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

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
ALDER GULCH, headwaters to mouth (Ruby Creek)	MT40E002_050	Cadmium	Metals	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL
		Copper	Metals	Aquatic Life Warm Water Fishes	Addressed by Copper TMDL
		Lead	Metals	Aquatic Life Warm Water Fishes	Addressed by Lead TMDL
		Mercury	Metals	Aquatic Life Warm Water Fishes	Addressed by Mercury TMDL
		Selenium	Metals	Aquatic Life Warm Water Fishes	Addressed by Selenium TMDL
		Zinc	Metals	Aquatic Life Warm Water Fishes	Addressed by Zinc TMDL
		pH	pH/Acidity/Caustic Conditions	Aquatic Life Warm Water Fishes	Addressed by cadmium TMDL
		Alteration in stream-side or littoral vegetative covers	Non-pollutant	Aquatic Life Warm Water Fishes	Not yet addressed by a TMDL or restoration plan
BEAVER CREEK, headwaters to Fort Belknap Reservation boundary	MT40M001_011	Cadmium	Metals	Aquatic Life Warm Water Fishes	Not impaired based on updated assessment
		Iron	Metals	Aquatic Life Warm Water Fishes	Not impaired based on updated assessment
		Lead	Metals	Aquatic Life Warm Water Fishes	Addressed by Lead TMDL

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

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
BIG HORN CREEK, **SOUTH FORK**, Zortman Mine to Fort Belknap Reservation boundary	MT40I001_030	Aluminum	Metals	Aquatic Life, Cold Water Fishes	Addressed by Aluminum TMDL
		Arsenic	Metals	Aquatic Life Cold Water Fishes Drinking Water	Addressed by Arsenic TMDL
		Cadmium	Metals	Aquatic Life, Cold Water Fishery	Not impaired based on updated assessment
		Nickel	Metals	Aquatic Life Cold Water Fishes Drinking Water	Addressed by Nickel TMDL
		Zinc	Metals	Aquatic Life Cold Water Fishes	Addressed by Zinc TMDL
KING CREEK, headwaters to Fort Belknap Reservation boundary	MT40I001_040	Selenium	Metals	Aquatic Life, Cold Water Fishery	Not impaired based on updated assessment
		Alteration in stream-side or littoral vegetative covers	Non-pollutant	Aquatic Life, Cold Water Fishery	Not yet addressed by a TMDL or restoration plan
		Physical substrate habitat alterations	Non-pollutant	Aquatic Life, Cold Water Fishery	Not yet addressed by a TMDL or restoration plan
LODGE POLE CREEK, headwaters to Fort Belknap Reservation boundary	MT40I001_050	Cadmium	Metals	Aquatic Life, Cold Water Fishery	Addressed by TMDL
		Mercury	Metals	Aquatic Life, Cold Water Fishery Drinking Water	Addressed by Mercury TMDL
		Cause Unknown	Non-pollutant	Aquatic Life, Cold Water Fishery	Addressed by Cadmium TMDL

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

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
MILL GULCH, headwaters to mouth (Rock Creek)	MT40E002_100	Copper	Metals	Aquatic Life Drinking Water Warm Water Fishes	Addressed by Copper TMDL
		Mercury	Metals	Aquatic Life Drinking Water Warm Water Fishes	Addressed by Mercury TMDL
		Lead	Metals	Aquatic Life Drinking Water Warm Water Fishes	Not impaired based on updated assessment
		Selenium	Metals	Aquatic Life Warm Water Fishes	Addressed by Selenium TMDL
		pH	pH/Acidity/Caustic Conditions	Agriculture Aquatic Life Industrial Primary Contact Recreation	Addressed by Copper TMDL
		Alteration in stream-side or littoral vegetative covers	Non-pollutant	Aquatic Life Warm Water Fishes	Not yet addressed by a TMDL or restoration plan
MONTANA GULCH, headwaters to mouth (Rock Creek)	MT40E002_010	Arsenic	Metals	Aquatic Life Warm Water Fishes	Addressed by Arsenic TMDL
		Cadmium	Metals	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL
		Copper	Metals	Aquatic Life Warm Water Fishes	Not impaired based on updated assessment
		pH	pH/Acidity/Caustic Conditions	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL

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

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
ROCK CREEK, headwaters to mouth (Missouri River)	MT40E002_090	Cadmium	Metals	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL
		Copper	Metals	Aquatic Life Warm Water Fishes	Addressed by CopperTMDL
		Mercury	Metals	Aquatic Life Warm Water Fishes	Addressed by Mercury TMDL
		Lead	Metals	Aquatic Life Warm Water Fishes	Addressed by Lead TMDL
		Selenium	Metals	Aquatic Life Warm Water Fishes	Addressed by Selenium TMDL
		Zinc	Metals	Aquatic Life Warm Water Fishes	Addressed by TMDL
		pH	pH/Acidity/Caustic Conditions	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL
		Alteration in stream-side or littoral vegetative covers	Non-pollutant	Aquatic Life Warm Water Fishes	Not yet addressed by a TMDL or restoration plan
RUBY CREEK, un-named tributary T25N R25E S21 to mouth (CK Creek)	MT40E002_060	Aluminum	Metals	Aquatic Life Warm Water Fishes	Addressed by Aluminum TMDL
		Cadmium	Metals	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL
		Copper	Metals	Aquatic Life Warm Water Fishes	Addressed by Copper TMDL
		Mercury	Metals	Aquatic Life Warm Water Fishes	Addressed by Mercury TMDL
		Lead	Metals	Aquatic Life Warm Water Fishes	Addressed by Lead TMDL
		Selenium	Metals	Aquatic Life Warm Water Fishes	Addressed by Selenium TMDL
		Zinc	Metals	Aquatic Life Warm Water Fishes	Addressed by Zinc TMDL
		pH	pH/Acidity/Caustic Conditions	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL

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

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
RUBY GULCH, headwaters to confluence of Alder Gulch	MT40E002_070	Cadmium	Metals	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL
		Chromium	Metals	Aquatic Life Warm Water Fishes	Addressed by Chromium TMDL
		Copper	Metals	Aquatic Life Warm Water Fishes	Not impaired based on updated assessment
		Mercury	Metals	Aquatic Life Warm Water Fishes	Addressed by Mercury TMDL
		Lead	Metals	Aquatic Life Warm Water Fishes	Addressed by Lead TMDL
		Selenium	Metals	Aquatic Life Warm Water Fishes	Addressed by selenium TMDL
		Zinc	Metals	Aquatic Life Warm Water Fishes	Addressed by Zinc TMDL
		pH	pH/Acidity/Caustic Conditions	Aquatic Life Warm Water Fishes	Addressed by Cadmium TMDL
SULLIVAN CREEK, headwaters to mouth (Rock Creek)	MT40E002_110	Alteration in stream-side or littoral vegetative covers		Aquatic Life Primary Contact Recreation Warm Water Fishes	Not yet addressed by a TMDL or restoration plan
		Fish-Passage Barrier	Non-pollutant	Aquatic Life Primary Contact Recreation Warm Water Fishes	Not yet addressed by a TMDL or restoration plan
		Other flow regime alterations	Non-pollutant	Aquatic Life Primary Contact Recreation Warm Water Fishes	Not yet addressed by a TMDL or restoration plan
		Physical substrate habitat alterations	Non-pollutant	Aquatic Life Primary Contact Recreation Warm Water Fishes	Not yet addressed by a TMDL or restoration plan

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

Waterbody & Location Description	Waterbody ID	Impairment Cause	TMDL Pollutant Category	Impaired Use(s)	Impairment Cause Status
SWIFT GULCH CREEK, headwaters to mouth (South Big Horn Creek)	MT40I002_010	Aluminum	Metals	Aquatic Life, Cold Water Fishes	Addressed by Aluminum TMDL
		Arsenic	Metals	Drinking Water	Addressed by Arsenic TMDL
		Cadmium	Metals	Aquatic Life, Cold Water Fishes Drinking Water	Addressed by Cadmium TMDL
		Copper	Metals	Aquatic Life, Cold Water Fishes	Addressed by Copper TMDL
		Cyanide	Metals	Aquatic Life, Cold Water Fishes	Addressed by Cyanide TMDL
		Iron	Metals	Aquatic Life, Cold Water Fishes	Addressed by Iron TMDL
		Lead	Metals	Aquatic Life, Cold Water Fishes	Not impaired based on updated assessment
		Nickel	Metals	Aquatic Life, Cold Water Fishes Drinking Water	Addressed by Nickel TMDL
		Selenium	Metals	Aquatic Life, Cold Water Fishes	Not impaired based on updated assessment
		Thallium	Metals	Drinking Water	Addressed by Thallium TMDL
		Zinc	Metals	Aquatic Life, Cold Water Fishes Drinking Water	Addressed by TMDL
		pH	pH/Acidity/Caustic Conditions	Aquatic Life, Cold Water Fishes	Addressed by Cadmium TMDL

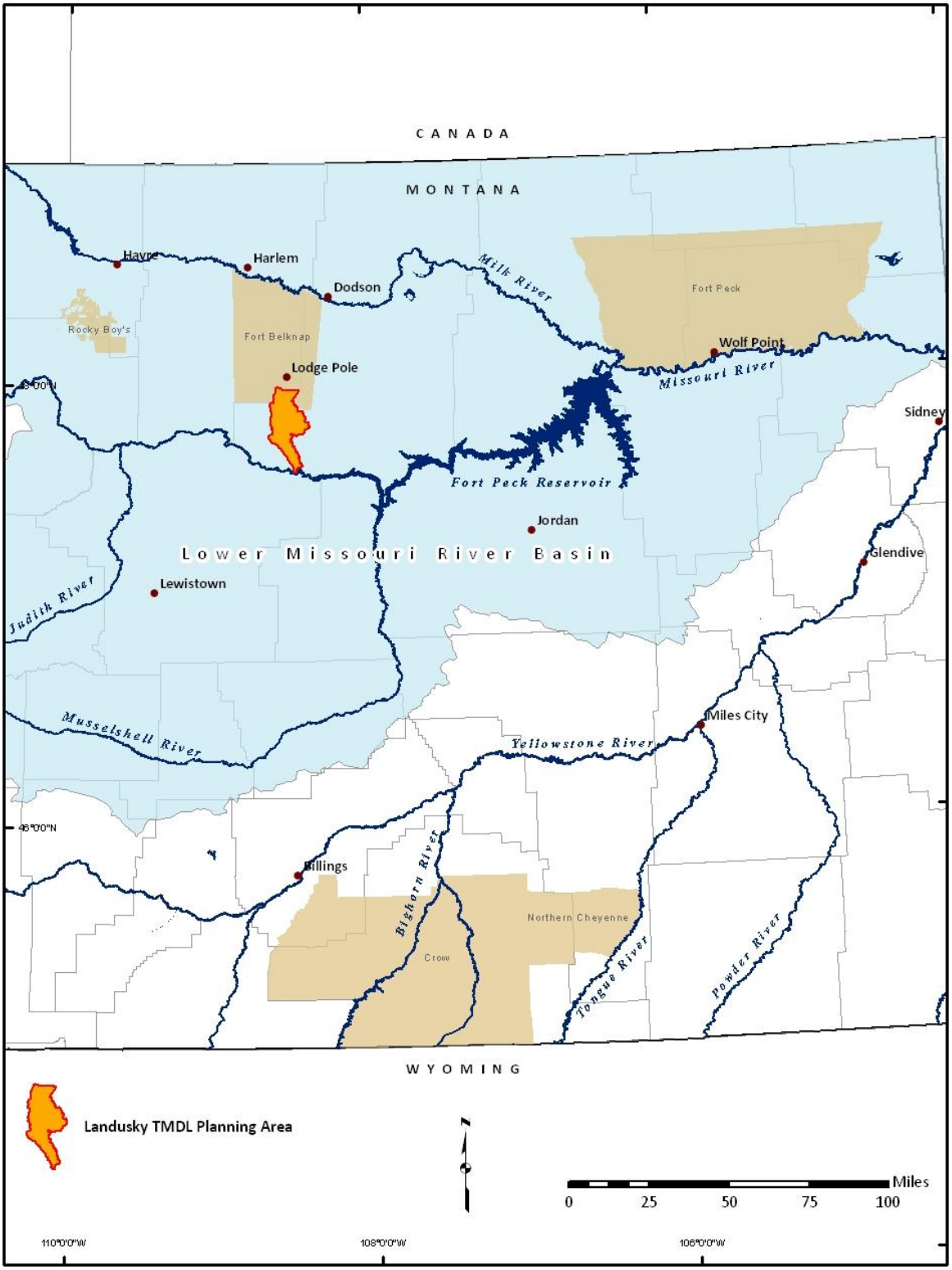

Figure A-1. Landusky TMDL Planning Area

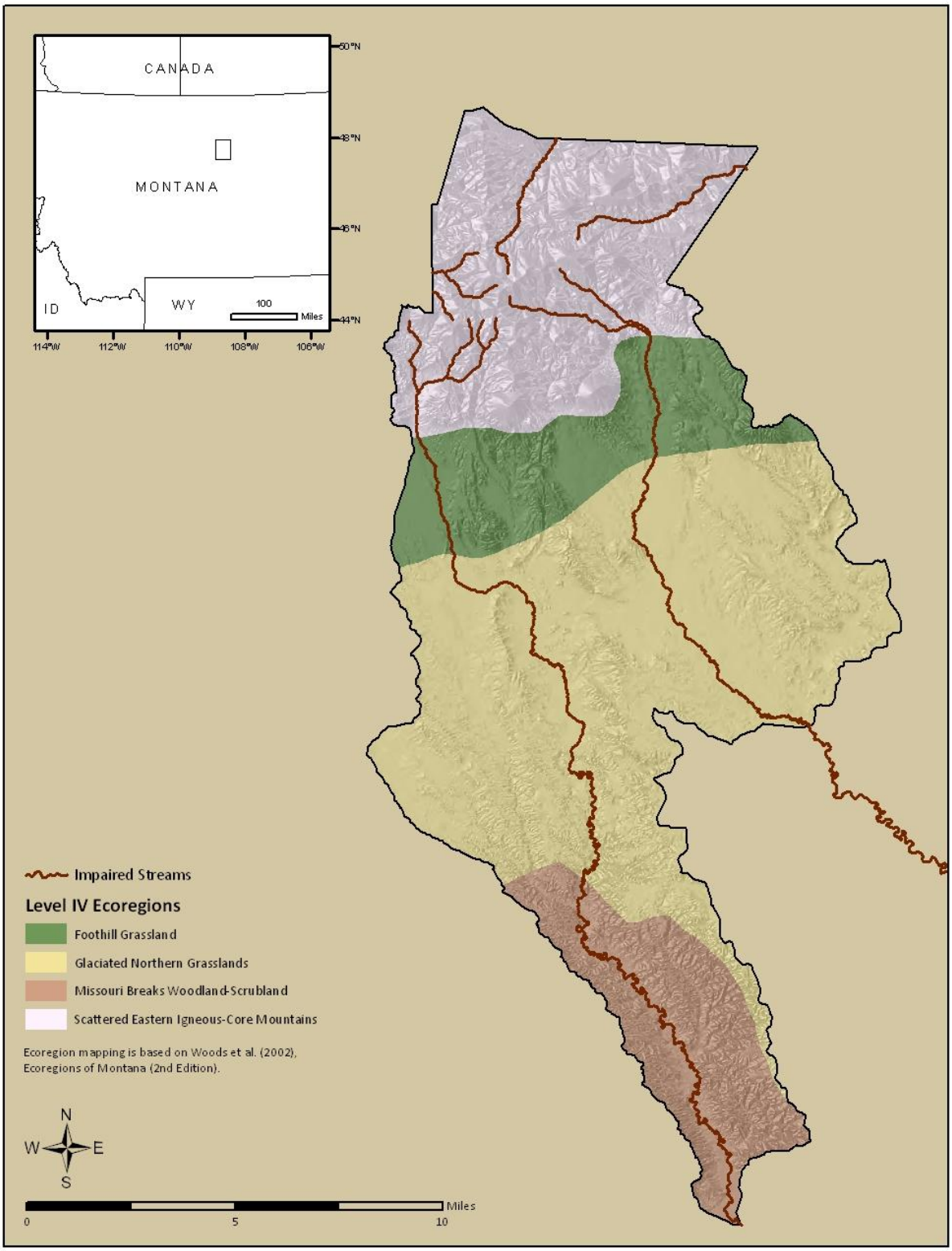

Figure A-2. Ecoregions

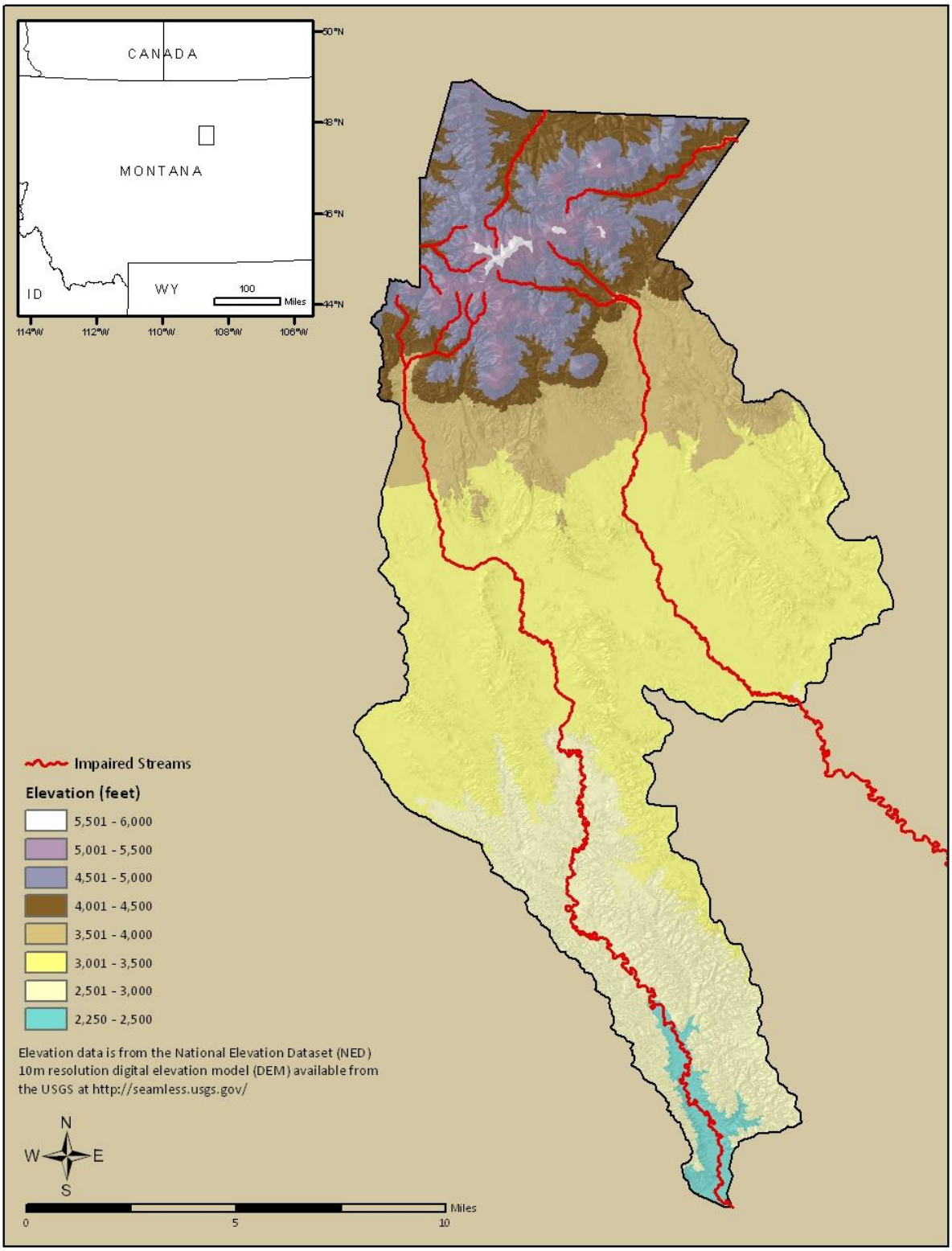

Figure A-3. Topography

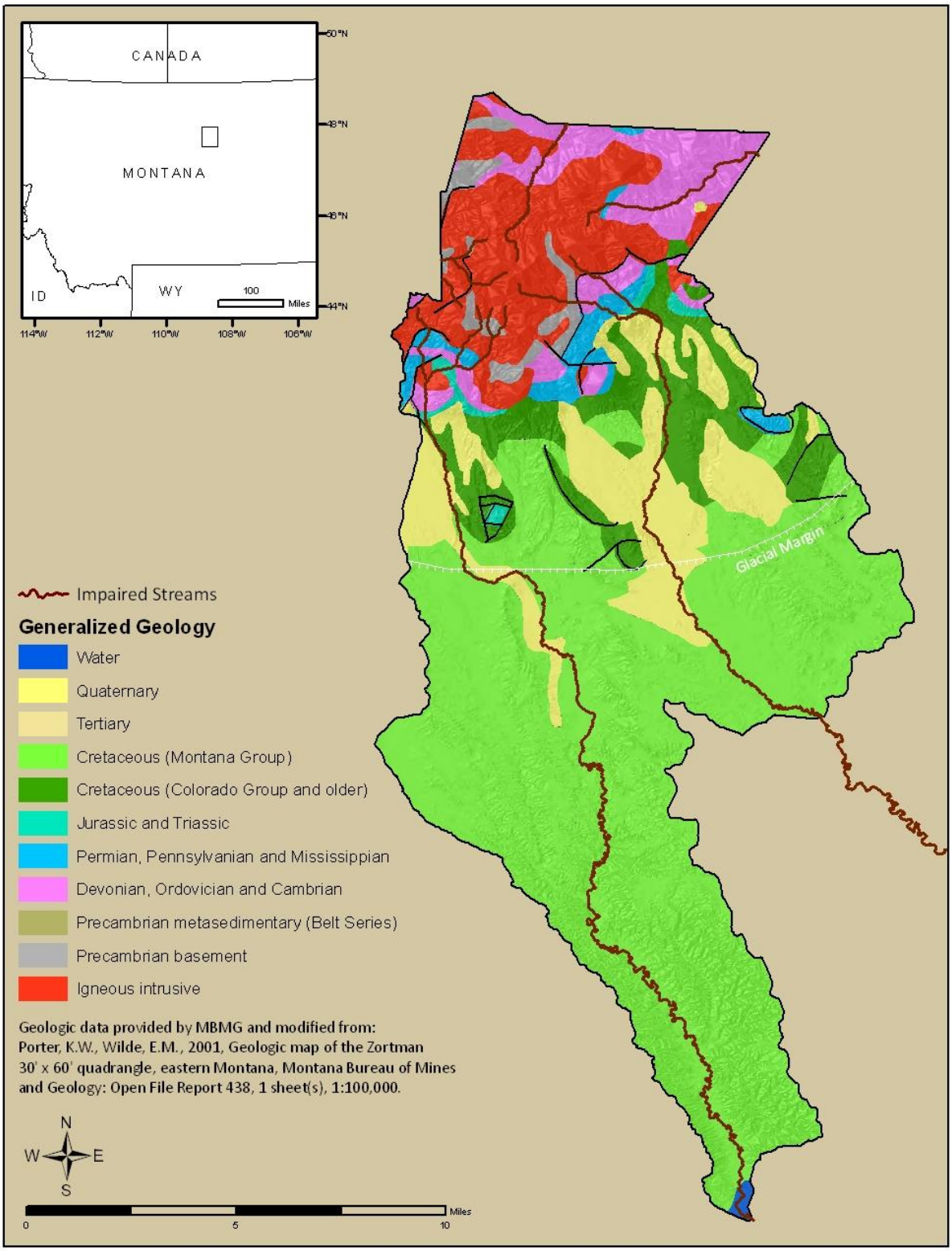

Figure A-4. Geology

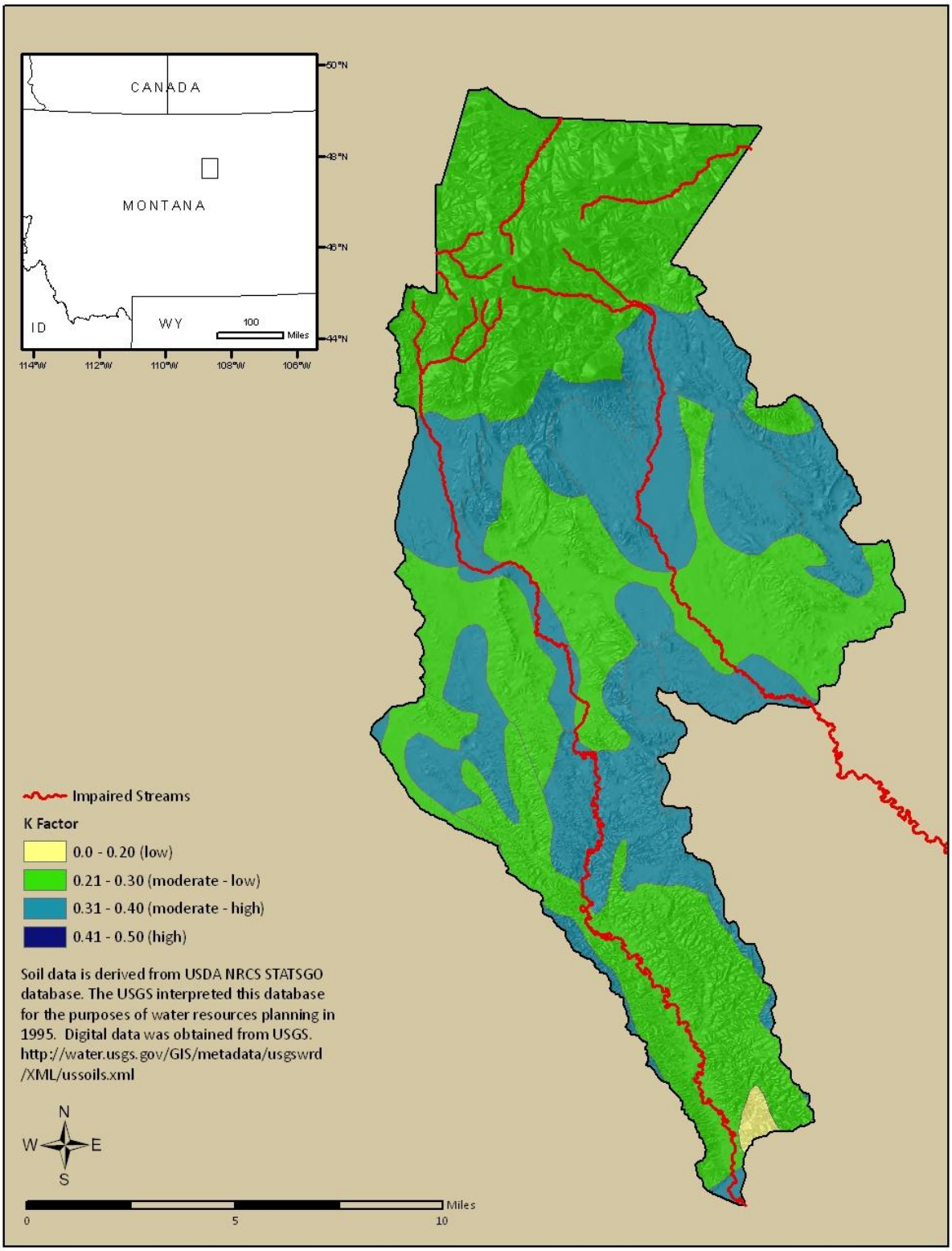

Figure A-5. Erodibility

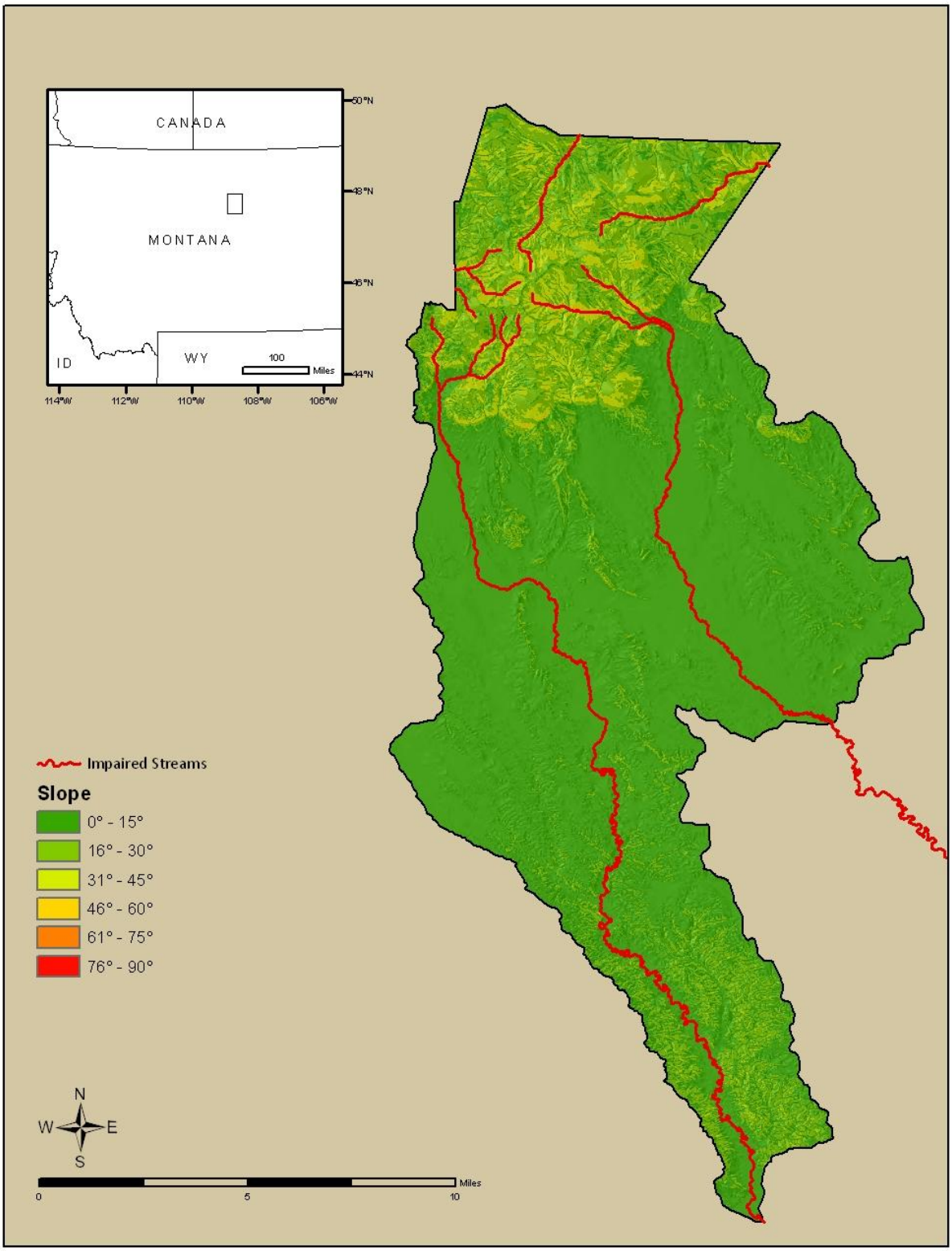

Figure A-6. Slope

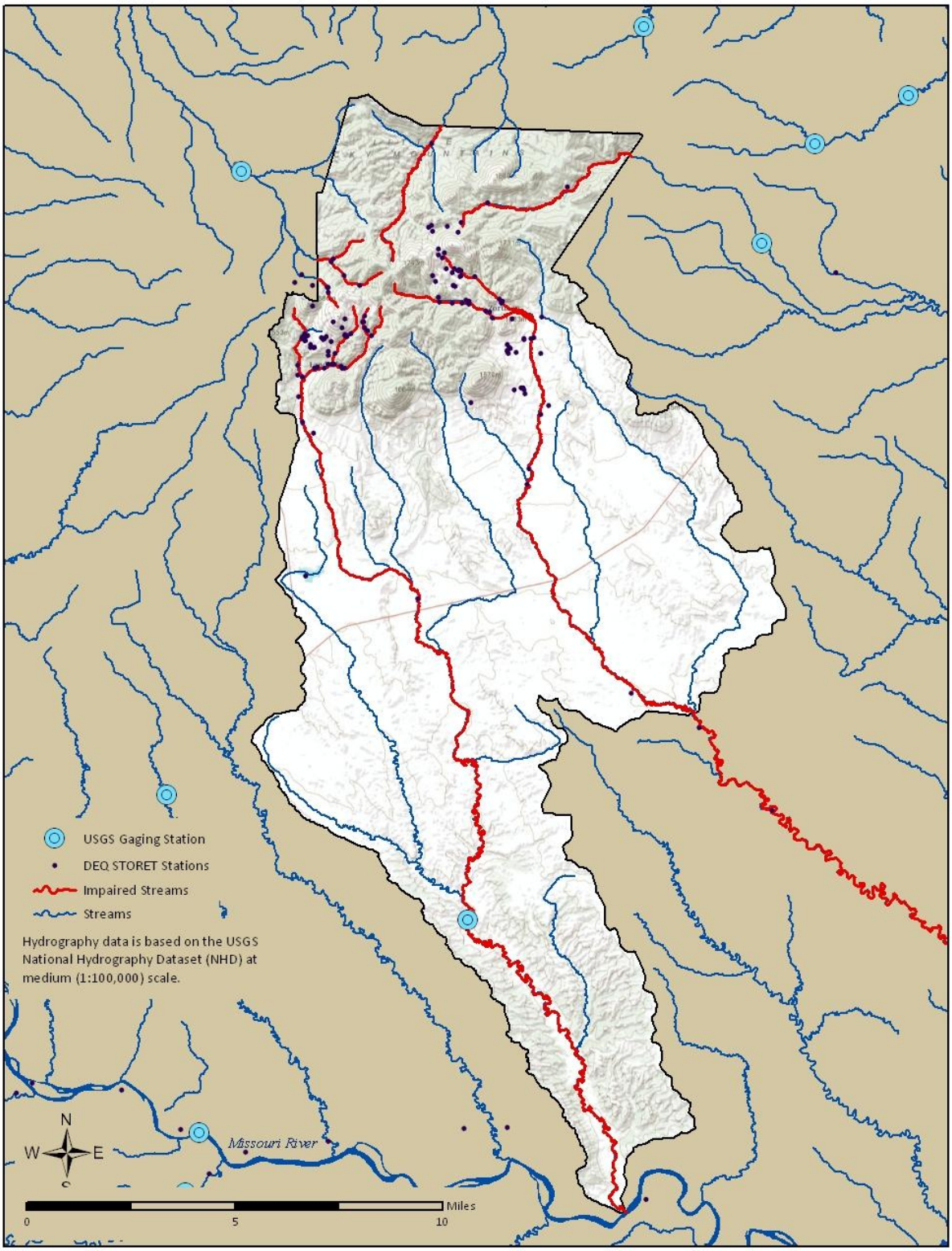

Figure A-7. Hydography

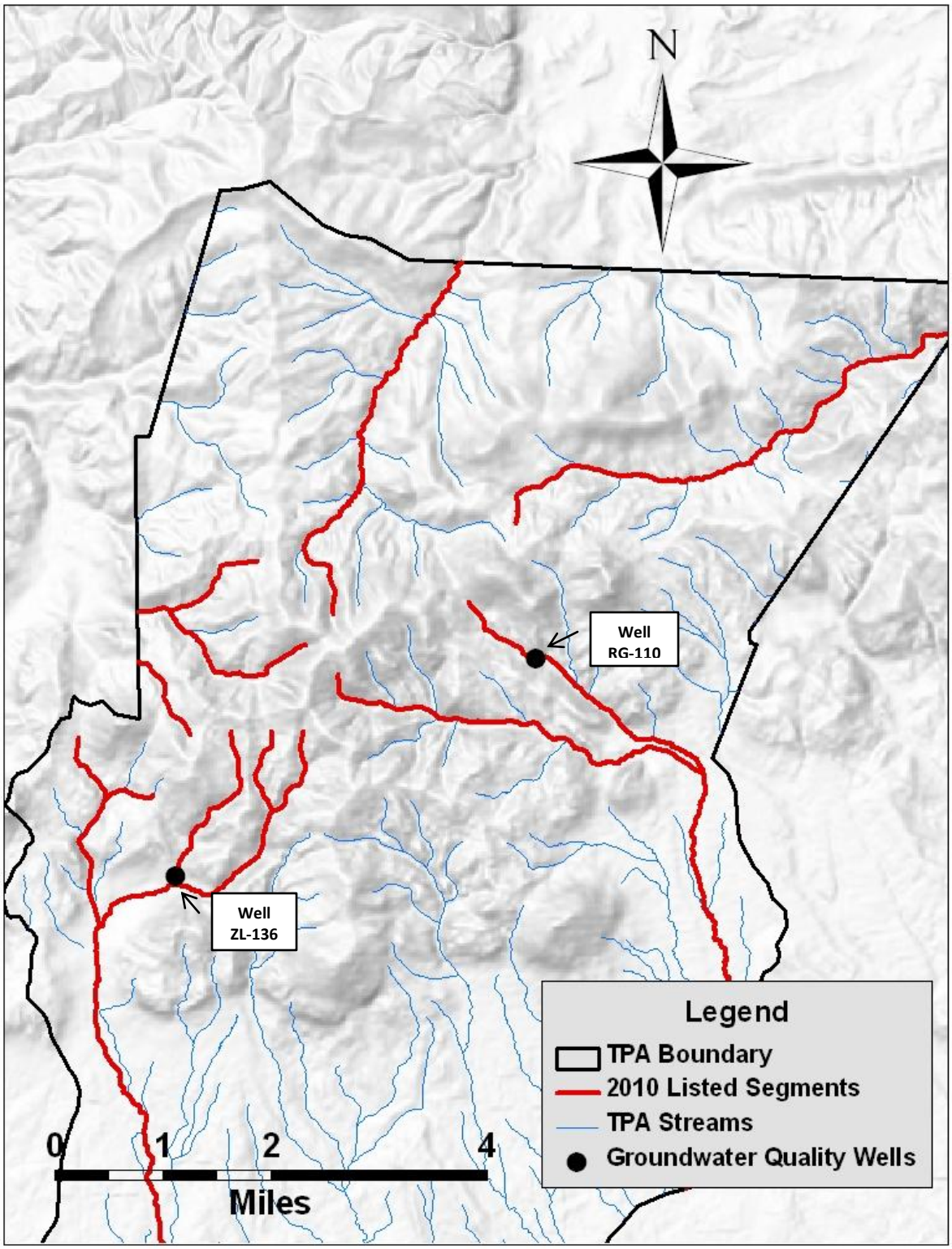

Figure A-8. Selected Ground Water Quality Well Sites

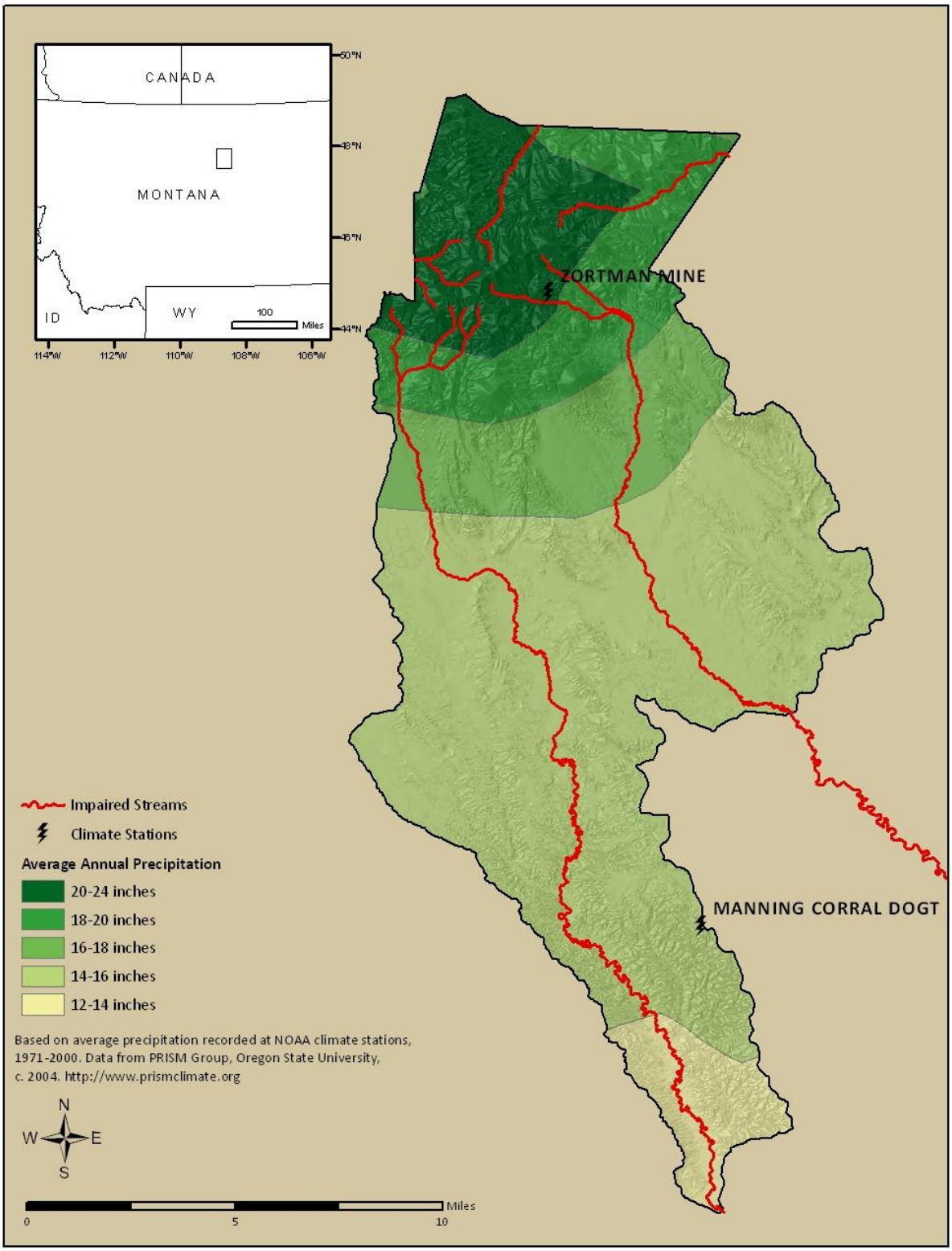

Figure A-9. Annual Precipitation

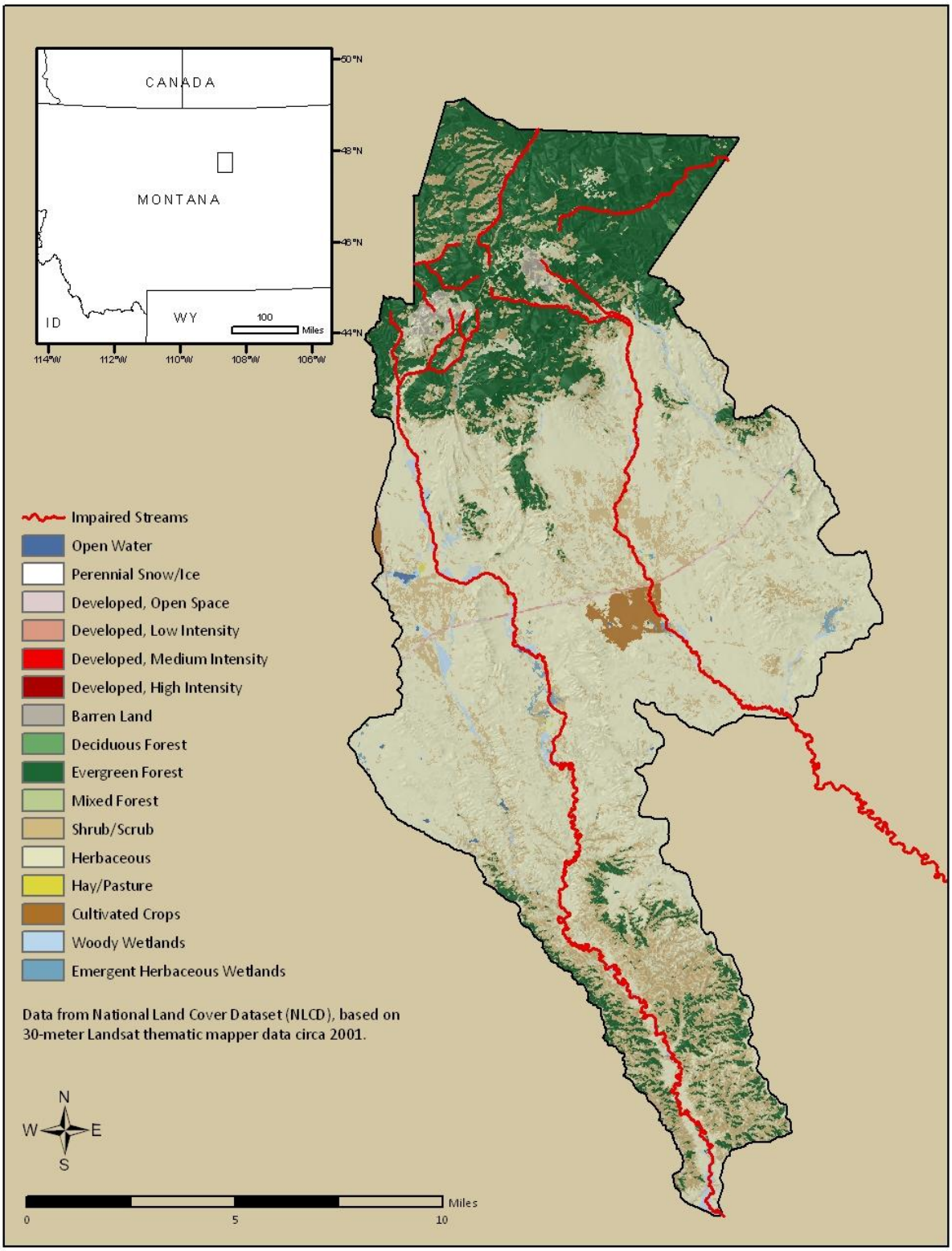

Figure A-10. Land Cover

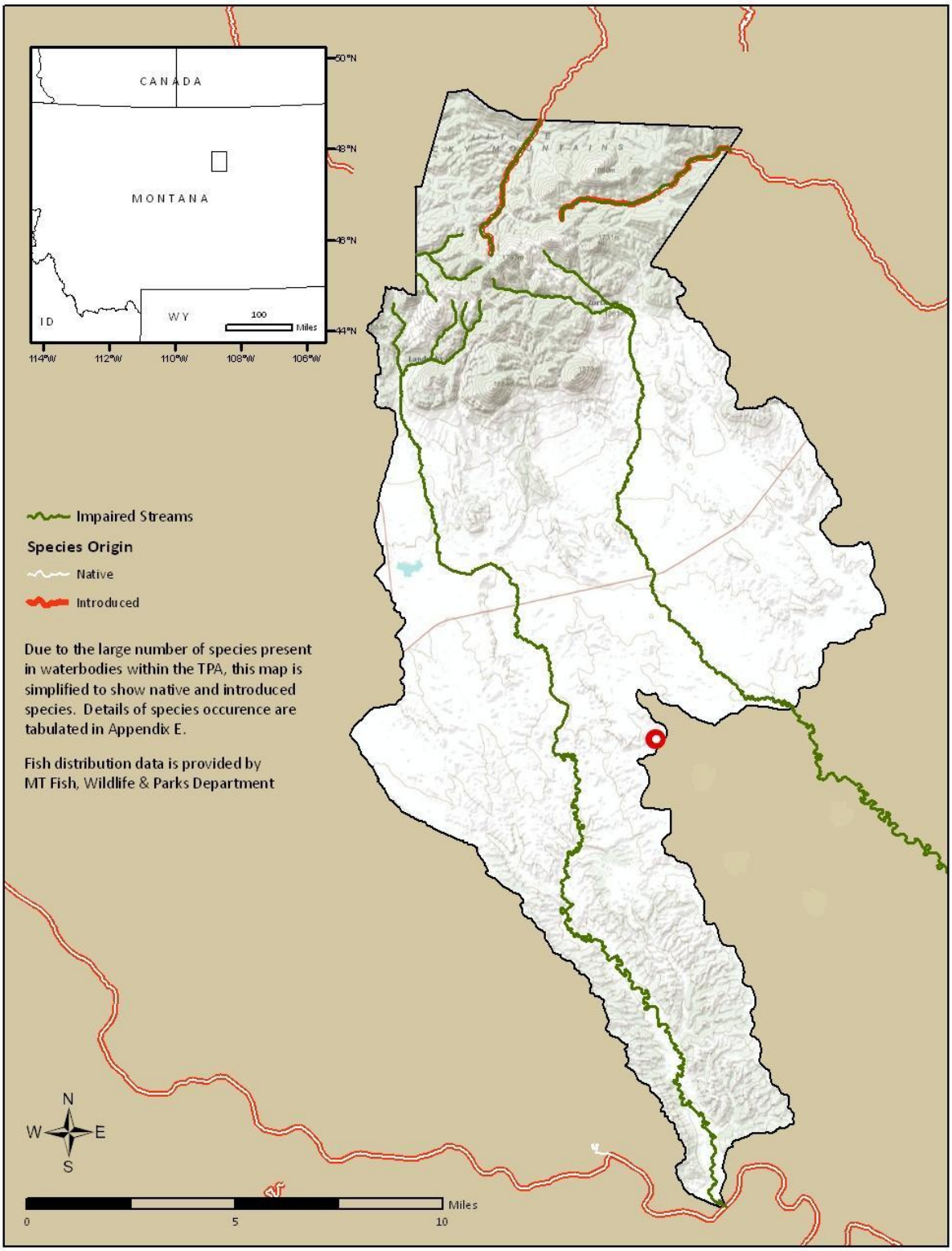

Figure A-11. Fish Distribution

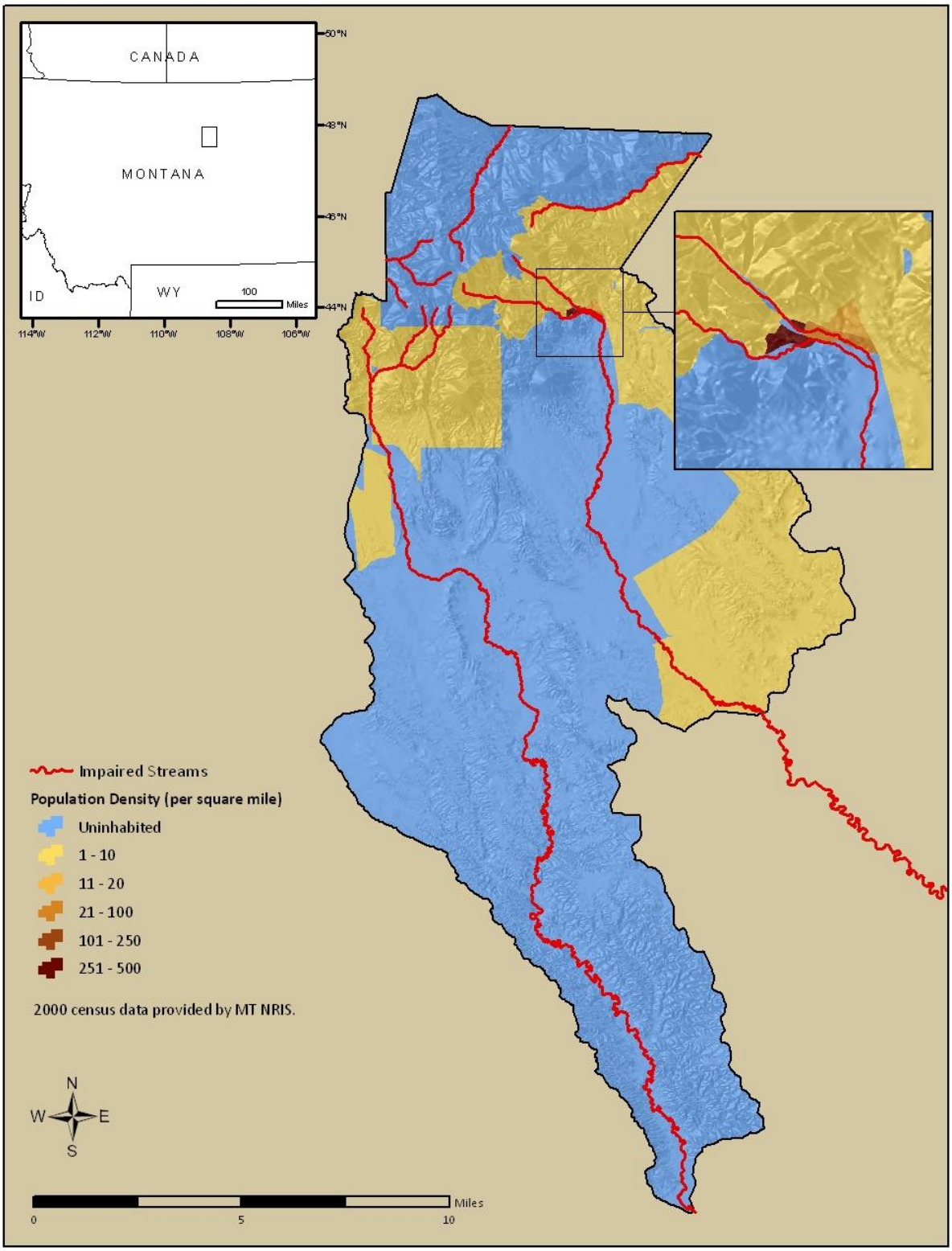

Figure A-12. Population Density

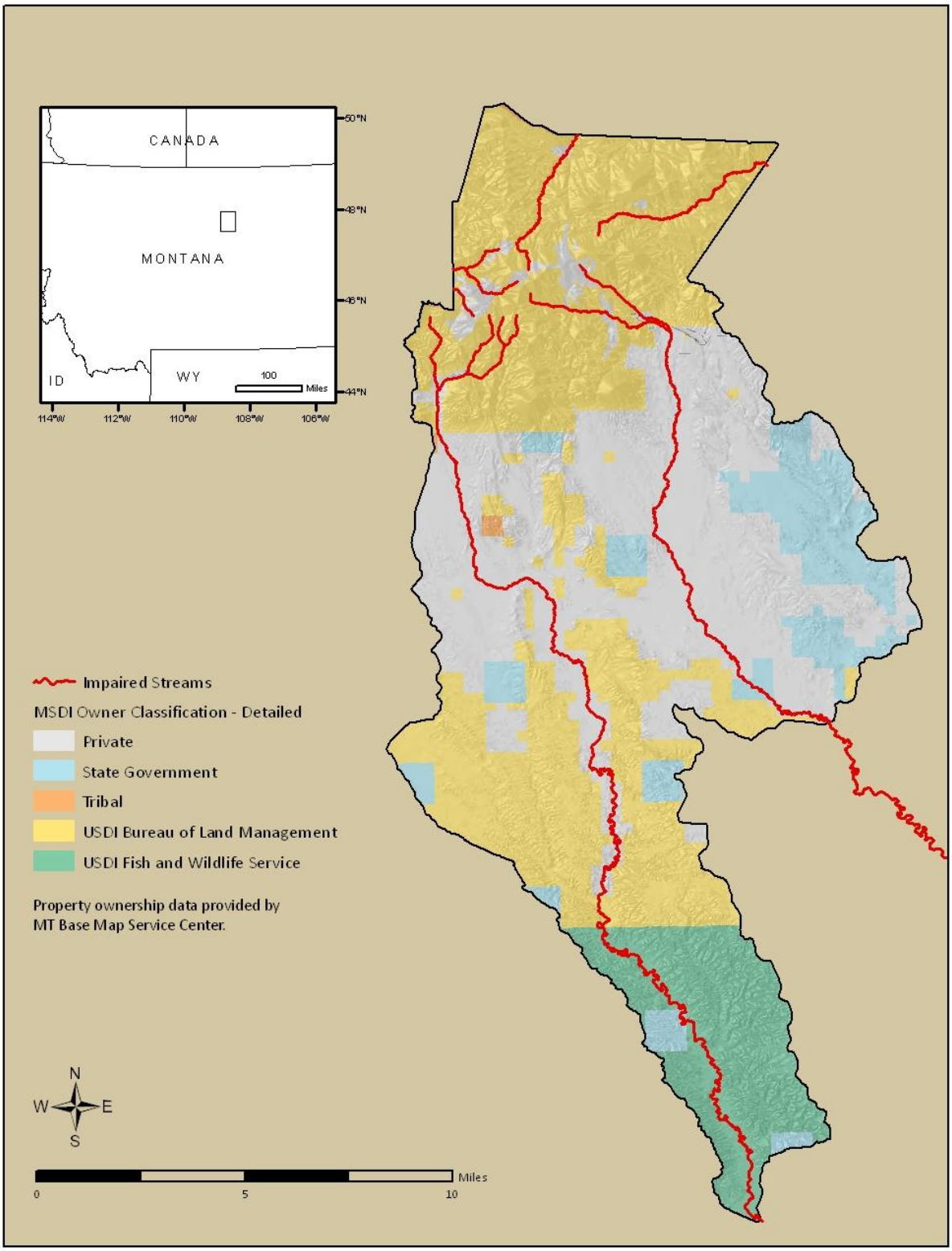

Figure A-13. Ownership

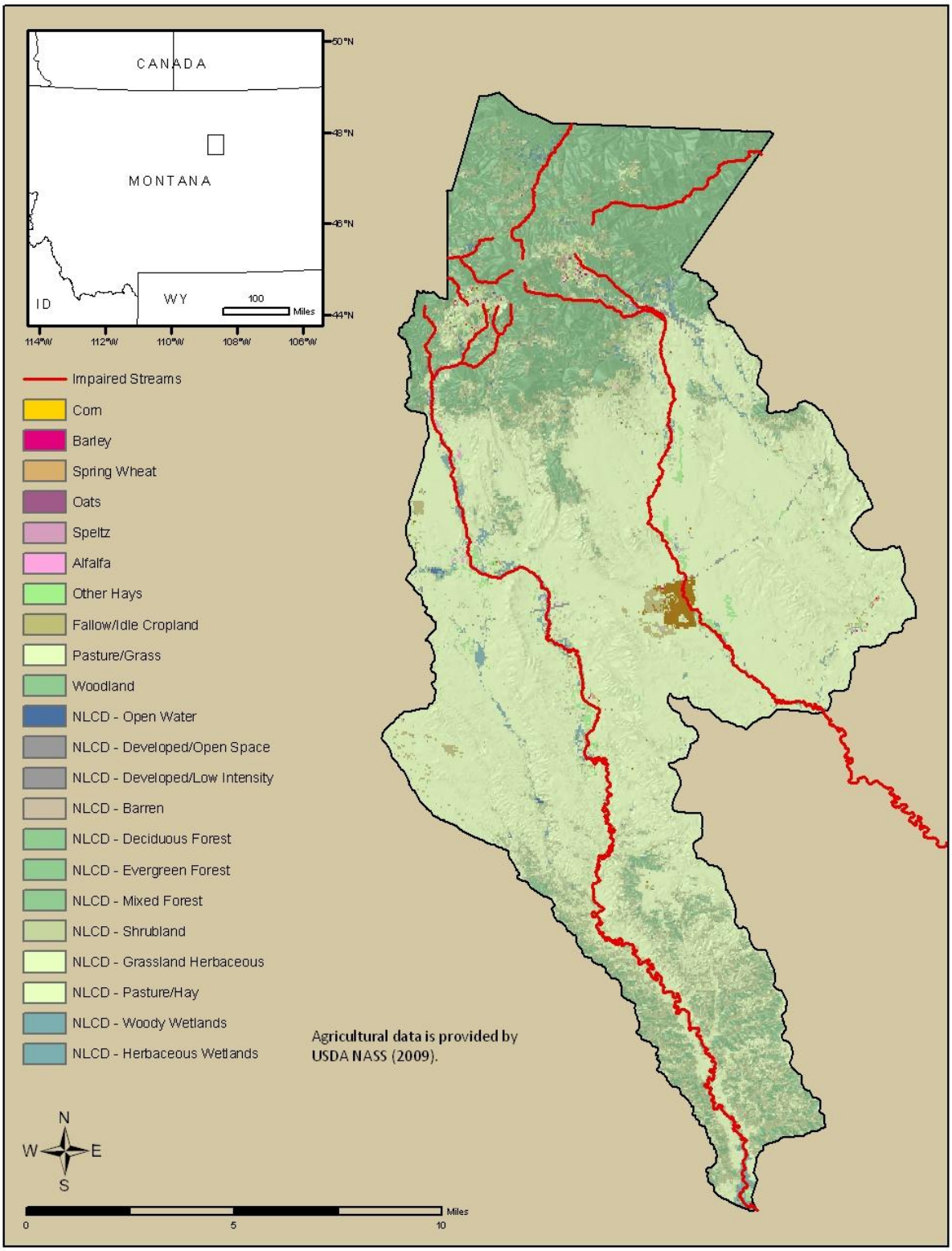

Figure A-14. Agricultural Use

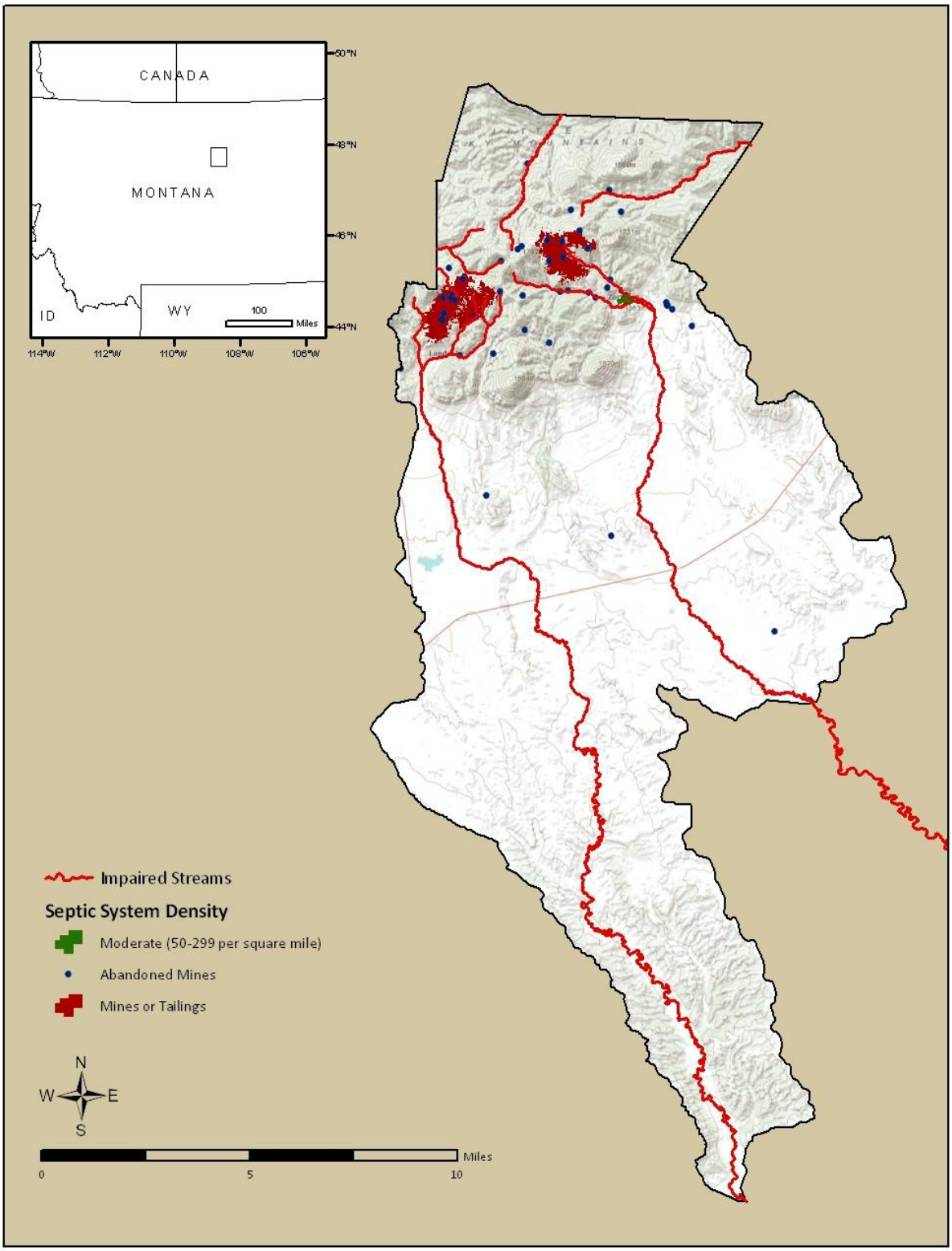

Figure A-15. Discharges

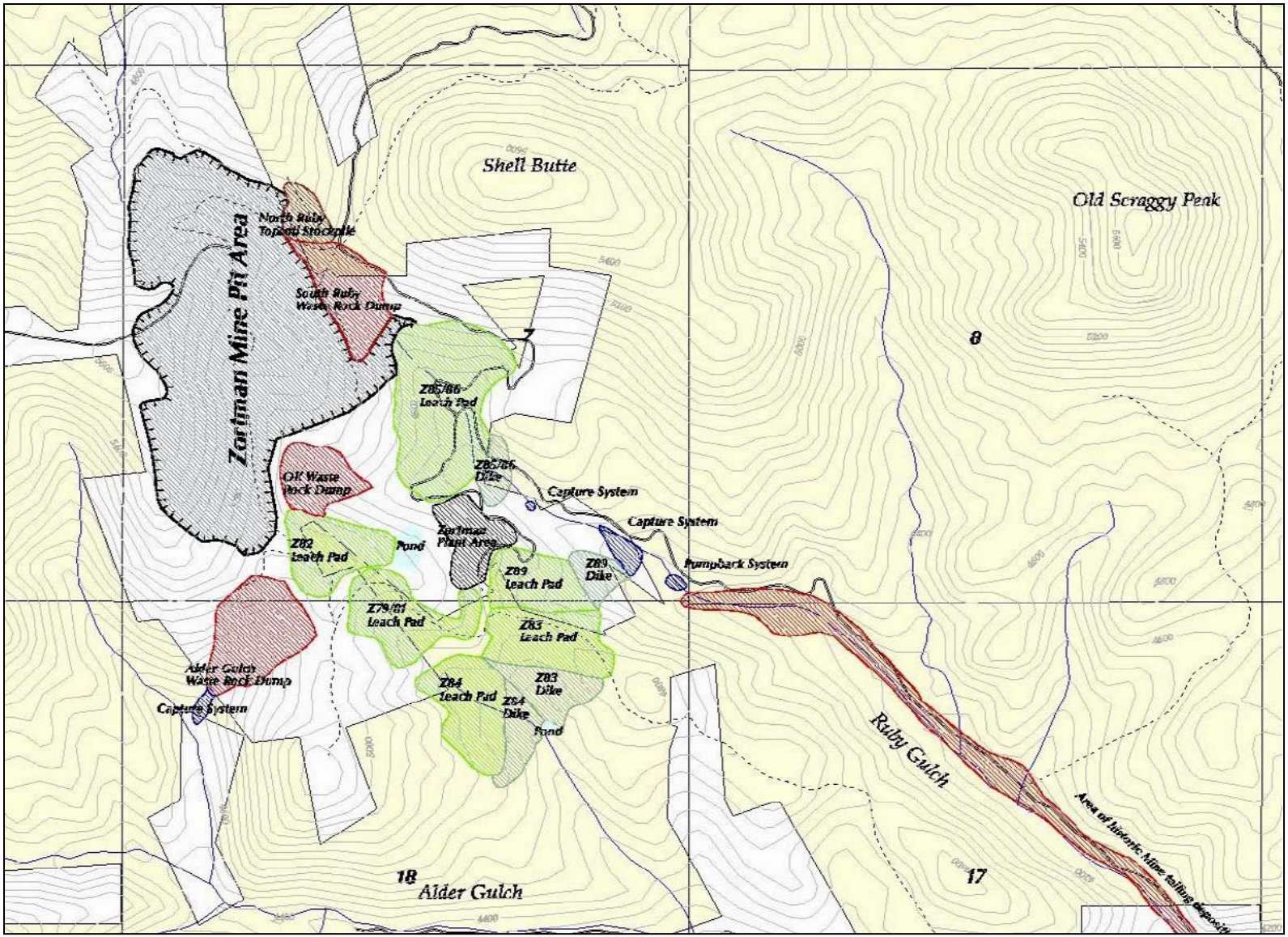

Figure A-16. Zortman Mine Facilities Map (Haight 2004).

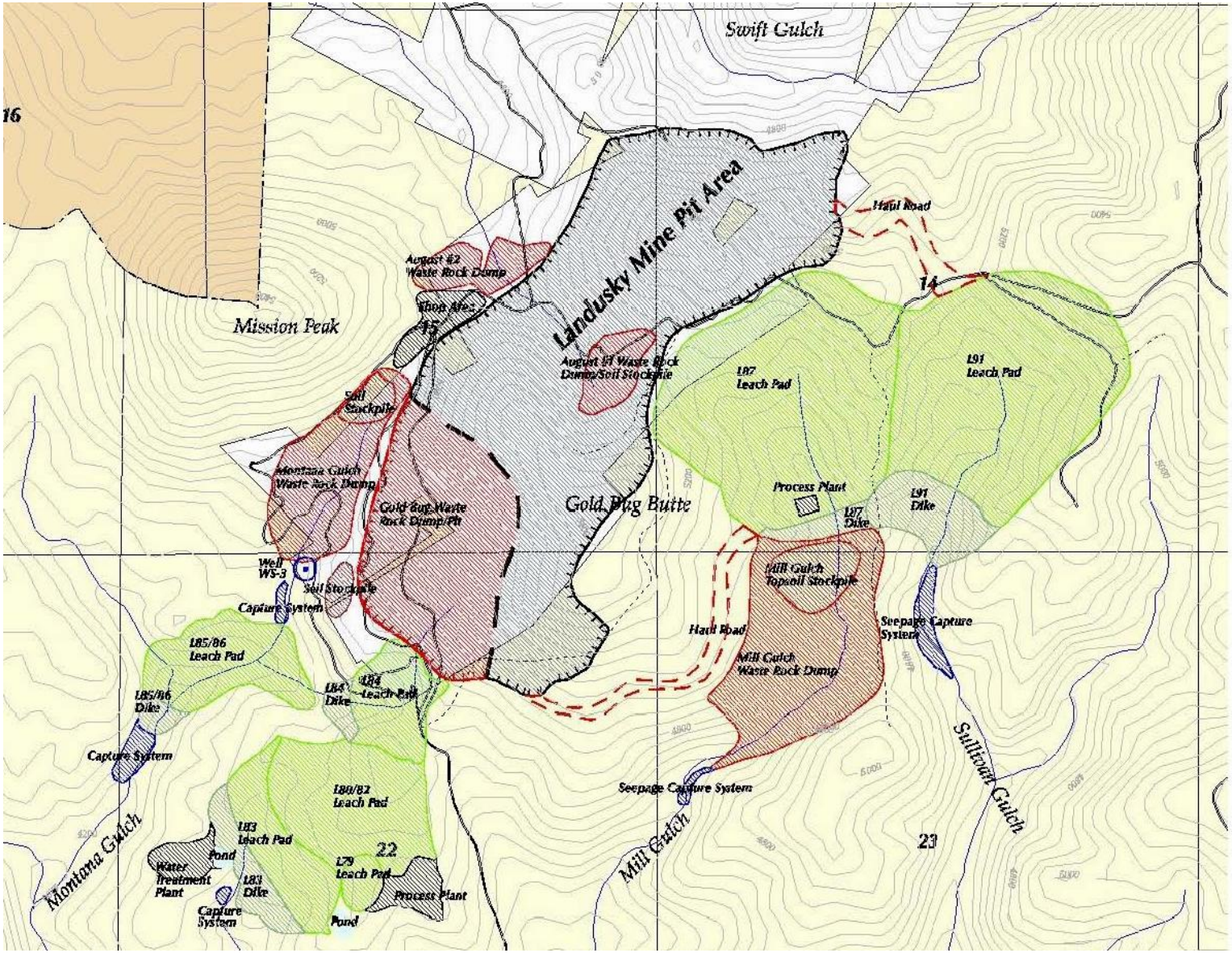

Figure A-17. Landusky Mine Facilities Map (Haight 2004).