

BELLE FOURCHE RIVER WATERSHED PLAN



Developed by:
Crook County Natural Resource District
Belle Fourche River Watershed Advisory Committee
Belle Fourche River Watershed Landowners

Assistance Provided By:
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1.0 EXECUTIVE SUMMARY

The Clean Water Act (CWA) was adopted by Congress for two primary purposes. That is to:

- restore and maintain the chemical, physical, and biological integrity of the nation's waters; and
- where attainable, to achieve water quality that promotes protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water. This goal is commonly known by the expression "fishable/swimable".

In order to ensure compliance with the CWA, the State of Wyoming is required to adopt water quality standards (laws or regulations) to enhance water quality and protect public health and welfare. Under Section 305(b) of the CWA, the State must also report on the condition of their water to the U.S. Environmental Protection Agency (EPA) once every two years. This report, prepared by the Wyoming Department of Environmental Quality (WDEQ), is known as the 305(b) report. Under section 303(d) of the CWA, States must identify those waters within its boundaries that are not meeting the water quality standards ("impaired waters") applicable to that waterbody based on its designated use(s). A designated use is a use of water that may or may not be currently attained by that specific segment or body of water. States are required to address impaired waterbodies by establishing water quality standards and pollution control activities designed to achieve the designated use.

Currently, two segments of the Belle Fourche River, HUC #101202010904 above Keyhole Reservoir and HUC #101202010504 below the town of Hulett, are on the Wyoming 2002 Section 303(d) List, Table A: 303(d) Waterbodies with credible impairment data. These segments require either a local watershed planning effort or a Total Maximum Daily Load (TMDL), given there is credible data to indicate that the reach does not support all its designated uses. The two segments of the Belle Fourche River have fecal coliform impairing both full body and secondary contact recreation beneficial uses. The water quality standard for the Belle Fourche River states that fecal coliform concentrations shall not exceed a geometric mean of 200 fecal coliform groups per 100 milliliters (based on a minimum of 5 samples, taken during separate 24 hour periods, in a 30-day time span), nor shall 10 percent of the samples exceed 400 groups per 100 milliliters in any 30 day period. The primary data sources for the initial listings are United States Geological Survey (USGS) gauging and water quality monitoring stations.

Upon listing this stream the Wyoming Department of Environmental Quality, Water Quality Division (WDEQ, WQD), conducted sampling in 1998 to confirm the impairment. In September 1998, DEQ sampled at 4 locations on the Belle Fourche River. Fecal coliform bacteria sampling near the town of Hulett resulted in a 30-day geometric mean of 225 fecal coliform colonies per 100 milliliters, verifying the impairment designation. DEQ completed additional monitoring of three samples on June 8, 1999, on the Belle Fourche River, Hulett area, with a one hour geometric mean of 1940 colonies per milliliter. In the spring and summer of 2001 and 2002, the Crook County Natural Resource District (CCNRD) performed four – 30 day sampling regimes for fecal coliform bacteria. Results of those sampling events from a site immediately downstream of the Town of Hulett indicated a geometric means of 11 and 120 colonies/100 ml, respectively, in 2001; and 213 and 96 colonies/100 ml, respectively, in 2002.

Belle Fourche River Watershed Plan

The CCNRD hosted three public meetings in April of 1999. Meetings were held in Sundance, Hulett, and Moorcroft. Over 100 Crook County citizens attended these meetings. The CCNRD invited presenters to explain implications of the listing of the two segments of the Belle Fourche, and the attendees were informed on the option of a local watershed assessment/planning effort being acceptable to WDEQ to address the water quality impairment. The majority of the citizens attending these meetings agreed that the CCNRD should provide leadership to move forward with a locally driven watershed effort. In addition, approximately 23 citizens agreed to serve on an advisory group to provide leadership for a watershed effort. On July 30, 1999 the CCNRD, jointly with the Crook County Land Use Planning & Zoning Commission, hosted an additional public meeting in Hulett. The WDEQ was present to provide an update on the results of spring and summer sampling, as well as additional information on watershed planning. There were approximately 40 citizens in attendance. The group supported the CCNRD pursuing a 319 proposal to begin a watershed assessment, watershed monitoring and planning, and Best Management Practice (BMP) implementation efforts.

2.0 INTRODUCTION

2.1 - Mission Statement

The mission of the Belle Fourche River Watershed Project is to support voluntary land use management practices that when implemented will address human caused water quality issues identified by the current water quality investigation of the Belle Fourche River with consideration to historic and natural background influences within the watershed.

2.2 - Purpose

The purpose of this watershed plan is to:

1. Maintain and/or improve the quality of the Belle Fourche River by identifying possible human pollutant sources and mitigating those pollutant sources to a realistic and achievable level, through feasible BMPs on a voluntary basis.
2. Focus resources on addressing the current listing of the Belle Fourche River in Table A of the WDEQ 303(d) list of waterbodies with water quality impairments due to noncompliance with the current Fecal Coliform water quality standard. The main goal of this Watershed Plan will be to improve the water quality and ultimately delist the impaired segments of the Belle Fourche River.
3. Promote the use of BMPs that will improve water quality in the Belle Fourche River through providing technical and financial assistance.
4. Develop and implement an effective public education and information program, focusing on water quality issues specific to the Belle Fourche River Watershed.
5. Continue to sample water quality to monitor implementation of this watershed plan toward the goals established.

2.3 - Planning Authority

The CCNRD is charged under Wyoming Statute, 11-16-103 to “provide for the conservation of the soil and water resources of this state, and for the control and prevention of soil erosion and for flood prevention or the conservation, development, utilization, and disposal of water, and thereby to stabilize ranching and farming operations to preserve natural resources, protect the tax base, control floods, prevent impairment of dams and reservoirs, preserve wildlife, protect public lands, and protect and promote the health, safety and general welfare of the people of this state.”

Further, Wyoming Statute 11-16-122(b)(v) grants conservation district’s the authority to conduct watershed plans as stated, “conduct surveys, investigations and research and disseminate information relating to range management, the character of soil erosion, flood prevention or the conservation, development, utilization and disposal of water, and the prevention and control measures and works of improvement needed but in order to avoid duplication of research activities, no district shall initiate any research program except in cooperation with the government of this state or its agencies, or with the United States and its agencies.”

2.4 - Public Participation Process

To address these issues at a local level, the Board of Supervisors of the CCNRD, through a series of community meetings throughout the watershed, formed the Upper Belle Fourche Watershed Advisory Group comprised of local citizens with a vested interest in the integrity of the natural resources found within their watershed. Addressing the impairment issue while maintaining

community values and culture through science based land use planning on a watershed scale was an objective of the group. To begin working toward that objective, the group developed a grant proposal for submission to the Governor's Non-point Pollution Task Force. This grant would provide the resources required to: 1) inventory existing historical water quality data, 2) develop a comprehensive water quality monitoring program within the Belle Fourche Watershed to supplement existing historical water quality data and, 3) with the results of implementation of that program, develop a locally supported watershed plan which, when implemented, would address the fecal coliform impairment. This group has met 20 times since 1998.

In 2000, the grant proposal was approved. Subsequently a Sampling and Analysis Plan (SAP), the initial step in developing a local watershed management strategy was developed through a series of meetings with members of the Upper Belle Fourche Watershed Advisory Group with technical assistance from the CCNRD. The SAP addressed local concerns and issues while meeting the Wyoming State legislative requirements (Enrolled Act 47) for credible data, as well as the Quality Assurance/Quality Control (QA/QC) requirements of the WDEQ, Water Quality Division (WQD), and the EPA.

With the completion of the watershed plan, the District intends to more aggressively pursue information/education efforts and cost-share programs aimed at implementing BMPs.

2.5 - General Information

TOPOGRAPHY

Crook County is divided into two distinct topographic regions: the Black Hills uplift, which dominates the eastern two-thirds of the county, and the Northern Great Plains to the west.

ELEVATION

The elevation ranges from 3,125 feet above sea level where the Belle Fourche River leaves the County to 6800 feet on Warren Peak. The elevation of Sundance is 4,750 feet, Hulett is 3,755 feet, and Moorcroft is 4,206 feet.

LAND OWNERSHIP

Land ownership includes 79% private and 21% non private, which includes 8.7% US Forest Service, 6.2% State Land, 4.8% Bureau of Land Management, 0.9% Bureau of Reclamation, and 0.1% National Park Service, Cities, Wyoming Game & Fish, and Crook County School District.

LAND USE

The land uses of Crook County include the following: 6,085 acres in irrigated cropland; 110,830 acres in dry farmed cropland; 366,430 acres in woodland; and 1,297,225 acres of pastureland.

PRECIPITATION/SEASONAL DISTRIBUTION

Average precipitation is 16.3 inches per year. Average snowfall is 77 inches and the average temperature is 42.2 degrees Fahrenheit. Normal high flow peaks between March and June and low flows for the Belle Fourche River are in November and December.

SOILS

The soils range from well drained soils formed in alluvium on terraces and flood plains, well drained and somewhat excessively drained, nearly level to very steep soils formed in material derived from sedimentary rock on upland, well drained, nearly level to steep soils formed in material derived from clay shale on uplands, well drained soils that formed in red material derived from sandstone shale and sandstone on uplands, well drained soils formed in red material derived from siltstone, shale, and limestone, on mountains, and well drained soils formed in material weathered from siltstone, sandstone, and limestone and rock outcrop on uplands.

GEOLOGY

The general geology of the Belle Fourche River in Crook County is greatly varied from interbedded and eroded shale and sandstones along the river to the limestone and intrusive igneous and metamorphic rocks in the Bearlodge Mountains. Along the western boundary of Crook County running generally north and south is the Black Hills Monocline. This is a belt of steeply dipping rocks 1 1/2 - 6 miles wide. Older Precambrian formations are located in the Bearlodge Mountains, while younger Paleozoic and Mesozoic formations out crop along the flanks of the mountains. The watershed is dominated by the alluvial and sedimentary formations. The major formations include the Morrison shale, Pierre shale, Fox Hills Sandstone, and the Spearfish Siltstone.

EROSION POTENTIAL

The water erosion potential of the sedimentary formations in the watershed is higher than the wind erosion potential. This is due to the higher concentrations of silt and clays of the soil structure. They generally have a higher "K" factor according to the published Crook County Soil Survey. This is a strong indicator of water erosion potential. The Bearlodge Mountain formations are older and a stronger rock formation derived from metamorphic or igneous conditions. Due to the elevations and higher precipitation, these soils have a higher concentration of organic matter in the soil surface and are generally dominated by ponderosa pine and bur oak. These upper elevation formations have lower erosion potential.

3.0 WATERSHED ASSESSMENT AND CONDITIONS

Water Quality Monitoring

Based on both historical and current credible data, the quality of the water in the Belle Fourche River, specifically the bacteria concentrations, could have an adverse impact on human health. A regulatory water quality issue also exists with the listing of the Belle Fourche River on Table A of the 1998 WDEQ 303 (d) list of waters with water quality impairments.

This watershed plan, developed to address the requirements of Section 303 (d) of the Clean Water Act, must remain locally driven, locally maintained, and activities need to remain voluntary. Continuous monitoring of the water quality (at least annually) in the Belle Fourche River and its drainages is expensive, and time consuming, yet a high priority. Resources must be found in order to keep credible data accurate. Information is needed to know if practices are having any impact on the water quality of the River.

Agricultural Impacts

Corrals and feedlots adjacent to or near surface waters, along with other agriculturally related potential contributors may have an adverse and identifiable effect on water quality, especially fecal coliform levels. In order to achieve optimal effectiveness, Best Management Practice implementation will remain voluntary. The District's cost-share program through the EPA/DEQ 319 Grant and the Department of Ag Water Quality Grants has assisted four landowners to complete various BMP projects addressing AFO-CAFO's throughout Crook County:

- 1.) Project one addressed a CAFO situation on a feedlot that was 1000-1500 feet upstream of the Belle Fourche River.
- 2.) Project two addressed livestock access to Oak Creek, a direct tributary of the Belle Fourche River.
- 3.) Project three addressed livestock access to Left Creek, a tributary of the Belle Fourche River.
- 4.) Project four addressed livestock access in a corral and pasture on Beaver Creek, a tributary of the Belle Fourche River.

Recreational Impacts

The outdoor recreation/tourism industry is important to Crook County. However, inappropriate activities associated with recreation may have an adverse impact on the water resources of the Belle Fourche River. Addressing this issue will remain voluntary.

Urban/Suburban Impacts

Malfunctioning septic systems, along with other human caused potential contributors may have an adverse and identifiable effect on water quality, especially fecal coliform levels. Addressing these issues will remain voluntary.

Funding Issues

Any BMP proposed and implemented should not place an unreasonable financial burden on the individual(s) involved. Cost share funding will need to be sought out and made available through the CCNRD Board of Supervisors (office) for any individuals wishing to apply for

assistance in the implementation of practices that are targeted to the long-term improvement of water quality in the Belle Fourche River.

Wildlife Impacts

Significant populations of wildlife are present in the Belle Fourche River Watershed and the wildlife impact(s) on water quality is widely recognized. Resulting fecal coliform deposits into the drainage arise from their need for water and possible solutions for their impact(s) are limited and would be difficult to implement. For this reason, if continuous monitoring of the water quality in the Belle Fourche River reflects that fecal coliform levels still do not meet DEQ requirements after man induced impacts have been addressed at a level the local Conservation District Board feels adequate, then the DEQ should consider that some contributing factors are out of “human control”.

Education and Information

Recognition of water quality issues by landowners and the public at large is the initial challenge and in order to encourage participation in voluntary BMP activities, the CCNRD will have to lead effective information dissemination programs.

In order to encourage citizens and visitors to the Belle Fourche watershed as well as landowners, land managers and homeowners to voluntarily address any potential pollutant contributions or modify any contributing land use or infrastructure under their control, information and education is important.

Homeowners, developers and planning officials need to have the accurate and current information readily available to make informed decisions.

The public will need to be informed of this plan as human and financial resources will present a challenge, but will need to be acquired and utilized to achieve activities of the Plan.

4.0 WATERSHED IMPROVEMENT ACTIONS AND RECOMMENDATIONS

Water Quality Monitoring

ISSUE

Continue monitoring to evaluate plan efficacy

OBJECTIVE

To test and demonstrate progress toward addressing elevated fecal coliform levels in the next five years.

ACTION ITEMS

- The CCNRD will provide on-going water quality monitoring activities.
- The CCNRD proposes to staff a local watershed coordinator position responsible for assisting with the implementation of the Belle Fourche Watershed Plan. Position will provide assistance to the local landowners and homeowners in implementing management practices. This assistance will include, but not be limited to, consultation with landowners on AFO issues; grazing management; assistance to homeowners with assessments and implementation of projects to rectify septic system deficiencies; educational efforts; and water monitoring.

Agricultural Impacts

ISSUE

The agricultural community has been a part of the Belle Fourche watershed for generations and continues to comprise a significant portion of the County's economic base. Historical practices of locating domestic livestock handling and feeding facilities near sources of surface water has been identified as a potential source of fecal coliform contributions.

Specific issues and concerns include:

Waste Management – Lack of managing agricultural waste containment and disposal poses a possible regulatory threat.

Grazing Management – Opportunities exist for enhanced grazing management practices to address potential fecal coliform loads. As well as using grazing as a tool to enhance stream bank stability and enhance riparian area conditions.

OBJECTIVES

Reduce the amount of agricultural waste entering the Belle Fourche River and its tributaries by implementing information and education and BMPs within five years.

ACTION ITEMS

- The Steering Committee, CCNRD and Natural Resource Conservation Service (NRCS) will continue, and attempt to expand the cost-share programs for BMPs addressing water quality.
- The CCNRD will conduct two workshops/tours for agricultural producers on BMPs available and resources to assist in installation, management and funding BMPs.
- Initially, ten containment and feeding facilities in the Belle Fourche River watershed which, according to current Animal Feeding Operations and Confined Animal Feeding Operations (AFO/CAFO) rules and regulations will have the appropriate remediation action applied within a five-year period. Additional projects will be planned as needed in relation to ongoing water quality monitoring data results, demonstrating progress toward the fecal coliform standard. Project numbers will be dependent upon funding availability.
- Initially apply at least five grazing BMPs that protect riparian areas, within a five-year period. Additional projects will be planned as needed in relation to ongoing water quality monitoring data results. Project numbers will be dependent upon funding availability.
- Make \$600,000 in cost-share funding available to implement voluntary BMPs available to landowners each year for five years. Cost share rates will be contingent upon funding rules and availability.

Recreational Impacts

ISSUE

Recreational Vehicle Waste Dumps – To avoid inappropriate discharge of waste, waste management infrastructure or information directing campers to the appropriate facilities needs to be available at campsites.

OBJECTIVES

Reduce the impact of RV dumping and recreation on fecal coliform levels in the Belle Fourche River Watershed through a comprehensive information and education program in the next five years.

ACTION ITEMS

- The Steering Committee, CCNRD and NRCS will continue, and attempt to expand, the cost-share programs for BMPs addressing water quality.
- Develop and implement information and education activities that will address appropriate Recreational Vehicle (RV) and camping waste management throughout the Belle Fourche watershed over the next five years.

Urban/Suburban Impacts

ISSUE

Homeowners, developers and planning officials need to have accurate, current information readily available to make informed decisions. Specific issues and concerns include:

Surface Runoff – Pollutants, such as animal waste (including pets), from a variety of sources accumulate on land surfaces and stormwater runoff may flush those pollutants directly into surface waters.

Urban Stormwater Runoff – Water quality can be adversely affected in urban areas with impervious surfaces via stormwater drainages during storm events.

Septics (aging or illicit discharge) – Correct installation and maintenance is very important to minimize the potential impact of this human waste management practice.

OBJECTIVES

Reduce contaminants from surface runoff from reaching the Belle Fourche River and its tributaries.

ACTION ITEMS

- The Steering Committee, CCNRD and NRCS will continue, and attempt to expand, the cost-share programs for BMPs addressing water quality.
- Make available \$210,000 in cost-share funding for voluntary upgrades to inadequate septic systems to landowners each year for five years. Cost share rates will be contingent upon funding rules and availability.
- The CCNRD will conduct three homeowner workshops related to septic system evaluations.
- Provide information and education on proper installation and maintenance of septic systems, wells, storm drains and their relationships and effect on water quality.
- Provide information and education on pet waste and its effect on water quality.
- Identify points where the urban community stormwater drainages enter the Belle Fourche River or its direct tributaries and attach storm-drain buttons for public awareness.

Funding/Resources

ISSUES

Remediation should not place an undue burden on those who voluntarily participate in BMP programs and should enhance economic conditions when possible. Human and financial resources are limited to adequately monitor and repair identified human caused activities that contribute to the water quality (short and long-term) in the Belle Fourche River Watershed. Cost share programs, information and educational programs and continuous monitoring will be necessary in order to make this plan workable and effective.

OBJECTIVES

Over the course of this projected five year Watershed Plan, provide approximately \$4,050,000.00 in total cost share dollars to residents of Crook County to address water quality issues in the Belle Fourche Watershed.

ACTION ITEMS

- Include the work that has already been done in securing grant funds for BMPs, human resources and cost-share opportunities for the implementation of BMPs in the next five years.
- Target future grants for two years at a time - applications should be made approximately one year in advance considering a one-year time frame for contract/Project Implementation Plan (PIP) initiation.
- The CCNRD Board of Supervisors will seek out cost-share funding opportunities and make it available for individuals wishing to apply for assistance that would target the long-term improvement of water quality in the Belle Fourche Watershed. The CCNRD Board of Supervisors and the Upper Belle Fourche Watershed Advisory Group will be the entities directly responsible for deciding who qualifies for cost-share funding to address these issues.

Wildlife Impacts

ISSUES

Wildlife concentrations near the river may have an adverse impact on fecal coliform levels in the river.

OBJECTIVES

Provide off-stream watering sites that may draw wildlife away from surface waters and minimize their impact.

Provide information and education on wildlife impacts to the water quality and provide suggestions on management practices to mitigate these impacts over the next five years.

ACTION ITEMS

- Initially, apply at least five grazing/wildlife BMPs that protect riparian areas within a five-year period. Additional projects will be planned as needed in relation to ongoing water quality monitoring data results. Project numbers will be dependent upon funding availability.
- Over the next five years, utilize a portion of the \$600,000 annually available to landowners for agricultural BMPs to be used for practices that also benefit wildlife and reduce negative impacts of wildlife on water quality.

Education and Information

ISSUES

There is a general lack of education relative to the correlation between land uses and watershed condition and water quality as a measure of overall natural resource health.

OBJECTIVES

Improve understanding of the correlation between land use and watershed condition - thus targeting to improve overall water quality over the next five years.

ACTION ITEMS

- The CCNRD will provide a brief synopsis of the plan and update Crook County residents on watershed activities in their bimonthly newsletter.
- The Upper Belle Fourche Watershed Advisory Group will develop an Annual Report of Progress within the watershed and distribute to watershed residents and the WDEQ.
- The CCNRD will provide regular updates on Belle Fourche River implementation activities in their regular newsletter.
- The CCNRD will develop a brochure explaining the project and Watershed Plan and will distribute to watershed residents, WDEQ, and the general public.
- The Conservation District will conduct two workshops/tours for agricultural producers on BMPs available and resources to assist in installation, management and funding BMPs. (Measurable data could include a roster of attendees, number of brochures passed out.)
- The CCNRD will conduct three homeowner workshops related to septic system evaluations. (Measurable data could include a roster of attendees, number of brochures passed out.)
- The CCNRD will create a website to serve as a source of information on water quality issues for residents and maintain it with current data. (Measurable data could include a counter on the website tracking the number of visitors to the site.)
- The CCNRD will implement an information and education program for appropriate RV and camping waste management within the Belle Fourche Watershed. (Measurable data could include number of no-dumping buttons placed in areas of improper waste releases.)
- The CCNRD will provide information and education on proper installation and maintenance of septic systems, wells, storm drains and their relationships and effect on water quality. (Measurable data could include number of storm drain buttons placed on areas of storm water runoff, number of brochures distributed, number of workshops and attendees, number of landowners that have applied to install septic systems, etc.)
- The CCNRD will provide information and education on pet waste and its effect on water quality. (Measurable data could include number of brochures distributed.)

Belle Fourche River Watershed Plan

5.0 ACTION REGISTER/MILESTONE TABLE	2004				2005				2006				2007				2008			
	J-M	A-J	J-S	O-D	J-M	A-J	J-S	O-D	J-M	A-J	J-S	O-D	J-M	A-J	J-S	O-D	J-M	A-J	J-S	O-D
The CCNRD will provide follow-up water quality monitoring activities		X	X			X	X			X	X			X	X			X	X	
The Steering Committee, CCNRD and NRCS will continue, and attempt to expand cost-share programs for BMPs addressing water quality		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
The CCNRD will create a local Watershed Coordinator position responsible for assisting with the implementation of the Belle Fourche Watershed Plan	X																			
The CCNRD will conduct two workshops/tours for agricultural producers on BMPs			X				X				X				X				X	
The CCNRD will conduct three homeowner workshops related to septic system evaluations. The CCNRD will provide information and education on proper installation and maintenance of septic systems, wells, storm drains and their relationships and effect on water quality						X				X				X				X		
The CCNRD will create a website to serve as a source of information on water quality issues for residents				X	X															
The CCNRD and NRCS will address ten containment and feeding facilities to comply with WDEQ's regulations		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
The CCNRD and NRCS will apply five grazing/wildlife BMPs that protect riparian areas		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
The CCNRD and NRCS will make available \$600,000 in cost-share per year to agricultural producers to implement voluntary BMPs to enhance water quality		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
The CCNRD will implement an information and education program on appropriate RV and camping waste management		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X
The CCNRD will make available \$210,000 in cost-share per year to agricultural producers to upgrade inadequate or faulty septic systems		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
The CCNRD will provide a brief synopsis of the plan and update Crook County residents on watershed activities in their bimonthly newsletter	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
The Steering Committee will develop an Annual Report of Progress on the Watershed Plan and distribute the report to WDEQ and residents					X				X				X				X			
The CCNRD will develop a brochure explaining the Watershed Plan for distribution to WDEQ, residents, and general public				X	X	X														
The CCNRD will provide information and education on pet waste and its effect on water quality			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Identify points where urban stormwater drainages enter the Belle Fourche River or its direct tributaries and attach storm-drain buttons for public awareness.					X															

6.0 ACRONYMS AND GLOSSARY

Acronyms

BMP – Best Management Practice
CCNRD – Crook County Natural Resource District
CWA – Clean Water Act
EPA – United States Environmental Protection Agency
NRCS – Natural Resources Conservation Service
PIP – Project Implementation Plan
QA/QC – Quality Assurance/Quality Control
RV – Recreational Vehicle
SAP – Sampling and Analysis Plan
TMDL – Total Maximum Daily Load
USGS – United States Geological Survey
WDEQ – Wyoming Department of Environmental Quality
WQD – Water Quality Division of WDEQ

Glossary

Best Management Practices – or BMP’S are described as “Guidelines for managing the use or a resource in a manner that protects the resource and promotes ecological and economic sustainability.

Fecal Coliform – a group of bacteria that are used as an indicator of pollution. They are found in the excremental waste of warm blooded animals and are defined as rod shaped bacteria that ferment lactose to form gas within 48 hours of being placed (Incubated) in lactose broth at 35C.

Quality Assurance – is an integrated system of management procedures and activities used to verify that the quality control system is operating within acceptable limits and to evaluate the quality of data.

Quality Control – a system of technical procedures and activities developed and implemented to produce measurements of requisite quality.

Total Maximum Daily Loads – is the amount of a pollutant that a water body can receive and still meet water quality standards.

Section 303(d) List – identifies waters not meeting State water quality standards.

Section 305(b) Report – is an assessment of the States water quality and states the degree to which each water body supports the designated uses of a States Water Quality Standards.