



Goose Creek Watershed Annual Newsletter

Goose Creek Watershed Group
Sheridan County
Conservation District
Natural Resources
Conservation Service
The City of Sheridan
Sheridan County

January 2014

WORK WITHIN THE WATERSHED

Understanding Water Quality Standards and the Watershed Planning Process

The Goose Creek Watershed Steering Committee provides input and recommendations to the SCCD to address water quality concerns in the Goose Creek watershed. In the Goose Creek Watershed Plan, one of the recommended action items is to provide basic information on water quality standards.

Protection of waters under the Clean Water Act (enacted in 1972) includes designating uses and establishing water quality criteria to protect those uses. The Wyoming Surface Water Classification List, developed by WDEQ in 2001, assigns a classification to waterbodies of the State. Depending on its classification, a waterbody is expected to have sufficient quality to support certain activities or uses. Wyoming's designated uses include drinking water, Game Fish, Non-Game Fish, Fish Consumption, Other Aquatic Life, Recreation, Wildlife, Agriculture, Industry, and Scenic Value. Class 2AB waterbodies are expected to support all of the uses, while other classifications may not be expected to support drinking water, fisheries, or aquatic life uses. All waterbodies are expected to support recreation, wildlife, agriculture, industry, and scenic value.

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***Does Big Goose or Little Goose Creek mean something to you, your children,
or your grandchildren?***

Have concerns about surface waters in the Goose Creek Watershed?

COME TO OUR MEETING ON FEBRUARY 5TH!

The Goose Creek Watershed Steering Committee, which is comprised of landowners and interested parties, was formed in 2003 with the main purpose of developing a Goose Creek Watershed Plan. It has transformed into a steering committee that provides input and recommendations to the SCCD for implementing resource programs within the Goose Creek Watershed. This year our annual meeting will be held on **February 5th at 6pm in Downtown Sheridan Association's Community Room** (corner of Main and Coffeen Street).

The agenda will include the following topics:

- **Activities/Projects/Progress Updates from:**
 - **Sheridan County**
 - **City of Sheridan – Update on Storm Drain Sampling and Placements, and the Watershed Control Plan Aimed at Addressing Cryptosporidium in the Upper Big Goose Creek Drainage**
 - **SCCD – Livestock and Septic System Replacement Projects, and DSA's Improved Rain Garden to Filter Runoff Pollution**
- **Ideas for Improving Outreach and Getting the Word out for Improvement Projects**
- **Goose Creek Watershed concerns from attending members**

Rivers and creeks in Wyoming are precious to all of us. We depend on them for our drinking source, livestock drinking source, irrigation for crops, watering lawns, and for their recreational opportunities. The town of Sheridan was built around Big and Little Goose Creek, which greatly attributes to our positive sense of place. If you feel connected to these creeks and want to have an input on improving these surface waters for future generations, please join us at our steering committee meeting. We hope to see you there!

Update on the Goose Creek Watershed Monitoring Report

Goose Creek watershed water quality monitoring was conducted at 24 sampling sites in the recreational summer season of 2012. Water quality monitoring during May and August of 2012 included the following parameters: water temperature, pH, conductivity, dissolved oxygen, discharge, turbidity, and *Escherichia coli* (*E. coli*). Continuous water temperature data loggers were used to monitor instream temperatures from May 1, 2012 to October 31, 2012 at nine of the 24 stations. Macroinvertebrate sampling and habitat assessments were performed at eight stations in September. The Goose Creek Report, which summarizes the analytical water quality data of 2012, is in the process of being finalized. Here are a few of the key findings:



- An increase in *E. coli* bacteria concentrations from 2001 to 2012 was observed at every comparable site and sampling period, except for Park Creek and Kruse Creek during the month of May. In August of 2012, out of the 21 comparable stations from 2001, only 14 stations increased in bacteria concentrations.
- Every continuous temperature logger reported water temperatures above the maximum instream temperature standard (20°C/68°F) for cold water fisheries, often for multiple days, except for the furthest upstream Big Goose station.
- Biological conditions on six of the eight macroinvertebrate stations sampled in 2012 were partial/non supporting, and one station was indeterminate supporting based on the evaluation of the stream benthic macroinvertebrate communities. Big Goose Creek's most upstream station was the only site fully supporting its biological condition. The partial/non-support and indeterminate support classifications indicates the aquatic communities are stressed.

Please continue to check back to SCCD's website in the following month, www.sccdwy.org, for the finalized Goose Creek Watershed Monitoring Report.



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Water quality standards for individual pollutants and conditions are established for each designated use. These standards consist of either a numeric limit or a narrative description of a desired condition. When levels of a pollutant, such as bacteria, exceed the water quality standard, the stream is considered to be "impaired". The bacteria standard relates to recreational use and requires calculation of a geometric mean of five separate samples spread within a 30 day period. To meet the primary contact recreation standard (which is currently applied to all of the waterbodies within the Goose Creek Watershed), the geometric mean must not exceed 126 colonies/100 mL. If this standard is exceeded at a sample site, the associated stream segment is considered impaired.

The SCCD conducts an interim water quality monitoring program on three of the watersheds within Sheridan County. Goose Creek is among the watersheds monitored in this rotation. Bacteria geometric means are calculated for samples collected in May/June (for run-off conditions) and in August. Some sites may exceed the standard in one time period and not in the other. Understanding when bacteria samples for a particular site are below, at, or above the primary contact recreation standard, helps the SCCD evaluate how runoff and other weather related events impact bacteria and sediment contributions. Knowing this information helps the SCCD determine which types of water quality improvement projects are best suited to help reduce *E. coli* bacteria and sediment contributions to the water body. The overall goal is to reduce *E. coli* bacteria and sediment contributions so that our waterbodies can support all of the uses for which they are intended.