APPENDIX A
THEMATIC MAPS OF THE TETON RIVER WATERSHED

Figure A-1  Basin Overview
Figure A-2  Geology
Figure A-3  Water Quality Monitoring Sites
Figure A-4  Priest Butte Lakes Hydrology (1:120,000)
Figure A-5  Landcover/Landuse
Figure A-6  EcoRegions
Figure A-7  Species of Concern
Figure A-8  Ownership
Figure A-9a Agricultural Lands and Irrigated Infrastructure
Figure A-9b Agricultural Lands and Irrigated Infrastructure (Choteau - Bynum) 1:300,000
Figure A-10a 303(d) Listed Waterbodies (1996 list)
Figure A-10b 303(d) Listed Waterbodies (2002 List)
Figure A-11 Montana Waterbody Use Classification
Figure A-12 Rosgen Stream Type
Figure A-13a Soil Salinity (Electrical Conductivity)
Figure A-13b Soil Erodibility
Figure A-14 Riparian Zone Soils and Vegetation Species Distribution
Figure A-15 Permitted Point Sources and Septic Densities (zoom inset at 1:250,000)
Figure A-16 Proposed Temperature Monitoring Sites
Figure A-17 Proposed Water Quality Monitoring Sites
Figure A-18 Proposed Nutrient Monitoring Sites
Figure A-1: Basin Overview

Map Projection
Lambert Projection; North American Datum of 1983; State Plane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).

LEGEND
- Teton Watershed Boundary
- Interstate
- U.S. Route
- Secondary Route
- Towns
- County Boundary
- Streams
- Reservoirs/lakes

Scale in Miles
1:750,000

Montana

Teton River Watershed

January, 2003
Figure A-2: Geology

Map Projection
Lambert Projection; North American Datum of 1983; Stateplane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).

LEGEND

<table>
<thead>
<tr>
<th>Formation</th>
<th>Unit Name</th>
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<tbody>
<tr>
<td>Qal</td>
<td>Alluvium</td>
</tr>
<tr>
<td>Qg</td>
<td>Glacial</td>
</tr>
<tr>
<td>QTs</td>
<td>Terrace deposits</td>
</tr>
<tr>
<td>Ts</td>
<td>Tertiary sedimentary rocks, undifferentiated</td>
</tr>
<tr>
<td>Km</td>
<td>Montana group, undifferentiated</td>
</tr>
<tr>
<td>Kc</td>
<td>Craggell formation</td>
</tr>
<tr>
<td>Keu</td>
<td>Eagle sandstone</td>
</tr>
<tr>
<td>Kvi</td>
<td>Virgelle sandstone</td>
</tr>
<tr>
<td>Ktc</td>
<td>Telegraph Creek formation</td>
</tr>
<tr>
<td>Ktm</td>
<td>Two Medicine formation</td>
</tr>
<tr>
<td>Kc</td>
<td>Colorado shale</td>
</tr>
<tr>
<td>Kk</td>
<td>Jurassic, undifferentated</td>
</tr>
<tr>
<td>Ju</td>
<td>Mississippian, undifferentiated</td>
</tr>
<tr>
<td>Cu</td>
<td>Cambrian, undifferentated</td>
</tr>
</tbody>
</table>

Formations: Qal, Qg, QTs, Ts, Km, Kc, Keu, Kvi, Ktc, Ktm, Kc, Kk, Ju, Cu

Map: Montana Department of Environmental Quality
January, 2003

Scale in Miles
Teton River Watershed
4 8 12 16 Miles

Lewis and Clark County
Pondera County
Chouteau County
Teton County
Cascade County
Teton County
Chouteau County
Fort Benton
Loma

BUTTE LAKE
Priest Butte Reservoir
Eureka Reservoir
Bynum Reservoir
Loma Reservoir

Teton River Watershed Boundary
Interstate
U.S. Route
Secondary Route
Towns
County Boundary
Streams
Reservoirs/lakes

Open Water
Figure A-3: Water Quality Monitoring Sites

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS). The coordinates for monitoring stations were obtained from a variety of sources and represent an approximate location of the station.

LEGEND

- Watershed Boundary
- Interstate
- U.S. Route
- Secondary Route
- Towns
- County Boundary
- Streams
- Reservoirs/lakes

Monitoring Stations By Agency
- TRWG
- BLM
- FWP
- MDEQ
- USFS
- USGS

Map Projection
Lambert Projection; North American Datum of 1983; Stateplane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS); the United States Geological Survey (USGS).
Figure A-5: Landcover/Landuse

Map Projection: Lambert Projection, North American Datum of 1983; Stateplane Coordinate System

Data Sources:
- Additional map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).

LEGEND:
- Watershed Boundary
- Landcover/Landuse:
  - Ag - Non-pasture crops
  - Evergreen Forest
  - Shrubland
  - Grassland
  - Ag - Pasture/hay
  - Urban/grasses
  - Wetland - woody
  - Wetland - herbaceous
- Deciduous Forest
- Evergreen Forest
- Shrubland
- Grassland
- Ag - Pasture/hay
- Urban/grasses
- Wetland - woody
- Wetland - herbaceous

January, 2003

Scale in Miles

1:750,000
Figure A-6: EcoRegions

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), and the United States Geological Survey (USGS).

LEGEND

EcoRegions - Level III

- Interstate
- U.S. Route
- Secondary Route
- Watershed Boundary
- Towns
- County Boundary
- Streams
- Reservoirs/lakes

Montana Valley and Foothill Prairies: 16
Canadian Rockies: 41
Northwestern Glaciated Plains: 42

Map Projection: Lambert Projection; North American Datum of 1983; Stateplane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), and the United States Geological Survey (USGS).
Figure A-7: Species of Concern

Map Projection: Lambert Projection; North American Datum of 1983; Stateplane Coordinate System

Data Sources: Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).

NOTE: Data from Montana Natural Heritage Program and may not cover/display all potential occurrences or distribution of ASC/T&E species.
Figure A-8: Ownership

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).

Map Projection
Lambert Projection, North American Datum of 1983; Stateplane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS). The county water resources surveys were completed in June 1964 for Chouteau County; June 1964 for Pondera County; and June 1962 for Teton County.

The Chouteau County water resource survey has not been converted to a digital format at present.
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS); the United States Geological Survey (USGS). The county water resources surveys were completed in June 1964 for Chouteau County; June 1964 for Pondera County; and June 1962 for Teton County.
Figure A-10a: 303(d) Listed Waterbodies (1996 list)

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).

Map Projection
Lambert Projection, North American Datum of 1983, Stateplane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).
Map Projection
Lambert Projection, North American Datum of 1983, Stateplane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).
Figure A-11: Montana Waterbody Use Classification

Map Projection: Lambert Projection, North American Datum of 1983; Stateplane Coordinate System
Data Sources: Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resources Information System (NRIS), the United States Geological Survey (USGS).

LEGEND

- Watershed Boundary
- Interstate
- U.S. Route
- Secondary Route
- Towns
- County Boundary
- Streams
- Reservoirs/lakes

Waterbody Use Class
- B-1 (Cold water)
- B-2 (Intermediate)
- B-3 (Warm water)
Figure A-12: Rosgen Stream Type

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).
Soil Salinity (Electrical Conductivity)

NOTE: Mean value for the range in soil salinity of the soil layer or horizon measured as E.C. of the soil in a saturated paste. Values as mS/cm.
Figure A-13b: Soil Erodibility

**LEGEND**

- **Watershed Boundary**
- **Interstate**
- **U.S. Route**
- **Secondary Route**
- **Streams**
- **Reservoirs/lakes**

**LTA Erodibility** (for Western 1/8 of Map)
- low: .02
- mod: .10
- high: .15

**Ssurgo Soil Kw Factor** (for Eastern 7/8 of Map)
- .17
- .20
- .24
- .28
- .32
- .37
- .43
- .49
- No Data

**Map Projection**: Lambert Projection; North American Datum of 1983; Stateplane Coordinate System

**Data Sources**
- Soil erodibility is for the entire profile and dominant soil. Kw from Ssurgo soils database (NRCS) and Land Type Association (LTA) is from the USFS. Additional map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).
Figure A-14: Riparian Zone Soils and Vegetation Species Distribution

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).

Map Features
- Teton Watershed Boundary
- Interstate
- U.S. Route
- Secondary Route
- County Boundary

Soil Order
- Alfisols
- Entisols
- Histosols
- Inceptisols
- Mollisols
- Vertisols

Elevation Bands
- 2500 - 3000 ft
- 3000 - 3600 ft
- 3600 - 4000 ft
- 4000 - 4500 ft
- 4500 - 5700 ft
- 5700 - 6700 ft
- > 6700 ft

Legend
- "Stream" corridor is a 200 foot wide strip of soil order along streams on the 2002 303(d) / 305(b) lists.
Figure A-15: Permitted Point Sources and Septic Densities

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), the Montana Natural Resource Information System (NRIS), and the United States Geological Survey (USGS).

LEGEND

- **Watershed Boundary**
- **Montana Pollution Discharge Elimination System (MPDES)**
- **Septic Density 2000**
- **Interstate**
- **U.S. Route**
- **Secondary Route**
- **County Boundary**
- **Streams**
- **Reservoirs/lakes**
- **Towns**
- **Concentrated Animal Feeding Opr.**
- **Industrial**
- **Municipal**
- **Storm Water**

Map Projection: Lambert Projection, North American Datum of 1983; Stateplane Coordinate System

Data Sources:
- Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ), Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS).
Figure A-16: Proposed Stream Temperature Monitoring Sites

Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS). The coordinates for monitoring sites were obtained using NRIS' "Topofinder" tool and represent approximate site locations.

LEGEND

Monitoring sites (approximate locations) displayed on this map are continuous, seasonal stations monitored by the MDEQ.
Map Information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS). The coordinates for monitoring sites were obtained using NRIS’ “Topofinder” tool and represent approximate site locations.

LEGEND

Monitoring Sites displayed on this map represent approximate locations.

Map Projection: Lambert Projection; North American Datum of 1983; Stateplane Coordinate System

Data Sources
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS). The coordinates for monitoring sites were obtained using NRIS’ “Topofinder” tool and represent approximate site locations.

Figure A-17: Proposed Water Quality Monitoring Sites
Map information was compiled from a variety of sources, including the Montana Department of Environmental Quality (MDEQ); Montana Natural Resource Information System (NRIS), the United States Geological Survey (USGS). The coordinates for monitoring sites were obtained using NRIS’ “Topofinder” tool and represent approximate site locations.

* Includes water column chemistry, algae, and Chlorophyll a