

APPENDIX A – MAPS

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Table A-1. 2010* Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Flint Creek TPA

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
Upper Flint Creek, Georgetown Lake to Boulder Creek confluence	MT76E003_011	Sedimentation/ Siltation	Sediment	Aquatic Life, Cold Water Fishery	Sediment TMDL contained in this document
		Alteration in stream-side or littoral vegetation covers	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via Sediment TMDL in this document
		Antimony	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	No TMDL developed; updated 303d listing status pending
		Arsenic	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Arsenic TMDL contained in this document
		Cadmium	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	No TMDL developed; updated 303d listing status pending
		Copper	Metals	Aquatic Life, Cold Water Fishery	Copper TMDL contained in this document
		Lead	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Lead TMDL contained in this document
		Low Flow Alterations	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery, Primary Contact Recreation	Addressed via recommendations in Sections 7, 8, & 9
		Mercury	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Mercury TMDL contained in this document

Table A-1. 2010* Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Flint Creek TPA

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
Lower Flint Creek, Boulder Creek to mouth (Clark Fork River)	MT76E003_012	Alteration in stream-side or littoral vegetation covers	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via Sediment TMDL in this document
		Arsenic	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Arsenic TMDL contained in this document
		Cadmium	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	No TMDL developed; updated 303d listing status pending
		Copper	Metals	Aquatic Life, Cold Water Fishery	Copper TMDL contained in this document
		Iron	Metals	Aquatic Life, Cold Water Fishery	Iron TMDL contained in this document
		Lead	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Lead TMDL contained in this document
		Nitrogen (Total)	Nutrients	Aquatic Life, Cold Water Fishery	To be addressed in a future document
		Phosphorus (Total)	Nutrients	Aquatic Life, Cold Water Fishery	To be addressed in a future document
		Turbidity	Sediment	Aquatic Life, Cold Water Fishery, Industrial, Primary Contact Recreation	Addressed via Sediment TMDL in this document
Barnes Creek, headwaters to mouth (Flint Creek)	MT76E003_070	Chlorophyll-a	Nutrients	Primary Contact Recreation	To be addressed in a future document
		Iron	Metals	Agricultural, Aquatic Life, Cold Water Fishery, Drinking Water	Iron TMDL contained in this document
		Nitrate/Nitrite (Nitrite+Nitrate as N)	Nutrients	Aquatic Life, Cold Water Fishery	To be addressed in a future document
		Phosphorus (Total)	Nutrients	Aquatic Life, Cold Water Fishery	To be addressed in a future document
		Sedimentation/ Siltation	Sediment	Aquatic Life, Cold Water Fishery, Industrial, Primary Contact Recreation	Sediment TMDL contained in this document
		Total Kjeldahl Nitrogen (TKN)	Nutrients	Aquatic Life, Cold Water Fishery	Impairment cause to be replaced with Total Nitrogen on 2012 list; to be addressed in a future document

Table A-1. 2010* Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Flint Creek TPA

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
Boulder Creek , headwaters to mouth (Flint Creek)	MT76E003_060	Arsenic	Metals	Aquatic Life, Cold Water Fishery	Arsenic TMDL contained in this document
		Lead	Metals	Aquatic Life, Cold Water Fishery	Lead TMDL contained in this document
		Mercury	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Mercury TMDL contained in this document
		Physical substrate habitat alterations	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via recommendations in Sections 7, 8, & 9
		Zinc	Metals	Aquatic Life, Cold Water Fishery	Zinc TMDL contained in this document
Camp Creek , headwaters to mouth (Flint Creek)	MT76E003_130	Alteration in stream-side or littoral vegetation covers	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via recommendations in Sections 7, 8, & 9
		Arsenic	Metals	Aquatic Life, Cold Water Fishery, Primary Contact Recreation	Arsenic TMDL contained in this document
		Copper	Metals	Aquatic Life, Cold Water Fishery, Primary Contact Recreation	Copper TMDL contained in this document
		Fish Passage Barrier	Not Applicable: Non-Pollutant	Cold Water Fishery	Addressed via recommendations in Sections 7, 8, & 9
		Lead	Metals	Aquatic Life, Cold Water Fishery, Primary Contact Recreation	Lead TMDL contained in this document
		Zinc	Metals	Aquatic Life, Cold Water Fishery, Primary Contact Recreation	Zinc TMDL contained in this document
Douglas Creek (Hall) , confluence of Middle and South Forks to mouth (Flint Creek), T9N R13W S10	MT76E003_020	Nitrogen, Nitrate	Nutrients	Aquatic Life, Cold Water Fishery	To be addressed in a future document
		Physical substrate habitat alterations	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via recommendations in Sections 7, 8, & 9

Table A-1. 2010* Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Flint Creek TPA

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
Douglas Creek (Philipsburg), headwaters to where stream ends, T7N R14W S25	MT76E003_100	Arsenic	Metals	Agricultural, Aquatic Life, Cold Water Fishery, Drinking Water	Arsenic TMDL contained in this document
		Cadmium	Metals	Agricultural, Aquatic Life, Cold Water Fishery, Drinking Water	Cadmium TMDL contained in this document
		Cause Unknown	Not Applicable: Non-Pollutant	Primary Contact Recreation	Addressed via recommendations in Sections 7, 8, & 9 and Douglas Creek TMDLs
		Copper	Metals	Agricultural, Aquatic Life, Cold Water Fishery	Copper TMDL contained in this document
		Iron	Metals	Agricultural, Aquatic Life, Cold Water Fishery	Iron TMDL contained in this document
		Lead	Metals	Agricultural, Aquatic Life, Cold Water Fishery, Drinking Water	Lead TMDL contained in this document
		Mercury	Metals	Agricultural, Aquatic Life, Cold Water Fishery, Drinking Water	Mercury TMDL contained in this document
		Physical substrate habitat alterations	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via Sediment TMDL
		Sedimentation/Siltation	Sediment	Aquatic Life, Cold Water Fishery	Sediment TMDL contained in this document
		Zinc	Metals	Agricultural, Aquatic Life, Cold Water Fishery	Zinc TMDL contained in this document
North Fork Douglas Creek, headwaters to mouth (Douglas Creek)	MT76E003_030	Alteration in stream-side or littoral vegetation covers	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via recommendations in Sections 7, 8, & 9
		Arsenic	Metals	Aquatic Life, Cold Water Fishery	No TMDL developed; updated 303d listing status pending
		Cadmium	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Cadmium TMDL contained in this document
		Copper	Metals	Agricultural, Aquatic Life, Cold Water Fishery	Copper TMDL contained in this document
		Sulfates	Metals	Aquatic Life, Cold Water Fishery	No TMDL developed; updated 303d listing status pending
		Zinc	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Zinc TMDL contained in this document

Table A-1. 2010* Impaired Waterbodies, Impairment Causes, Impaired Uses, and Impairment Cause Status in the Flint Creek TPA

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
Fred Burr Creek, Fred Burr Lake to mouth (Flint Creek)	MT76E003_040	Alteration in stream-side or littoral vegetation covers	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via recommendations in Sections 7, 8, & 9
		Arsenic	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Arsenic TMDL contained in this document
		Lead	Metals	Aquatic Life, Cold Water Fishery	Lead TMDL contained in this document
		Mercury	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Mercury TMDL contained in this document
Smart Creek, headwaters to mouth (Flint Creek), T9N R13W S21	MT76E003_110	Alteration in stream-side or littoral vegetation covers	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via Sediment TMDL
		Phosphorus (Total)	Nutrients	Aquatic Life, Cold Water Fishery	To be addressed in a future document
		Sedimentation/Siltation	Sediment	Aquatic Life, Cold Water Fishery	Sediment TMDL contained in this document
South Fork Willow Creek, headwaters to mouth (Lower Willow Creek)	MT76E003_050	Copper	Metals	Aquatic Life, Cold Water Fishery	Copper TMDL contained in this document
		Lead	Metals	Aquatic Life, Cold Water Fishery	Lead TMDL contained in this document
		Mercury	Metals	Aquatic Life, Cold Water Fishery, Drinking Water	Mercury TMDL contained in this document
Princeton Gulch, headwaters to mouth (Boulder Creek)	MT76E003_090	Nitrates	Nutrients	Aquatic Life, Cold Water Fishery	To be addressed in a future document
		Physical Substrate Habitat Alterations	Not Applicable: Non-Pollutant	Aquatic Life, Cold Water Fishery	Addressed via recommendations in Sections 7, 8, & 9

- Recently approved 2012 Integrated Report impairment listings for the Flint Creek watershed are identical to the 2010 impairment listings

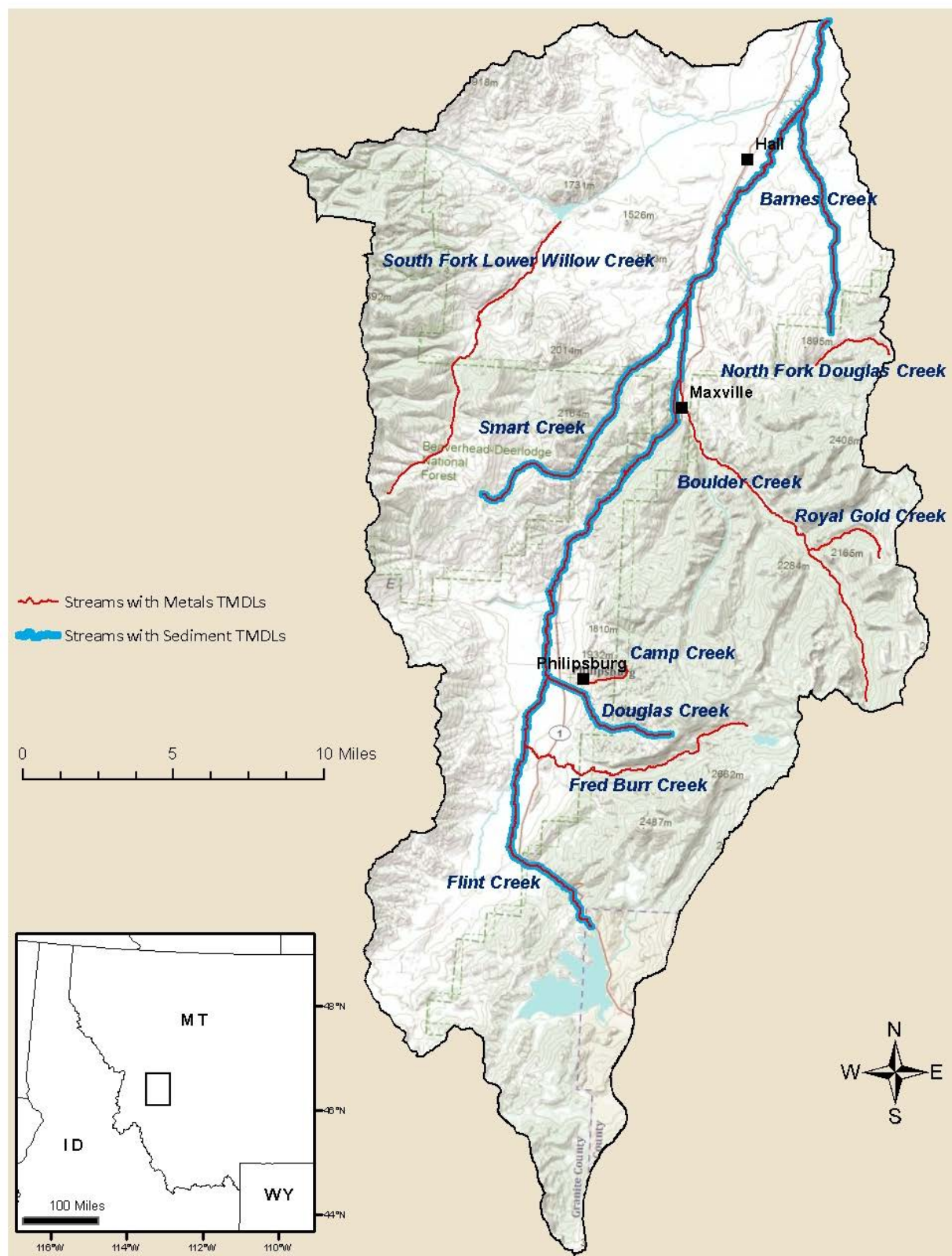


Figure A-1. TMDL Streams

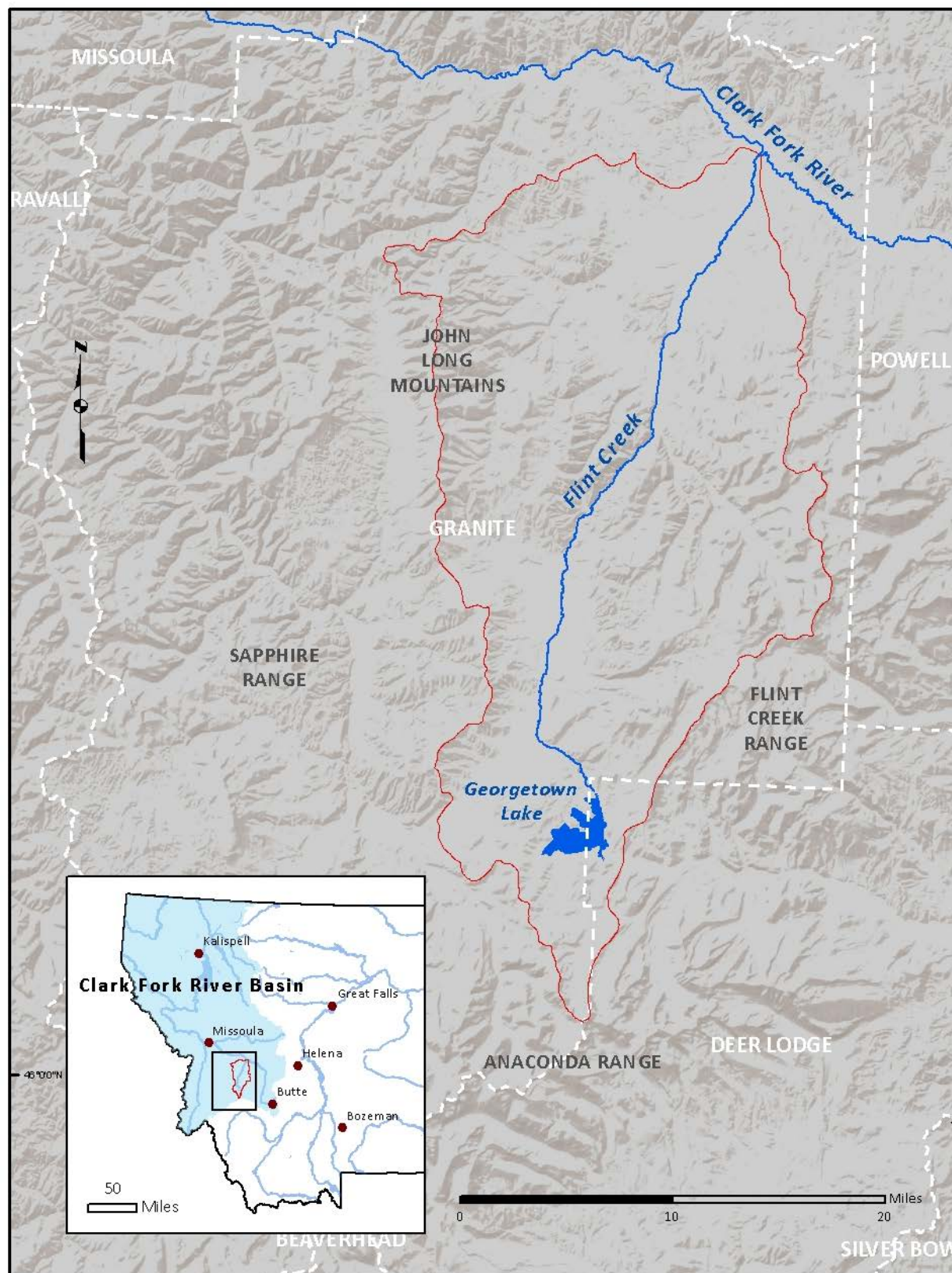


Figure A-2. Location

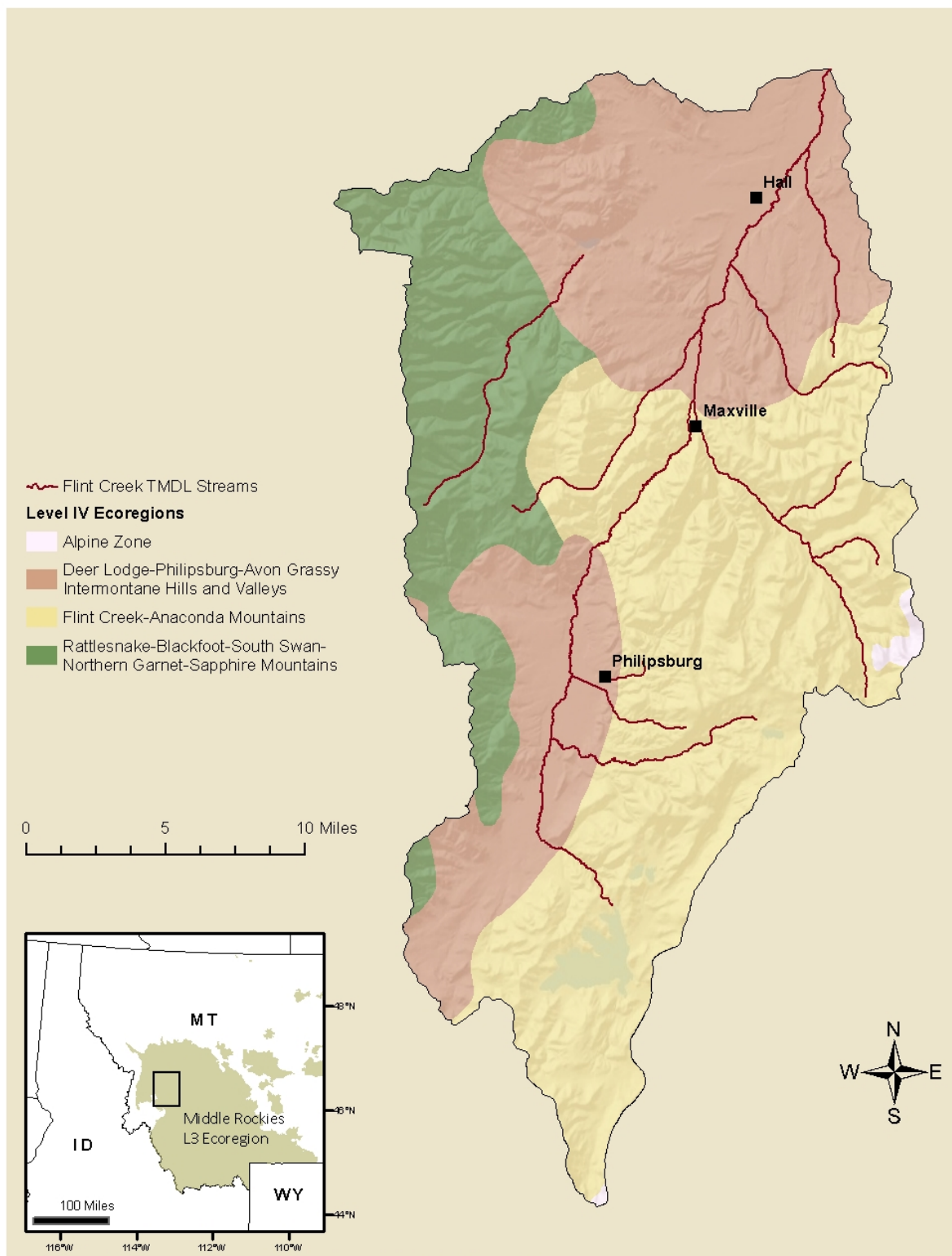


Figure A-3. Ecoregions

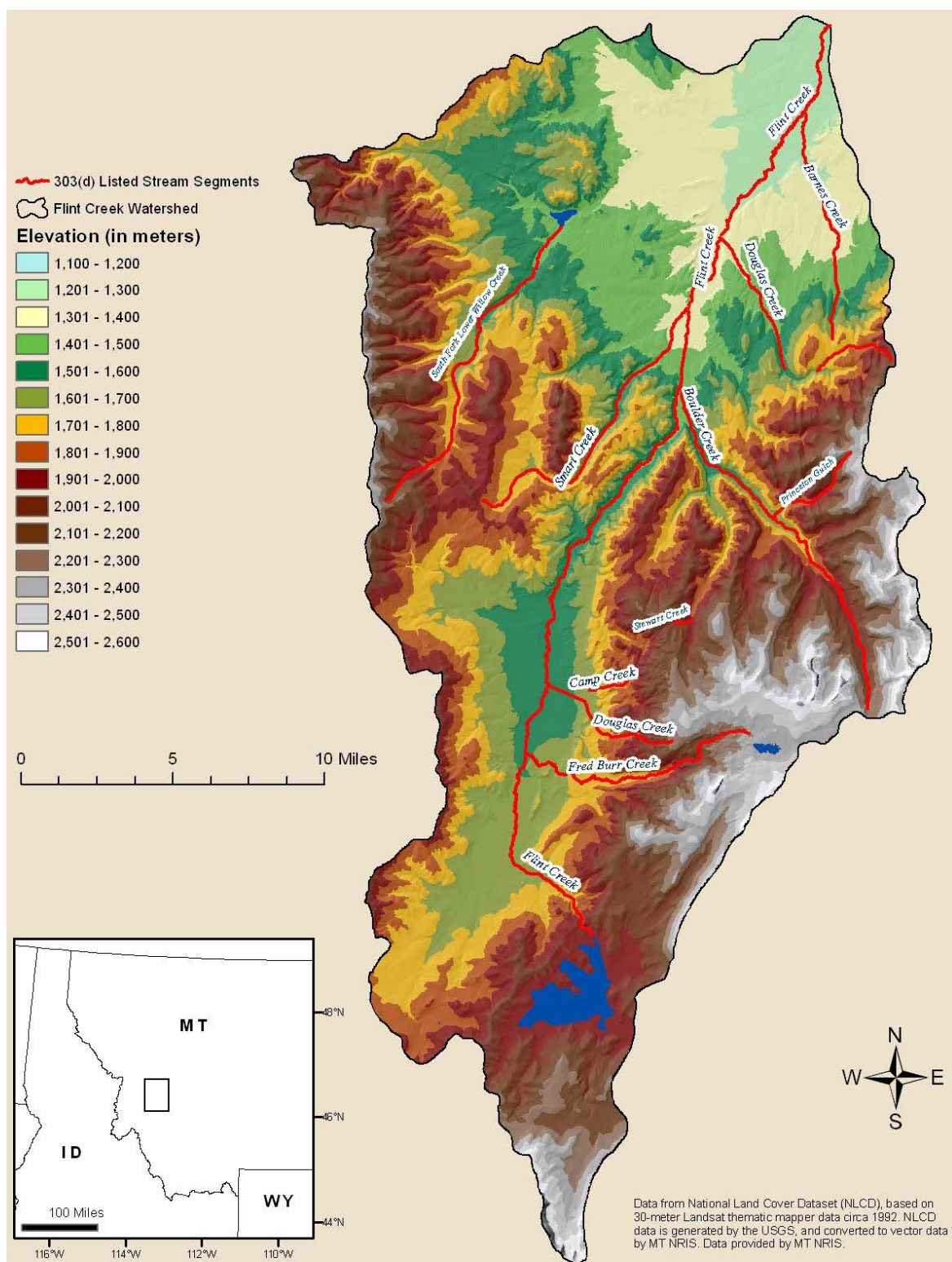


Figure A-4. Topo

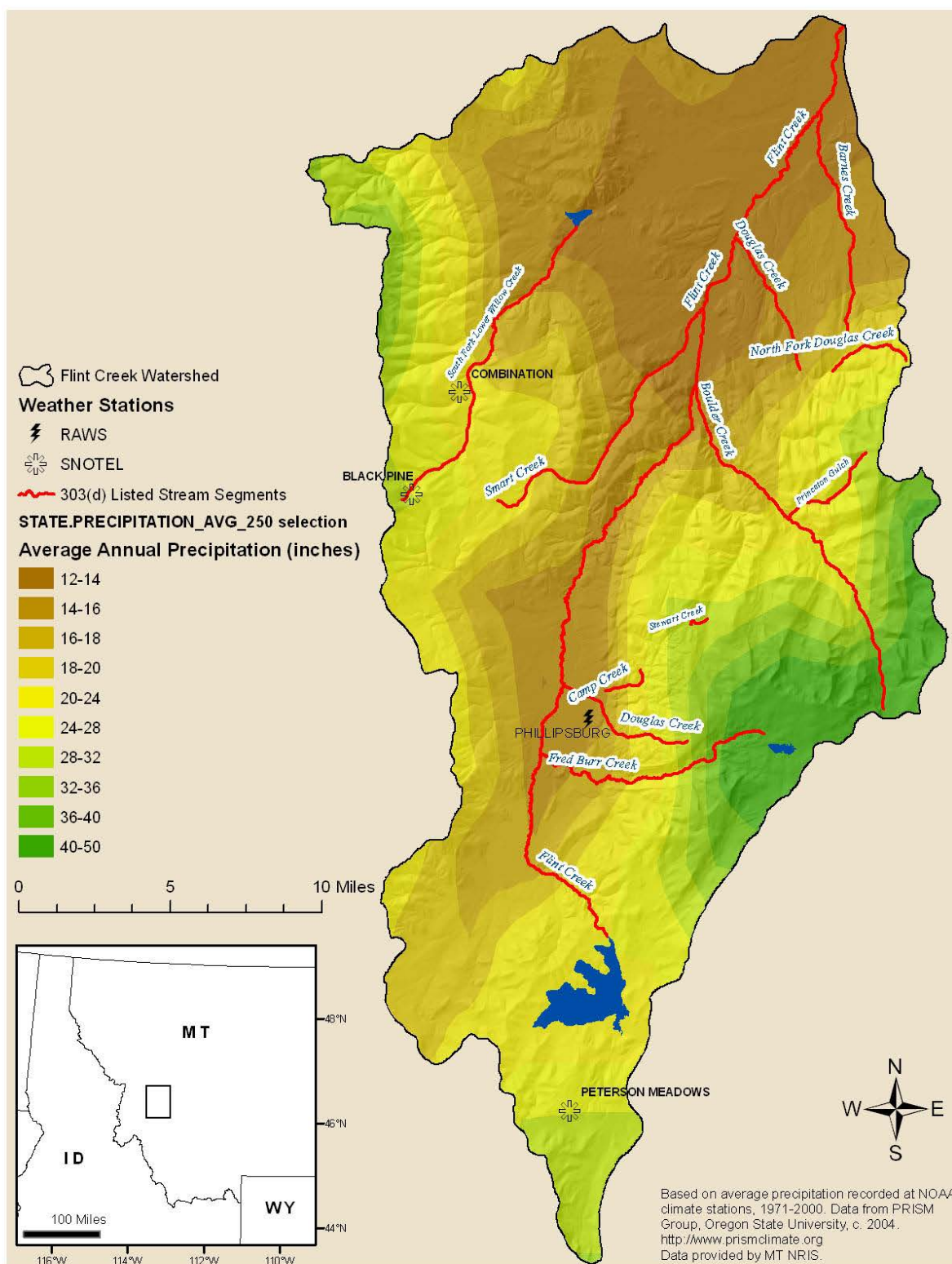


Figure A-5. Precipitation

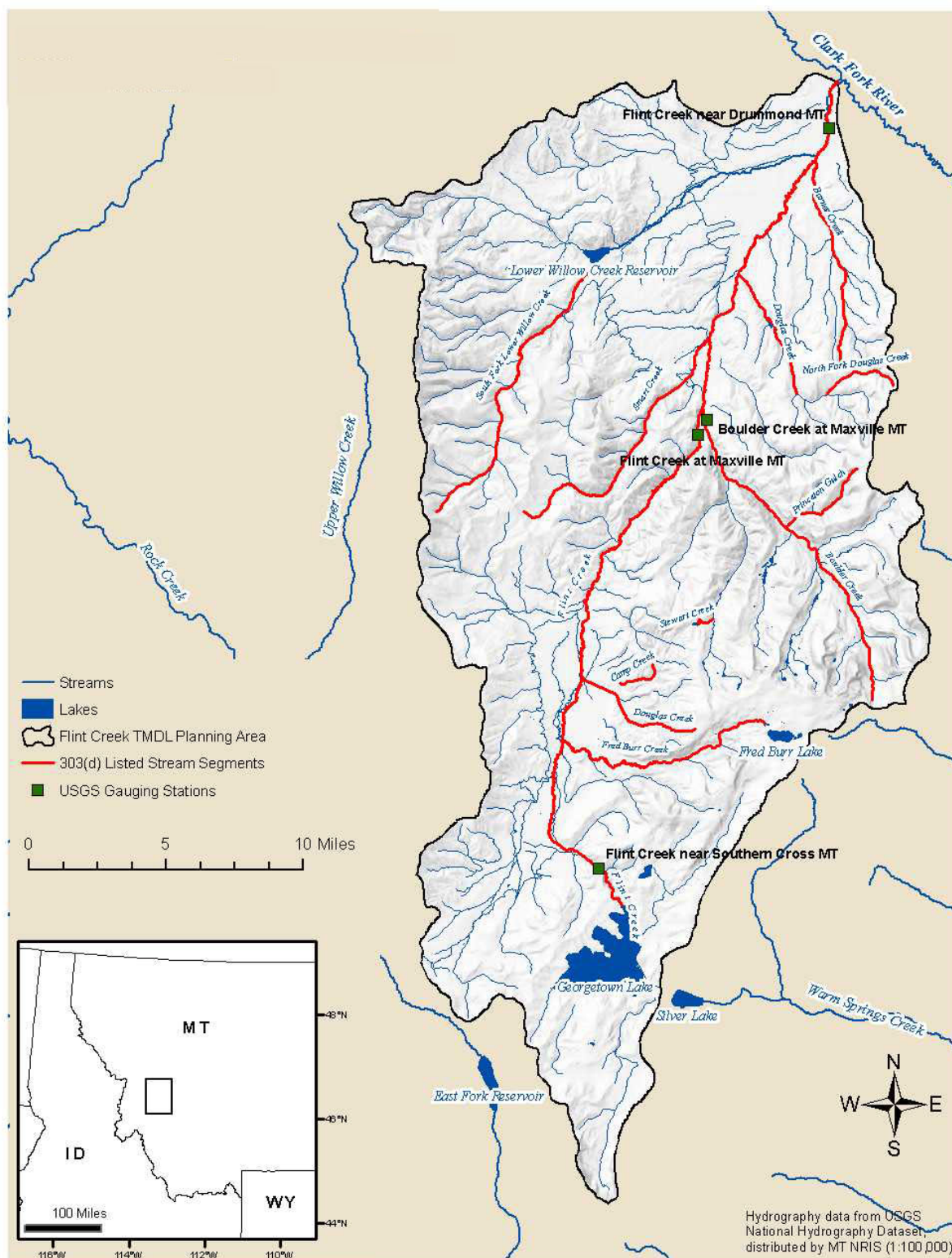


Figure A-6. Hydrography

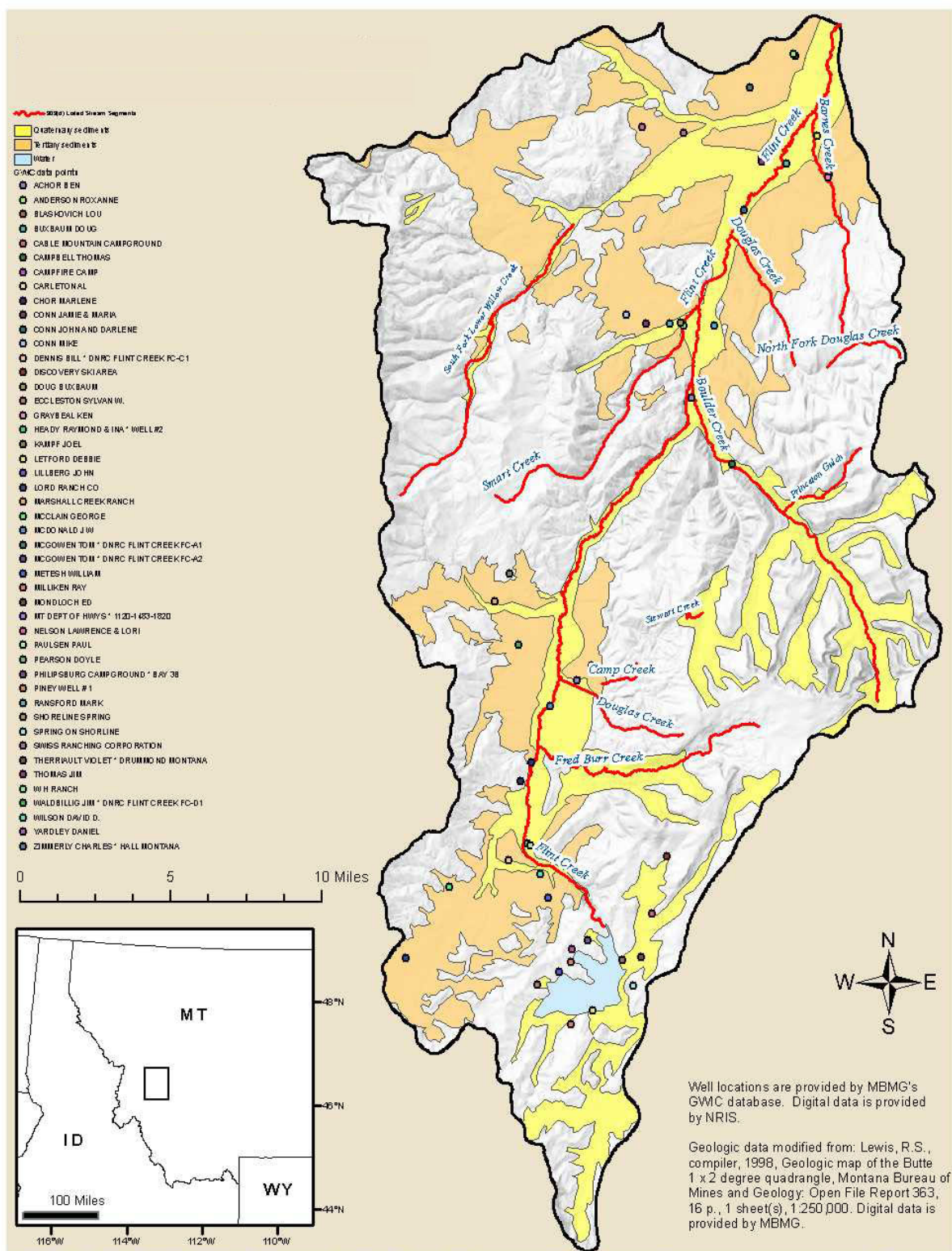


Figure A-7. Groundwater Information Center

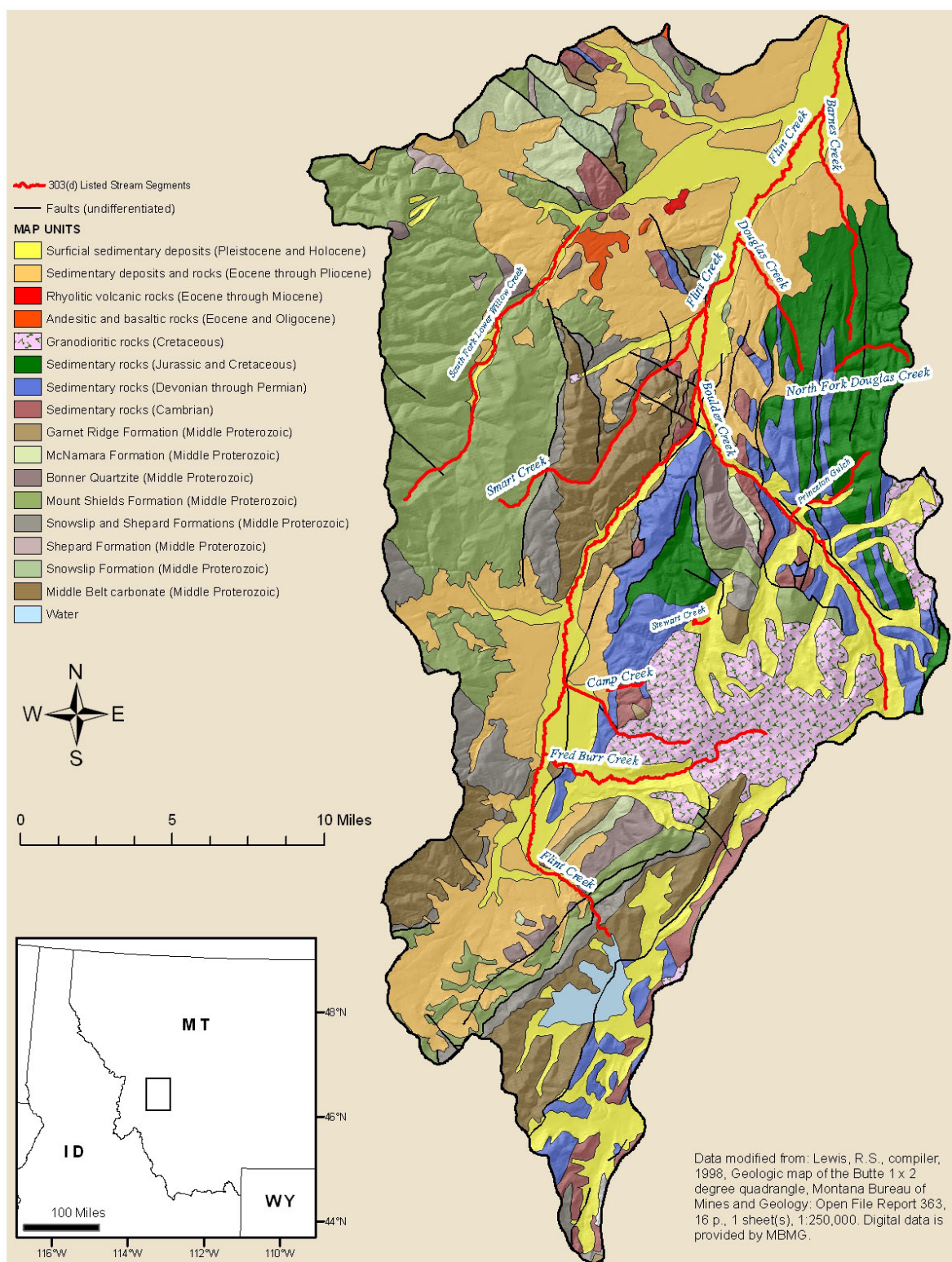


Figure A-8. Geology

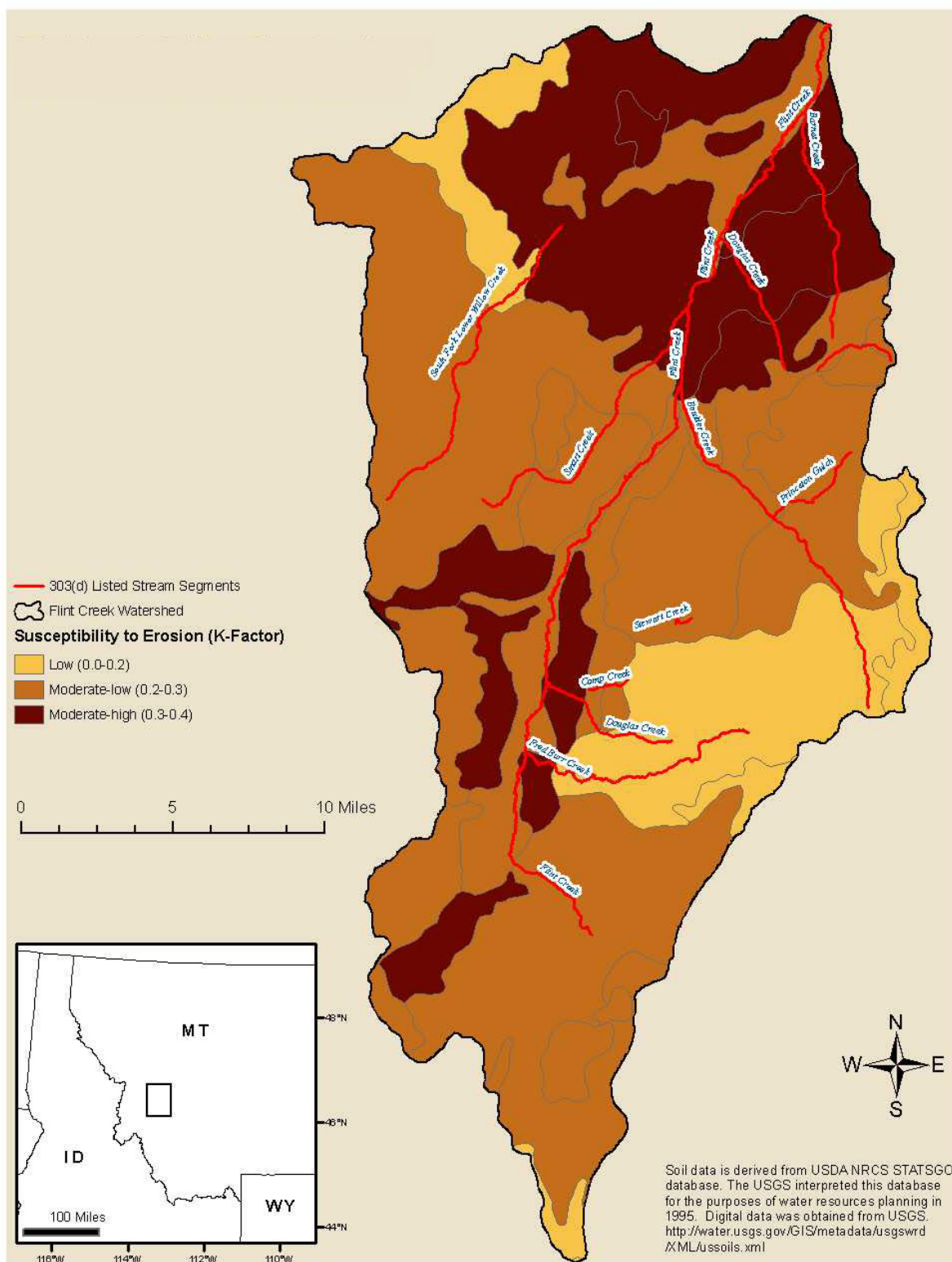


Figure A-9. Soils

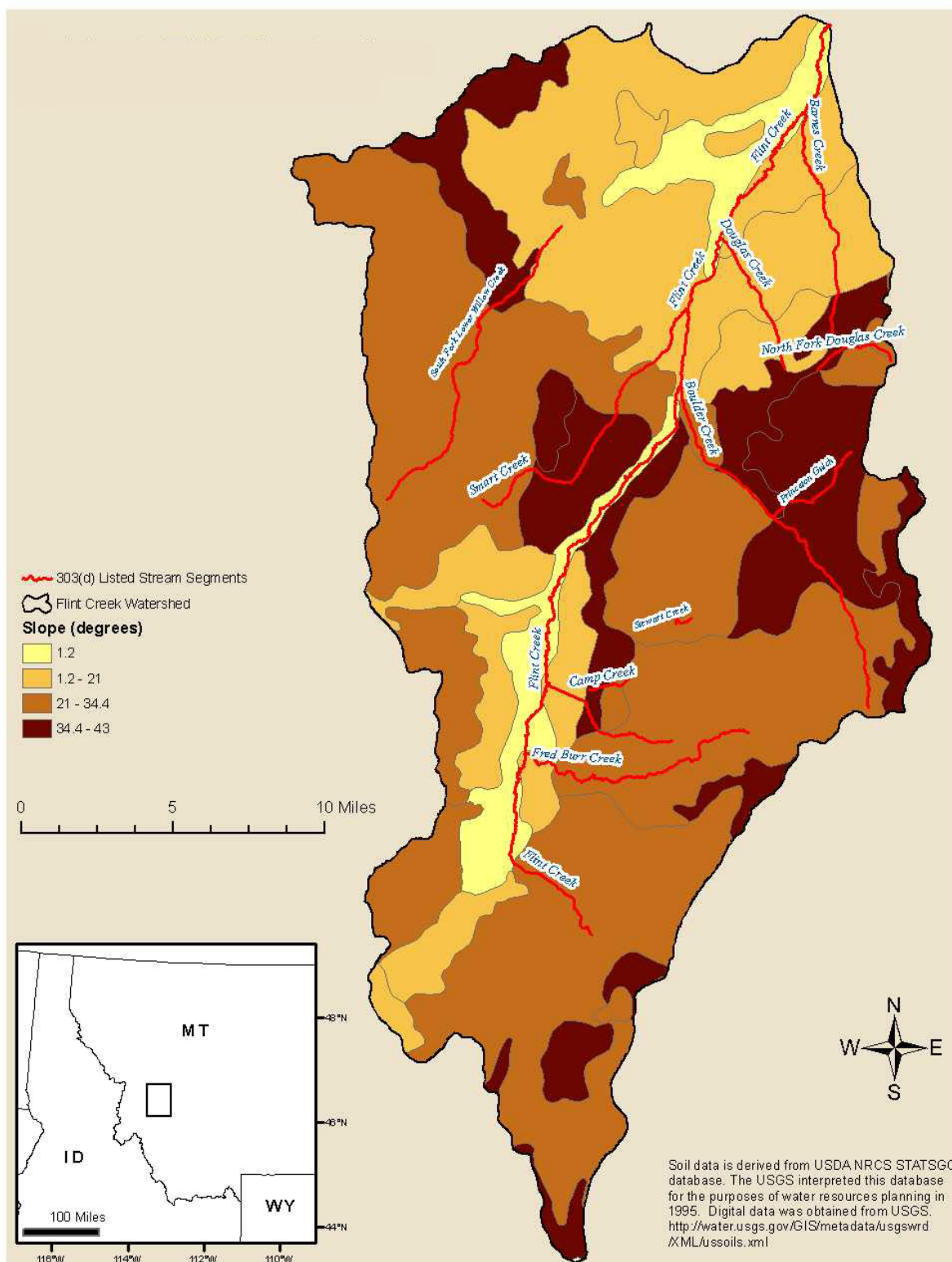


Figure A-10. Slope

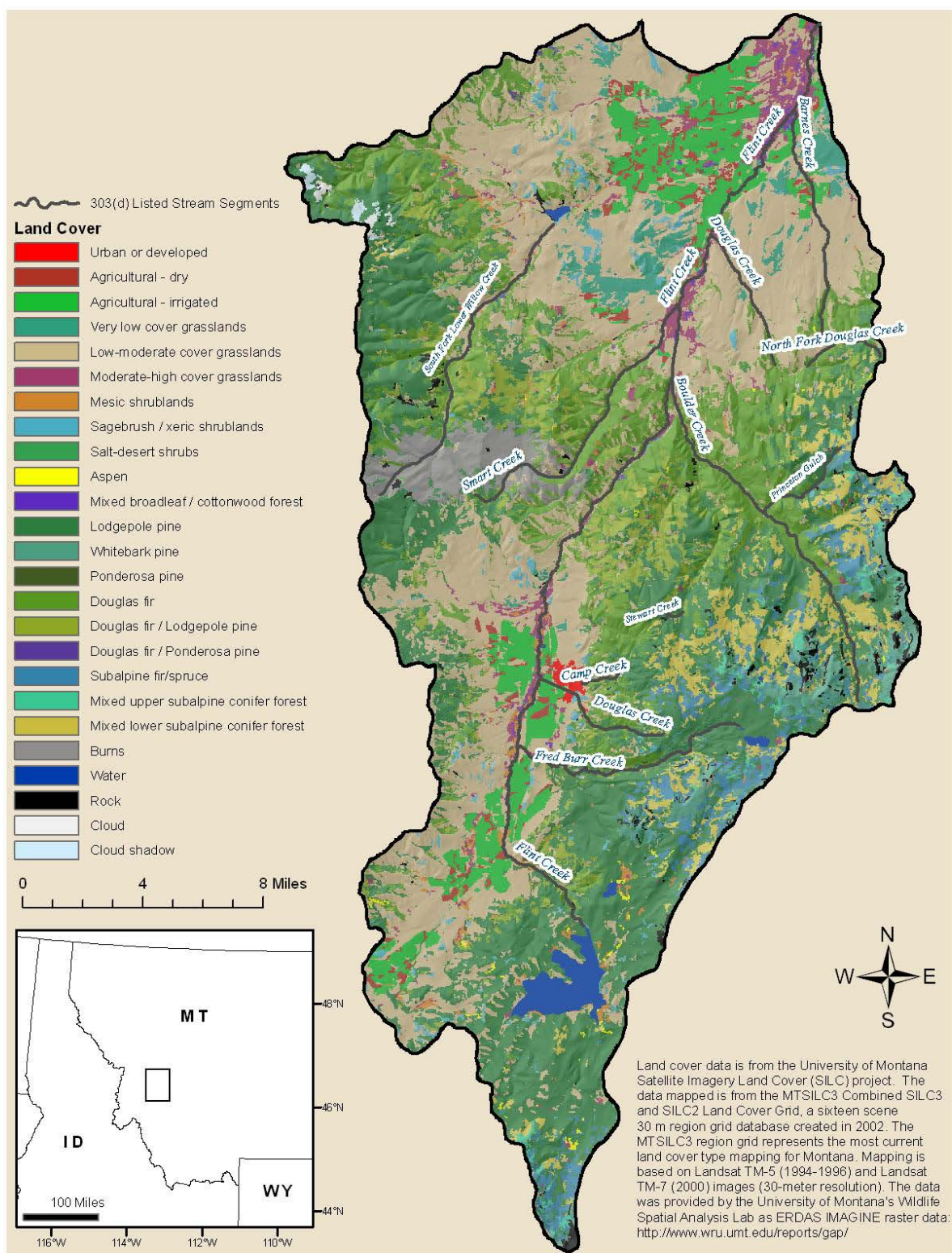


Figure A-11. Satellite Imagery Land Cover

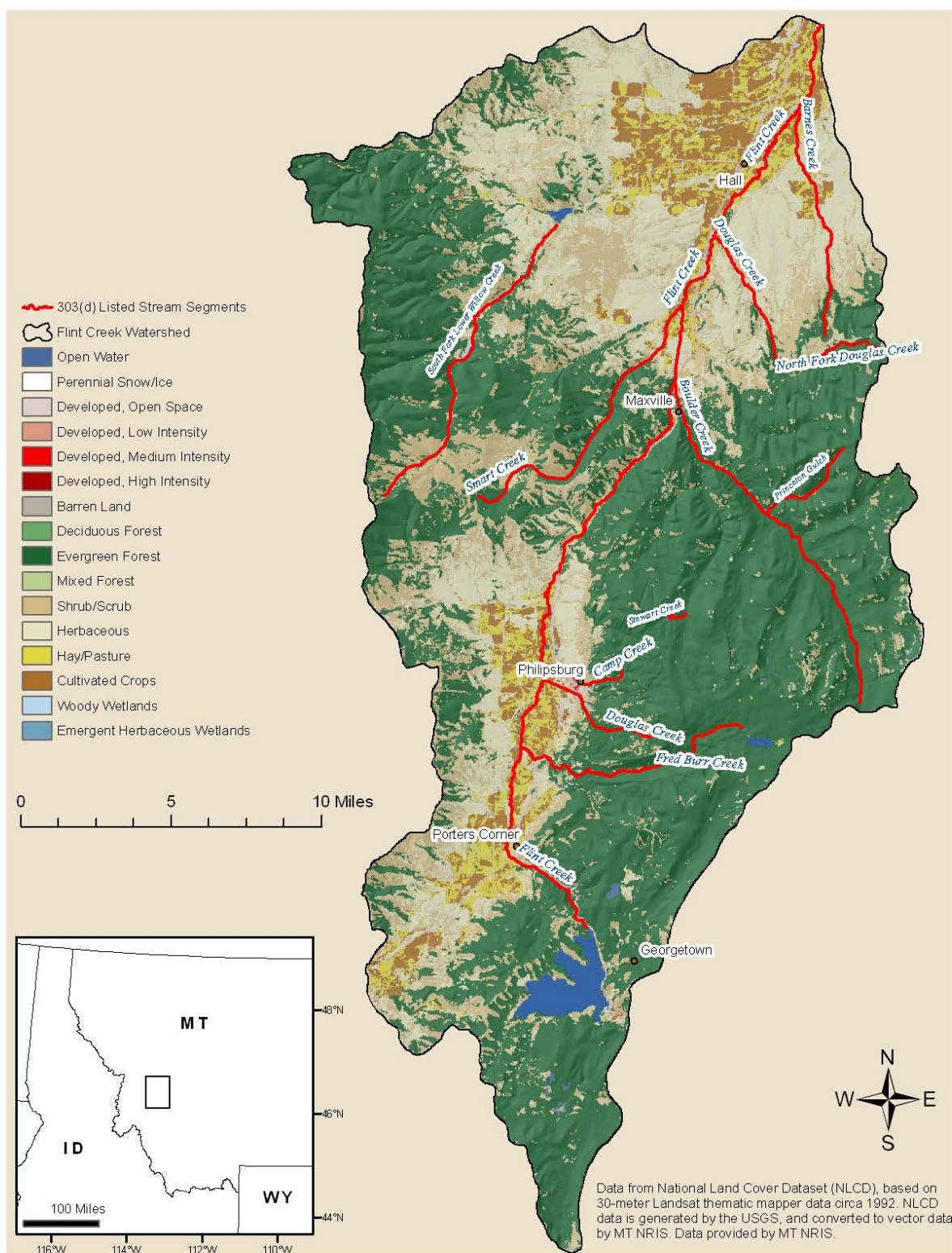


Figure A-12. National Land Cover Dataset

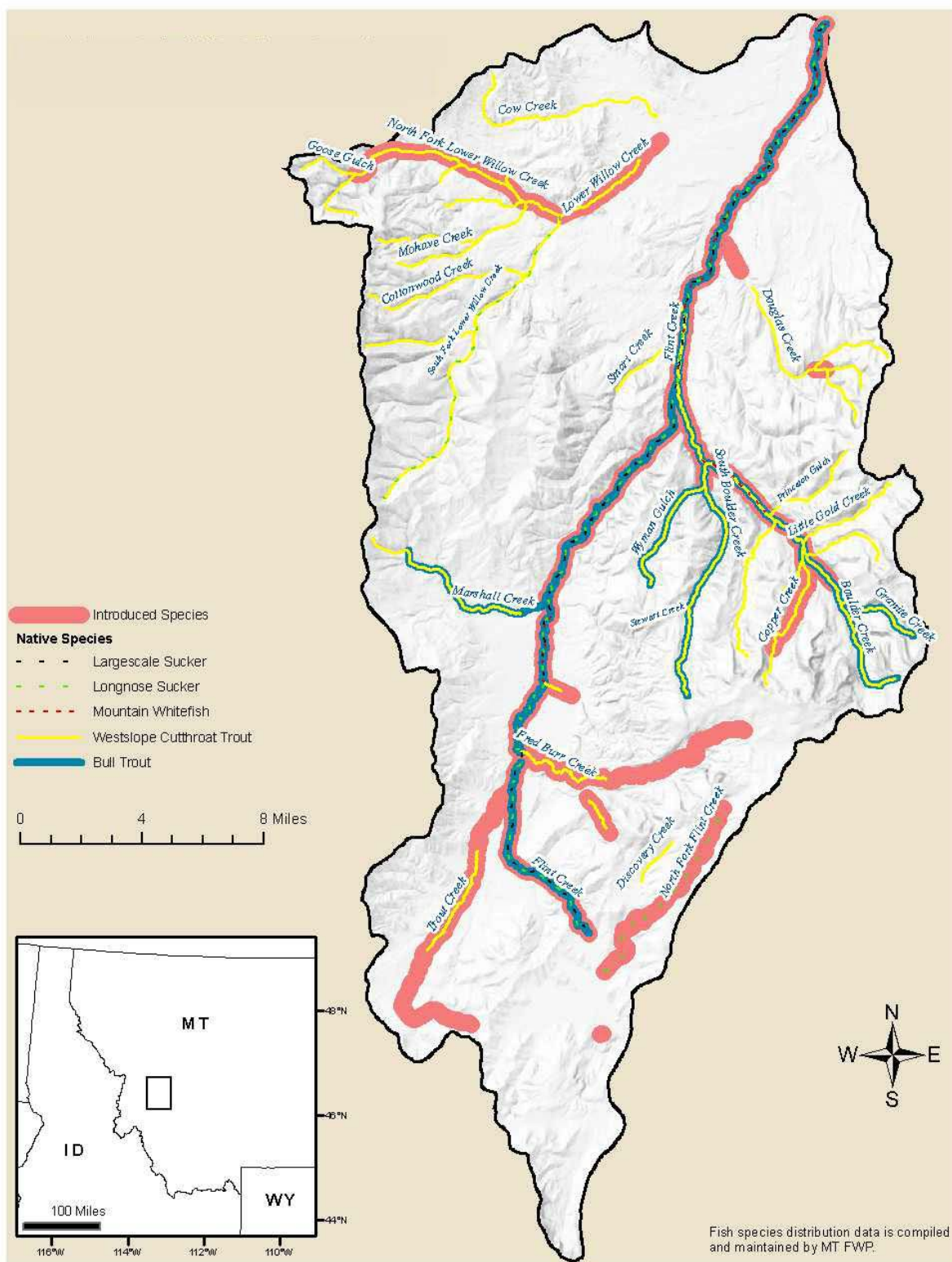


Figure A-13. Fish

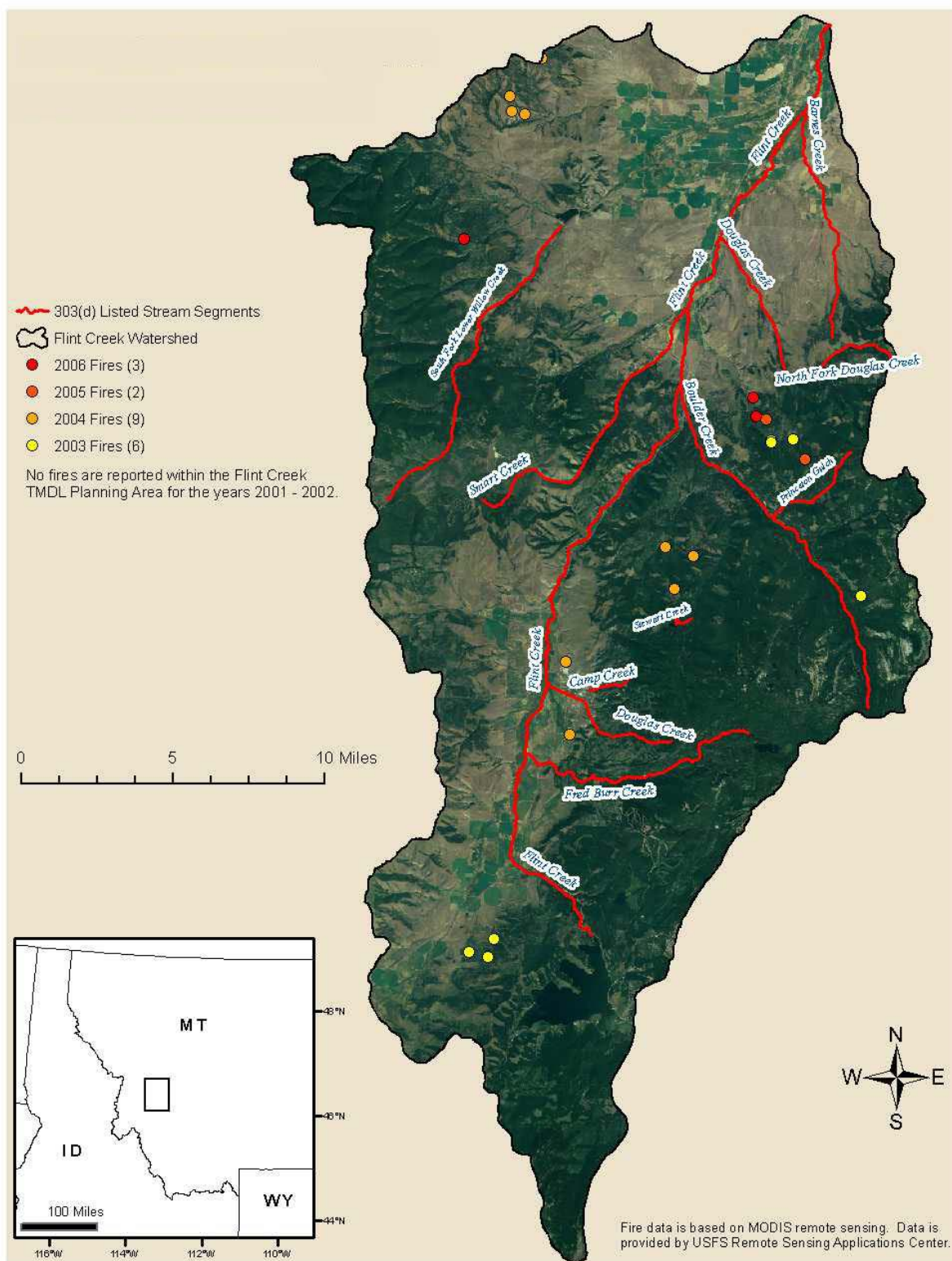


Figure A-14. Fires

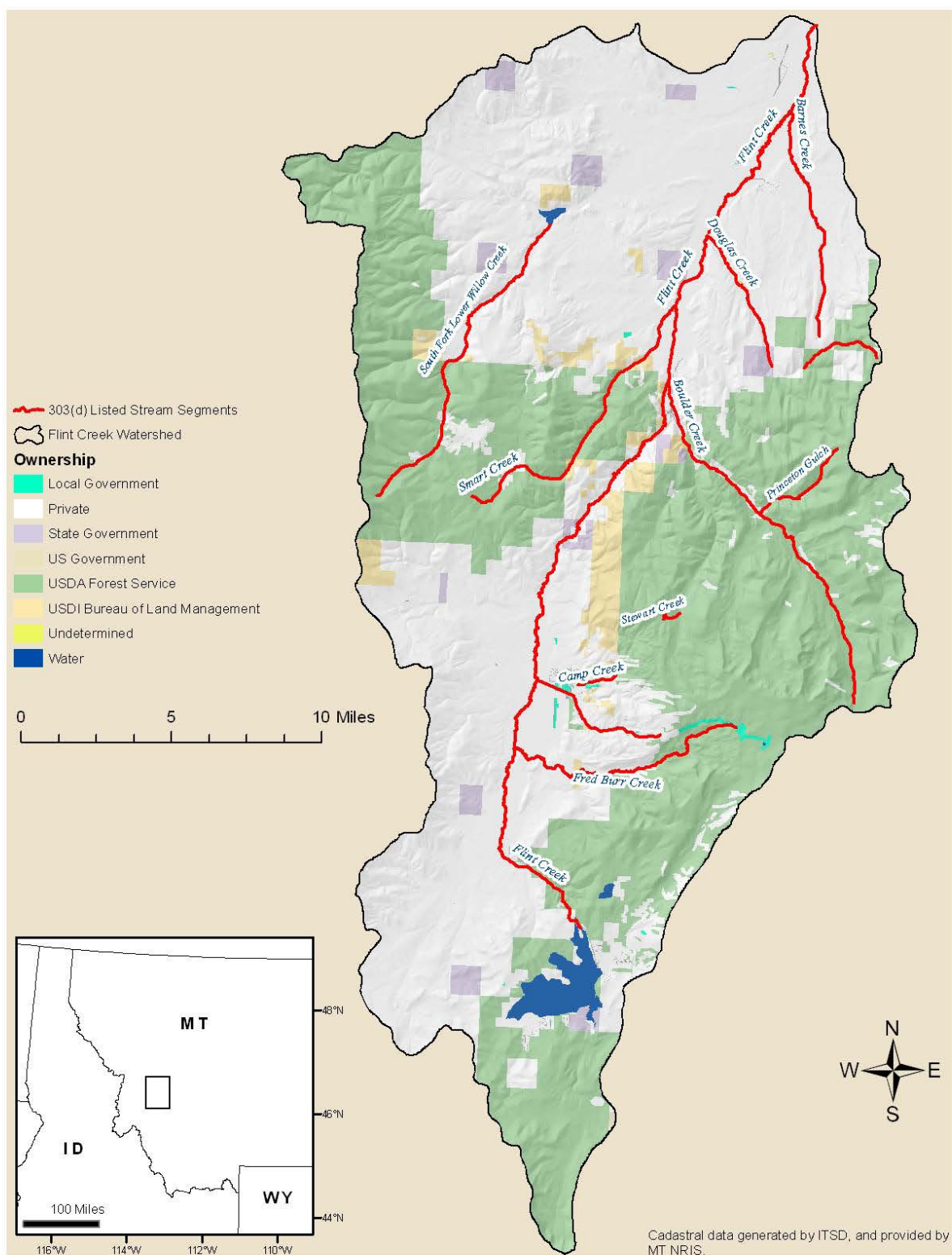


Figure A-15. Ownership

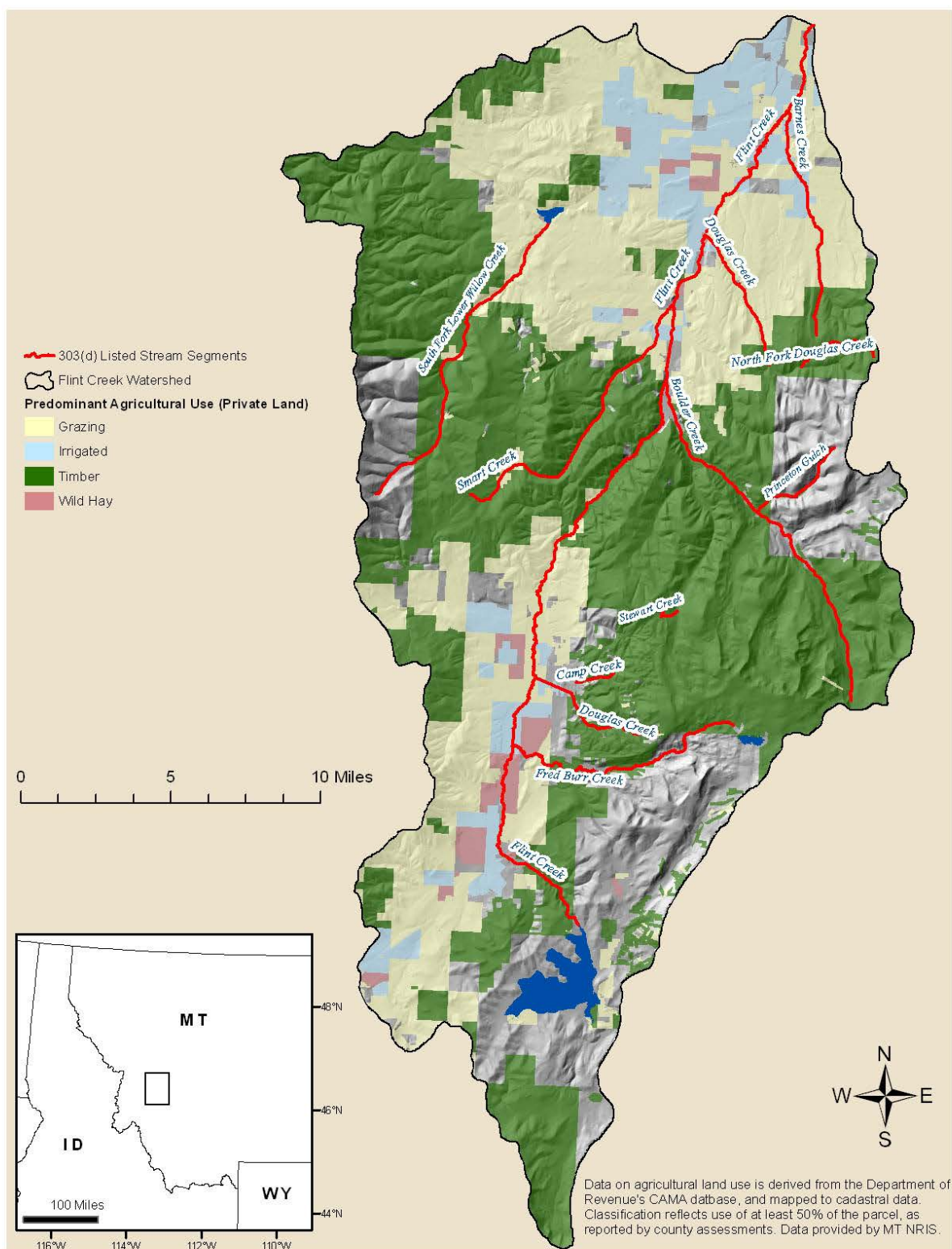


Figure A-16. Agricultural Use

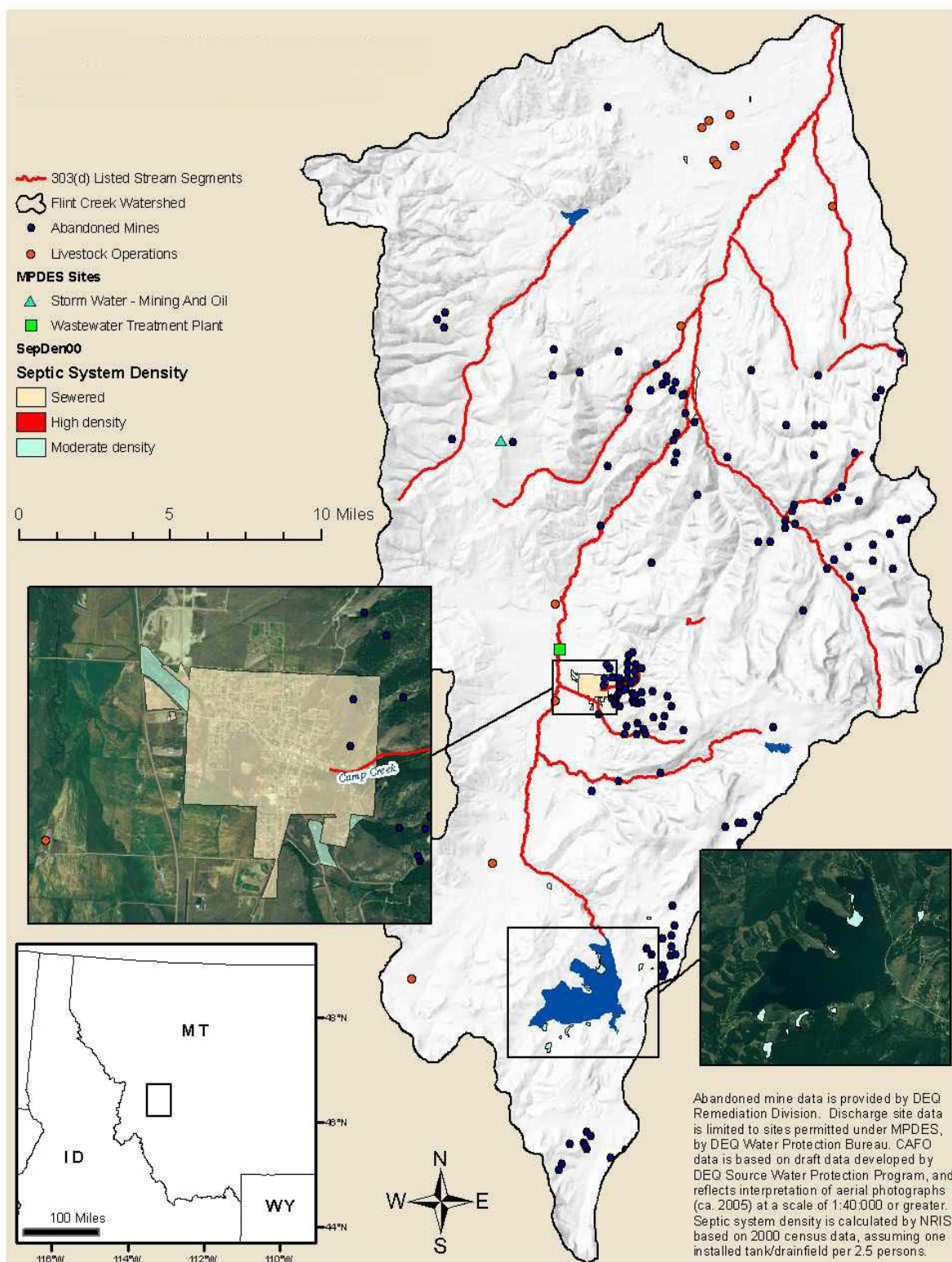


Figure A-17. Discharges

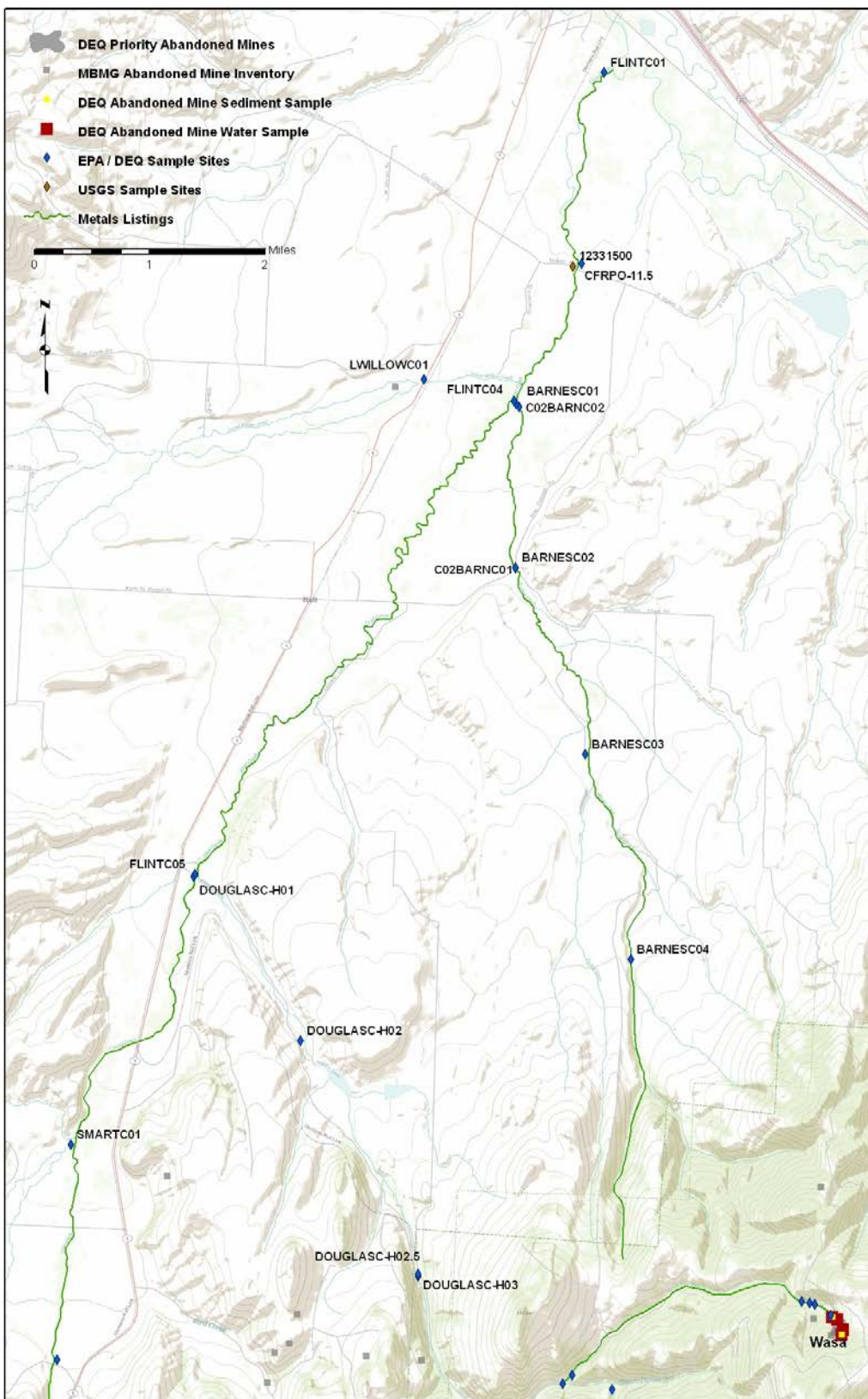


Figure A-18. Metals Sample Locations and Mining Sources in Barnes Creek

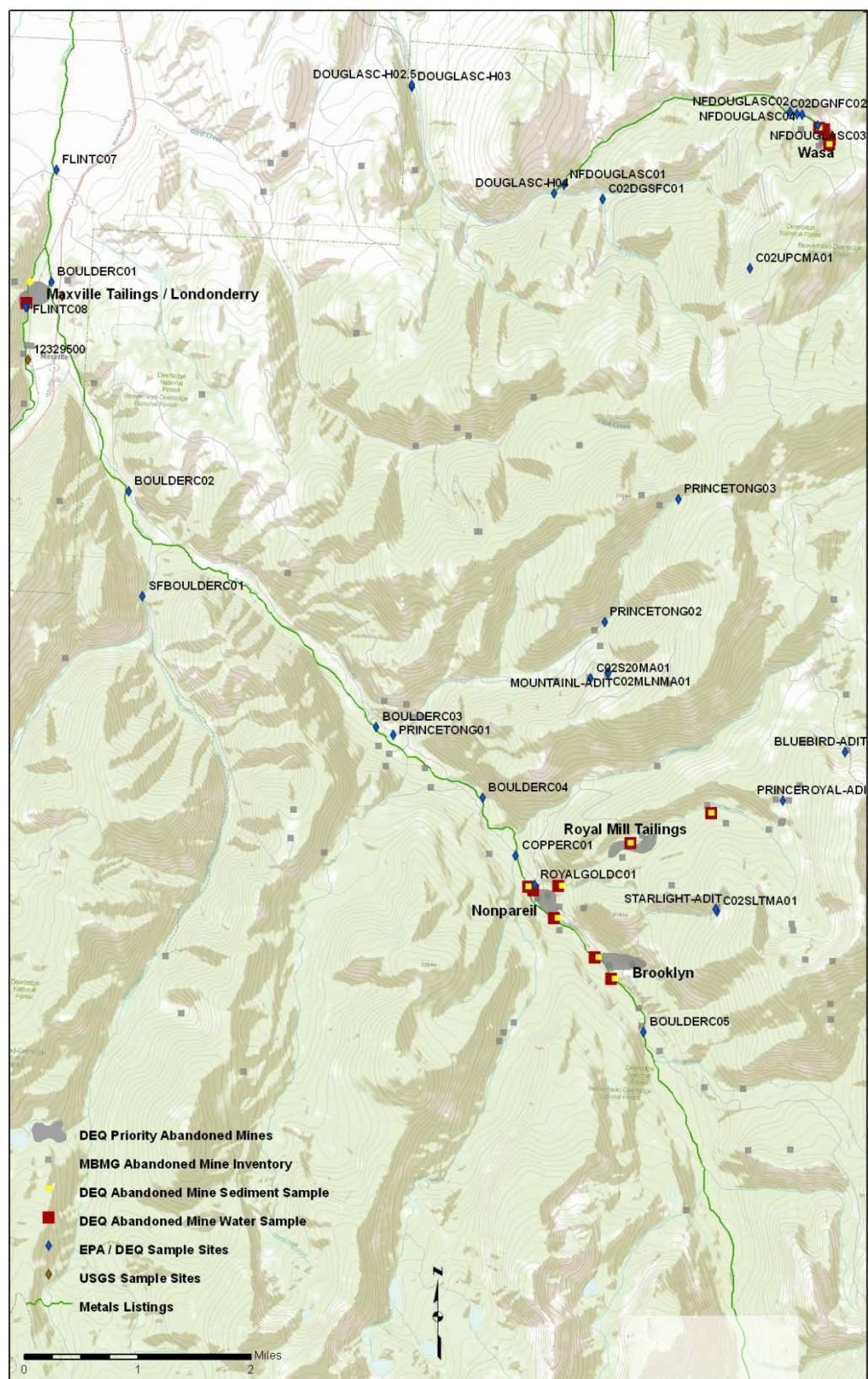


Figure A-19. Metals Sample Locations and Mining Sources in Boulder and Douglas Creeks

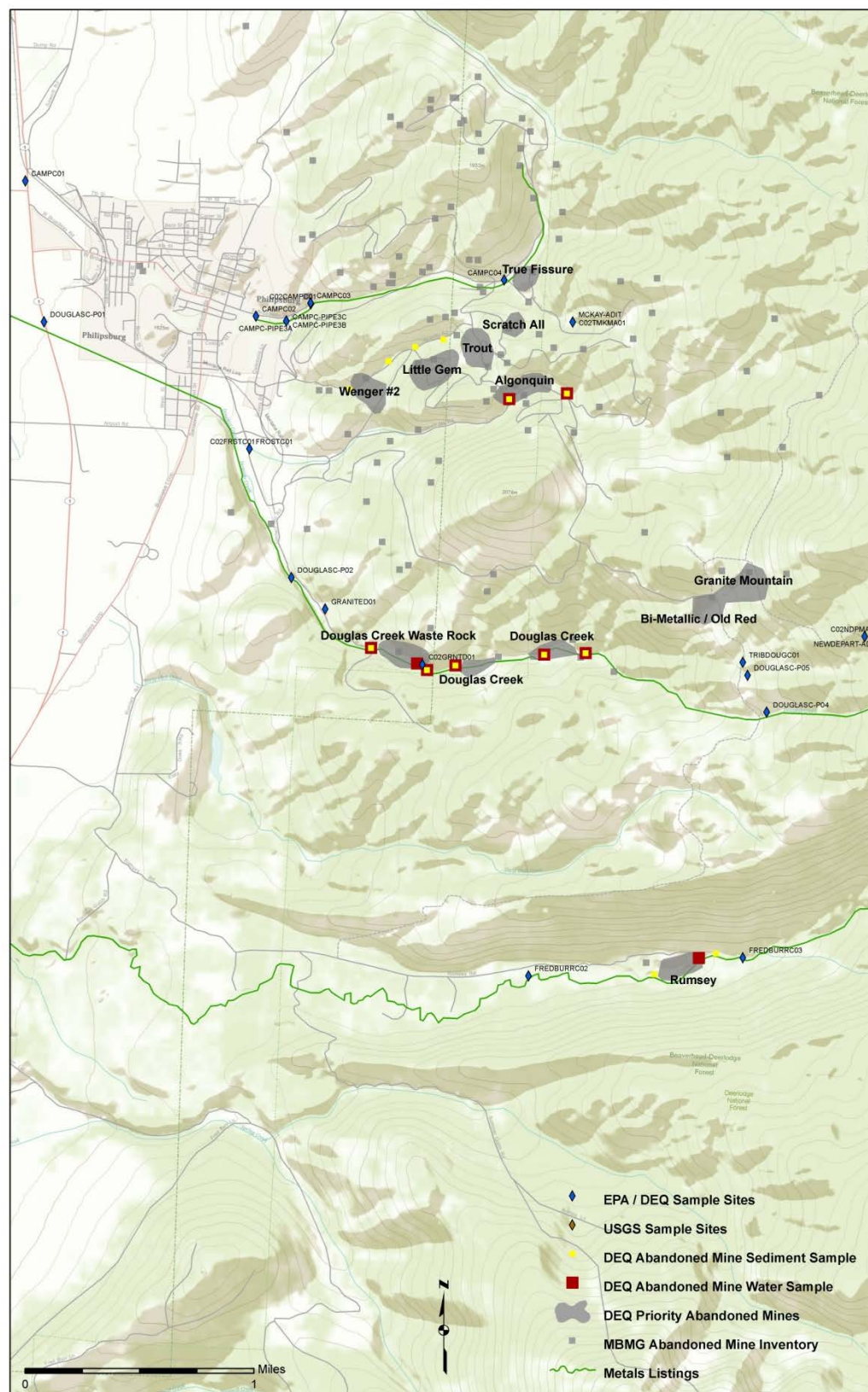


Figure A-20. Metals Sample Locations and Mining Sources near Philipsburg, MT.



Figure A-21. Metals Sample Locations and Mining Sources in South Fork Lower Willow Creek

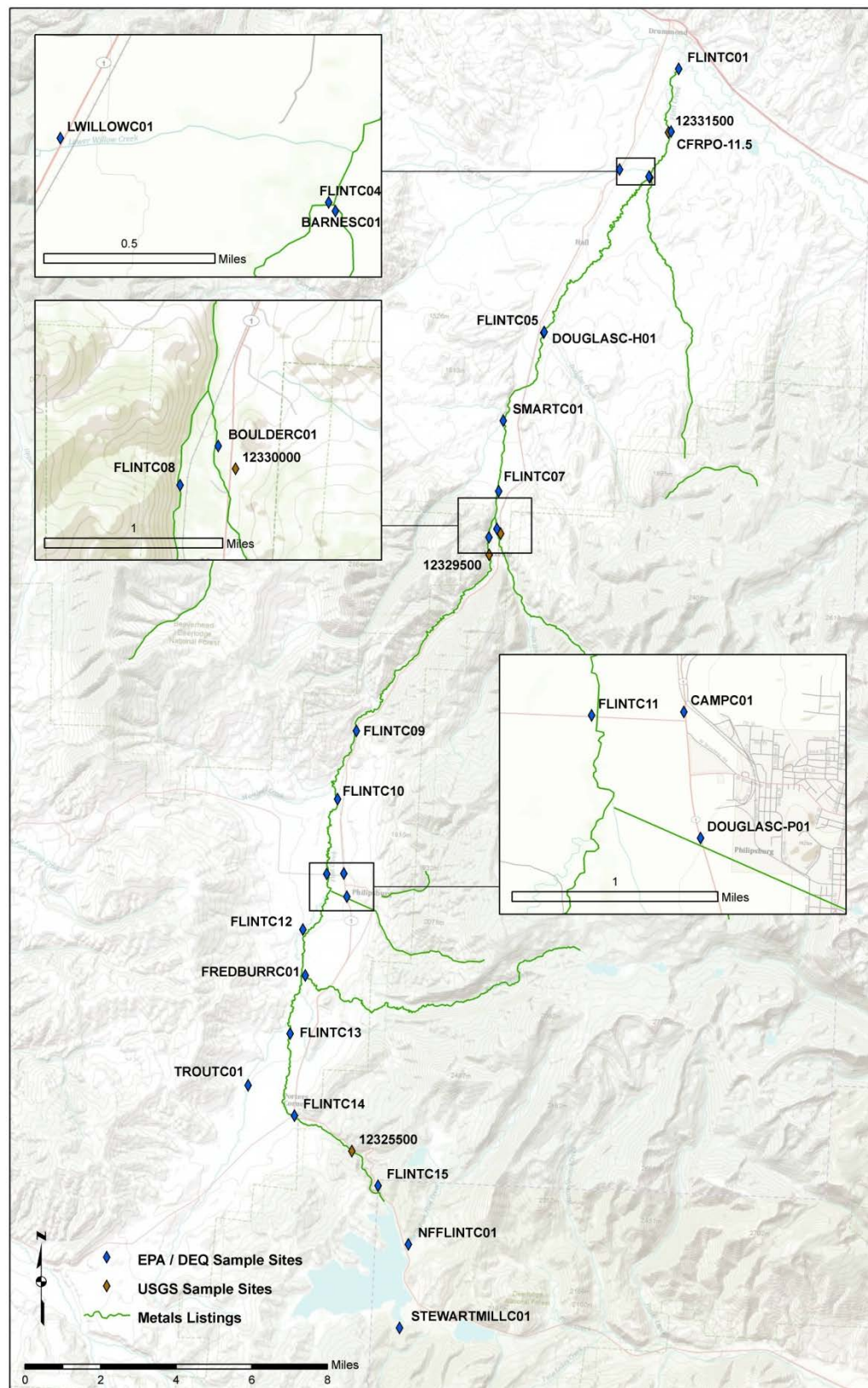


Figure A-22. Metals Sample Locations in Flint Creek and Tributaries

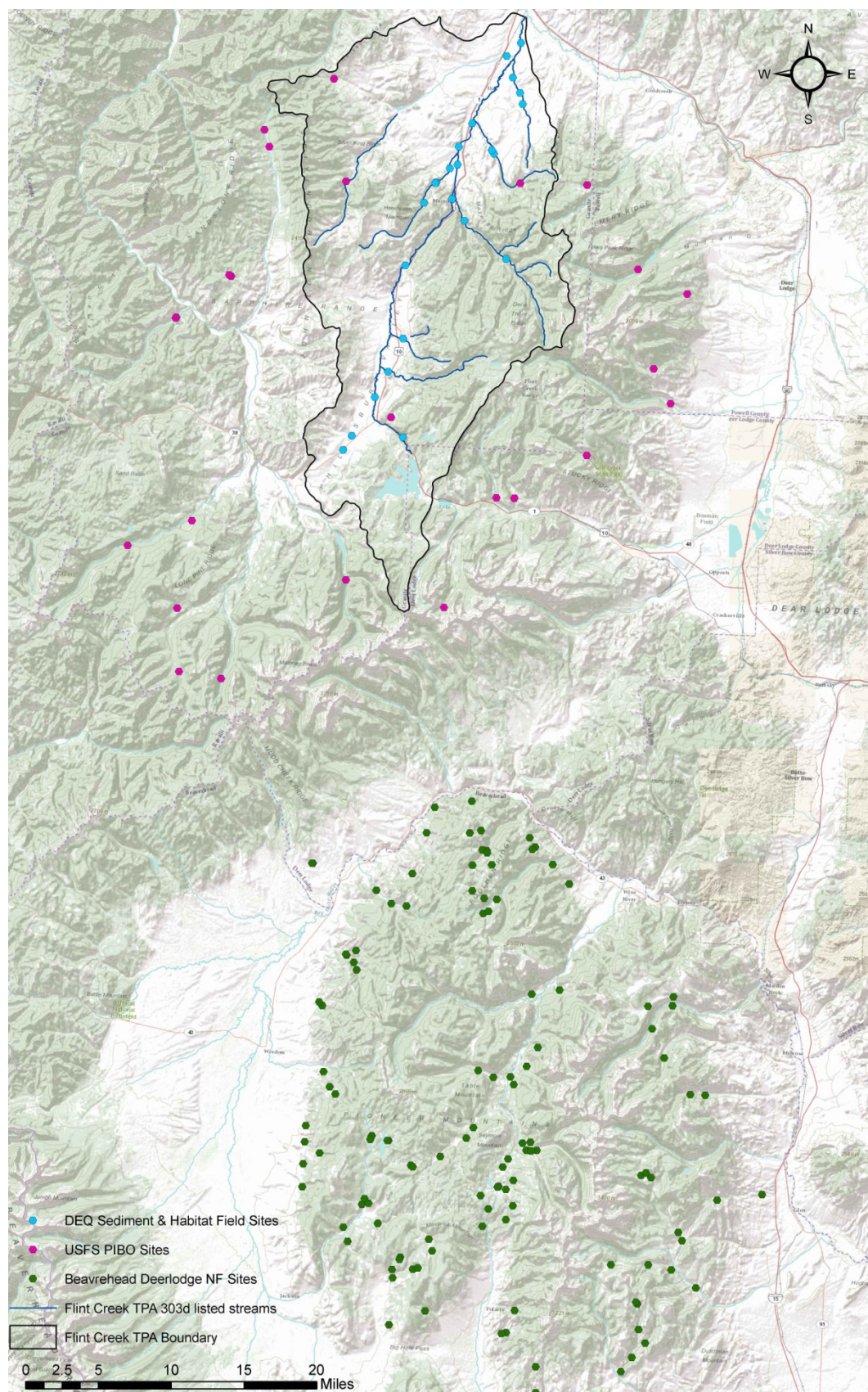


Figure A-23. Data Locations Used for Sediment Target Development

