

## Belle Fourche River Watershed TMDLs and Watershed-Based Planning

- **Total Maximum Daily Loads (TMDLs)**
  - Plans to attain and maintain water quality standards for waterbodies not meeting their standards
  - Consider pollution from point and nonpoint sources of pollution
  - Incorporates a Margin of Safety to account for unknowns
  - Under the Clean Water Act, States are required to prepare TMDLs for impaired waterbodies
- **Belle Fourche River TMDLs**
  - Contracted by WDEQ to Tetra Tech; 2009-2011
  - Approved by EPA December 2013
  - Ammonia, chloride, bacteria
    - Warm water fisheries designated uses (ammonia and chloride)
    - Recreation designated use (bacteria)
  - Total 7 TMDLs for 5 impaired segments
    - Belle Fourche River—bacteria (3), ammonia, chloride
    - Donkey Creek—bacteria
    - Stonepile Creek—bacteria
  - Two main parts
    - **TMDL Analysis:** provides detailed information about the impairments (see table below)
      - When they are occurring
      - Under what flow regimes they occur
      - Where pollutants are coming from
        - Potential sources
        - Load allocations for those sources
      - How much pollutant loading reduction is needed to meet standards
    - **Implementation Plan (Section 12)**
      - How you might achieve those load reductions

**Table 63.** Summary of Belle Fourche River watershed TMDL load reduction recommendations

Flow Condition Percentile	Constituent	Season	High 0-10	Moist 10-40	Mid-Range 40-60	Dry 60-90	Low 90-100
Belle Fourche River (upper) <sup>a</sup>	Ammonia	Summer	0%	84%	0%	94%	90%
		Winter	0%	0%	0%	0%	0%
	Chloride	Annual	0%	10%	0%	19%	44%
		<i>E. coli</i>	PCR	82%	38%	0%	0%
Belle Fourche River (lower) <sup>b</sup>	<i>E. coli</i>	PCR	85%	0%	0%	0%	0%
		SCR	--	0%	0%	0%	0%
Donkey Creek	<i>E. coli</i>	PCR	88%	57%	20%	54%	50%
		SCR	--	--	--	--	--
Stonepile Creek	<i>E. coli</i>	PCR	73%	70%	41%	93%	--
		SCR	0%	55%	--	0%	13%

PCR = primary contact recreation (May through September); SCR = secondary contact recreation (October through April).

A double dash (“--”) means that data are not available whereas as a zero percent (“0%”) means that no reduction is necessary.

a. For *E. coli*: Belle Fourche River from an undetermined location upstream of Donkey Creek to Keyhole Reservoir; for ammonia and chloride: Belle Fourche River from an undetermined location upstream of Rush Creek to Keyhole Reservoir

b. Belle Fourche River: Arch Creek to Sourdough Creek

- **TMDL Implementation Plan**

- Set of recommended action items to address the water quality impairments and achieve the TMDLs
  - Adaptive management
- Recommends implementation practices by pollutant
  - Bacteria
    - Pets, Livestock, Septic Systems, Wildlife
  - Chloride
    - De-icing activities, Dust control activities
  - Ammonia
    - Wastewater treatment lagoons
- Watershed-Based Plan to meet eligibility requirements for grant funding for voluntary watershed restoration projects
  - Nonpoint source pollution—unregulated; voluntary and incentive-based programs
  - \* ● Section 319 and 205(j) grant programs through WDEQ
  - Projects sponsored by local agencies/organizations—Conservation Districts, cities, towns, non-profit organizations, etc...

#### WDEQ Contact Information

**TMDL Program:** <http://deq.state.wy.us/wqd/watershed/TMDL/TMDL.htm>

Information about TMDL development, including current projects and completed TMDLs.

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**Wyoming Nonpoint Source Program:** <http://deq.state.wy.us/wqd/watershed/nps/NPS.htm>

Financial and technical assistance for nonpoint source pollution reduction projects. Website includes information about grant opportunities, BMPs, information/education, and more.

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**State of Wyoming Integrated Report:** <http://deq.state.wy.us/wqd/watershed/index.asp#Assess>

The Integrated Report describes Wyoming's surface waterbodies and contains the 303(d) list of impaired waterbodies.

**Wyoming Water Quality Standards:** <http://deq.state.wy.us/wqd/watershed/surfacestandards/index.asp>

Chapter 1 of Wyoming's Water Quality Rules and Regulations defines surface water quality standards including designated uses, pollutant limits, and surface water classifications.

**WDEQ List Serve Registration:** <http://deq.state.wy.us/listserves/index.aspx>

Sign up here to receive important notifications from the WDEQ Water Quality Division, including public comment opportunities, notices of public meetings, funding opportunities, and more.