

Blacks Fork/Smiths Fork Watershed

2007 - 2008 Monitoring

Improvements

The District has completed several septic system and Animal Feeding Operation remediation/mitigation projects on the Blacks Fork and Smith Fork Rivers as well as their tributaries. The District is also currently working with weed and pest to remove salt cedar and other noxious weeds along both rivers. Additionally, the NRCS has also done several wetland and wildlife habitat projects as well as irrigation improvements.

How can landowners help?

A key component to improving water quality within Uinta County includes the implementation of Best Management Practices (BMP's). The District has implemented voluntary cost-share programs for landowners interested in rehabilitating both faulty or aging septic systems and non-compliant feedlots and working corrals.

Landowners interested in the cost-share program should contact the Uinta County Conservation District.

Where do we go from here?

The District will continue water quality and quantity monitoring in hopes of identifying particular areas of concern and will continue to work with landowners for BMP implementation. Although it is currently difficult to fully assess the effectiveness of BMP's, the District believes that continued efforts will show water quality improvements.

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Blacks Fork River



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Between 2007 and 2008, the Uinta County Conservation District (the District), under the direction of the BFSF Steering Committee, conducted stream monitoring on the Blacks Fork and Smiths Fork Rivers. The monitoring was a continuance to monitoring completed between 2002 and 2006 for impaired streams within Uinta County.

What was Monitored?

The District monitored six sites on the Blacks Fork River, one site on Threemile Creek and 5 sites on the Smiths Fork River. Both the Blacks Fork and Smiths Fork Rivers are listed as impaired for E. coli bacteria by the WDEQ. Additionally, the Smiths Fork River is listed as impaired for habitat degradation from the confluence with Blacks Fork River upstream to Cottonwood Creek. The District monitored streams and rivers that were listed as impaired or threatened for E. coli bacteria by the WDEQ.

The Clean Water Act requires streams that are listed as impaired develop a Total Maximum Daily Load (TMDL). A TMDL is the "amount of pollutant which a stream can accept and still meet its designated use." (WDEQ) Both the Blacks Fork and Smiths Fork are scheduled for TMDL implementation in 2010.

Sample Collection?

Throughout the monitoring program, the District collected a total of 242 bacteria samples and analyzed them for E. coli using the Collert method. Turbidity, stream temperature, dissolved oxygen, discharge rate, and specific conductance were also measured and recorded by the District. Additionally, the District collected samples for inorganic chemistry and nutrients one time during each sampling season at each site.

What are the Regulations?

Currently two water quality standards exist for E. coli as presented in the Wyoming Water Quality Rules and Regulations Chapter 1, Section 27.

- o **410 cfu/100 mL** - single-sample maximum concentration for the full-contact summer recreation period.
- o **126 cfu/100 mL** - geometric mean based on a minimum of not less than 5 samples obtained during separate 24 hour periods for any 30-day period (5-in-30 protocol).



Smiths Fork River, Site SF-3

Summary Table of Measured E. coli Bacteria within the UCCD Study Area

River or Stream	Total Number of Samples	Exceedances of the Single Sample E. coli Limit of 410 cfu/100 mL	Exceedances of the Geometric Mean E. coli Limit of 126 cfu/100 mL
Blacks Fork River	120	17%	50%
Smiths Fork River	102	31%	75%
Threemile Creek	20	25%	50%

Overall results show that bacteria concentrations are still problematic in the three monitored streams. On the Blacks Fork, E. coli concentrations and turbidity demonstrated positive correlation indicating that run-off may influence bacteria concentrations. On the Smiths Fork River, water quality was found to improve significantly in the vicinity of Mountain View. Influences are likely due to the diversion of water to South Creek. The downstream sites measured high concentrations of turbidity, suggesting the silts may continue to influence aquatic life.

The Smiths Fork field measurements for stream temperature and dissolved oxygen met WDEQ's aquatic life criteria. However, three pH measurements were above the standard. Research confirms that it is difficult for aquatic life, particularly cold water fish, to thrive in waters with elevated pH.