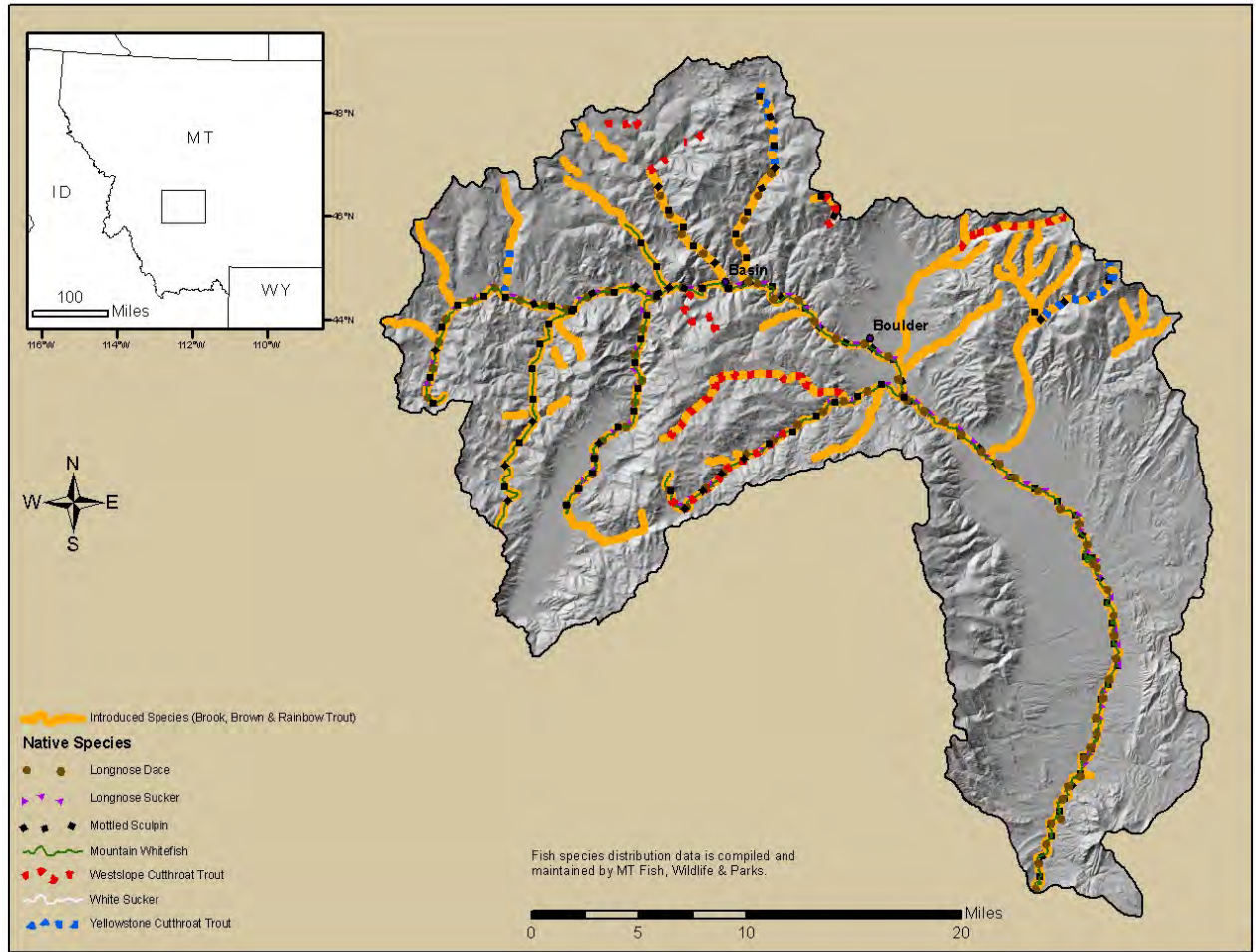


Figure A-14. Fish Species

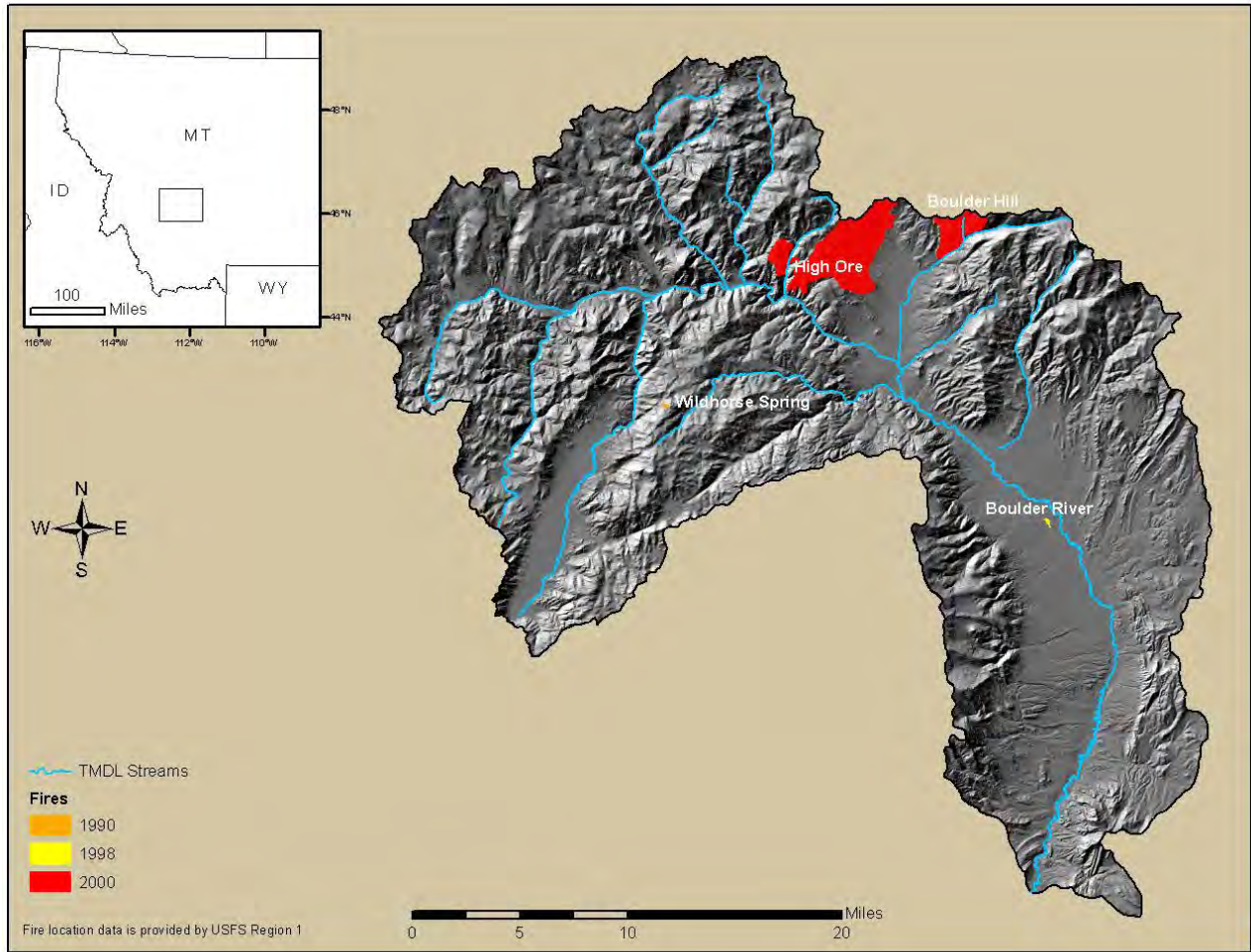


Figure A-15. Fire History

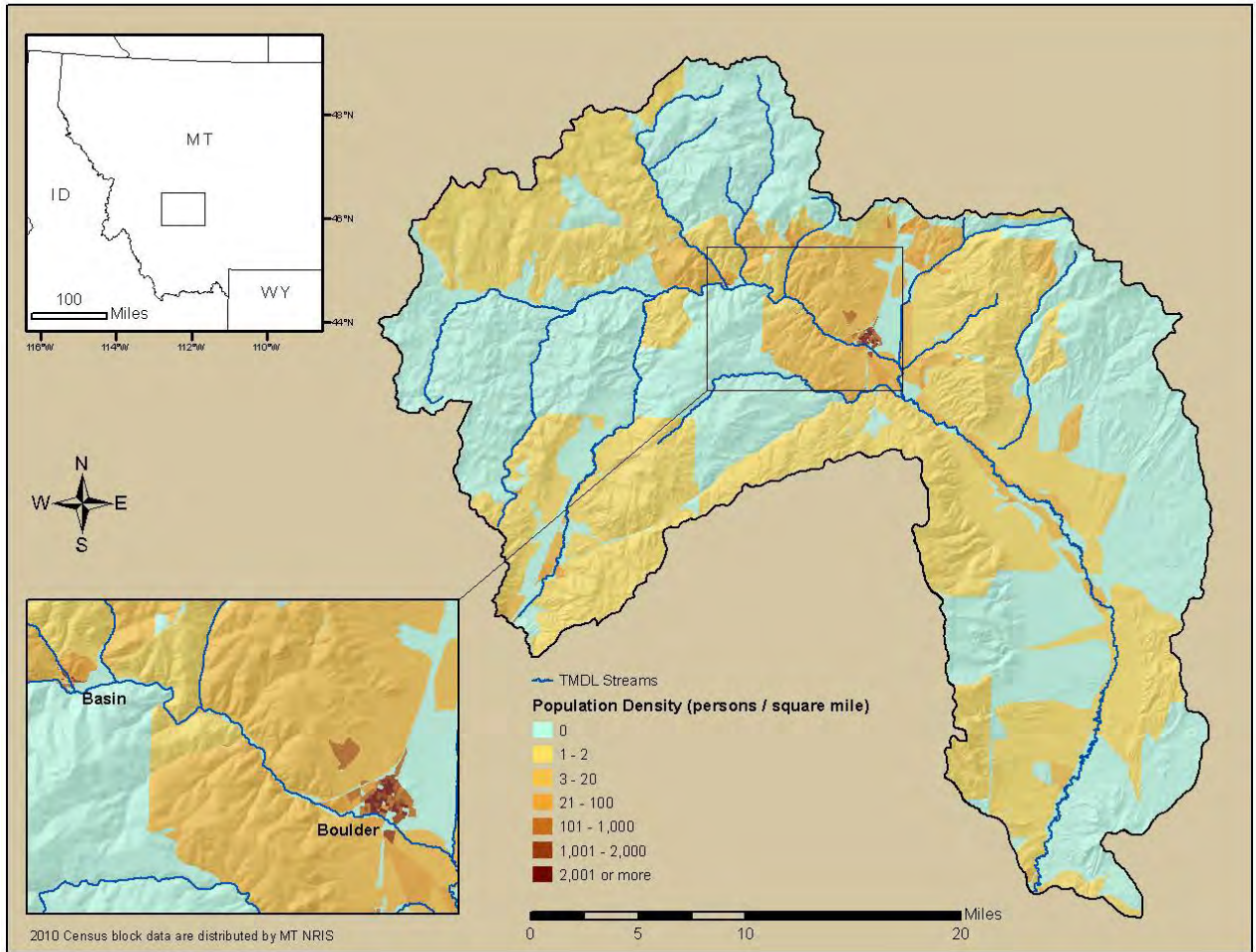


Figure A-16. Population Density

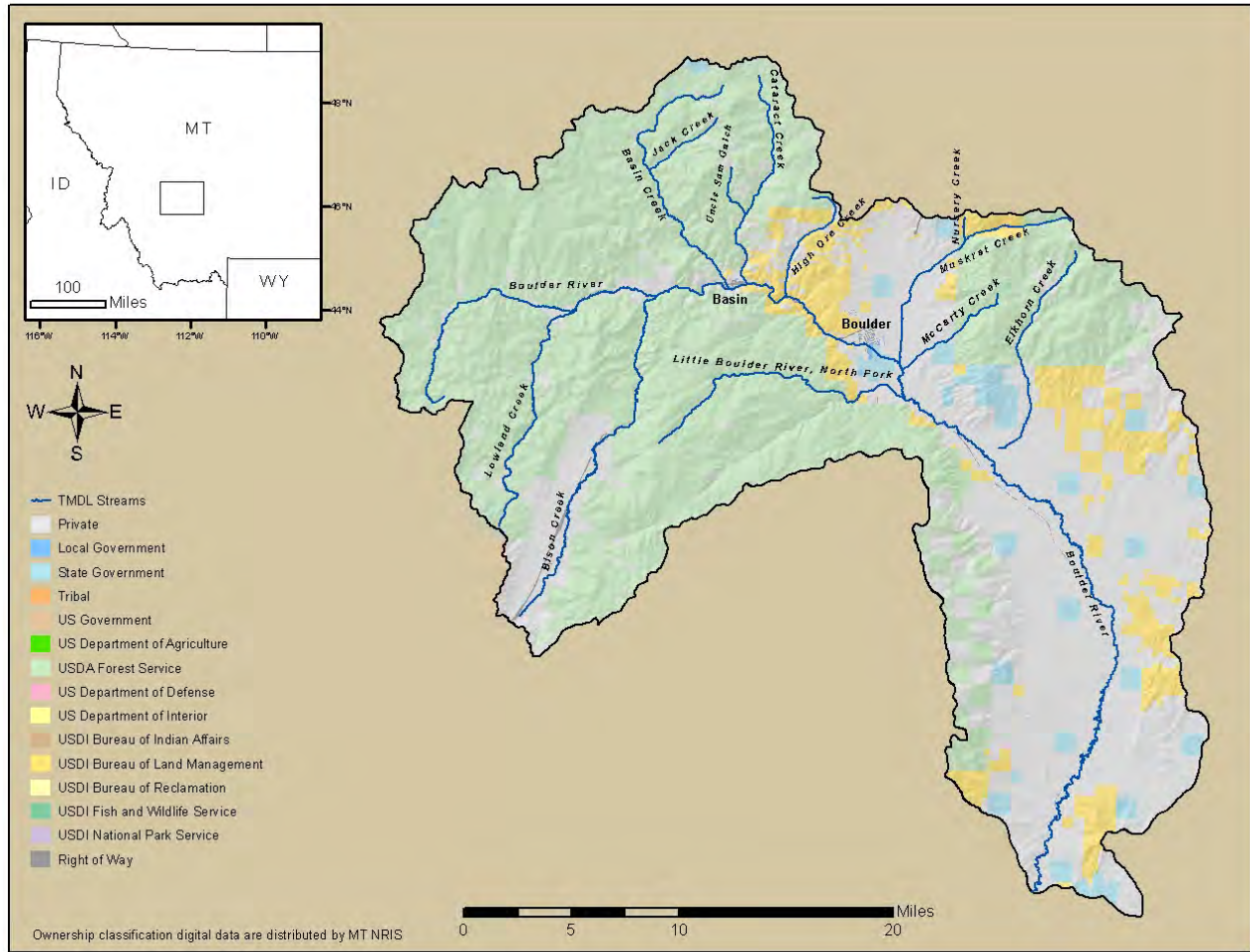


Figure A-17. Land Ownership

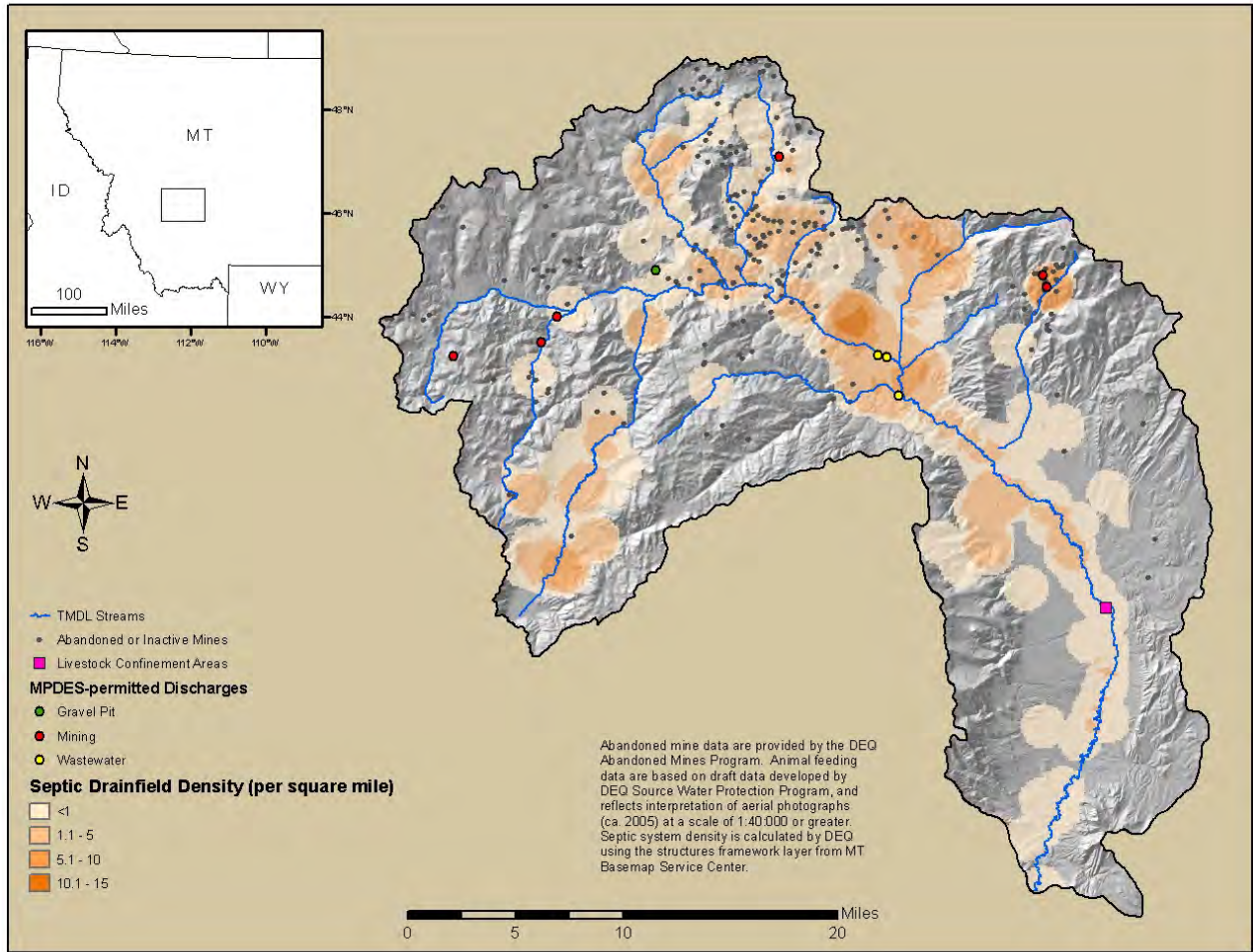


Figure A-18. Permitted Wastewater Discharges

