

We're on the web:  
www.ccnrd.org

Non-Profit Organization  
U.S. Postage Paid  
Sundance, Wyoming 82729  
Permit # 4

CHANGE SERVICE REQUESTED

Crook County Natural Resource District  
117 S. 21st Street P.O. Box 1070  
Sundance, WY 82729  
Phone: (307)-283-2501, Fax: (307)-283-2170

**Board of Supervisors**  
Wayne Garman - Chairman  
Ted Moline - Vice Chairman  
James Geis - Secretary  
Tom Ferrell - Treasurer  
Ted Parsons - Member

**NRCS Staff**  
Terry Everard - District Conservation Technician  
Sherry Keyworth - Conservation Technician  
Jason Nehl - Natural Resource Specialist

**District Staff**  
Sarah Barton - Program Manager  
Newletter Editor  
Jinx Hilty - Financial Manager  
TJ & Dave Schral - Water Quality Personnel

## SUNDANCE STATE BANK

*Serving Northeastern Wyoming Since 1895*

P.O. BOX 950  
307-283-1074  
Fax: 307-283-1077

123 N. 2nd St.  
Sundance, WY 82729

## Reich Charolais

Annual Bull Sale  
April 8th, 2010

Tim & Ree Reich



1007 Kingsbury Street  
Belle Fourche, SD 57717-1920  
Phone: 605-892-4366

## SUNDANCE APPLIANCE CENTER

204 1/2 Main Street  
PO Box 384  
Sundance, WY 82729

Kitchen Aid, Whirlpool, Roper, Estate, &  
Frigidaire Appliances

James and Donna Dark Phone: 283-3423

## Sustainable Homes & Design, LLC

*Quality, Beauty, & Efficiency for New Buildings or Remodels*



Tony Barton  
Upton, WY  
(307)468-2375  
(307)756-2561



# Crook County Natural Resource District RESOURCE ROUNDUP

## Inside this issue:

- Think About Spring Tree Plantings 1
- Non-Point Source Pollution Policy Changes & TMDL Update 1-2
- TMDL Basics 2
- E. coli Bacterial Source Tracking 3
- New Conservation Stewardship Program Offered 3

November 2009

## It's Tree Time! Order Now and Save 10%!

It's that time again! Although the cold weather and short days of late fall are upon us, the time has come to consider spring plantings. Now is the time to begin planning and site preparation for trees to be planted next spring to avoid excessive tree loss, poor species selection, improper placement, and less than desired functionality. Tree plantings can achieve many conservation goals. If you are interested in planting trees for windbreaks, wildlife habitat, erosion control, reforestation, or visual or noise barriers, CCNRD wants to help make your project a success. Contact the District about planning your project, ordering your trees, and prepare your site now to ensure that your plantings achieve your conservation goals.

Fall is the time to order young trees to ensure species availability. Nurseries are taking orders for delivery next spring, and CCNRD is compiling our pre-order for our 2010 Tree Sale. Because the District accepts customer orders until late spring, when nurseries have sold most of their stock, species availability is not always certain. However, to make sure you get what you want, we encourage you to order early. **Order before the end of the year to receive our 10% Early Bird Discount!** Now is also the time to prepare your planting site. Late planning and poor site preparation often undermines the success of young trees. Lightly tilling your site this fall will increase available soil moisture by increasing infiltration. Also, fall fallow increases the availability of nutrients in the spring because the old vegetation degrades throughout the winter, enhancing the soil. Preparing your site now is the best way to bolster the success of the trees you will plant in the spring. To discuss planning, ordering, or site preparation, contact the District at 283-2501.

## Non-Point Source Pollution Policy Changes May Impact Landowners in Crook County— How Can You Minimize Your Risk?

As your local conservation district, CCNRD strives to keep you informed of issues that may affect you and your natural resources. Non-point source pollution in the form of E. coli and the related Total Maximum Daily Load (TMDL) being set for the Belle Fourche River/Donkey Creek (BFR/DC) are current issues with implications for landowners.

How might landowners be effected by the TMDL? When the TMDL is written, there is a possibility that certain areas or land uses may be singled out as a source of non-point source pollution. This may spell trouble for some landowners, especially in light of recent efforts to regulate non-point source pollution at the national and state level. Currently, TMDLs contain no regulatory component, but it is possible that, in the future, they may provide a basis for regulatory action. Regulating non-point source pollution is a tricky business. As the name implies, this type of pollution is not specifically tied to any one source. Yet TMDLs are intended to do just that, although the degree of specificity can vary greatly. Whether the BFR/DC TMDL will assign pollution loads in general or very specific terms is not yet known. There are, however, steps landowners can take to minimize their pollution contribution and the risk of regulation. *Continued on Page 2.*

**Did you know?**  
The CCNRD Board of Supervisors meets regularly on the first Tuesday of each month, and the public is welcome to attend.

The next meeting will be December 1st at 6 p.m. in the USDA building in Sundance.

Please join us anytime to tell us how CCNRD, your local conservation district, can better serve you!

## How Can You Minimize Your Risk as a Landowner (Cont.)

Continued from Page 1.

CCNRD is encouraging landowners to protect themselves two ways:

- ◆ **First, landowners should implement and document Best Management Practices (BMPs) to reduce their pollution contribution.** Examples of BMPs for agricultural operations include riparian fencing projects, off-site stock water tanks, relocation of corrals or the use of vegetative buffer strips between feeding areas and the river. The rebuilding of failing or outdated septic systems is also a BMP. To learn more about BMPs or to apply for cost-share funding, contact the District at 283-2501 or [www.ccnrd.org](http://www.ccnrd.org).
- ◆ **Second, landowners should take advantage of the public comment period (not yet scheduled) to review and comment on the TMDL.** Stay tuned to the District webpage, newspaper articles, and this newsletter to make sure you get a chance to review the TMDL before it goes to the Environmental Protection Agency (EPA) for final approval. All public comments made during this period will be included in the final document- so make sure you get your say!

CCNRD remains committed to keeping you informed as the BFR/DC TMDL setting process unfolds. If you have questions, comments, or concerns, please contact the District at 283-2501 or [sarah.barton@wy.nacdn.net](mailto:sarah.barton@wy.nacdn.net).

### Total Maximum Daily Load (TMDL) Basics

- TMDLs are an approach to control non-point source pollution. Having levels of contamination in excess of standards set by WDEQ causes a body of water to be placed on a 303(d) list of impaired water bodies, and the Clean Water Act (1973) calls for TMDLs to be set for all listed bodies of water.
- Wyoming was the last state in the nation to begin setting TMDLs. Because many in the state believe that local watershed planning is the best approach to addressing issues of pollution and water quality, Wyoming began setting TMDLs only after losing a long legal battle over the issue in 2007.
- The TMDL is being set for the Belle Fourche River and Donkey Creek because excessive levels of *E. coli*, ammonia, and chloride have been documented by the Wyoming Department of Environmental Quality (WDEQ). This is the second TMDL to be written in Wyoming and is a "high priority" because the pollutant of concern is a human pathogen and the water flows through two recreational areas (Keyhole Reservoir and Devil's Tower National Monument).
- A TMDL is, physically, a 100 or so page document. WDEQ is contracting with an environmental consulting firm to draft the document. After WDEQ approves the TMDL, there will be a period for the public comment, after which the TMDL goes on to the EPA for final approval.
- Philosophically, a TMDL is a pollution budget. A TMDL describes pollution issues in a given body of water, allocating certain amounts of pollution to perceived sources and calling on some sources to reduce their pollution contribution. The degree of specificity varies from one TMDL to another.
- The process of developing a TMDL can vary greatly, depending on the environmental consulting firm doing the work, the body of water in question, and the pollutant of concern.
- The Belle Fourche River and Donkey Creek TMDL is being developed using computer modeling and data related to the chemical, physical, and biological characteristics of the watershed.
- Emerging technologies may change the way TMDLs are developed. Microbiology and bacterial source tracking (BST) show great promise for enhancing efforts to understand and address *E. coli* pollution.

See Page 3 for more information on the use of Bacterial Source Tracking.

### Crook County Natural Resource District Mission Statement

*To Provide Coordinated Leadership in Resource Conservation to Assist and/or Meet the Needs of Resource Users*

### A Messy Mystery Solved? E. coli Bacteria Source Tracking Reveals a Surprising Answer

According to a recent account, officials may have finally solved a messy whodunit: "Who is defecating in Fountain Creek?" In and around the cities of Colorado Springs and Pueblo, Colorado, public officials have been trying to identify the source of *E. coli* pollution in the water. In the end, solving the mystery entailed relying upon logic attributed to great fictional sleuth, Sherlock Holmes: "Once you eliminate the impossible, whatever remains, no matter how improbably, must be the truth". For officials in Colorado, modern science helped eliminate the impossible, eventually leaving officials with an improbable, yet plausible, answer.

A recently developed technology, bacterial source tracking (BST), can prove or disprove the existence of a link between a bacteria sample and a particular source. As an emerging technology, BST is still being improved and its usefulness expanded and, therefore, is not ideal for all applications. In Colorado, however, BST provided insight in an otherwise perplexing situation and has allowed officials to address the source of the *E. coli* in local water bodies.

The pollution problem in the Colorado Springs area had been of concern for some time. Many people blamed the problem on people living upstream, citing old sewage systems and improperly handled pet waste. Others believed that livestock or wildlife were the culprits. However, microbiologists were unable to link the bacteria problem to humans, cow, deer, elk, dogs, or cats. These suspects eliminated, suspicion was ultimately cast on the large pigeon population in the contaminated area. Since the birds were the only remaining possible source, the blame has been placed with them.

The link has not yet been confirmed by BST since there is not yet a test to link *E. coli* samples with the bacteria found in pigeon intestinal linings. According to the story, it is likely that there will be such a test in the near future. It is also likely that Holmes' assertion mentioned above will prove correct. Hopefully, the mystery will be solved for good when final report from the United States Geological Survey is released later this month.

What other mysteries might BST solve in the future? Currently, the technology can only prove or disprove the link between bacteria and certain sources. Researchers are working to expand the database of possible sources of bacteria, however, and the applications for BST can be expected to expand as well. As the science and methods of BST improve, understanding and addressing bacterial water pollution will become increasingly, as Holmes might say, elementary.

(Read the whole story, "Mystery solved for Fountain Creek contamination" by R. Scott Rappold at <http://www.gazette.com/articles/fountain-61421-creek-solved.html>.)



### Conservation Stewardship Program- Rewarding Good Resource Management

NRCS is offering a new program to encourage and reward landowners whose management practices conserve and protect natural resources. A limited version of the program was piloted in the 2002 Farm Bill under the name Conservation Security Program, and in 2009, it was expanded and renamed the Conservation Stewardship Program (CSP). Most programs administered by the NRCS are designed to help landowners afford structural practices (i.e. wells, pipeline, ponds, etc.) to meet conservation goals. The CSP is a different type of program, rewarding landowners who implement management related practices (i.e. rotational grazing, no-till drilling, wildlife habitat protection, etc.) which enhance, protect, and conserve natural resources.

Interested landowners can apply now at the local NRCS office. The first step in the process is to determine land eligibility. In Wyoming, eligible lands include privately owned cropland, rangeland, pastureland, and forest land. CSP applicants will need to create a land use and resource inventory map of their property. With the help of the NRCS, current management strategies will be assessed in terms of resource concerns including soil quality, water quality and quantity, plants, animals, soil erosion, air quality, and energy. The landowner then selects management options which improve his or her stewardship of selected resources. The level of environmental benefit to be achieved determines eligibility and is used to rank applications and establish payment levels.

If you are interested in this program, contact the local NRCS office at 283-2740, ext. 3.