

DONKEY/STONEPILE CREEKS WATERSHED PLAN

*A comprehensive natural resource management plan designed
to address water quality issues in the Donkey & Stonepile Creeks Watershed.*



DEVELOPED IN COOPERATION BY:

**CAMPBELL COUNTY CONSERVATION DISTRICT
DONKEY/STONEPILE CREEKS WATERSHED STEERING COMMITTEE**

ASSISTANCE PROVIDED BY:

**WYOMING ASSOCIATION OF CONSERVATION DISTRICTS
NATURAL RESOURCES CONSERVATION SERVICE**

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EXECUTIVE SUMMARY

MISSION STATEMENT

The mission of the Donkey Creek/Stonepile Creek Steering Committee is to promote and support voluntary land use management practices that when implemented will address human caused water quality issues identified by the current water quality assessment of Donkey and Stonepile Creeks with consideration to historic and natural background influences within the watershed.

PURPOSE STATEMENT

1. To maintain 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 Best Management Practices (BMPs) on a voluntary basis
2. To focus resources on addressing the current listing of the Belle Fourche River in Table A of the Wyoming Department of Environmental Quality (WDEQ) 303(d) list of waterbodies with water quality impairments due to noncompliance with the current fecal coliform water quality standard
3. To 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 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 towards the goal established

CLEAN WATER ACT

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 provide for recreation in and on the water. This goal is commonly known by the expression "fishable/swimable".

The Environmental Protection Agency (EPA) has responsibility to ensure that provisions of the CWA are met. With regard to Wyoming, EPA has delegated authority to WDEQ to ensure compliance with the CWA. In states without delegated authority, EPA retains responsibility for CWA compliance.

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY'S ROLE

In order to ensure compliance with the CWA, WDEQ had to establish a system for evaluating and protecting waterbodies. Since all waters are not used for the same purpose, no single set of standards could be established to reasonably address water quality concerns. For this reason, WDEQ classified each waterbody within the state. The classifications were based on "designated uses" designed to reflect what the water is

currently used for or what the water could potentially be used for. Examples of designated uses include agriculture, industry, drinking water and fisheries among others. Different combinations of assigned designated uses resulted in a single classification for each waterbody (Appendix A). WDEQ then established water quality criteria (narrative or numeric standards) applicable to each classification to ensure that water quality is sufficient to support all of the designated uses. Water quality criteria, therefore, are different for each classification.

In addition to establishing a system for evaluating water, WDEQ must also report the condition of the State's water. Under Section 305(b) of the CWA, the State of Wyoming must report the condition of their water(s) to the EPA once every two years. This report, prepared by WDEQ, is known as the 305(b) report. In addition to 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 criteria ("impaired waters") applicable to that waterbody based on its classification. As mentioned earlier, states are required to address impaired water bodies by establishing water quality standards and pollution control activities designed to achieve and maintain the designated use(s).

CAMPBELL COUNTY CONSERVATION DISTRICT'S ROLE

Following the enactment of the CWA, EPA has delegated water quality assessment and regulatory responsibilities to WDEQ, which is the regulatory agency responsible for enforcement of the CWA as it applies to Wyoming waters. Local Conservation Districts, by statutory authority, have assumed the responsibility of leading information and education programs, and providing technical and financial assistance to their constituents to conserve Wyoming's natural resources, and to protect the quality of life of all Wyoming citizens. The Campbell County Conservation District (CCCD) has served as a liaison between WDEQ and local land managers within the Donkey and Stonepile Creeks Watershed to address water quality concerns and to investigate historical and background conditions as they apply to environmental compliance with regard to water quality standards. CCCD has also endorsed the formation of the Donkey/Stonepile Creeks Watershed Plan Steering Committee; to develop a locally led, voluntary and incentive-based watershed management plan to improve water quality while preserving the economic sustainability of the community within the Donkey and Stonepile Creeks Watershed.

CONSERVATION DISTRICT'S PLANNING AUTHORITY

Statutory language granting CCCD the Authority to develop this watershed plan is as follows:

- Wyoming Statute, 11-16-103 Legislative declarations and policy, CCCD is required 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.”

- Wyoming Statute 11-16-122 (b) grants the Conservation Districts the ability to “conduct surveys, investigations and research and disseminate information relating to . . . the conservation, development, utilization and disposal of water. . . in cooperation with the government of this state or its agencies . . . (v),” to “develop comprehensive plans for . . . conservation of soil and water resources . . . [that] specify in detail the acts, procedures, performances, and avoidances necessary or desirable to carry out the plans (xvi),” and to “make public the plans and information and bring them to the attention of owners and occupiers of land within the district (xvii).”

PUBLIC PARTICIPATION STRATEGY

Public participation is a vital component of the watershed planning process that was used by CCCD to develop this watershed plan. Watershed planning efforts led by Conservation Districts within the State of Wyoming are completed using the Wyoming Association of Conservation Districts (WACD) Watershed Strategic Plan, which specifically addresses public participation with the following statement:

Public input is one of the most important steps in the watershed planning process. The conservation district can choose the extent of public input when creating their plan. At a minimum, the district should follow the Administrative Procedures Act (W.S. 16-3-101 et seq.,) which requires a public notification process, a timed 45 day public hearing/review process, and final approval of the plan by the board of supervisors.

CCCD initiated awareness efforts for the impairments on Donkey Creek and Stonepile Creek on November 14, 2002 by hosting a public meeting at the Campbell County Library announcing the impairments and soliciting ideas for addressing the concern. On April 7th of 2003, another public meeting was hosted to inform local landowners of their options in addressing the impaired segments on Donkey and Stonepile Creeks. The Donkey/Stonepile Creeks Steering Committee was formed at this April 7th meeting. In order to encourage broad representation on the Steering Committee, an additional public meeting was hosted for the Freedom Hills Home Owner’s Association in April of 2004. The first Steering Committee meeting for watershed planning was held on June 15th of 2004. The Steering Committee has been meeting on a monthly basis since then to develop this document.

The Donkey/Stonepile Creeks Watershed Plan will be available for public comment from August 14 through September 28, 2006 before being submitted to WDEQ for final approval. Once the watershed plan is adopted by WDEQ, local landowners, CCCD and the City of Gillette will continue with implementation of the plan and continue to work towards the goal of removal of Donkey Creek and Stonepile Creek from the WDEQ 303(d) list of impaired water bodies.

BACKGROUND INFORMATION

WATER QUALITY OF DONKEY AND STONEPILE CREEKS

Monitoring on Donkey Creek and Stonepile Creek was conducted in 2002 and 2003 from the Campbell County line eastward into the City of Gillette (Appendix B). Three primary reaches were measured for fecal indicator bacteria at concentrations exceeding the WDEQ-Water Quality Department (WQD) standards. Concentrations of fecal coliform bacteria on Donkey Creek above Garner Lake Road as well as below the Wyodak Facility also exceeded the WDEQ-WQD standard. Measurements of fecal coliform bacteria on Stonepile Creek indicate that upstream of Boxelder Road, concentrations generally exceed the standard. These three reaches are, therefore, targets for BMPs to decrease human and other warm-blooded animal fecal pathogens from reaching the streams. Positive correlation was apparent between fecal coliform concentrations and *E. coli* concentrations at all sites monitored on Donkey Creek and Stonepile Creek.

No relationships were apparent between fecal indicator bacteria and physical water quality parameters or flow. Single sample concentrations surpassed the EPA recommended limit for both fecal coliform and *E. coli* on Donkey Creek and Stonepile Creek with 25 exceedences for fecal coliform and 11 for *E. coli*.

In addition the watershed assessment also served to provide data, which may be useful in assessing the status of the streams as, impaired or threatened. The current classifications and status of the streams in the study area are:

Donkey Creek - listed on the 2006 WDEQ 303(d) List of Impaired Waterbodies for fecal coliform impairing contact recreation from the confluence with the Belle Fourche River upstream an undetermined distance above Antelope Butte Creek.

Stonepile Creek - listed on the 2006 WDEQ 303(d) List of Impaired Waterbodies for fecal coliform impairing contact recreation from the confluence with Donkey Creek upstream an undetermined distance.

A total of 212 samples were collected in the sub-watersheds during 2002 and 2003. The samples were collected with the goal of meeting the 5 samples in 30 days protocol for the spring/summer and summer/fall seasons. Table 1 summarizes the geometric means for bacteria results collected by the District. Fecal coliform results that exceed the chronic standard are denoted by a red coloring (200 colonies/100 mL) while *E. coli* geometric means that exceed the proposed standard (126 colonies/100 mL) are colored blue. Appendix C presents the water quality data collected during 2002 and 2003.

Table 1—Summary of Geometric Means for Bacteriological Samples Collected in 2002 and 2003, Donkey and Stonepile Creeks.

Site I.D.	Season	<i>E. coli</i> (col./100 mL)	Fecal Coliform (col./100 mL)	Total Coliform (col./100 mL)
DCSP	Spring 2002	*	5.21	*
	Fall 2002	22.21	16.60	365.63
	Spring 2003	15.52	7.23	1,434.28
	Fall 2003	56.99	74.41	51,206.47
DC3	Spring 2002	*	252.50 ¹	*
	Fall 2002	18.35	14.31	254.53
	Spring 2003	11.49	13.74	1,224.04
	Fall 2003	91.32	137.67	50,716.12
DC4	Spring 2002	*	252.51 ¹	*
	Fall 2002	8.63	14.13	1,430.30
	Spring 2003	31.04	14.69	2,423.84
	Fall 2003	225.42 ²	264.47 ¹	60,267.01
DC5	Fall 2002	1.00	1.58	17.58
	Spring 2003	10.00	1.97	98.22
DC6	Spring 2002	*	145.85	*
	Fall 2002	2.71	11.67	399.92
	Spring 2003	15.85	32.85	118.94
	Fall 2003	307.81 ²	346.37 ¹	35,072.91
SC1	Spring 2002	*	10.00	*
	Fall 2002	1.97	2.34	73.81
	Spring 2003	10.00	1.58	734.08
	Fall 2003	20.73	28.34	43,230.41
SC2	Fall 2002	3.98	12.56	481.51
	Spring 2003	43.07	14.19	297.90
SC3	Spring 2002	*	172.51	*
	Fall 2002	1.00	2.19	21.21
	Spring 2003	39.73	23.73	116.38
SC4	Spring 2002	*	97.33	*
	Fall 2002	2.27	3.21	71.00
	Spring 2003	10.00	1.00	1,101.01
	Fall 2003	422.36 ²	785.68 ¹	120,426.47
SC5	Spring 2002	*	10.00	*
	Fall 2002	2.19	2.97	6.78
	Spring 2003	10.00	1.00	15.85
	Fall 2003	1.15	1.15	1000.00
SC6	Spring 2002	*	364.32 ¹	*
	Fall 2002	5.49	25.37	285.27
	Spring 2003	12.46	3.35	637.36
	Fall 2003	562.77 ²	1,039.03 ¹	106,459.02

*Indicates presence/absence test only by Energy Labs

¹Indicates exceedence of water quality criteria for fecal coliform

²Indicates exceedence of the proposed water quality criteria for *E. coli*

Exceedences of the standard are apparent at most sites monitored for the project. Sites not indicating problematic bacteria concentrations include; DCSP, DC5, SC1, SC2 and SC3. All of the exceedences occurred in the spring of 2002 and/or fall of 2003. Donkey Creek results indicate high concentrations both above and below the mouth of Stonepile

Creek. Stonepile Creek portrays elevated concentrations in the upper reaches only. Exceedences of the single sample recommended limit of 400 colonies/100 mL were measured 25 times during the study. Sites with concentrations of fecal coliform bacteria greater than 400 organisms/100 mL were; DC3 (2), DC4 (3), DC6 (3), SC2 (3), SC3 (4), SC4 (3), SC6 (6) and SC7 (1). The impaired/threatened status of both streams appears reasonable given the data collected by the CCCD.

WATERSHED DESCRIPTION

Donkey and Stonepile Creeks are tributaries of the Belle Fourche River. Both streams originate west of Gillette, WY and the watershed encompasses approximately 173,000 acres. The watershed drains from west to east and both creeks flow through Gillette. In addition, Stonepile Creek is confined within a concrete channel as it flows through the urban area of Gillette and is a tributary of Donkey Creek with the confluence just east of the city. Donkey Creek then enters the Belle Fourche River just west of Moorcroft, approximately 30 miles downstream. Instantaneous flow measurements taken by the United States Geological Survey (USGS) on Donkey Creek and Stonepile Creek generally indicate highest flows during spring/summer. Donkey Creek near Moorcroft, with a period of record from 1978-1989 and 2000-2003, portrays median monthly flows of 7 cfs, 6 cfs, 10 cfs and 3.2 cfs from March through June, respectively. In general, flows are highest just below the confluence of Donkey and Stonepile Creeks, probably due to the nearby Gillette Waste Water Treatment Plant Discharge. Flows above the discharge point are generally 0.5 cfs or less and flows below the discharge point average 4.5 cfs.

ELEVATION: Donkey Creek and Stonepile Creek flow southwest (SW) out of Gillette at an elevation of 4900' flowing east, leaving Campbell County at 4160', merging with the Belle Fourche River west of Moorcroft.

LAND OWNERSHIP: Land ownership for the Donkey and Stonepile Creeks include:

Federal: 0.52%

Private: 89.14 %

State: 9.92%

Other: 0.42%

LAND USE: The principle land uses in these watersheds is agriculture and energy development. Beyond the influences of the primary population center on the streams in terms of water quality and quantity, a number of other potential influences exist. These include the Gillette Municipal Water Treatment Center, which discharges to Stonepile Creek and the Fox Park Water Treatment Facility and the Wyodak Power Plant which discharge to Donkey Creek. Additionally Coal bed Natural Gas Producers such as Marathon, Williams, Yates, Kennedy, Conoco-Phillips and many smaller operators have Wyoming Pollution Discharge Elimination Systems (WYPDES) permits in the watershed.

PRECIPITATION/SEASONAL DISTRIBUTION: Average precipitation generally ranges from 15-17 inches a year with some areas receiving 12-14 inches a year. Normal high flow peaks March through June.

SOILS: The soils within the flood plain and stream terrace of Donkey Creek and Stonepile Creek watersheds range from poorly drained, well drained, and somewhat excessively drained soil and they occur on 0 to 6 percent slopes. These soils formed in alluvium from sandstone and shale, and in some areas, porcelain fragments occur within the soil profile. The dominant soils are stratified in the subsoil with variable soil textures. These soils have the potential to flood about 10 percent of the time in the spring and early summer. The main soil textures of the different soil types are: loam, clay loam, fine sandy loam, loamy fine sand, and clay. About 5 percent of the soils in these areas have the potential to be hydric. Hydric soil is a soil that, in its undrained condition, is saturated, flooded, or ponded long enough during the growing season to develop Anaerobic conditions that favor the growth and regeneration of hydrophytic (water-loving) vegetation.

GEOLOGY: The Belle Fourche watershed for the area sampled is comprised of ½ Wasatch formation and ½ Fort Union formation.

EROSION POTENTIAL: The water erosion potential is higher than the wind erosion potential. This is due to the potential for overland water flow along the drainage areas. Most of these areas are protected from wind erosion to some extent by the upland landforms, woodland, and grass and shrub vegetation that occur along the river and creek drainages.

WATER QUALITY EFFORTS TO DATE

Stormwater and Pollution Prevention Plans have been changed by the City of Gillette to be more inclusive and stringent for developments above and beyond what WDEQ requires. All of the activities that are outlined in the Gillette Fishing Lake Water Quality Improvement Plan are relevant. All new drainage projects will include sediment control structures such as *Stormceptors*. Granular de-icer is being used for traction on icy roads in place of scoria and traditional salt. This technique has reduced the amount of material that must be placed on road surfaces. The rate of reduction is approximately 40% reduction in use of total material with a 100% reduction in the use of salt and scoria. The City of Gillette also has a maintenance plan to insure that all storm drains are cleaned on a three-year rotation. The City of Gillette has also prepared for Phase II stormwater management by requiring training for City employees to ensure compliance once the regulations are adopted. There have been other implementation efforts to address stormwater runoff by both the City of Gillette and CCCD. Some of these efforts include:

1. Installed one 900-gallon *Stormceptor* on Ostlund Street in 2003.
2. Installed one 900-gallon *Stormceptor* on Edwards Street in 2003.
3. Installed two 900-gallon *Stormceptors* on West 4J Road and Sinclair Street in 1997.

4. Storm stencils: In August of 2001, the Boys & Girls Club of Gillette distributed 3000 stickers and epoxy to residents along the Donkey Creek drainage and also to residents within the City limits.
5. Video: The District contracted with Grunko Films to create a visual campaign on the effects of Non-Point Source (NPS) pollution in Donkey Creek to the Gillette Fishing Lake. The video also showed proper methods of waste disposal and NPS elimination. The video was 10-12 minutes in length.
6. Two Commercials: From footage of the video, two commercials were completed. The commercials were 30 seconds each and were shown on local cable TV. The spots were aired starting July 23, 2001 and finished on September 16, 2001. They were shown a total of 960 times on 11 cable stations including A&E, CNN, DISC, ESPN, TNN, TNT, WTBS, ESPN2, HGTV, Life, USA.

Campbell County has also increased acreage requirements for lots that will be serviced by individual sewage treatment facilities. The lot size requirement also includes provisions to ensure that the acreage is “useable” for septic systems (must have 2 ½ acres, not including land on which the house sits, with suitable soils and topography for a septic tank and leach field). There have also been large-scale efforts to incorporate subdivisions that were previously serviced by individual septic systems onto the municipal sewer system. One example of this effort includes eliminating 325 septic systems from the Antelope Valley Subdivision by converting them to City sewer and water. The Antelope Valley Subdivision is in the Donkey Creek Watershed.

CCCD has also initiated a septic system and Animal Feeding Operation (AFO) cost-share program in an effort to repair failing septic systems on a voluntary and incentive-based approach. CCCD began collecting water quality data in response to the listing of Donkey Creek and Stonepile Creek on WDEQ’s 303(d) List of Waterbodies with Water Quality Impairments. WDEQ data was used for the initial assessment of water quality within the waterbodies and CCCD continued to sample the same location for the two following years to verify the impairment.

There has also been a prescribed grazing management plan implemented within the watershed. This project consisted of installing four off-site watering facilities with a total of about 13,000 feet of stockwater pipeline. A grazing management plan was developed for 2100 acres to increase grazing distribution and optimize season of use. This plan was implemented to increase forage availability and forage quality while reducing soil erosion and surface water impacts.

WATERSHED ISSUES AND CONCERNS

URBAN AREAS – Since both Donkey and Stonepile Creeks flow through the City of Gillette, urban impacts to water quality are an important consideration. Specific issues to consider are: 1) educating residents on urban impacts; 2) sewage treatment and septic systems; 3) stormwater run-off; 4) solid waste management; and 5) bacterial human health concerns.

Educating Residents on Urban Impacts - The Urban population may have a detrimental impact on bacterial contributions and other water quality concerns within the Donkey and Stonepile Creeks Watershed. Developers and planning officials need to have the appropriate information readily available to make informed decisions. Specific issues and concerns include:

Urban Sewage Treatment and Septic Systems - Community wastewater treatment facilities are regulated and monitored by the WDEQ. Individual wastewater treatment systems are regulated and monitored by the City of Gillette (individual septic systems within the city limits), Campbell County Planning Office (individual septic systems outside city limits), or WDEQ (commercial septic systems anywhere within Campbell County), which holds responsibility for inspection throughout the watershed. For those not on community systems, individual on-site treatment systems require proper installation and periodic maintenance to minimize the potential impact of waste in surface waters.

Stormwater Runoff – The City of Gillette has put forth considerable effort to address water quality from urban stormwater runoff. Most of the stormwater runoff from the City of Gillette ultimately flows into Gillette Fishing Lake on Donkey Creek. There is a water quality improvement plan that has been developed for Gillette Fishing Lake to address siltation, but the lake also serves as a settling pond for Donkey Creek, thereby increasing water quality. Stormwater Prevention Plans are issued for new developments within the County and inspections are rigorously pursued by WDEQ. There is a need for more information and education efforts directed at urban residents within the watershed.

Solid Waste Management – Illegal dumping may contribute to decreased water quality within the Donkey and Stonepile Creeks Watershed. Illegal dumping, especially as related to hazardous materials may be due to lack of awareness of proper disposal alternatives. There is a need for more information and education efforts regarding proper disposal of RV waste and other hazardous materials.

Bacteria Human Health Concerns – There is a need for information and education to the citizens of Gillette regarding the risks associated with playing in and around storm sewers and surface water drainages.

RURAL AREAS AND SUBDIVISIONS - Throughout recent decades land ownership and land management has shifted from primarily large tracts of deeded land to small acreages with many different landowners. Development in rural areas has a potential impact on water resources within the Donkey and Stonepile Creeks Watershed. The Donkey Creek/Stonepile Creek Steering Committee recognizes these potential impacts while respecting private property rights. Specific issues include:

Small Acreage Land-Use Management - Prolonged confinement of animals in close proximity to the natural drainage has the potential to adversely impact the water resources in the Donkey and Stonepile Creeks Watershed. Intense grazing adjacent to surface water has the potential to contribute contaminants to the surface water as vegetative cover is reduced.

Rural Development Issues – As development activities increase, native vegetation is removed during house construction, road construction and utility installation. The arid conditions within the Donkey and Stonepile Creeks Watershed make revegetation efforts difficult and slow.

Septic Systems – Proper installation and periodic maintenance are very important to minimize the potential impact of waste management practices. To this date; The Donkey Creek/Stonepile Creek Watershed Steering Committee in cooperation with CCCD has provided technical and financial assistance to facilitate septic tank replacement and/or relocation projects within the Watershed. Individual on-site sewage treatment facilities (septic systems) are common in rural areas throughout the Watershed and inadequate or malfunctioning systems present a potential source of fecal coliform contamination.

WATER QUALITY CRITERIA - There may be stream segments that are not classified correctly and should be designated as supporting secondary contact recreation uses instead of primary contact recreation. The steering committee may wish to pursue a simplified Use Attainability Analysis (UAA). The committee would support submission of a UAA to re-classify those sections of Stonepile Creek that are downstream of the City of Gillette and not used for primary contact recreation.

WATER QUALITY MONITORING – Continued water quality monitoring will be important to track the effectiveness of implementation activities associated with this watershed plan. Based on previous water quality monitoring efforts, some additional sampling will be necessary to describe background influences, as data has been variable and changes in bacteria concentrations unexplainable. More data will be necessary to determine possible climatic and human influences on water quality.

COORDINATION WITH WDEQ & OTHER ENTITIES – One of the most important factors in ensuring successful implementation of this watershed plan will be involvement from other entities such as WDEQ, bordering Conservation Districts, the City of Gillette, Campbell County and other local, state and federal agencies. As part of the Belle Fourche Watershed, implementation and monitoring activities should be coordinated with Crook County Natural Resource District.

AGRICULTURE – The main agricultural practice within the Donkey and Stonepile Creeks watershed is livestock grazing. There are also hay production practices within the watershed on Donkey Creek, but this practice may act as a filter strip to improve water quality. A limited number of animal confinement (corrals) and feeding areas exist within the watershed and may present potential for improving water quality.

INDUSTRIAL IMPACTS– There is little potential for water quality impacts due to industry within the Donkey/Stonepile Creeks Watershed. There have been historic discharges of coal bed methane water, but these discharges have become insignificant in recent years. There were coal bed methane water reservoirs built to retain discharges on both Donkey and Stonepile Creeks. These reservoirs most likely improve water quality from a bacteria standpoint. Other impacts from future industrial activity are hard to quantify, but will be addressed primarily by existing regulations, such as the WYPDES permitting process.

BACKGROUND INFLUENCES – The climatic and geologic influences in Donkey/Stonepile Creek Watershed also influence the levels of bacteria within the streams. Short duration/high intensity storm events are common in the summer. The average annual precipitation in this watershed is 10-14”.

OBJECTIVES TO ADDRESS WATERSHED ISSUES AND CONCERNS

URBAN AREAS – Since both Donkey and Stonepile Creeks flow through the City of Gillette, urban impacts to water quality are an important consideration. Specific issues to consider are: 1) educating residents on urban impacts; 2) sewage treatment and septic systems; 3) stormwater run-off; 4) solid waste management; and 5) bacterial human health concerns

Educating Residents on Urban Impacts – City and County officials will need to be updated regarding water quality and the status of watershed plan implementation activities within Donkey and Stonepile Creeks Watersheds. Educating residents of the potential impacts associated with urban settings on water quality may also be needed.

OBJECTIVE

1. Ensure that City and County Officials and residents are informed about the water quality and implementation activities within Donkey and Stonepile Creeks.
2. Educate residents regarding urban living impacts on surface water quality.

ACTION ITEMS

1. CCCD will annually present water quality data and an update regarding water quality improvement activities in Donkey and Stonepile Creeks to the City Council and the Campbell County Commissioners.
2. Enviroscope: The Enviroscope model was developed as an educational tool to increase awareness of water pollution by showing sources and what is being done to manage these and what can be done to better manage potential pollutants. This model specifically demonstrates the difference and interaction of NPS and Point Source pollution. CCCD to annually present the Enviroscope to ten (10) different classrooms in the Gillette area (including the Homeschool Group).

Urban Sewage Treatment and Septic Systems – Historical data indicates bacteria concentrations in excess of what could be expected for surface water being impacted by only natural background influences. Sampling sites within the City have shown particularly high concentrations of bacteria.

OBJECTIVE

1. Ensure that City and County Officials are aware of bacteria concentrations, particularly in urban areas and housing developments.

ACTION ITEMS

1. In the event that water quality samples for E. coli from Stonepile Creek, within the City of Gillette, exceed 500 CFUs per 100 ml, CCCD will contact the Campbell County Health Department.

Stormwater Runoff – Most stormwater management concerns are being addressed by the City of Gillette. There are provisions in place to ensure that Gillette will be in compliance with Phase II Stormwater Management regulations despite the fact that there is no requirement for a city the size of Gillette to hold a Municipal Separate Storm Sewer System Permit. There is a need for information and education activities regarding urban living impacts on water quality.

OBJECTIVES

1. Utilize BMP implementation and an information and education campaign to reduce urban impacts on the water quality of Donkey and Stonepile Creeks.

ACTION ITEMS

1. Sedimentation and Bacteria Control: The City of Gillette has initiated an enhanced street sweeping program on roadways directly adjacent to the Gillette Fishing Lake and Donkey Creek increasing the removal of scoria and other aggregate particles applied to the city streets during times of winter and icy road conditions before storm waters pick it up.
2. Storm water master plan: Feasibility study to update the sewer systems for City of Gillette. The City will map out the existing storm water sewer system and use a model to ensure it is adequate to handle any storm water runoff. The City of Gillette has budgeted \$150,000 in FY 2004-2005 for this study. The information from this study will be utilized to develop a capital improvement plan to itemize specific practices to be installed.
3. Sunburst drainage improvements (west): Construct drainage improvements for the Sunburst subdivision and surrounding areas west of Highway 59. The report is complete and improvements have been designed. The City of Gillette budgeted \$340,000 in Arch/Engineering and \$1,700,000 in Construction for FY's 2004-2006 (Appendix B, CIP for Sunburst Drainage Improvement West).
4. Annually affix 300 stickers to storm drains contributing to Donkey Creek drainage.
5. Annually present "Doing Our Part" video at County Fair, various community organization meetings, and school programs.

Solid Waste Management – Illegal dumping may contribute to decreased water quality within the Donkey and Stonepile Creeks Watershed. Illegal dumping, especially as related to hazardous materials may be due to lack of awareness of proper disposal alternatives. There is a need for more information and education efforts regarding proper disposal of RV waste and other hazardous materials.

OBJECTIVES

1. Increase awareness of solid waste and RV sewage disposal programs available through the City of Gillette.

ACTION ITEMS

1. CCCD will produce and distribute “A Guide for Proper RV/Camp Waste Disposal” brochure that will highlight available areas for disposal and operating hours.
2. CCCD will produce and distribute “A Guide for Proper Pet Waste Disposal” brochure.
3. Incorporate information regarding Campbell County’s hazardous waste disposal program into the CCCD’s display and educational efforts.

Bacteria Human Health Concerns – There is a need for information and education to the citizens of Gillette regarding the risks associated with playing in and around storm sewers and surface water drainages. There may be opportunities for education programs in schools and in CCCD’s workshops.

OBJECTIVES

1. Ensure residents and visitors to the Donkey and Stonepile Creeks Watershed are aware of bacteria concentrations and associated risks during the recreation season.

ACTION ITEMS

1. Provide an update of water quality monitoring results to the Campbell County Health Department annually.
2. Incorporate bacteria water quality data and standards into CCCD’s workshops relating to watershed planning and implementation.

RURAL AREAS AND SUBDIVISIONS - Throughout recent decades land ownership and land management has shifted from primarily large tracts of deeded land to small acreages with many different landowners. Development in rural areas has a potential impact on water resources within the Donkey and Stonepile Creeks Watershed. The Donkey Creek/Stonepile Creek Steering Committee recognizes these potential impacts while respecting private property rights. Specific issues include:

Small Acreage Land-Use Management - Prolonged confinement of animals in close proximity to the natural drainage has the potential to adversely impact the water resources in the Donkey and Stonepile Creeks Watershed. Intense grazing adjacent to

surface water has the potential to contribute contaminants to the surface water as vegetative cover is reduced.

OBJECTIVES

1. Offer educational opportunities to residents of rural areas emphasizing the correlation between proper forage utilization and water quality.

ACTION ITEMS

1. Produce “Living on a Few Acres” brochure to illustrate differences in lifestyle and expectations between living within a municipality and in a rural area where all services are not available. This brochure will be widely available.
2. Produce a brochure to illustrate how much land and supplemental feed is needed to responsibly sustain horses or other livestock specific to different range sites within Campbell County. These brochures will be widely available at places such as veterinary clinics, feed stores, real estate offices, chamber of commerce etc.
3. CCCD subscribes to 200 copies of “Barnyards to Backyards” that will be distributed to local businesses, government entities and selected residents of Campbell County. This activity will continue on a quarterly basis for the five years of this watershed plan.
4. CCCD will host a Small Acreage Workshop at least once during the five years of this plan.
5. CCCD will host a Plant Identification Workshop aimed at grazing management during 2006.
6. CCCD will sponsor a tour to the Bridger Plant Materials Center open to all residents that will highlight seed species available for rangeland improvement or reclamation activities in 2006.
7. Host an Animal Feeding Operation (AFO) tour to emphasize potential changes such as relocation and properly following a Nutrient Management Plan (NMP) and their impact on water quality.

Rural Development Issues – As development activities increase, native vegetation is removed during house construction, road construction and utility installation. The arid conditions within the Donkey and Stonepile Creeks Watershed make revegetation efforts difficult and slow.

OBJECTIVES

1. Reduce the amount of sediment/bacteria and erosion originating from new development areas within the watershed.

ACTION ITEMS

1. Host a workshop emphasizing stormwater management plans and septic system installation requirements and considerations for industry representatives and general contractors.

Septic Systems – Proper installation and periodic maintenance are very important to minimize the potential impact of waste management practices. To this date; The Donkey Creek/Stonepile Creek Watershed Steering Committee in cooperation with CCCD has provided technical and financial assistance to facilitate septic tank replacement and/or relocation projects within the Watershed. Individual on-site sewage treatment facilities (septic systems) are common in rural areas throughout the Watershed and inadequate or malfunctioning systems present a potential source of fecal coliform contamination.

OBJECTIVES

1. Increase resident's understanding of proper installation and maintenance of individual septic systems.
2. Decrease bacteria concentration in the Donkey and Stonepile Creeks through remediation of septic systems.

ACTION ITEMS

1. The "Wyoming Homeowner's Guide to Septic Systems" will be available at the CCCD office and distributed as needed for information purposes and in applying for cost share funding.
2. Host a septic workshop highlighting proper installation, maintenance and also including information needed for application for cost-share assistance.
3. CCCD will approach the Campbell County Commissioner's in an effort to offer alternatives for cost-share funding for those septic systems that were installed after 1973 (approximately 70% of the septic systems in the watershed), but still may be causing a water quality concern. The steering committee and CCCD will encourage the County Commissioners to consider centralized systems for multi-home communities where appropriate.
4. CCCD will remediate 12 septic systems within the Donkey and Stonepile Creeks Watershed. There is \$51,000 currently available for cost sharing.

WATER QUALITY CRITERIA - There may be stream segments that are not classified correctly and should be designated as supporting secondary contact recreation uses instead of primary contact recreation. The steering committee may wish to pursue a simplified UAA. The committee would support submission of a UAA to re-classify those sections of Stonepile Creek that are downstream of the City of Gillette and not used for primary contact recreation.

OBJECTIVES

1. Ensure that Donkey and Stonepile Creeks are classified correctly and have appropriate use designation.

ACTION ITEMS

1. Use current and historic water quality data to prepare and submit a UAA if the data indicates that the stream is not classified correctly.

WATER QUALITY MONITORING - Based on previous water quality monitoring efforts, some additional sampling will be necessary to describe background influences and to document changes in water quality as a result of implementation of this watershed plan.

OBJECTIVES

1. Continue monitoring water quality within the Donkey and Stonepile Creeks to evaluate the effectiveness of implementation activities and to further define the nature and extent of the bacterial impairment for human health considerations.
2. Ensure that CCCD monitoring personnel have current equipment and training to collect credible water quality data.

ACTION ITEMS

1. CCCD will continue annual water quality monitoring efforts as outlined in the current Sampling and Analysis Plan for Donkey and Stonepile Creeks.
2. CCCD staff will pursue water quality monitoring certification through the University of Wyoming and the WACD.

COORDINATION WITH WDEQ AND OTHER ENTITIES - To ensure successful implementation of this watershed plan, WDEQ and other agencies involved with water quality regulation, funding and assessment will have to be aware of the status of this planning effort.

OBJECTIVE

1. Keep WDEQ and other agencies updated on the status of this watershed plan.

ACTION ITEMS

1. CCCD will coordinate with WDEQ by providing an annual updated milestone table and a brief summary of activities regarding this watershed plan. This update will be available to other interested entities as well.
2. CCCD will track the progress of implementation activities by documenting projects in a watershed progress folder to include pictures and narratives of each effort.

AGRICULTURE - The main agricultural practice within the Donkey and Stonepile Creeks watershed is livestock grazing. There are also hay production practices within the watershed on Donkey Creek, but this practice probably acts as a filter strip and improves water quality. Animal confinement issues may present potential for improving water quality.

OBJECTIVES

1. Inform agricultural producers of current rules and regulations that impact their operations.
2. Inform agricultural producers of new technologies and practices with potential to improve water quality.
3. Implement agricultural BMPs to improve water quality.

ACTION ITEMS

1. CCCD will continue to provide the Aer-way Aerator for rent to producers wishing to increase vegetative cover and reduce erosion within the watershed.
2. CCCD will host a Rangeland Plant Identification Workshop during 2006.
3. Provide \$60,000 for cost share opportunities for producers in an attempt to address 3 corrals, feedlots or animal feeding operations in the next five years.
4. Provide the Landowner Self Assessment form to producers for the five years of the watershed plan.
5. Include announcements for cost share opportunities in the CCCD Newsletter on a bi-monthly basis for the five years of the watershed plan.
6. Include announcements for cost share opportunities in the FSA Newsletter on a quarterly basis for the five years of the watershed plan.
7. Advertise cost share opportunities in the local newspaper on an annual basis, or as needed for the five years of the watershed plan.
8. Provide special mailing to residents announcing new program availability on an annual basis for the five years of the watershed plan.
9. Provide booth space and an attendant, on an annual basis, for the five years of the watershed plan, at the Campbell County Fair with water quality educational materials available for attendees.
10. Include water quality information with conservation tours directed at agricultural producers. CCCD will host 1 conservation tour during the five years of the watershed plan that includes water quality information.
11. Host 10 workshops during the five years of the watershed plan addressing various topics regarding conservation in agriculture. Water quality will be a specific topic addressed at each of the hosted workshops.
12. Include an update of water quality issues of CCCD on a bi-monthly basis in the district's newsletter throughout the five years of the watershed plan.
13. Produce "Living on a Few Acres" brochure to illustrate differences in lifestyle and expectations between living within a municipality and in a rural area where all services are not available. This brochure will be widely available.
14. Produce a brochure to illustrate how much land and supplemental feed is needed to responsibly sustain horses or other livestock specific to different range sites within Campbell County. These brochures will be widely available at places such as veterinary clinics, feed stores, real estate offices, Chamber of Commerce etc.
15. CCCD subscribes to 200 copies of "Barnyards to Backyards" that will be distributed to local businesses, government entities and selected residents of Campbell County. This activity will continue on a quarterly basis for the five years of this watershed plan.
16. CCCD will host a Small Acreage Workshop at least once during the five years of this plan.
17. CCCD will sponsor a tour to the Bridger Plant Materials Center open to all residents that will highlight seed species available for rangeland improvement or reclamation activities in 2006.
18. The "Wyoming Homeowner's Guide to Septic Systems" will be available at the CCCD office and distributed as needed for information purposes and in applying for cost share funding.

19. Host a septic workshop highlighting proper installation, maintenance and also including information needed for application for cost-share assistance.
20. CCCD will remediate 12 septic systems. There is \$51,000 currently available for cost sharing.

INDUSTRIAL IMPACTS - There is little potential for water quality impacts due to industry within the Donkey/Stonepile Creeks Watershed. There have been historic discharges of coal bed methane water, but these discharges have become insignificant in recent years. There were coal bed methane water reservoirs built to retain discharges on both Donkey and Stonepile Creeks. These reservoirs most likely improve water quality from a bacteria standpoint.

OBJECTIVES

1. Assist industrial entities in complying with current rules and regulations in place to protect water quality.

ACTION ITEMS

1. CCCD and the City will co-host a Stormwater Pollution Prevention Plan workshop to inform industry of the process for obtaining and implementing the Stormwater Pollution Prevention Plan.

BACKGROUND INFLUENCES - The climatic and geologic influences in Donkey/Stonepile Creek Watershed also influence the levels of bacteria within the streams. Short duration/high intensity storm events are common in the summer. The average annual precipitation in this watershed is 10-14”.

OBJECTIVES

1. Assess the impacts of climate and wildlife on water quality within the Donkey and Stonepile Creeks Watershed.

ACTION ITEMS

1. CCCD and the City will co-host a Stormwater Pollution Prevention Plan workshop to inform industry of the process for obtaining and implementing the Stormwater Pollution Prevention Plan.

MILESTONE TABLE

MILESTONE TABLE	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
CCCD will annually present water quality data and an update regarding water quality improvement activities in Donkey and Stonepile Creeks to the City Council and the Campbell County Commissioners.				X				X				X				X				X
Completed																				
Enviroscape: The Enviroscape model was developed as an educational tool to increase awareness of water pollution by showing sources and what is being done to manage these and what can be done to better manage potential pollutants. This model specifically demonstrates the difference and interaction of NPS and Point Source pollution. Annually present the Enviroscape ten (10) different classrooms in the Gillette area (including the Homeschool Group).				X	X	X		X	X	X		X	X	X		X	X	X		X
Completed																				
In the event that water quality samples for E. coli from Stonepile Creek, within the City of Gillette, exceed 500 CFUs per 100 ml, CCCD will contact the Campbell County Health Department.		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X
Completed																				

MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Sedimentation and Bacteria Control: The City of Gillette has initiated an enhanced street sweeping program on roadways directly adjacent to the Gillette Fishing Lake and Donkey Creek increasing the removal of scoria and other aggregate particles applied to the city streets during times of winter and icy road conditions before storm waters pick it up.	X		X	X				X	X			X	X			X	X			X
Completed	X																			
Storm water master plan: Feasibility study to update the sewer systems for City of Gillette. The City will map out the existing storm water sewer system and use a model to ensure it is adequate to handle any storm water runoff. This will result in a new idea of curves and design criteria. The City of Gillette has budgeted \$150,000 in FY 2004-2005 for this study. The information from this study will be utilized to develop a capital improvement plan to itemize specific practices to be installed.																		X		
Completed																				

MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Annually present “Doing Our Part” video at County Fair, various community organization meetings, and school programs.			X				X				X				X				X	
Completed			X																	
CCCD will produce and distribute “A Guide for Proper RV/Camp Waste Disposal” brochure that will highlight available areas for disposal and operating hours.			X																	
Completed			X																	
CCCD will produce and distribute “A Guide for Proper Pet Waste Disposal” brochure.			X																	
Completed			X																	
Incorporate information regarding Campbell County’s hazardous waste disposal program into the CCCD’s display and educational efforts.							X				X				X				X	
Completed																				
Provide an update of water quality monitoring results to the Campbell County Health Department annually.				X				X				X				X				X
Completed																				
Incorporate bacteria water quality data and standards into CCCD’s workshops relating to watershed planning and implementation.						X	X			X	X			X	X			X	X	
Completed																				

MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Produce "Living on a Few Acres" brochure to illustrate differences in lifestyle and expectations between living within a municipality and in a rural area where all services are not available. This brochure will be widely available.							X													
Completed																				
Produce a brochure to illustrate how much land and supplemental feed is needed to responsibly sustain horses or other livestock specific to different range sites within Campbell County. These brochures will be widely available at places such as veterinary clinics, feed stores, real estate offices, chamber of commerce etc.								X												
Completed																				
CCCD subscribes to 200 copies of "Barnyards to Backyards" that will be distributed to local businesses, government entities and selected residents of Campbell County. This activity will continue on a quarterly basis for the five years of this watershed plan.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Completed	X	X	X																	
CCCD will host a Small Acreage Workshop at least once during the five years of this plan.						X				X										
Completed																				

MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
CCCD will host a Plant Identification Workshop aimed at grazing management during 2006.			X																	
Completed			X																	
CCCD will sponsor a tour to the Bridger Plant Materials Center open to all residents that will highlight seed species available for rangeland improvement or reclamation activities in 2006.		X																		
Completed		X																		
Host an Animal Feeding Operation (AFO) tour to emphasize potential changes such as relocation and properly following a Nutrient Management Plan (NMP) and their impact on water quality.							X													
Completed							X													
Host a workshop emphasizing stormwater management plans and septic system installation requirements and considerations for industry representatives and general contractors.						X														
Completed						X														

MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
The "Wyoming Homeowner's Guide to Septic Systems" will be available at the CCCD office and distributed as needed for information purposes and in applying for cost share funding.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Completed	X	X	X																	
Host a septic workshop highlighting proper installation, maintenance and also including information needed for application for cost-share assistance.								X												
Completed																				
CCCD will approach the Campbell County Commissioner's in an effort to offer alternatives for cost-share funding for those septic systems that were installed after 1973 (approximately 70% of the septic systems in the watershed), but still may be causing a water quality concern. The steering committee and CCCD will encourage the County Commissioners to consider centralized systems for multi-home communities where appropriate.				X																
Completed																				
CCCD will remediate 12 septic systems within the Donkey and Stonepile Creeks Watershed. There is \$51,000 currently available for cost sharing.	X	X	X	X																
Completed	X	X	X																	

MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Use current and historic water quality data to prepare and submit a UAA if the data indicates that the stream is not classified correctly.									X											
Completed																				
CCCD will continue annual water quality monitoring efforts as outlined in the current Sampling and Analysis Plan for Donkey and Stonepile Creeks.		X	X			X	X			X	X									
Completed		X																		
CCCD staff will pursue water quality monitoring certification through the University of Wyoming and the WACD.						X														
Completed																				
CCCD will coordinate with WDEQ by providing an annual updated milestone table and a brief summary of activities regarding this watershed plan. This update will be available to other interested entities as well.					X				X				X				X			
Completed																				

MILESTONE TABLE	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
CCCD will track the progress of implementation activities by documenting projects in a watershed progress folder to include pictures and narratives of each effort.				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Completed																				
The District will continue to provide the Aer-way Aerator for rent to producers wishing to increase vegetative cover and reduce erosion within the watershed.	X	X			X	X			X	X			X	X			X	X		
Completed	X	X																		
Provide \$60,000 for cost share opportunities for producers in an attempt to address 3 corrals, feedlots or animal feeding operations in the next five years.	X	X	X	X																
Completed	X	X																		
Provide the Landowner Self Assessment form to producers for the five years of the watershed plan.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Completed	X	X	X																	

MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Include announcements for cost share opportunities in the CCCD Newsletter on a bi-monthly basis for the five years of the watershed plan.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Completed	X	X	X																	
Include announcements for cost share opportunities in the FSA Newsletter on a quarterly basis for the five years of the watershed plan.					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Completed																				
Advertise cost share opportunities in the local newspaper on an annual basis, or as needed for the five years of the watershed plan.	X				X				X				X				X			
Completed	X																			
Provide special mailing to residents announcing new program availability on an annual basis for the five years of the watershed plan.				X				X				X				X				X
Completed																				
Provide booth space and an attendant, on an annual basis, for the five years of the watershed plan, at the Campbell County Fair with water quality educational materials available for attendees.			X				X				X				X				X	
Completed			X																	

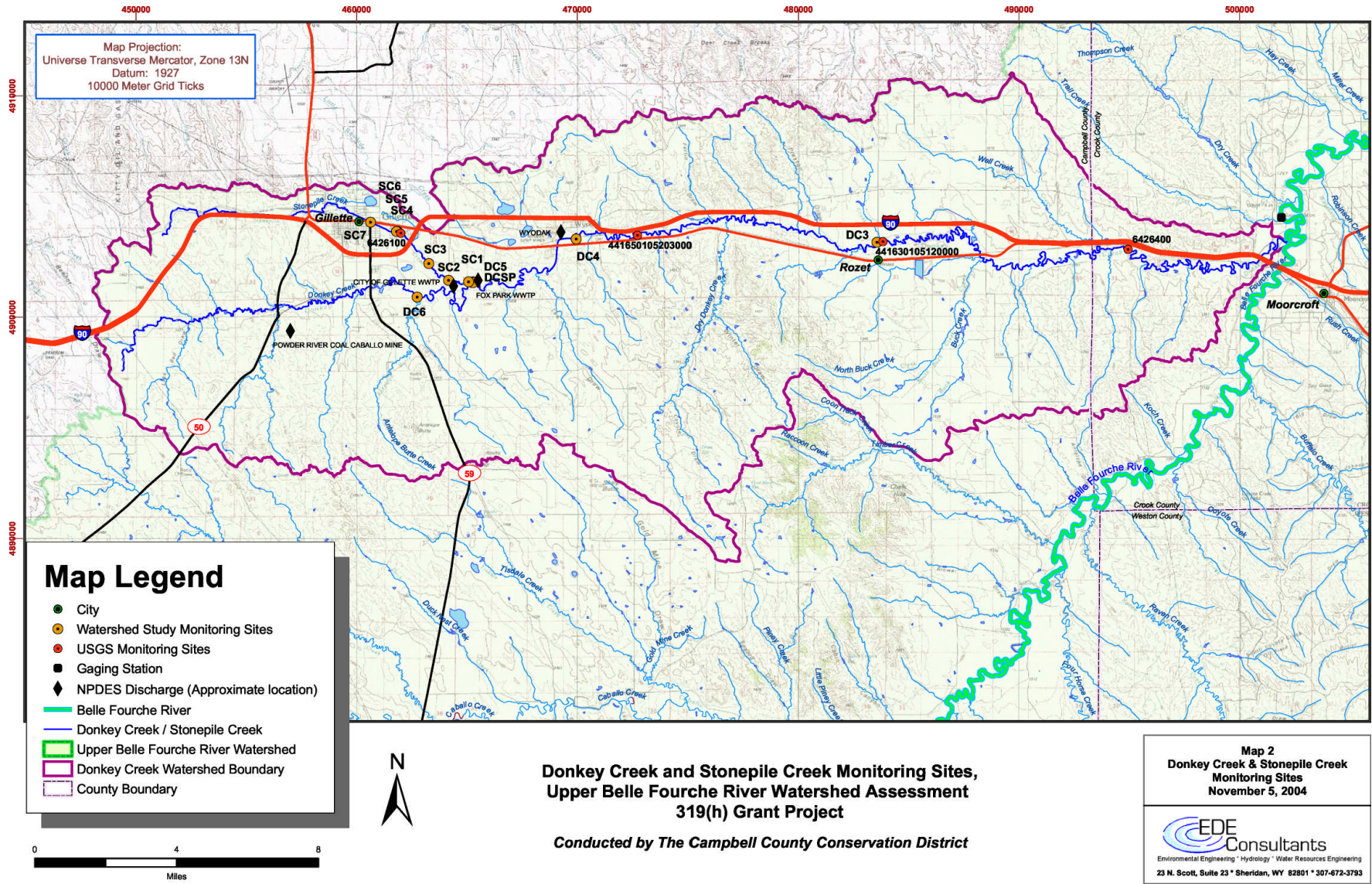
MILESTONE TABLE Action Items	2006				2007				2008				2009				2010			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Include water quality information with conservation tours directed at agricultural producers. CCCD will host 1 conservation tour during the five years of the watershed plan that includes water quality information.											X									
Completed																				
Host 10 workshops during the five years of the watershed plan addressing various topics regarding conservation in agriculture. Water quality will be a specific topic addressed at each of the hosted workshops.					X	X			X	X			X	X			X	X		
Completed																				
Include an update of water quality issues of CCCD on a bi-monthly basis in the district's newsletter throughout the five years of the watershed plan.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Completed	X	X	X																	
CCCD and the City will co-host a Stormwater Pollution Prevention Plan workshop to inform industry of the process for obtaining and implementing the Stormwater Pollution Prevention Plan.													X							
Completed																				

Appendix A

Use Classification Table

Class	Drinking Water	Game Fish	Non-Game Fish	Fish Consumption	Other Aquatic Life	Recreation	Wildlife	Agriculture	Industry	Scenic Value
2AB	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2A	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
2B	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2C	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3A	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
3B	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
3C	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
4A	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
4B	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes
4C	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes

APPENDIX B WATERSHED MAP



APPENDIX C RAW DATA

DCSP Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmdyy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
DCSP	5/28/2002	13:40	26	12.02	7.8	1525	2260	4.2		649.3
DCSP	6/3/2002	13:40	15	17.18	7.95	1688	1670	55.3	79.7	
DCSP	6/6/2002	10:45	23	19.27	7.88	2341	2350	54.3	84.3	648.3
DCSP	6/12/2002	12:20	19	18.68	7.97	2249	2250	56.3	103.2	649.9
DCSP	6/18/2002	12:40	28	20.57	7.87	2099	2080	54.3	115.3	644.7
DCSP	6/24/2002	10:25	27	20.37	7.73	2073	2070	51.2	100.9	651.6
DCSP	9/11/2002	10:35	20	20.76	7.79	2073	2000	44.1	86.7	652.8
DCSP	9/16/2002	11:30	30	20.7	7.79	2028	1990	45.1	84.1	647.6
DCSP	9/23/2002	14:30	14	18.76	7.98	2241	2200	41.0	93.6	652.8
DCSP	10/3/2002	15:45	8	15.48	7.86	2033	2010	32.9	93.5	639.2
DCSP	10/7/2002	13:40	18	18.27	7.88	2074	2060	31.8	105.6	647.3
DCSP	4/14/2003	12:25	26	16.49	8.1	2426	2390	39.0	122.7	646.9
DCSP	4/21/2003	12:26	18	15.47	7.67	2650	2560	31.8	95.6	652.5
DCSP	4/28/2003	11:55	4	10.69	7.84	2524	2490	54.3	53.2	643.4
DCSP	5/5/2003	12:00	4	11.47	7.71	2295	2310	53.3	80.0	636.7
DCSP	5/12/2003	13:00	18	16.22	7.77	2420	2390	54.3	94.1	652.2
DCSP	9/15/2003	12:55	23	21.15	7.64	2181	2160	6.0	67.5	651.8
DCSP	9/22/2003	12:15	20	19.71	7.89	2117	2100	7.1	78.3	650.7
DCSP	9/29/2003	11:25	6	17.9	7.72	2016	1800	6.2	66.3	652.5
DCSP	10/6/2003	10:50	19	19.16	7.71	2035	2050	6.1	66.9	649.8
DCSP	10/10/2003	10:50	9	17.53	7.77	2097	2090	6.1	64.5	639.6
Average				17.52	7.82	2151.67	2156.19	5.96	68.70	647.98
Geomean				17.22	7.82	2136.45	2145.52	5.89	68.54	647.96
St. Deviation				3.08	0.11	255.28	217.31	0.96	5.48	4.91
Minimum				10.69	7.64	1525.00	1670.00	4.20	64.50	636.70
Maximum				21.15	8.10	2650.00	2560.00	7.12	78.30	652.80
Count				21	21	21	21	6	5	20

DCSP Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmdyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
DCSP	5/28/2002		Present	1	Present	28.2	2.2	6.22	803	2.2
DCSP	6/3/2002		Present	100	Present	51.6	1.6	3.61	499	1.8
DCSP	6/6/2002	7.214	Present	1	Present		12.3	1.57	756	2.5
DCSP	6/12/2002		Present	20	Present	23.55	0.3	9.61	628	2.9
DCSP	6/18/2002		Present	10	Present	20.16	2.9	8.19	550	3.3
DCSP	6/24/2002	3.68	Present	1	Present	19.32	3.9	35.6	450	3.4
DCSP	9/11/2002	3.75	100	90	2800	43.53	0.19	23.9	372	4.1
DCSP	9/16/2002	5.50	30	20	110	42.93	1.08	16.2	375	4.15
DCSP	9/23/2002	7.08	20	10	160	13.68	0.16	16.3	639	2.42
DCSP	10/3/2002	3.61	90	70	390	22.35	0.23	19.1	452	3
DCSP	10/7/2002	5.66	1	1	340	11.88	0.18	19.1	478	3.18
DCSP	4/14/2003	5.50	90	127	1840	16.8	4.78	8.8	666	2.59
DCSP	4/21/2003	7.57	10	2	540	14.2	3.11	11.2	734	2.44
DCSP	4/28/2003	1.70	10	1	830	8.9	4.55	6.71	691	2.29
DCSP	5/5/2003	11.65	10	6	2300	13.8	2.06	6.97	793	1.43
DCSP	5/12/2003	10.41	10	13	3200	8.5	1.79	8.14	809	1.49
DCSP	9/15/2003	6.34	49	65	63000	9.2	4.3	12.7	477	2.7
DCSP	9/22/2003	4.77	38	45	88000	10.6	3.9	3.9	529	2.7
DCSP	9/29/2003	6.36	100	130	12000	41.8	2.5	18	416	3.5
DCSP	10/6/2003	6.50	17	20	54000	20	9.3	3.02	396	3.1
DCSP	10/10/2003	3.62	190	300	98000	40.6	4.3	21	398	3.6
Average		5.93	51.00	49.19	21834.00	23.08	3.13	12.37	567.19	2.80
Geomean		5.43	26.98	13.98	2994.56	19.66	1.72	9.66	547.86	2.70
St. Deviation		2.49	52.86	71.79	35106.15	13.62	3.03	8.39	152.94	0.75
Minimum		1.70	1.00	1.00	110.00	8.50	0.16	1.57	372.00	1.43
Maximum		11.65	190.00	300.00	98000.00	51.60	12.30	35.60	809.00	4.15
Count		17.00	15.00	21.00	15.00	20.00	21.00	21.00	21.00	21.00

DCSP Water Quality Data Cont...

Site	Date	TSS	TDS						
	(mmddyy)	(mg/L)	(mg/L)						
DCSP	5/28/2002	75	1660						
DCSP	6/3/2002	54	1140						
DCSP	6/6/2002	20	1630						
DCSP	6/12/2002	31	1590						
DCSP	6/18/2002	12	1460						
DCSP	6/24/2002	24	1340						
DCSP	9/11/2002	90	1280						
DCSP	9/16/2002	81	1320						
DCSP	9/23/2002	33	1580						
DCSP	10/3/2002	32	1340						
DCSP	10/7/2002	15	1350						
DCSP	4/14/2003	30	1710						
DCSP	4/21/2003	27	1950						
DCSP	4/28/2003	8	1820						
DCSP	5/5/2003	15	1700						
DCSP	5/12/2003	18	1720						
DCSP	9/15/2003	33	1280						
DCSP	9/22/2003	26	1390						
DCSP	9/29/2003	70	1300						
DCSP	10/6/2003	32	1350						
DCSP	10/10/2003	72	1360						
Average		38.00	1489.05						
Geomean		30.96	1474.74						
St. Deviation		24.91	214.50						
Minimum		8.00	1140.00						
Maximum		90.00	1950.00						
Count		21.00	21.00						

DC3 Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmddyy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
DC3	5/28/2002	11:30	25	21.24	9.01	1684	2500	7.1	132.0	
DC3	6/3/2002	10:10	13	17.31	8.74	2654	2660			
DC3	6/6/2002	9:05	23	17.7	8.05	2373	2400	53.3	73.0	649.8
DC3	6/12/2002	10:15	16	14.19	8.4	2406	2400	53.3	86.7	650.4
DC3	6/18/2002	10:15	26	19.82	9.09	2550	2530	56.3	140.5	647.1
DC3	9/10/2002	10:00	18	14.07	8.5	2132	2110	46.1	89.8	658.3
DC3	9/16/2002	9:10	18	14.3	8.64	2212	2170	46.1	91.4	648.9
DC3	9/23/2002	9:45	5	9.61	8.1	1830	1790	40.0	86.5	656.7
DC3	10/3/2002	12:35	14	9.08	8.7	2281	2220	30.8	113.0	648.8
DC3	10/7/2002	10:40	12	8.08	8.71	2192	2130	26.7	100.7	651.0
DC3	4/14/2003	10:00	17	11.75	8.86	2836	2750	36.9	136.3	650.9
DC3	4/21/2003	9:20	11	9.74	8.64	2814	2710	28.8	90.1	653.6
DC3	4/28/2003	9:25	3	10.12	8.6	2744	2640	57.4	80.8	647.7
DC3	5/5/2003	9:30	4	9.29	8.39	2768	2720	56.3	101.0	641.9
DC3	5/12/2003	10:15	15	12.57	8.3	2678	265	56.3	111.2	652.8
DC3	9/15/2003	9:25	20	11.46	8.7	1737	1720	8.7	80.0	651.9
DC3	9/22/2003	10:25	11	9.86	8.45	2799	2760	11.0	97.5	651.2
DC3	9/29/2003	9:50	6	9.61	8.33	2547	2530	10.8	95.4	656.1
DC3	10/6/2003	9:45	14	7.98	8.01	2596	2580	10.6	90.2	650.8
DC3	10/10/2003	9:40	8	9.3	8.07	2322	2310	9.2	80.4	643.4
Average				12.35	8.51	2407.75	2294.75	9.54	95.92	650.63
Geomean				11.82	8.51	2380.06	2133.34	9.43	94.50	650.62
St. Deviation				3.97	0.31	358.81	565.39	1.51	19.14	4.19
Minimum				7.98	8.01	1684.00	265.00	7.10	80.00	641.90
Maximum				21.24	9.09	2836.00	2760.00	10.95	132.00	658.30
Count				20	20	20	20	6	6	18

DC3 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmddyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
DC3	5/28/2002		Present	80	Present	41.1	0.1	6.08	865	1.1
DC3	6/3/2002	1.86	Present	270	Present	37.05	0.1	0.07	1010	1.7
DC3	6/6/2002		Present	320	Present	53.79	0.3	0.99	967	1.4
DC3	6/12/2002		Present	550	Present	51.6	0.3	3.88	748	1.7
DC3	6/18/2002	1.15	Present	270	Present	19.5	0.1	1.79	775	0.6
DC3	9/10/2002	2.53	200	150	9200	136.5	0.12	9.43	438	1.42
DC3	9/16/2002	1.82	130	100	5530	105.3	1.69	18.3	446	1.18
DC3	9/23/2002	6.98	80	40	420	222.6	0.05	22.3	379	1.91
DC3	10/3/2002	2.92	1	1	1	49.95	0.05	13.2	507	1.95
DC3	10/7/2002	3.04	1	1	50	61.68	0.05	18.3	543	1.99
DC3	4/14/2003	2.83	10	1	10	15.6	1.15	8.39	951	1.1
DC3	4/21/2003	3.85	10	6	180	13.2	2.08	6.94	863	1.29
DC3	4/28/2003	2.99	10	79	4700	18.9	0.68	5.49	882	0.12
DC3	5/5/2003	5.38	20	23	56000	12.2	0.59	1.72	1120	0.88
DC3	5/12/2003	8.46	10	45	5800	18.2	1.1	6.4	967	0.95
DC3	9/15/2003	2.75	150	230	86000	67	0.9	3.42	532	0.9
DC3	9/22/2003	3.55	35	47	68000	40.6	2.8	3.71	822	0.8
DC3	9/29/2003	2.71	20	70	45000	65.5	1.7	11.6	737	1
DC3	10/6/2003	2.33	84	86	85000	67.7	5.4	11.7	652	1.2
DC3	10/10/2003	1.76	720	760	15000	54.4	2.9	10.1	506	1.4
Average		3.35	98.73	156.45	25392.73	57.62	1.11	8.19	735.50	1.23
Geomean		2.95	26.80	51.14	2509.36	42.97	0.46	5.14	701.47	1.09
St. Deviation		1.92	182.73	199.41	32874.54	49.95	1.36	6.23	221.27	0.48
Minimum		1.15	1.00	1.00	1.00	12.20	0.05	0.07	379.00	0.12
Maximum		8.46	720.00	760.00	86000.00	222.60	5.40	22.30	1120.00	1.99
Count		17	15	20	15	20	20	20	20	20

DC3 Water Quality Data Cont...

Site	Date	TSS	TDS						
	(mmddyy)	(mg/L)	(mg/L)						
DC3	5/28/2002	90	1950						
DC3	6/3/2002	37	2020						
DC3	6/6/2002	48	1800						
DC3	6/12/2002	100	1720						
DC3	6/18/2002	12	1930						
DC3	9/10/2002	165	1320						
DC3	9/16/2002	122	1430						
DC3	9/23/2002	66	1130						
DC3	10/3/2002	52	1480						
DC3	10/7/2002	61	1460						
DC3	4/14/2003	21	2150						
DC3	4/21/2003	16	2140						
DC3	4/28/2003	56	2080						
DC3	5/5/2003	25	1800						
DC3	5/12/2003	23	2060						
DC3	9/15/2003	91	1210						
DC3	9/22/2003	58	1710						
DC3	9/29/2003	70	1460						
DC3	10/6/2003	62	1620						
DC3	10/10/2003	60	1530						
Average		61.75	1700.00						
Geomean		50.58	1671.04						
St. Deviation		38.06	315.36						
Minimum		12.00	1130.00						
Maximum		165.00	2150.00						
Count		20	20						

DC4 Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmddy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
DC4	5/28/2002	12:25	25	19.69	7.93	1463	2210	6.0	73.7	
DC4	6/3/2002	11:10	13	16.33	8.07	2083	2080			
DC4	6/6/2002	9:40	22	17.33	7.75	2407	2460	53.3	69.5	649.0
DC4	6/12/2002	10:50	16	14.27	7.97	2227	2230	53.3	81.7	650.6
DC4	6/18/2002	11:00	27	21.39	8.2	2249	2240	56.3	135.0	645.2
DC4	9/10/2002	11:25	25	16.1	8.08	2076	2070	47.1	102.7	657.1
DC4	9/16/2002	9:50	18	15.35	8.04	2153	2090	45.1	83.2	646.0
DC4	9/23/2002	10:45	8	11.42	7.9	3063	3030	40.0	87.6	654.5
DC4	10/3/2002	13:35	10	11.97	8.45	2209	2170	32.9	123.2	645.8
DC4	10/7/2002	11:40	17	10.69	8.22	2126	2080	27.7	104.8	649.5
DC4	4/14/2003	11:00	21	12.1	8.27	2659	2590	36.9	135.2	648.0
DC4	4/21/2003	10:05	14	10.26	7.78	2964	2760	28.8	87.6	648.3
DC4	4/28/2003	10:00	3	9.45	7.76	2643	2570	54.3	57.2	644.4
DC4	5/5/2003	10:05	5	8.76	7.79	2442	2430	53.3	75.0	638.1
DC4	5/12/2003	10:55	16	12.89	7.87	2572	2540	53.3	79.2	652.2
DC4	9/15/2003	10:10	23	12.54	7.9	2465	2460	7.7	73.0	653.0
DC4	9/22/2003	11:05	15	12.49	8.14	2690	2690	8.8	83.7	656.0
DC4	9/29/2003	10:25	6	10.66	7.97	2226	2230	8.5	77.1	654.4
DC4	10/6/2003	10:15	18	10.19	7.79	2149	2140	9.2	82.3	650.9
DC4	10/10/2003	10:15	9	10.14	7.89	2165	2180	8.1	72.1	644.9
Average				13.20	7.99	2351.5	2362.5	8.0	77.0	649.33
Geomean				12.80	7.99	2324.503	2348.68	7.96	76.85	649.31
St. Deviation				3.48	0.19	356.4483	268.85	1.13	4.98	4.83
Minimum				8.76	7.75	1463	2070	6.0	72.1	638.1
Maximum				21.39	8.45	3063	3030	9.2	83.7	657.08
Count				20	20	20	20	6	6	18

DC4 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmddyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
DC4	5/28/2002		Present	50	Present	14.7	1.4	6.18	771	1.7
DC4	6/3/2002	7.04	Present	490	Present		1.5	3.54	659	2.2
DC4	6/6/2002		Present	160	Present	53.79	3.8	6.63	892	1.9
DC4	6/12/2002		Present	970	Present	9.24	1.6	6.18	589	2.5
DC4	6/18/2002	2.62	Present	270	Present	12.69	0.8	5.72	627	2.4
DC4	9/10/2002	2.62	60	75	9660	38.28	0.11	15.8	436	2.98
DC4	9/16/2002	2.78	40	250	13040	32.43	0.24	16.8	406	3.24
DC4	9/23/2002	5.36	20	30	220	22.35	0.21	14.3	1370	1.56
DC4	10/3/2002	2.08	1	1	30	15.3	0.81	19.7	441	2.79
DC4	10/7/2002	2.61	1	1	7200	13.68	0.58	17.8	498	2.7
DC4	4/14/2003	3.56	10	3	10	8.5	3.58	8.77	763	1.91
DC4	4/21/2003	3.87	10	4	100	7.5	5.24	9.97	917	1.64
DC4	4/28/2003	5.29	480	317	12800	6.9	1.21	9.14	696	0.19
DC4	5/5/2003	8.26	10	3	86000	12.2	1.32	6.21	840	1.25
DC4	5/12/2003	7.43	60	60	76000	10.3	1.5	6.06	937	0.98
DC4	9/15/2003	3.60	160	160	110000	26.4	6.5	17.3	611	2.1
DC4	9/22/2003	4.06	70	90	54000	19.5	3.4	4.9	766	1.7
DC4	9/29/2003	2.47	700	900	66000	33.3	5	7.2	482	2.7
DC4	10/6/2003	3.11	232	256	39000	18.8	5.7	16.3	413	2.5
DC4	10/10/2003	2.96	320	390	52000	23.3	3.1	18.4	448	2.8
Average		4.10	144.93	224	35070.67	19.96	2.38	10.85	678.1	2.09
Geomean		3.75	39.24	61.02	5933.85	16.94	1.48	9.52	642.26	1.86
St. Deviation		1.90	207.29	282.19	36643.87	12.34	2.00	5.47	240.29	0.75
Minimum		2.08	1	1	10	6.9	0.11	3.54	406	0.19
Maximum		8.26	700	970	110000	53.79	6.5	19.7	1370	3.24
Count		17	15	20	15	19	20	20	20	20

DC4 Water Quality Data Cont...

Site	Date	TSS	TDS							
	(mmddyy)	(mg/L)	(mg/L)							
DC4	5/28/2002	88	1630							
DC4	6/3/2002	10	1450							
DC4	6/6/2002	16	1750							
DC4	6/12/2002	84	1490							
DC4	6/18/2002	2	1590							
DC4	9/10/2002	36	1300							
DC4	9/16/2002	30	1360							
DC4	9/23/2002	34	2500							
DC4	10/3/2002	10	1420							
DC4	10/7/2002	11	1380							
DC4	4/14/2003	13	1940							
DC4	4/21/2003	9	2220							
DC4	4/28/2003	11	1910							
DC4	5/5/2003	11	1800							
DC4	5/12/2003	10	1950							
DC4	9/15/2003	25	1650							
DC4	9/22/2003	29	1730							
DC4	9/29/2003	28	1510							
DC4	10/6/2003	26	1320							
DC4	10/10/2003	31	1500							
Average		25.7	1670							
Geomean		18.50	1644.45							
St. Deviation		22.94	313.97							
Minimum		2	1300							
Maximum		88	2500							
Count		20	20							

DC5 Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmddy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
DC5	6/3/2002	13:20	17	18.26	8.2	3059	3050		68.2	
DC5	6/6/2002	10:40	22	19.77	7.96	2784	2800	53.3	64.8	649.9
DC5	6/12/2002	12:10	19	16.27	8.12	2852	2850	52.3	68.2	
DC5	6/18/2002	12:15	28	24.63	8.23	3699	3660	22.3	103.4	644.2
DC5	6/24/2002	10:15		NO FLOW						
DC5	9/11/2002	10:30		NO FLOW						
DC5	9/16/2002	11:26		NO FLOW						
DC5	9/23/2002	14:15	14	15.73	8.17	2873	2850	40.0	90.3	654.0
DC5	10/3/2002	15:25	7	9.98	8.37	2849	2790	30.8	95.0	639.0
DC5	10/7/2002	13:25	17	11.17	8.28	3121	3040	27.7	83.3	646.7
DC5	10/15/2002	10:35	8	6.41	8.2	3625	3590	21.6	68.1	649.3
DC5	10/17/2002	10:35	16	8.5	8.29	3606	3450	20.6	74.8	641.2
DC5	4/14/2003	12:00	24	12.88	8.14	3560	3480	36.9	102.1	645.2
DC5	4/21/2003	12:08	16	13.25	7.75	3855	3710	29.8	82.8	649.5
DC5	4/28/2003	11:35	4	10.69	7.84	4010	3890	54.3	53.2	643.4
DC5	5/5/2003	11:45	4	10.08	7.82	2670	2650	54.3	78.2	636.6
DC5	5/12/2003	12:45	14	16.57	7.64	2103	2750	55.3	92.3	651.4
DC5	9/15/2003	12:40	22	15.6	8.05	3086	3050	9.2	93.7	649.4
DC5	9/22/2003	12:00	19	13.16	8.26	3580	2470	8.2	78.9	650.1
Average				13.93	8.08	3208.25	3130	8.7	80.3	646.42
Geomean				13.21	8.08	3167.008	3102.10	8.68	79.59	646.40
St. Deviation				4.64	0.22	516.4117	435.43	0.75	12.80	5.03
Minimum				6.41	7.64	2103	2470	8.2	68.2	636.6
Maximum				24.63	8.37	4010	3890	9.2	93.7	654
Count				16	16	16	16	2	3	14

DC5 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmdyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
DC5	6/3/2002	0.529	Present	310	Present	24.18	0.1	0.01	1690	0.05
DC5	6/6/2002		Present	90	Present	43.32	0.1	0.01	1500	0.05
DC5	6/12/2002		Present	ND	Present	10.86	0.1	0.01	1350	0.2
DC5	6/18/2002	0.115	Present	30	Present	26.37	0.1	0.01	2050	0.05
DC5	6/24/2002									
DC5	9/11/2002									
DC5	9/16/2002									
DC5	9/23/2002	3.120	1	10	560	10.86	0.43	0.05	1530	0.25
DC5	10/3/2002	0.155	1	1	30	10.68	0.38	0.05	1520	0.34
DC5	10/7/2002	0.189	1	1	10	8.82	0.23	0.12	1720	0.16
DC5	10/15/2002	0.114	1	1	10	7.9	0.05	0.19	1950	0.2
DC5	10/17/2002	0.269	1	1	1	5.3	0.35	0.01	1700	0.06
DC5	4/14/2003	0.882	10	1	20	12.5	0.99	0.01	1850	0.05
DC5	4/21/2003	1.253	10	1	40	9.8	1.41	0.01	1870	0.05
DC5	4/28/2003	0.559	10	1	680	8.9	0.72	0.01	2080	0.15
DC5	5/5/2003	2.686	10	3	420	6.3	0.43	0.03	1220	0.08
DC5	5/12/2003	3.241	10	10	40	10.6	1.09	0.05	1280	0.08
DC5	9/15/2003	0.389	230	280	45000	8.7	1.2	0.01	1590	0.1
DC5	9/22/2003	0.238	134	146	31000	10	3.3	0.09	2040	0.1
Average		0.98	34.92	59.07	6484.25	13.44	0.69	0.04	1683.75	0.12
Geomean		0.51	6.18	7.37	129.09	11.40	0.37	0.02	1662.05	0.10
St. Deviation		1.15	71.81	104.44	15022.44	9.81	0.82	0.05	275.12	0.09
Minimum		0.11	1	1	1	5.3	0.05	0.01	1220	0.05
Maximum		3.24	230	310	45000	43.32	3.3	0.19	2080	0.34
Count		14	12	15	12	16	16	16	16	16

DC5 Water Quality Data Cont...

Site	Date	TSS	TDS							
	(mmddyy)	(mg/L)	(mg/L)							
DC5	6/3/2002	18	2700							
DC5	6/6/2002	12	2440							
DC5	6/12/2002	64	2410							
DC5	6/18/2002	16	3550							
DC5	6/24/2002									
DC5	9/11/2002									
DC5	9/16/2002									
DC5	9/23/2002	15	2480							
DC5	10/3/2002	5	2420							
DC5	10/7/2002	10	2660							
DC5	10/15/2002	8	3170							
DC5	10/17/2002	1	3040							
DC5	4/14/2003	11	3200							
DC5	4/21/2003	10	3400							
DC5	4/28/2003	11	3720							
DC5	5/5/2003	6	2160							
DC5	5/12/2003	22	2240							
DC5	9/15/2003	15	2200							
DC5	9/22/2003	22	2940							
Average		15.38	2795.62							
Geomean		11.29	2754.52							
St. Deviation		14.20	502.26							
Minimum		1	2160							
Maximum		64	3720							
Count		16	16							

DC6 Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmdyy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
DC6	6/3/2002	15:10	14	18.27	8.13	1844	1930		66.7	
DC6	6/6/2002	11:20	25	19.88	8.33	2545	2540		116.0	649.9
DC6	6/12/2002	12:45	20	17.08	8.26	2753	2750	57.4	134.6	649.0
DC6	6/18/2002	13:05	31	22.32	8.21	3336	3280	57.4	135.7	642.5
DC6	6/24/2002	9:35	26	18.77	8.02	3468	3450	50.2	78.5	651.4
DC6	9/11/2002	11:50	25	17.55	7.81	3753	3590	45.1	107.3	650.9
DC6	9/16/2002	12:10	27	16.56	8.07	3382	3270	46.1	117.7	645.2
DC6	9/16/2002	12:12	27				3270			
DC6	9/23/2002	13:15	13	13.65	7.82	2433	2400	40.0	103.7	654.6
DC6	10/3/2002	14:20	14	11.03	8.46	3165	3090	31.8	114.5	641.2
DC6	10/7/2002	12:10	19	10.77	8.41	3052	2980	28.8	114.3	652.1
DC6	4/14/2003	15:10	22	19.4	8.45	3013	2940	41.0	30.1	642.0
DC6	4/21/2003	12:58	16	17.45	8.24	3161	3050	82.9	134.2	650.6
DC6	4/28/2003	12:25	3	8.93	7.85	3368	3270	55.3	70.4	641.4
DC6	5/5/2003	13:15	5	11.01	8.13	2698	2690	57.4	110.9	636.9
DC6	5/12/2003	13:40	18	18.69	8.36	2454	2420	58.4	122.7	652.2
DC6	9/15/2003	13:45	24	15.85	7.41	3003	2950	8.0	82.0	647.0
DC6	9/22/2003	13:50	21	13.93	7.63	3354	3260	9.8	95.8	651.7
DC6	9/29/2003	12:25	11	10.74	7.38	5723	2030	10.8	99.3	653.3
DC6	10/6/2003	11:35	23	12.27	7.39	6605	6590	10.7	102.2	653.7
DC6	10/10/2003	11:50	12	11.18	7.57	3592	5980	12.4	114.8	640.1
Average				15.11	7.99	3413.579	3290	10.4	96.7	647.67
Geomean				14.62	7.98	3297.901	3159.85	10.25	95.19	647.65
St. Deviation				3.90	0.37	1050.179	1100.87	1.61	17.58	5.44
Minimum				8.93	7.38	2433	2030	8.0	66.7	636.9
Maximum				22.32	8.46	6605	6590	12.4	116.0	654.6
Count				19	19	19	20	5	7	19

DC6 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmdyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
DC6	6/3/2002		Present	550	Present	10.68	0.1	0.07	811	0.2
DC6	6/6/2002	0.588	Present	150	Present	7.62	0.1	0.01	1060	0.5
DC6	6/12/2002		Present	80	Present	15.9	0.1	0.01	1170	0.4
DC6	6/18/2002		Present	100	Present	9.24	0.1	0.01	1480	0.4
DC6	6/24/2002	0.155	Present	100	Present	23.55	0.1	0.01	1490	0.5
DC6	9/11/2002		40	420	1740	9.03	0.48	0.09	2030	0.54
DC6	9/16/2002		1	10	600	4.62	0.74	0.09	1580	0.36
DC6	9/16/2002		10	20	60		0.26	0.07	1580	0.32
DC6	9/23/2002	0.347	1	30	270	7.83	0.2	0.18	1020	0.44
DC6	10/3/2002	0.145	1	1	590	7.41	0.14	0.09	1310	0.41
DC6	10/7/2002	0.336	1	1	410	9.03	0.05	0.01	1390	0.42
DC6	4/14/2003		10	40	20	12.2	1.48	0.01	1230	0.14
DC6	4/21/2003	2.981	10	39	10	13.2	1.33	0.01	1280	0.1
DC6	4/28/2003	0.162	20	15	6800	27.6	0.72	0.02	1480	0.27
DC6	5/5/2003	1.975	50	38	350	10.5	0.36	0.03	1130	0.14
DC6	5/12/2003	0.789	10	43	50	12	0.98	0.08	1060	0.15
DC6	9/15/2003	0.061	720	800	200000	10.4	1.2	0.01	1640	0.1
DC6	9/22/2003	0.034	260	290	27000	13.2	4.4	0.01	1860	0.1
DC6	9/29/2003	0.027	150	190	13000	20.8	6.8	0.08	4340	0.1
DC6	10/6/2003	0.026	120	130	27000	23.1	7	0.09	1030	0.1
DC6	10/10/2003	0.445	820	870	28000	12.8	1.7	0.08	3480	0.1
Average		0.58	139	168.35	19118.75	13.16	1.41	0.05	1632	0.28
Geomean		0.22	20.66	54.71	1108.10	11.90	0.53	0.03	1501.87	0.23
St. Deviation		0.86	257.04	251.37	49405.07	6.29	2.12	0.05	837.76	0.16
Minimum		0.03	1	1	10	4.62	0.05	0.01	1020	0.1
Maximum		2.98	820	870	200000	27.6	7	0.18	4340	0.54
Count		14	16	20	16	19	20	20	20	20

DC6 Water Quality Data Cont...

Site	Date	TSS	TDS							
	(mmddyy)	(mg/L)	(mg/L)							
DC6	6/3/2002	10	1390							
DC6	6/6/2002	2	1930							
DC6	6/12/2002	2	2220							
DC6	6/18/2002	2	2760							
DC6	6/24/2002	12	2830							
DC6	9/11/2002	13	3220							
DC6	9/16/2002	7	2820							
DC6	9/16/2002	1	2800							
DC6	9/23/2002	10	1910							
DC6	10/3/2002	5	2560							
DC6	10/7/2002	6	2420							
DC6	4/14/2003	11	2500							
DC6	4/21/2003	16	2740							
DC6	4/28/2003	27	2970							
DC6	5/5/2003	15	2130							
DC6	5/12/2003	13	1940							
DC6	9/15/2003	15	2680							
DC6	9/22/2003	10	2730							
DC6	9/29/2003	24	7150							
DC6	10/6/2003	33	7220							
DC6	10/10/2003	23	6010							
Average		12.35	3177							
Geomean		8.73	2911.92							
St. Deviation		8.90	1614.37							
Minimum		1	1910							
Maximum		33	7220							
Count		20	20							

SC1 Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmddyy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
SC1	5/28/2002	13:30	26	19.56	7.63	1286	1960	4.3	76.9	
SC1	6/3/2002	13:00	15	16.76	7.85	1528	1520			
SC1	6/6/2002	10:20	21	18.40	7.79	2191	2190	55.3	91.3	646.7
SC1	6/12/2002	11:45	17	18.44	7.85	2038	2040	56.3	106.6	654.7
SC1	6/18/2002	11:50	29	19.84	7.80	2081	2070	52.3	105.0	646.9
SC1	9/11/2002	10:00	18	20.51	7.68	2087	2030	44.1	88.2	
SC1	9/16/2002	11:10	29	20.32	7.76	2062	2020	45.1	86.3	646.5
SC1	9/23/2002	13:55	14	20.46	7.92	1970	1950	42.0	95.6	655.1
SC1	10/3/2002	15:00	8	16.91	7.81	2037	2000	33.9	93.6	640.2
SC1	10/7/2002	12:40	18	18.72	7.81	1999	1960	31.8	104.7	646.3
SC1	4/14/2003	11:35	68	15.55	8.01	2216	2180	39.0	120.1	647.4
SC1	4/21/2003	11:43	18	15.25	7.58	2245	2190	30.8	93.4	647.6
SC1	4/28/2003	11:20	4	12.81	7.66	2213	2180	57.4	77.2	643.0
SC1	5/5/2003	11:35	4	12.38	7.60	2075	2110	55.4	81.3	636.1
SC1	5/12/2003	12:20	14	16.57	7.64	2103	2120	55.3	92.3	651.4
SC1	9/15/2003	12:05	23	21.53	7.51	2069	2050	5.8	65.9	649.6
SC1	9/22/2003	11:40	15	19.87	7.94	1999	1990	7.3	80.6	651.2
SC1	9/29/2003	11:00	6	17.22	7.82	2039	2030	6.1	69.3	651.8
SC1	10/6/2003	11:10	20	19.90	7.61	2060	2060	6.1	67.6	650.8
SC1	10/10/2003	11:10	12	18.11	7.66	2119	2150	6.2	65.7	640.7
Average				17.96	7.75	2020.85	2040	6.0	71.0	647.41
Geomean				17.77	7.75	2006.129	2034.39	5.89	70.78	647.39
St. Deviation				2.53	0.13	226.4581	146.00	0.97	6.25	5.16
Minimum				12.38	7.51	1286	1520	4.3	65.7	636.1
Maximum				21.53	8.01	2245	2190	7.3	80.6	655.1
Count				20	20	20	20	6	6	17

SC1 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmdyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SC1	5/28/2002		Absent	10	Present	14.28	3.00	10.10	466	2.80
SC1	6/3/2002	5.400	Present	10	Present	59.82	1.80	3.62	403	1.90
SC1	6/6/2002		Present	10	Present	12.69	17.80	1.88	492	3.60
SC1	6/12/2002		Present	10	Present	11.07	0.40	12.90	458	3.60
SC1	6/18/2002	4.257	Present	10	Present	11.28	3.10	8.30	527	3.40
SC1	9/11/2002	5.384	30.00	70	730	39.87	0.09	24.50	386	4.11
SC1	9/16/2002	4.938	1.00	1.00	40	24.18	1.24	16.60	398	4.02
SC1	9/23/2002	5.131	1.00	1.00	500	18.72	0.32	22.30	382	3.11
SC1	10/3/2002	4.179	1.00	1.00	1.00	22.56	0.18	20.60	401	2.96
SC1	10/7/2002	4.952	1.00	1.00	150	8.64	0.60	21.50	381	3.34
SC1	4/14/2003	4.429	10	1	230	8.60	5.67	11.50	478	2.70
SC1	4/21/2003	4.424	10	1.00	740	8.50	3.62	15.00	478	2.81
SC1	4/28/2003	3.631	10	1.00	710	5.00	5.72	8.03	463	2.80
SC1	5/5/2003	4.498	10	1	840	14.40	2.76	11.60	516	2.12
SC1	5/12/2003	5.209	10	10	2100	10.60	2.64	15.50	467	2.43
SC1	9/15/2003	4.739	4.00	5	19000	7.80	4.60	12.20	387	3.00
SC1	9/22/2003	3.957	10.00	21	34000	10.70	2.40	6.75	417	2.90
SC1	9/29/2003	4.423	30.00	40	53000	27.30	5.00	6.37	439	3.20
SC1	10/6/2003	4.238	29.00	29	45000	30.30	5.80	7.53	390	3.40
SC1	10/10/2003	3.870	110.00	150	98000	21.30	5.40	21.40	427	3.60
Average		4.57	17.8	19.15	17002.73	18.38	3.61	12.91	437.8	3.09
Geomean		4.54	7.42	5.69	1328.03	15.12	1.96	10.96	435.47	3.04
St. Deviation		0.53	27.53	35.23	28816.7	13.23	3.89	6.60	46.75	0.57
Minimum		3.631	1	1	1	5	0.09	1.88	381	1.9
Maximum		5.40	110	150	98000	59.82	17.8	24.5	527	4.11
Count		17	15	20	15	20	20	20	20	20

SC1 Water Quality Data Cont..

Site	Date	TSS	TDS							
	(mmddyy)	(mg/L)	(mg/L)							
SC1	5/28/2002	64	1290							
SC1	6/3/2002	51	986							
SC1	6/6/2002	12	1350							
SC1	6/12/2002	72	1340							
SC1	6/18/2002	12	1440							
SC1	9/11/2002	75	1280							
SC1	9/16/2002	40	1350							
SC1	9/23/2002	27	1330							
SC1	10/3/2002	26	1300							
SC1	10/7/2002	9	1230							
SC1	4/14/2003	21	1500							
SC1	4/21/2003	18	1520							
SC1	4/28/2003	17	1480							
SC1	5/5/2003	20	1390							
SC1	5/12/2003	21	1360							
SC1	9/15/2003	17	5150							
SC1	9/22/2003	18	1170							
SC1	9/29/2003	39	1380							
SC1	10/6/2003	51	1260							
SC1	10/10/2003	45	1400							
Average		32.75	1525.3							
Geomean		27.15	1421.78							
St. Deviation		20.63	861.63							
Minimum		9	986							
Maximum		75	5150							
Count		20	20							

SC2 Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmddyy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
SC2	6/3/2002	12:10	15	16.66	7.85	818	821		61.7	
SC2	6/6/2002	10:05	25	18.67	7.99	725	1200	55.3	91.5	648.6
SC2	6/12/2002	11:15	16	17.61	8.03	1230	1240	55.3	102.3	647.7
SC2	6/18/2002		NO FLOW							
SC2	6/24/2002	11:10	29	24.93	7.87	1076	1060	52.3	102.1	655.6
SC2	9/10/2002	12:00	24	17.79	7.96	1090	1080	45.1	87.5	656.7
SC2	9/16/2002		NO FLOW							
SC2	9/23/2002	12:55	12	14.24	7.88	683	673	40.0	95.6	650.9
SC2	10/3/2002	16:30	9	10.58	8.03	1259	1240	30.8	90.0	638.7
SC2	10/7/2002	15:40	20	13.38	8.22	1318	1280	28.8	103.7	647.1
SC2	10/15/2002	10:05	5	5.14	8.18	1161	1130	21.6	68.1	649.3
SC2	4/14/2003	14:45	22	21.68	8.62	3656	3540	42.0	175.8	645.5
SC2	4/21/2003	11:20	16	13.84	7.60	2225	2160	30.8	95.3	647.7
SC2	4/28/2003	10:50	2	8.36	7.80	2611	2530	56.3	84.9	643.1
SC2	5/5/2003	11:00	4	8.65	7.70	1716	1720	54.3	83.0	636.3
SC2	5/12/2003	11:50	17	16.44	7.74	1286	1270	54.3	90.2	647.9
SC2	9/15/2003	11:25	29	13.38	7.81	927	925	9.5	90.8	651.0
SC2	9/22/2003	13:25	23	14.65	8.20	1114	1090	11.3	112.8	656.3
Average				14.75	7.97	1430.938	1434.94	10.4	88.4	648.16
Geomean				13.81	7.96	1283.862	1306.34	10.32	85.81	648.14
St. Deviation				5.06	0.25	785.7856	735.57	1.29	25.63	5.83
Minimum				5.14	7.6	683	673	9.5	61.7	636.3
Maximum				24.93	8.62	3656	3540	11.3	112.8	656.7
Count				16	16	16	16	2	3	15

SC2 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmdyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SC2	6/3/2002	2.653	Present	4200	Present	188.40	0.20	0.36	297	0.50
SC2	6/6/2002		Present	430	Present	15.90	0.30	0.07	444	0.30
SC2	6/12/2002		Present	140	Present	8.04	0.10	0.09	457	0.30
SC2	6/18/2002	0.000								
SC2	6/24/2002		Present	190	Present	8.43	0.10	0.10	373	0.20
SC2	9/10/2002	0.420	1000.00	1200	44000	24.36	0.10	0.45	364	0.27
SC2	9/16/2002	0.000								
SC2	9/23/2002	0.120	1.00	260	860	21.54	0.05	0.39	207	0.14
SC2	10/3/2002		1.00	1.00	190	17.31	0.05	0.47	510	0.18
SC2	10/7/2002	0.330	1.00	1.00	180	3.60	0.05	0.23	538	0.08
SC2	10/15/2002	0.063	1.00	1.00	20	4.80	0.57	0.22	417	0.05
SC2	4/14/2003		10.00	1	50	4.00	2.18	0.01	1090	0.09
SC2	4/21/2003	0.268	10.00	1.00	20	8.20	1.29	0.06	782	0.18
SC2	4/28/2003	0.158	380.00	300	3300	6.50	0.59	0.01	1030	0.16
SC2	5/5/2003	0.513	130.00	96	790	29.20	0.40	0.26	649	0.09
SC2	5/12/2003	0.430	30.00	20	900	25.30	0.90	0.41	412	0.05
SC2	9/15/2003	0.109	170.00	290	85000	6.60	0.80	0.11	300	0.20
SC2	9/22/2003	0.049	30.00	54	15000	2.60	3.30	0.01	404	0.10
Average		0.39	147	449.06	12525.83	23.42	0.69	0.20	517.13	0.18
Geomean			17.37	42.97	807.99	11.44	0.31	0.11	469.18	0.15
St. Deviation		0.70	291.22	1043.98	26140.14	44.84	0.90	0.17	252.73	0.12
Minimum		0	1	1	20	2.6	0.05	0.01	207	0.05
Maximum		2.65	1000	4200	85000	188.4	3.3	0.47	1090	0.5
Count		13	12	16	12	16	16	16	16	16

SC2 Water Quality Data Cont...

Site	Date	TSS	TDS						
	(mmddyy)	(mg/L)	(mg/L)						
SC2	6/3/2002	190	562						
SC2	6/6/2002	12	836						
SC2	6/12/2002	68	873						
SC2	6/18/2002								
SC2	6/24/2002	2	766						
SC2	9/10/2002	21	750						
SC2	9/16/2002								
SC2	9/23/2002	13	480						
SC2	10/3/2002	8	910						
SC2	10/7/2002	3	960						
SC2	10/15/2002	5	830						
SC2	4/14/2003	6	2790						
SC2	4/21/2003	12	1660						
SC2	4/28/2003	10	2080						
SC2	5/5/2003	36	1300						
SC2	5/12/2003	22	830						
SC2	9/15/2003	7	620						
SC2	9/22/2003	11	720						
Average		26.63	1060.44						
Geomean		12.68	941.40						
St. Deviation		46.52	619.17						
Minimum		2	480						
Maximum		190	2790						
Count		16	16						

SC3 Water Quality Data

Site	Date (mmddyy)	Time (military)	Air Temp ° C	YSI Temp (°C)	YSI - PH	COND - YSI (umho/cm)	COND-LAB (umho/cm)	DO (mg/L)	DO%SAT %	BARO
SC3	6/3/2002	14:40	13	18.24	7.89	763	756		64.4	
SC3	6/6/2002	13:00	26	Low FLOW			1140			
SC3	6/12/2002	13:20	16	Low FLOW			1220			
SC3	6/18/2002			NO Water						
SC3	6/24/2002	11:30	29	25.02	7.48	1016	1010	49.2	66.1	651.9
SC3	6/26/2002	9:30	26	Low FLOW			1100			
SC3	9/11/2002			Low FLOW						
SC3	9/16/2002			Low FLOW						
SC3	9/23/2002	12:20	16	13.21	7.70	647	636	40.0	88.9	653.4
SC3	10/3/2002	9:45	5	6.27	8.14	1247	1190	28.8	72.3	642.1
SC3	10/7/2002	15:05	20	14.54	7.85	1323	1270	29.8	118.6	647.7
SC3	10/15/2002	9:40	4	5.40	7.96	1160	1120	21.6	65.7	647.4
SC3	10/17/2002	13:30	16	10.47	8.24	1204	1160	21.6	89.5	643.5
SC3	4/14/2003	14:20	22	19.47	8.38	3318	3170	41.0	180.7	645.5
SC3	4/21/2003	11:00	14	12.33	7.71	2092	2010	29.8	97.4	647.7
SC3	4/28/2003	10:30	6	9.08	7.66	2472	2410	55.3	64.1	643.7
SC3	5/5/2003	10:35	3	8.30	7.73	1774	1760	55.3	91.0	636.0
SC3	5/12/2003	11:25	17	14.74	7.84	1143	1120	55.3	99.0	646.6
SC3	9/15/2003	10:50	20	14.85	7.82	828	826	7.5	74.7	645.3
Average				13.22	7.88	1460.538	1368.63	7.5	69.6	645.9
Geomean				12.13	7.87	1309.495	1252.05	7.53	69.36	645.89
St. Deviation				5.55	0.25	765.8234	662.54		7.28	4.52
Minimum				5.4	7.48	647	636	7.5	64.4	636
Maximum				25.02	8.38	3318	3170	7.5	74.7	653.4
Count				13	13	13	16	1	2	12

SC3 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmdyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SC3	6/3/2002		Present	1400	Present	34.44	0.20	0.21	270	0.10
SC3	6/6/2002		Present	40	Present		0.30	0.01	440	0.20
SC3	6/12/2002		Present	10	Present		0.30	0.01	439	0.20
SC3	6/18/2002	0.00								
SC3	6/24/2002		Present	440	Present	24.96	0.20	0.01	320	0.10
SC3	6/26/2002		Present	620	Present		0.20	0.01	354	0.30
SC3	9/11/2002									
SC3	9/16/2002									
SC3	9/23/2002	0.32	1.00	1.00	260	15.69	0.74	0.49	205	0.08
SC3	10/3/2002	0.60	1.00	50	550	31.62	0.10	0.55	488	0.05
SC3	10/7/2002	0.22	1.00	1.00	30	8.43	0.10	0.39	534	0.07
SC3	10/15/2002	0.14	1.00	1.00	1.00	5.40	0.10	0.34	450	0.05
SC3	10/17/2002	0.04	1.00	1.00	1.00	4.50	0.23	0.06	439	0.05
SC3	4/14/2003		10.00	2	10.00	7.40	1.37	0.01	965	0.06
SC3	4/21/2003	0.14	10.00	3	10.00	6.30	1.21	0.23	726	0.11
SC3	4/28/2003	0.13	220	600	1640	17.00	0.56	0.01	1010	0.09
SC3	5/5/2003	0.61	90	72	930	10.20	0.98	0.17	692	0.05
SC3	5/12/2003	0.32	50	29	140	11.30	0.90	0.42	353	0.06
SC3	9/15/2003	0.06	290	340	53000	10.60	0.70	0.04	264	0.10
Average		0.23	61.36	225.63	5142.91	14.45	0.51	0.185	496.81	0.10
Geomean			8.93	24.73	93.64	11.79	0.36	0.07	450.17	0.09
St. Deviation		0.21	100.94	383.78	15880.81	9.95	0.42	0.20	238.03	0.07
Minimum		0	1	1	1	4.5	0.1	0.01	205	0.05
Maximum		0.61	290	1400	53000	34.44	1.37	0.55	1010	0.3
Count		11	11	16	11	13	16	16	16	16

SC3 Water Quality Data Cont...

Site	Date	TSS	TDS						
	(mmdyy)	(mg/L)	(mg/L)						
SC3	6/3/2002	30	501						
SC3	6/6/2002	16	804						
SC3	6/12/2002	88	872						
SC3	6/18/2002								
SC3	6/24/2002	2	742						
SC3	6/26/2002	48	819						
SC3	9/11/2002								
SC3	9/16/2002								
SC3	9/23/2002	8	450						
SC3	10/3/2002	2	900						
SC3	10/7/2002	6	960						
SC3	10/15/2002	4	820						
SC3	10/17/2002	2	880						
SC3	4/14/2003	15	2380						
SC3	4/21/2003	7	1560						
SC3	4/28/2003	20	1930						
SC3	5/5/2003	16	1340						
SC3	5/12/2003	10	700						
SC3	9/15/2003	8	430						
Average		17.63	1005.5						
Geomean		9.89	896.17						
St. Deviation		22.29	540.18						
Minimum		2	430						
Maximum		88	2380						
Count		16	16						

SC4 Water Quality Data

Site	Date	Time	Air Temp	COND-LAB	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3
	(mmdyy)	(military)	° C	(umho/cm)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)
SC4	6/3/2002	15:40			Present	150	Present		0.90	0.53
SC4	6/6/2002	13:31	30	3010	Present	80	Present		1.00	0.82
SC4	6/12/2002	13:45	16		Present	10	Present		0.70	1.29
SC4	6/18/2002	13:50	27	2990	Present	520	Present		1.00	2.74
SC4	6/24/2002	12:05	32		Present	140	Present		1.10	0.98
SC4	9/10/2002	12:35	28	2400	60	17	13360		1.04	3.73
SC4	9/16/2002	10:30	23	2600	1	1	1		2.00	0.19
SC4	9/23/2002	11:20	8	2350	1	1	450		0.98	1.53
SC4	10/3/2002	10:35	7	1450	1	20	10		1.27	0.50
SC4	10/7/2002	14:50	20	2440	1	1	30		1.98	1.26
SC4	4/14/2003	13:40	22	2880	10	1	10	80.30	2.85	2.87
SC4	4/21/2003	13:30	16	2910	10	1	350	40.00	1.88	2.28
SC4	4/28/2003	12:55	3	2700	10	1	10300	49.70	1.17	4.05
SC4	5/5/2003	12:45	6	2220	10	1	5100	51.90	1.32	2.51
SC4	5/12/2003	11:35	17	2890	10	1	8800	67.10	1.80	2.45
SC4	9/15/2003	15:50	25	2560	200000	200000	4500000	138.60	9.90	1.75
SC4	9/22/2003	9:30	9	2220	200	550	133000	28.50	1.40	1.52
SC4	9/29/2003	9:05	2	2520	40	210	40000	63.30	6.00	0.30
SC4	10/6/2003	12:25	23	2600	60	72	46000	70.00	7.20	0.33
SC4	10/10/2003	8:50	6	2130	140	180	23000	61.60	2.00	0.99
Average				2521.77	2521.77	10097.85	318694.1	65.1	2.37	1.631
Geomean				2488.35	2488.35	22.26	2111.46	59.95	1.74	1.21
St. Deviation				391.56	391.56	44698.62	1157239	29.92	2.44	1.14
Minimum				1450	1450	1	1	28.5	0.7	0.19
Maximum				3010	3010	200000	4500000	138.6	9.9	4.05
Count				17	17	20	15	10	20	20

SC4 Water Quality Data Cont...

Site	Date	T_SULF	T_PHOS	TSS	TDS					
	(mmdyy)	(mg/L)	(mg/L)	(mg/L)	(mg/L)					
SC4	6/3/2002		0.10							
SC4	6/6/2002	1740	0.10	80	2770					
SC4	6/12/2002		0.20	150						
SC4	6/18/2002	1690	0.05	40	2850					
SC4	6/24/2002		0.30	60						
SC4	9/10/2002	593	0.24	27	1530					
SC4	9/16/2002	1540	0.15	82	2300					
SC4	9/23/2002	1190	0.10	73	2050					
SC4	10/3/2002	669	0.10	44	1150					
SC4	10/7/2002	1380	0.07	69	2140					
SC4	4/14/2003	1470	0.06	81	2590					
SC4	4/21/2003	1420	0.12	42	2690					
SC4	4/28/2003	1200	0.13	48	2330					
SC4	5/5/2003	983	0.09	41	1800					
SC4	5/12/2003	1320	0.05	45	2490					
SC4	9/15/2003	934	0.50	182	2040					
SC4	9/22/2003	1030	0.10	18	1660					
SC4	9/29/2003	1300	0.10	33	2280					
SC4	10/6/2003	1250	0.10	35	2200					
SC4	10/10/2003	1050	0.10	49	1780					
Average		1221.12	0.14	63.11	2155.88					
Geomean		1176.01	0.11	53.88	2103.21					
St. Deviation		320.16	0.11	41.11	464.69					
Minimum		593	0.05	18	1150					
Maximum		1740	0.5	182	2850					
Count		17	20	19	17					

SC5 Water Quality Data

Site	Date (mmddyy)	Time (military)	Air Temp ° C	COND- LAB (umho/cm)	E_COLI (#/100mL)	F_COLIF (#/100mL)	T_COLIF (#/100mL)	TURB (NTU)	T_NH3&NH4 (mg/L)	T_NO2&NO3 (mg/L)
SC5	6/3/2002	15:45	14	3900	Present	10	Present		5.20	0.01
SC5	6/6/2002	13:43	30	3950	Present	10	Present		3.50	0.01
SC5	6/12/2002	13:50	16	3880	Present	10	Present		3.00	0.01
SC5	6/18/2002	13:55	27	3850	Absent	10	Present		5.50	0.01
SC5	6/24/2002	11:50	32	3840	Absent	10	Present		5.40	0.01
SC5	9/10/2002	12:36	28	2280	50	230	14350		6.66	0.06
SC5	9/16/2002	10:35	23	3510	1	1	1		8.14	0.04
SC5	9/23/2002	11:25	8	3480	1	1	1		7.52	0.15
SC5	10/3/2002	10:37	7	3360	1	1	1		6.53	0.06
SC5	10/7/2002	14:52	20	3400	1	1	1		6.54	0.01
SC5	4/14/2003	13:43	22	2830	10	1	10	3.60	6.78	0.01
SC5	4/21/2003	13:35	16	2910	10	1	10	5.60	6.15	0.01
SC5	4/28/2003	13:00	3	2910	10	1	100	1.70	4.66	0.01
SC5	5/5/2003	12:48	6	2970	10	1	10	1.10	3.72	0.02
SC5	5/12/2003	11:40	17	2990	10	1	10	0.60	5.80	0.38
SC5	9/15/2003	15:55	25	2170	1	1	1000	0.90	5.20	0.01
SC5	9/22/2003	9:35	9	2120	1	1	1000	1.05	5.00	0.01
SC5	9/29/2003	9:10	2	2080	1	1	1000	3.10	8.50	0.01
SC5	10/6/2003	12:30	21	2050	1	1	1000	1.8	9.2	0.01
SC5	10/10/2003	8:55	6	2020	2	2	1000	0.8	9.1	0.01
Average				3025	7.33	14.75	1299.6	2.03	6.11	0.04
Geomean				2942.69	2.93	2.42	47.55	1.58	5.85	0.02
St. Deviation				704.11	12.55	50.82	3641.02	1.60	1.77	0.09
Minimum				2020	1	1	1	0.6	3	0.01
Maximum				3950	50	230	14350	5.6	9.2	0.38
Count				20	15	20	15	10	20	20

SC5 Water Quality Data Cont...

Site	Date	T_SULF	T_PHOS	TSS	TDS					
	(mmdyy)	(mg/L)	(mg/L)	(mg/L)	(mg/L)					
SC5	6/3/2002	2800	0.10	25	4090					
SC5	6/6/2002	3110	0.10	16	4060					
SC5	6/12/2002	2470	0.10	2	4000					
SC5	6/18/2002	2740	0.10	16	4240					
SC5	6/24/2002	2720	0.30	24	4020					
SC5	9/10/2002	2420	0.22	61	3370					
SC5	9/16/2002	2460	0.14	57	3410					
SC5	9/23/2002	2290	0.12	42	3670					
SC5	10/3/2002	2230	0.13	6	3460					
SC5	10/7/2002	2300	0.20	61	3420					
SC5	4/14/2003	1780	0.05	18	2930					
SC5	4/21/2003	1790	0.05	14	2980					
SC5	4/28/2003	1870	0.05	66	2940					
SC5	5/5/2003	1870	0.05	3	2910					
SC5	5/12/2003	1820	0.05	37	2910					
SC5	9/15/2003	1300	0.10	2	2070					
SC5	9/22/2003	1280	0.10	4	1980					
SC5	9/29/2003	1280	0.10	60	1710					
SC5	10/6/2003	1160	0.10	7	1840					
SC5	10/10/2003	1160	0.10	41	1840					
Average	2043	0.113	28.1	3092.5	2043					
Geomean	1952.96	0.10	17.02	2973.22	1952.96					
St. Deviation	599.76	0.06	22.96	831.81	599.76					
Minimum	1160	0.05	2	1710	1160					
Maximum	3110	0.3	66	4240	3110					
Count	20	20	20	20	20					

SC6 Water Quality Data

Site	Date (mmddy)	Time (military)	Air Temp ° C	COND- LAB (umho/cm)	E_COLI (#/100mL)	F_COLIF (#/100mL)	T_COLIF (#/100mL)	TURB (NTU)	T_NH3&NH4 (mg/L)	T_NO2&NO3 (mg/L)
SC6	6/3/2002	15:50			Present	400	Present			
SC6	6/6/2002	13:48	30		Present	170	Present		0.3	1.19
SC6	6/12/2002	13:55	16		Present	110	Present		0.5	1.67
SC6	6/18/2002	14:00	27	2840	Present	1300	Present		0.2	2.99
SC6	6/24/2002	12:00	32		Present	660	Present		0.3	1.2
SC6	9/10/2002	12:37	28	3550	1	1	1		0.43	3.04
SC6	9/16/2002	10:40	23	2350	50	350	1050		0.07	0.34
SC6	9/23/2002	11:30	8	2230	10	150	3350		0.08	2.26
SC6	10/3/2002	10:40	7	991	1	10	410		0.05	0.34
SC6	10/7/2002	14:55	20	2420	10	20	1310		0.05	2.61
SC6	4/14/2003	13:45	22	3180	10	1	10	23.3	1.5	3.77
SC6	4/21/2003	13:40	16	3070	10	1	80	13.7	1.37	3.03
SC6	4/28/2003	13:05	3	2740	10	3	4400	21.2	0.97	4.9
SC6	5/5/2003	12:50	6	2220	30	20	8300	27.7	0.67	1.65
SC6	5/12/2003	11:45	17	3170	10	7	3600	21.9	1.2	0.1
SC6	9/15/2003	16:00	25	2570	200000	200000	4200000	79.5	7.8	1.6
SC6	9/22/2003	9:40	9	2430	420	730	17000	17.6	2.1	1.25
SC6	9/29/2003	9:15	2	2610	20	180	84000	24.7	2.9	1.17
SC6	10/6/2003	12:35	21	2790	48	64	60000	155	4.9	0.86
SC6	10/10/2003	9:05	6	2530	700	720	38000	29.8	1.9	1.77
Average				2605.69	13422	10244.85	294767.4	41.44	1.44	1.88
Geomean				2525.82	33.77	75.29	2684.98	30.31	0.59	1.38
St. Deviation				571.39	51615.63	44665.08	1080648	43.98	1.97	1.25
Minimum				991	1	1	1	13.7	0.05	0.1
Maximum				3550	200000	200000	4200000	155	7.8	4.9
Count				16	15	20	15	10	19	19

SC6 Water Quality Data Cont...

Site	Date	T_SULF	T_PHOS	TSS	TDS					
	(mmdyy)	(mg/L)	(mg/L)	(mg/L)	(mg/L)					
SC6	6/3/2002									
SC6	6/6/2002		0.1	44						
SC6	6/12/2002		0.1							
SC6	6/18/2002		0.1	32						
SC6	6/24/2002		0.4	2						
SC6	9/10/2002	475	0.13	7	1150					
SC6	9/16/2002	1130	0.21	30	2030					
SC6	9/23/2002	968	0.25	16	1880					
SC6	10/3/2002	288	0.17	19	670					
SC6	10/7/2002	1200	0.24	7	2020					
SC6	4/14/2003	1500	0.05	39	2870					
SC6	4/21/2003	1490	0.05	17	2850					
SC6	4/28/2003	1130	0.12	7	2370					
SC6	5/5/2003	954	0.06	22	1760					
SC6	5/12/2003	1390	0.05	14	2690					
SC6	9/15/2003	904	0.3	86	1710					
SC6	9/22/2003	1160	0.1	14	2020					
SC6	9/29/2003	1360	0.1	14	2210					
SC6	10/6/2003	1310	0.1	20	2420					
SC6	10/10/2003	1160	0.1	14	2140					
Average		1094.6	0.14	22.44	2052.67					
Geomean		1017.82	0.12	16.53	1944.91					
St. Deviation		343.68	0.10	19.45	594.02					
Minimum		288	0.05	2	670					
Maximum		1500	0.4	86	2870					
Count		15	19	18	15					

SC7 Water Quality Data

Site	Date	Time	Air Temp	YSI	YSI - PH	COND - YSI	COND-LAB	DO	DO%SAT	BARO
	(mmdddy)	(military)	° C	Temp (°C)		(umho/cm)	(umho/cm)	(mg/L)	%	
SC7	6/3/2002	14:20		NO FLOW						
SC7	6/6/2002	13:57		NO FLOW						
SC7	6/12/2002	14:12		NO FLOW						
SC7	6/18/2002	14:30		NO FLOW						
SC7	6/24/2002	12:15		NO FLOW						
SC7	9/10/2002			NO FLOW						
SC7	9/16/2002			NO FLOW						
SC7	9/23/2002	15:10		NO FLOW						
SC7	10/3/2002	10:55		NO FLOW						
SC7	10/7/2002			NO FLOW						
SC7	4/14/2003	9:25		NO FLOW						
SC7	4/21/2003	8:56		NO FLOW						
SC7	4/28/2003	13:11		NO FLOW						
SC7	5/5/2003	9:04		NO FLOW						
SC7	5/12/2003	9:35	12	16.04	8.59	565	574	54.3	92.2	644.5
SC7	9/10/2003	12:35					159			
SC7	9/15/2003	8:45		NO FLOW						
SC7	9/17/2003	12:40	2				186			
SC7	9/22/2003			NO FLOW						
SC7	9/29/2003	8:52		NO FLOW						
SC7	10/6/2003	9:01		NO FLOW						
SC7	10/10/2003	8:37		NO FLOW						
Average				16.04	8.59	565	306.33	NA	NA	644.5
Geomean				16.04	8.59	565	257.00	NA	NA	644.5
St. Deviation							232.20	NA	NA	
Minimum				16.04	8.59	565	159	NA	NA	644.5
Maximum				16.04	8.59	565	574	NA	NA	644.5
Count				1	1	1	3	NA	NA	1

SC7 Water Quality Data Cont...

Site	Date	DISCH	E_COLI	F_COLIF	T_COLIF	TURB	T_NH3&NH4	T_NO2&NO3	T_SULF	T_PHOS
	(mmddyy)	(cfs)	(#/100mL)	(#/100mL)	(#/100mL)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SC7	6/3/2002									
SC7	6/6/2002									
SC7	6/12/2002									
SC7	6/18/2002									
SC7	6/24/2002									
SC7	9/10/2002									
SC7	9/16/2002									
SC7	9/23/2002									
SC7	10/3/2002									
SC7	10/7/2002									
SC7	4/14/2003	0.00								
SC7	4/21/2003									
SC7	4/28/2003									
SC7	5/5/2003	5.38								
SC7	5/12/2003	0.03	120	100	900	27.2	0.8	0.38	46.7	0.25
SC7	9/10/2003		17300	22700	550000	166.5	5.1	0.13	10.6	0.29
SC7	9/15/2003									
SC7	9/17/2003		210	201	1600000	290	1.2	0.46	10	0.45
SC7	9/22/2003									
SC7	9/29/2003									
SC7	10/6/2003									
SC7	10/10/2003									
Average		1.81	5876.67	7667	716966.7	161.23	2.37	0.32	22.43	0.33
Geomean			758.26	769.85	92521.3	109.51	1.70	0.28	17.04	0.32
St. Deviation		3.10	9893.00	13019.06	812519.9	131.48	2.38	0.17	21.02	0.11
Minimum		0	120	100	900	27.2	0.8	0.13	10	0.25
Maximum		5.38	17300	22700	1600000	290	5.1	0.46	46.7	0.45
Count		3	3	3	3	3	3	3	3	3

SC7 Water Quality Data Cont...

Site	Date	Time	TSS	TDS						
	(mmdyy)	(military)	(mg/L)	(mg/L)						
SC7	6/3/2002	14:20								
SC7	6/6/2002	13:57								
SC7	6/12/2002	14:12								
SC7	6/18/2002	14:30								
SC7	6/24/2002	12:15								
SC7	9/10/2002									
SC7	9/16/2002									
SC7	9/23/2002	15:10								
SC7	10/3/2002	10:55								
SC7	10/7/2002									
SC7	4/14/2003	9:25								
SC7	4/21/2003	8:56								
SC7	4/28/2003	13:11								
SC7	5/5/2003	9:04								
SC7	5/12/2003	9:35	38	574						
SC7	9/10/2003	12:35	121	100						
SC7	9/15/2003	8:45								
SC7	9/17/2003	12:40	217	120						
SC7	9/22/2003									
SC7	9/29/2003	8:52								
SC7	10/6/2003	9:01								
SC7	10/10/2003	8:37								
Average			125.33	264.67						
Geomean			99.93	190.27						
St. Deviation			89.58	268.08						
Minimum			38	100						
Maximum			217	574						
Count			3	3						

APPENDIX D ACRONYMS

Acronyms

AFO – Animal Feeding Operation

BMP – Best Management Practices

CCCD – Campbell County Conservation District

CWA – Clean Water Act

EPA – Environmental Protection Agency

NMP – Nutrient Management Plan

NPS – Non-Point Source

UAA – Use Attainability Analysis

USGS – United State Geological Survey

WACD – Wyoming Association of Conservation Districts

WDEQ- Wyoming Department of Environmental Quality

WQD – Water Quality Department

WYPDES – Wyoming Pollution Discharge Elimination System

APPENDIX E

RESPONSE TO PUBLIC COMMENTS

COMMENT 1

Submitted by Rex Markley 9-6-06:

The way to fix or improve the quality of water in the Belle Fourche River is to follow flow upstream to the source. We already know Donkey Creek and the Gillette fishing lake are impaired. Now we are trying to figure out what is causing it. To find out you have to go upstream. The City of Gillette knows where it is and also knows how to fix it. Reason #1 is because over 15 years ago The Knotts on the corner of Sinclair and Douglas Hyway were forced onto City sewer. They were told there septic was polluting the fishing lake. Reason #2 over 5 years ago the Green Mobile Home Park was shut down because of there septic and over 30 families were moved out.

Now the City of Gillette is planning a 12' x 5' storm drain to come thru our subdivision that is still county. Right over the city sewer line and dump into Donkey Creek at the edge of my front yard.

It's been over a year now that I have tried everything to convince the City to bring the sewer line in with the storm drain and get the rest of us off our septic systems. They are avoiding the problem so they can condemn our property at a later date. This is unexceptable.

RESPONSE:

CCCD began collecting bacteriological data on Donkey and Stonepile Creeks in 2002. To this point in time, the data has been variable and we have been unable to correlate the rise and fall of bacteria concentrations to any specific attribute. The purpose of this plan is to provide a voluntary and incentive-based alternative to improve water quality while making every effort to avoid "finger pointing". If a point source (ie sewer line) is discovered as a source of pollution, it will be addressed by WDEQ, the regulatory entity responsible for water quality. This plan was developed to address non-point sources of pollution, which are by definition diffuse in nature and difficult to detect. CCCD has no regulatory authority for septic systems or storm drains.

COMMENTS 2-10

Submitted by WYDEQ:

September 28, 2006

Donkey/Stonepile Creeks Watershed Steering Committee
c/o Campbell County Conservation District
601 4J Court, Suite D
Gillette, WY 82717

RE: WDEQ comments on Draft Donkey and Stonepile Creeks Watershed Plan

Dear Committee Members:

Thank you for the opportunity to review this document. Let me start by complementing your efforts and results in this comprehensive document. I have included a few specific comments that I hope will lend additional information and clarity to your document.

COMMENT 2:

Line 116 Swimable is one word.

RESPONSE:

Changed as requested.

COMMENT 3:

Line 150 Please check the punctuation in this sentence.

RESPONSE:

Changed as requested.

COMMENT 4:

Line 242 This states the current classification for Donkey and Stonepile Creeks, but references the initial year of the listing for both creeks. It is my understanding that Stonepile was initially listed on Table C as threatened in 2002. Stonepile has been moved to Table A: Impaired Waterbodies in 2006 which is currently under review by USEPA.

RESPONSE:

Changed dates on Donkey and Stonepile Creeks to reflect both on 2006 303(d) lists.

COMMENT 5:

Line 330 May want to add a definition of “hydric” for clarification.

RESPONSE:

Changed as requested.

COMMENT 6:

Line 369 States the “production of the video was 10-12 min.” Is this stating the video is 10-12 minutes in length?

RESPONSE:

Sentence was changed for clarification.

COMMENT 7:

Line 366 I would suggest replacing “2” with “Two”.

RESPONSE:

Changed as requested.

COMMENT 8:

Line 390 I would suggest adding the full name and author of the grazing management plan so it could be located by someone who would like to read or reference the plan.

RESPONSE:

The grazing management plan referred to in this document was developed for a private landowner in the watershed. CCCD does not have authorization to publish and distribute the grazing plan. The information pertaining to the water developments and grazing operations were included simply to verify that local producers are addressing resource concerns on a voluntary basis.

COMMENT 9:

Line 565 It states “This will result in new ideas of curves.” What is this referring to?

RESPONSE:

This sentence was removed from the content of the document, as it was not pertinent.

COMMENT 10:

Line 697 & 808 The amount of money that is associated with septic remediation program are conflicting in these locations. One states that there is \$51,000 available and the other states \$85,000 available.

RESPONSE:

The amounts were changed to \$51,000 to accurately reflect the correct amount.

Please let me know if you need clarification on any of the items I have listed and I look forward to seeing the great progress that is being made in the implementations in this watershed plan.

Sincerely,
Don Newton
TMDL Coordinator/Watershed Planner

Cc: File:Campbell CCD
Chrono