Appendices

Appendix A

SOUTH DAKOTA WELLHEAD PROTECTIONPROGRAM 1997 BIENNIAL REPORT

PART I. STANDARD REPORTING INFORMATION

Section A. Public Water Supply (PWS) Systems/Population

Total Number of PWS Systems in the State: 754
Total Number of Ground Water Dependent PWS Systems in the State: 584
Total Number of Community Water Supply Systems in the State: 478
Total Number of Ground Water Dependent Community Water Supply Systems in the State: 316
Total Population Relying on Community Water Supply Systems in the State: 602,177
Total Population Relying on Ground Water Dependent Community Water Supply Systems in the State: 424,263
Total Number of Ground Water Dependent Non-Transient Non-Community PWS Systems in the State: 26
Total Number of Ground Water Dependent Transient Non-Community PWS Systems in the State: 242
Total Number of New Wells sited during the Biennial period: 8
Total Number of New Wells sited for which consideration was given to the potential sources of contamination within the expected wellhead area or for which a wellhead protection program was initiated: 2

Section B. Total Wellhead Protection Coverage within State

STEP 1 - Getting Started

In South Dakota the wellhead protection program and program to administer the PWS monitoring waivers are closely related, with the same DENR division administering both programs. PWS systems that have applied for use or susceptibility waivers, which involve reductions in sampling requirements for synthetic organic chemicals and volatile organic chemicals, need to evaluate a basic area of protection around their wellfield, determine the intrinsic susceptibility of their system and check for sources of contamination. Initiation of these activities to justify the monitoring waivers places these PWS systems in the Step 1 category. Other communities that have not applied for the monitoring waivers, but have either contacted the DENR about getting started on wellhead protection or have already done some of the Step 2 activities are also included. Figure 1 shows the number of communities that fit this category. Because PWS systems that belong in Step 2 or Step 3 must have completed Step 1, the results in Figure 1 include those systems that also belong in higher categories. Therefore, the resulting numbers represent the total number of systems involved in some facet of wellhead protection.

STEP 2- Delineation

Figure 2 reveals the number of PWS systems that fit the Step 2 category. All of these areas have a wellhead protection area delineation completed and have at least a limited source inventory. The DENR has reviewed some of the delineations and has offered to assist with completing and upgrading the other elements of their wellhead protection program. Some of these systems have also developed WHP ordinances to protect their delineated zones and the remaining shallow aquifer areas. The delineation method was primarily a hybrid between the analytical and hydrogeological methods. The systems applying for monitoring waivers used the fixed radius method. Source inventories were informal reviews of past and existing potential sources which were used to develop area ordinances and other management policies in their wellhead protection areas.

STEP 3 - Potential Contaminant Source Identification

The PWS systems that have completed sufficient work in identifying and locating potential threats to the water supply are included in this Step. Systems which obtained use waivers are included in Step 3. PWS systems that have applied for use waivers have evaluated a basic area of protection around their wellfield, determined the intrinsic susceptibility of their system, and checked for sources of contamination. These systems, shown in Figure 3, are also included in Step 1 and Step 2.

STEP 4 - Source Management

Figure 4 shows all PWS systems involved in source management. These systems include city and Rural Water Systems (RWS) which are located in counties that have developed WHPA related ordinances to address potential pollution sources.These systems were also included in Step 1 and Step 2, however, they were not included in Step 3.

STEP 5 - Contingency Planning

As Figure 5 indicates, only one PWS system in South Dakota has implemented a contingency plan. This system is also included in Step 1, Step 2, and Step 4.

Section C. Anticipated Rate of Program Implementation

Expected change in number of Step 1 Community Water Supply systems within State during next Biennial Period (Oct. 97 - Sept. 99) **100**

Expected change in number of Step 2 Community Water Supply Systems within State during next Biennial Period (Oct. 97- Sept. 99) **100**

Expected change in number of Step 3 Community Water Supply systems within State during next Biennial Period (Oct. 97 - Sept. 99) **100**

Expected change in number of Step 4 Community Water Supply systems within State during next Biennial Period (Oct. 97 - Sept. 99) **5**

Expected change in number of Step 5 Community Water Supply systems within State during next Biennial Period (Oct. 97 - Sept. 99) **5**

Section D. Precision of the Above Quantitative Information

General approach used in determining the above quantitative information.

Section A 5 - Approach based on a formal survey
Section B 3 - Approach based on formal submittal of some information and estimate based on general knowledge of PWS operations in the state
Section C 2 - Approach is a rough estimate based on general knowledge of PWS operations in the state

Section E. State Narrative on Program Milestones and Future Priorities

Listed below are the major milestones achieved by the South Dakota Wellhead Protection program during the period from October 1995 through September 1997.

Please see enclosed document describing South Dakota's wellhead protection activities during the past two years.

Since the wellhead protection program is voluntary in South Dakota, implementation has been slow. With the requirement of a source water protection program, it is anticipated that assessments will be performed at a rapid pace and the water systems will take the steps necessary to complete a source water protection program.

The South Dakota Department of Environment and Natural Resources (DENR) published and distributed a pamphlet to all PWS systems in the state describing wellhead protection in South Dakota and offering State assistance in helping local communities develop their own programs. DENR personnel also continue to provide public outreach to various interested parties.

A document entitled "Wellhead Protection Success Stories in South Dakota" was completed in December 1994, to indicate the importance of wellhead protection in the state and to promote its use by more local PWS systems.

Documents which support data presented include: county and city ordinances, use and susceptibility waivers, and WHPA maps.

Section F. State Narrative on Major Changes or Exceptions to the Required Seven Elements of the State's WHP Program Since Approval (As Applicable)

No major changes or exceptions were made.

PART II. OPTIONAL ADDITIONAL REPORTING INFORMATION

Section A. Successes and Problems in Implementing the Elements of a Wellhead Protection Program

Delineation of WHP areas - The limited site-specific hydrogeological information available at the majority of the PWS wellfields is the major drawback to using more sophisticated and accurate delineations. Within the next two years, it is anticipated that 100 additional delineations for PWS systems will be performed as required by the Source Water Assessment Program.

Source Identification - Generally these have been informal surveys of potential contamination sources at the wellfields, with some use made of the State regulatory databases. Limited resources at the local level are the major drawback. However, contaminant source inventories will be conducted for each PWS system as part of source water assessments.

Management Approaches - The approaches have generally taken the form of zoning ordinances, design & operating standards, source prohibitions, hazardous waste collection days, public education, and land purchases by rural water systems. These approaches have been successful, although there has been some local controversy regarding zoning and prohibiting certain land uses. Due to the rapid growth of the feedlot industry in South Dakota, communities are using county planning and zoning ordinances efforts regarding the location of these facilities to protect ground water. These efforts often refer to wellhead protection and shallow aquifer areas.

Contingency Plans and New Wells - Only one community, Sioux Falls, has a contingency plan that deals with emergency response and emergency supplies. DENR addresses wellhead protection for new wells when a PWS system applies for a water use permit or requests financial assistance for new well construction. Wellhead protection may be required as part of the funding package. Two communities, Watertown and Estelline, have asked for State assistance when locating future well locations. DENR has assisted these communities by proposing WHPA delineations.

Section B. Key Topic Areas

Relationship to State's CSGWPP - Wellhead protection is an important part of the State's comprehensive ground water protection plan. State aquifers have been prioritized to help give the greatest protection to the most vulnerable ground water sources.

Relationship of State's WHP program to PWS Monitoring Waivers - For many communities in South Dakota, the monitoring waiver incentive was the key factor in their decision to initiate wellhead protection activities. These activities include performing delineations and source inventories.

Funding Sources and Legislative Impacts - Continued federal funding through Section 106 ground water grants and 319(I) Non-point Source grants is needed. Funding through the Safe Drinking Water State Revolving Fund will be used for source water assessments, including delineations and source inventories for wellhead protection.

Federal Technical Assistance Needs - Continued assistance with delineation methods and models is needed.

Section C. Case Studies on Environmental Progress/Problems

"Wellhead Protection Success Stories in South Dakota", published by DENR in December 1994, discusses a number of successful wellhead protection efforts in South Dakota.

A cooperative effort between a landowner and the city of Milbank in northeastern South Dakota resulted in the protection of the springs used for the City's water supply. Both parties realized that runoff from agricultural land (pesticides, nitrates) can impact shallow aquifers. An agreement was made between the two sides to manage the property; a large percentage of the land was placed in the Conservation Reserve Program (CRP) to protect area ground water quality.

Section D. Surface Water Protection

The Wellhead Protection Program cooperates with the Watershed Program (319) on issues involving ground water PWSs and nonpoint source pollution. The Watershed Program is involved in the source water assessment efforts and will provide their expertise on surface water assessments.

Section E. Data Management Activities

The South Dakota DENR recently hired a full time employee to develop an interactive Geographical Information System (GIS) database which will allow access to various data bases in the department. This will allow the department to compare the WHP information with all the regulatory data available for the WHP area. Presently the State WHP program personnel work closely with the State Drinking Water program to share the needed information concerning PWS systems.

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Prepared by the South Dakota Department of Environment and Natural Resources - Ground Water Quality Program
September 18, 1997

South Dakota's wellhead protection activities in the past two years:

1. **Tripp County Rural Water System.** Delineated wellhead protection area, attended several meetings with the Tripp County Rural Water System Board, reviewed and commented on proposed county ordinances relating to wellhead protection.

2. **Watertown.** Delineated wellhead protection area for city's future use area; met with the city water treatment staff several times to discuss delineation and possible ordinance changes for wellhead protection; county has adopted new zoning ordinances addressing wellhead protection.

3. **Estelline.** Worked through the Active Small Cities program to delineate a wellhead protection area for the new Estelline city water supply, attended numerous meetings with the city.

4. **Milbank.** Worked with the city of Milbank and private landowner to enroll the land surrounding the city's springs in the Conservation Reserve Program.

5. **Spearfish.** Attended several meetings of the city council and planning and zoning commission to discuss wellhead protection, currently an advisory member of the city's wellhead protection committee which is pursuing wellhead/source water protection because of the concerns of increased land and housing developments.

6. **Lawrence County.** Attended several meetings of the Comprehensive Planning Committee, county commission, and county officials to discuss wellhead/source water protection in an effort to address concerns with

increased land and housing development.

7. **Hill City.** Met with the city mayor to discuss wellhead protection and possibilities for delineations, ordinances, and pollution source inventories.

8. **Clay County Rural Water System.** Provided preliminary information and guidance on wellhead protection area delineation as part of 319 nonpoint source project proposal.

9. **Sioux Falls.** Met with the city water treatment office to discuss their wellhead protection overlay district; communicate regularly with the city and Minnehaha County Wellhead Protection Overlay District committee to advise them of proposed potential pollution sources.

10. **Others.** Attended at least two meetings with the West Dakota Water Development District to encourage wellhead protection/ source water protection efforts; put together EPA's Region VIII source water assessment conference; met with the South Dakota Association of Rural Water Systems new wellhead protection contact; reviewed numerous county ordinance changes that reflect county concerns of confined swine feeding operations relative to wellhead protection areas; review site locations for confined animal feeding operations to determine if sites are in wellhead protection areas and comply with county ordinances.

11. **Monitoring waivers.** Reviewed and approved over 100 monitoring waivers based on wellhead protection efforts and chemical use information.

12. **In 1995, published and distributed the *South Dakota Wellhead Protection Guidelines* and the *South Dakota Wellhead Protection Program* pamphlet.** These two documents were sent to every community public water supply in the state.

13. **Pollution Prevention.** Included grant dollars for local wellhead protection efforts in the latest pollution prevention grant.

14. **Active Small Cities program.** Included wellhead protection activities in this program as an opportunity for small cities to maintain compliance with the Safe Drinking Water Act.

15. **Ground water quality standards.** Adopted more stringent clean up standards for sites in wellhead protection areas; risk based corrective action rules were for soil petroleum contamination and did not change the ground water quality standards.

16. **Public outreach.** Given presentations to over a dozen cities, counties, and organizations on wellhead protection.

17. **Staff.** Hired one new FTE to work full time on source water protection; filled a vacant FTE with a professional to work full time on wellhead/ source water protection; dedicated the equivalent of one additional to wellhead/source water protection for a total of 3 FTEs currently working on wellhead/source water protection.

REPORTS ON WELLHEAD PROTECTION FOR CWSS

STEP I

Getting Started

OF COMMUNITY WATER SYSTEMS
BY SYSTEM SIZE

1	OVER 50,000
6	10,000 TO 50,000
9	3,300 TO 10,000
30	1,000TO 3,300
169	25 TO 1,000

FIGURE 1

REPORTS ON WELLHEAD PROTECTION FOR CWSS

STEP 2

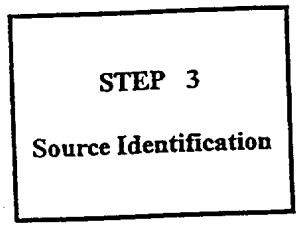
Delineation

 # OF COMMUNITY WATER SYSTEMS BY SYSTEM SIZE

1	OVER 50,000
3	10,000 TO 50,000
5	3,300 TO 10,000
15	1,000TO 3,300
31	25 TO 1,000

FIGURE 2

REPORTS ON WELLHEAD PROTECTION FOR CWSS



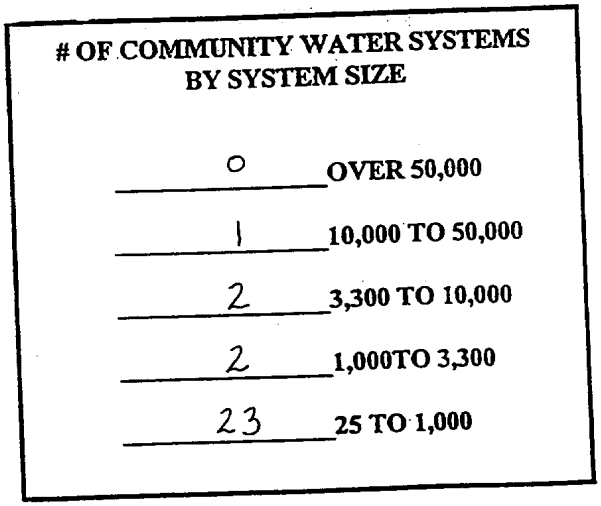


FIGURE 3

REPORTS ON WELLHEAD PROTECTION FOR CWSS

STEP 4

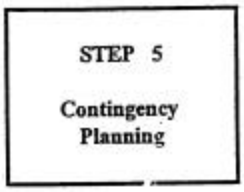
Source Management

 # OF COMMUNITY WATER SYSTEMS BY SYSTEM SIZE

1	OVER 50,000
2	10,000 TO 50,000
5	3,300 TO 10,000
13	1,000TO 3,300
9	25 TO 1,000

FIGURE 4

REPORTS ON WELLHEAD PROTECTION FOR CWSS



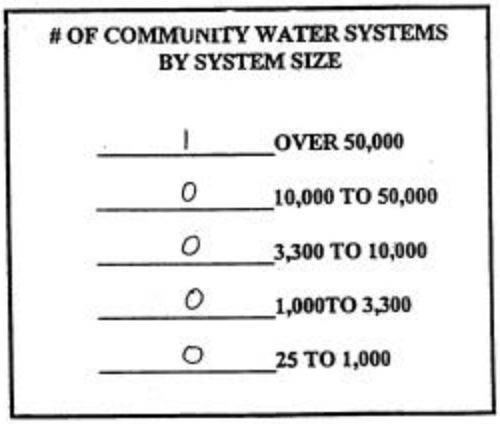


FIGURE 5

WHP FOR NON-COMMUNITY WATER SYSTEMS (OPTIONAL)

STEP I

Getting Started

OPTIONAL

OF NON-COMMUNITY SYSTEMS

11 Non-Transient

0 Transient

FIGURE 6

FOR NON-COMMUNITY WATER SYSTEMS (OPTIONAL)

STEP 2

Delineation

OPTIONAL

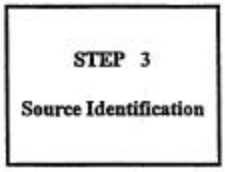
 # OF NON-COMMUNITY SYSTEMS

6 **Non-Transient**

0 **Transient**

FIGURE 7

FOR NON-COMMUNITY WATER SYSTEMS (OPTIONAL)



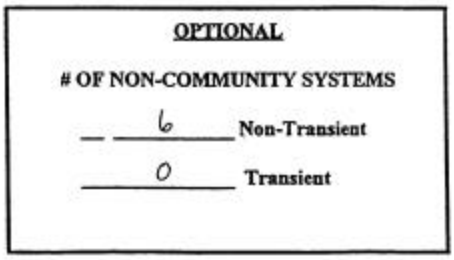


FIGURE 8

WHP FOR NON-COMMUNITY WATER SYSTEMS (OPTIONAL)

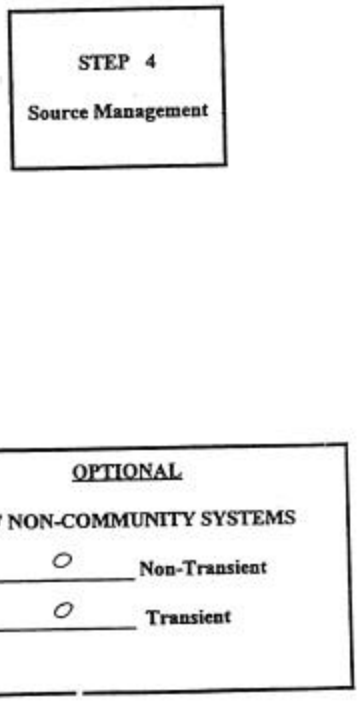
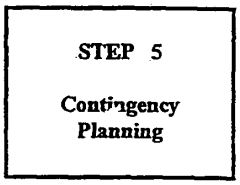


FIGURE 9

WHP FOR NON-COMMUNITY WATER SYSTEMS (OPTIONAL)



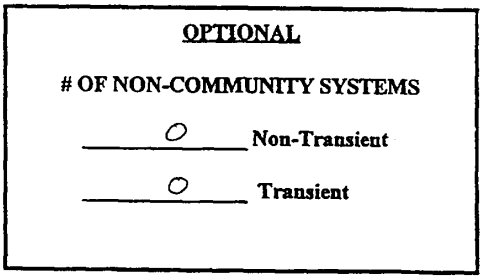


FIGURE 10

Appendix B

Intended Use Workplan for the set-aside from the South Dakota Drinking Water Revolving Fund

The federal *Drinking Water State Revolving Fund (SRF) Program Guidelines* requires each state to submit a workplan indicating how funds will be spent when set-asides are used. The workplan outlined below was prepared according to the SRF Guidelines and the *State Source Water Assessment and Protection Programs Guidance.*

I. Funding Amount

South Dakota has set aside 10% of its FY1997 Drinking Water Revolving Fund allotment for source water assessment and protection. This is $1,255,880. Other funding sources will be used to supplement this effort. These potential funds include Public Water System Supervision, Nonpoint Source 319, 106 Ground Water and potentially other environmental funding sources.

II. Full Time Employees

A minimum of three and one half (3.5) department FTEs will be utilized for the development of South Dakota's Source Water Protection Program. These positions include two natural resources engineers and a combination of a natural resources engineer, a hydrologist, a natural resources administrator, and a combination of employees from various programs in the department.

Total Estimated Costs For Source Water Assessment and Protection Program

PURPOSE	RESOURCES	COST PER YEAR	TOTAL COST THROUGH 2001
Coordinate source water protection program (combination of 3 existing positions in Ground Water Quality Program).	1 FTE	$ 50,000	$ 200,000
Conduct wellhead protection activities and coordinate source water protection activities, including delineating up to 200 wellhead protection areas. (1 existing position in Ground Water Quality Program).	1 FTE	50,000	200,000
Computer and technical support for source water protection program (1 existing position in Minerals and Mining Program).	1 FTE	50,000	200,000
Assist in source water assessment development, advise Ground Water Quality Program on delineations, inventories, and susceptibility analysis.	0.5 FTE	25,000	100,000
Delineate protection areas and inventory potential sources including complex and large source water protection areas.	Other Services*	(500 systems X 40 hours per system x $75 per hour)	1,500,000
Support source water protection program.	Equipment and Training		30,000
Obtain EPA approval of South Dakota's source water protection program, delineate areas for all public water supplies, and inventory all pollution sources	Total of 3.5 FTEs other services and equipment	Total Cost:	$ 2,230,000

* Other Services refers to services provided by DENR personnel and/or contractual services

- Total State Revolving Loan Fund set-asides available for the above activities are estimated at $1,255,880 (10% of the FY'97 capitalization grant dollars). These dollars are a one-time set-aside that are only available from the 1997 fiscal year allotment and must be applied for no later than September 30, 1998. The money can be banked for four years. No match is required. Estimates of costs exceed funds available by approximately $974,000.

III. Goals and Objectives, Outputs, and Deliverables

The goal of the source water assessment program is to protect and benefit public water systems by delineating source water protection areas, inventorying contamination sources, and determining susceptibility of the water supply. The goal of South Dakota's workplan for SRF set-asides is to complete the source water assessment program within the time frame allowed by the Safe Drinking Water Act.

The following activities will be completed to meet the goal:

1. Organize technical meetings. These meetings are tentatively scheduled for April, May, July, and September.
2. Develop the source water assessment program document for EPA approval.
3. Host several water users meetings.
4. Develop and administer contracts for a portion of the assessments.
5. Work with DENR's citizen boards to develop program.
6. Host several public participation meetings to gather input on the document.
7. Complete source water assessments for the 760 public water systems.
8. Provide the results of the assessments to the public water systems.
9. Provide assistance to local communities in the development of source water protection programs.

The department will continue to work on the wellhead protection portion of source water assessments while waiting for EPA approval. This includes delineations and pollution source inventories. These components of the assessments will be done in accordance with South Dakota's EPA-approved Wellhead Protection Program for public water systems dependent on ground water. Assessments for systems dependent on surface water sources or combined surface water/ground water sources and the susceptibility analyses for all systems will not be done using set-aside funds until EPA has approved the source water assessment program.

The outputs include:

1. Source water assessment program document.
2. Possible contracts with entities outside the department to conduct assessments.
3. Public meeting summaries.
4. Completed assessments including maps with delineated areas and potential pollution sources and results of susceptibility analyses.

5. Results of assessments made available to the public through paper and electronic format.

The source water assessment program document and the 760 completed assessments are the deliverables for this set-aside.

IV. Schedule

The department's schedule for implementing this set-aside follows:

Activity	Before this Date
Organize Technical Advisory Committee	March 15, 1998
Prioritize public water supplies for assessments	April 1, 1998
Submit the Intended Use Plan workplan to EPA	May 18, 1998
Hold meetings for groups of water users such as Missouri River and Black Hills area water users	August 14, 1998
Draft source water assessment program document	October 2, 1998
Present draft source water assessment program document to DENR citizen boards	October-November, 1998
Hold public meetings on draft source water assessment program document	November-December, 1998
Submit final source water assessment program document to EPA	February 1999
Obtain EPA approval of source water assessment program	November, 1999
Negotiate contracts as needed to complete assessments	January, 2000
Complete all source water assessments and provide assessment results to the public	May, 2003*

*South Dakota will ask for the 18-month extension in their source water assessment program submittal.

V. Responsibilities of agencies involved in implementing set-aside

The South Dakota Department of Environment and Natural Resources is the agency responsible for the implementation of this set-aside. Various programs within the department will be involved, and their involvement is described as follows:

Division of Environmental Services, Ground Water Quality Program - will be the program responsible for implementing the source water assessment program, and will: organize and direct the efforts of the Technical Advisory Committee meetings, draft the source water assessment and protection program document, organize public meetings, work with the department's citizen boards on the source water assessment program development, conduct assessments, negotiate and administer contracts to complete assessments, coordinate wellhead protection efforts with the assessment program, provide information on potential pollution sources, coordinate interoffice and outside entities' source water assessment efforts, assist local communities in source water protection

program development, and continue to administer the comprehensive ground water quality protection program in South Dakota.

Division of Environmental Services, Minerals and Mining Program - participate on the Technical Advisory Committee, may conduct assessments, provide information on potential pollution sources, provide computer expertise for the assessments, assist in collecting potential pollution source information, and develop and maintain the source water assessment and protection program data base and geographical information system data base.

Division of Environmental Services, Drinking Water Program - participate on the Technical Advisory Committee, provide water supply and sanitary survey data, assist in the dissemination of assessment information to the public water supplies through the consumer confidence reports, and provide the main contact with the public water suppliers.

Division of Environmental Services, Water Rights Program - participate on the Technical Advisory Committee, and provide existing hydrogeologic data for assessments.

Division of Environmental Services, Surface Water Quality Program - participate on the Technical Advisory Committee, assist in surface water supplies assessment inventories of potential pollution sources that may be permitted through the surface water discharge permitting program, and provide surface water quality standards expertise that may apply to a public water supply.

Division of Environmental Services, Waste Management Program - participate on the Technical Advisory Committee, provide information on potential pollution sources.

Division of Financial and Technical Services, Water and Waste Funding Program - participate on the Technical Advisory Committee, administer the Drinking Water State Revolving Fund Program, may assist in the collection of data for assessments.

Division of Financial and Technical Services, Watershed Protection Program - participate on the Technical Advisory Committee, assist with the surface water public water supplies assessments, and coordinate source water assessment and protection efforts with the Section 319, Clean Water Act, nonpoint source pollution control efforts.

Division of Financial and Technical Services, Information Services – coordinate public outreach and information dissemination.

Division of Financial and Technical Services, South Dakota Geological Survey - participate on the Technical Advisory Committee, provide existing hydrogeologic data for assessments, conduct assessments, and assist in the coordination of source water activities with local entities in the Black Hills area.

DENR will request other agencies and organizations to participate in the development of the source water assessment program. These include:

Environmental Protection Agency – participate on the Technical Advisory Committee, review and approve the source water assessment program document.

South Dakota Association of Rural Water Systems - participate on the Technical Advisory Committee, may conduct some assessments.

East Dakota Water Development District - participate on the Technical Advisory Committee, may conduct some assessments.

Others agencies and organizations - where appropriate, assist or participate on the Technical Advisory Committee, may conduct some assessments. This group may include South Dakota Department of Agriculture, Ag Unity, South Dakota Water Congress, West Dakota Water Development District, American Water Works Association, U.S. Geological Survey, universities, and tribes.

VI. Evaluation Process to Assess Success

The success of the source water assessment efforts undertaken with this set-aside will be measured in a variety of ways. These measures include: the number of local source water protection programs developed as a result of the assessments, and the number of real pollution sources threatening a public water supply that are cleaned up, removed, or remediated to the extent the threat is removed.

Appendix C

Technical Advisory Committee Members	
NAME	**AFFILIATION**
Bill Markley	DENR – Ground Water Quality Program
Jim Feeney	DENR – Water and Waste Funding
Rob Kittay	DENR – Drinking Water Program
Bob Townsend	DENR – Mineral and Mining Program
M. Rassol Ahadi	DENR – Waste Management Program
Bill Baer	DENR – Surface Water Quality Program
Bill Stewart	DENR – Watershed Protection
Jim Goodman	DENR – Water Rights Program
Derric Iles	DENR – Geological Survey
Dennis Davis	South Dakota Association of Rural Water Systems
Jay Gilbertson	East Dakota Water Development District
Van Lindquist	West Dakota Water Development District
Martin Jarrett	South Dakota Water Congress and Big Sioux Community Rural Water System
Dr. Arden Davis	South Dakota School of Mines and Technology
Peter Jahraus	South Dakota Department of Agriculture
Jeff Williamson	Bureau of Reclamation
Lyle Johnson	City of Sioux Falls
Rodney Coker	Indian Health Services and American Water Works Association
Mike Wireman	Environmental Protection Agency
Mike Strobel	U.S. Geological Survey
Brenda Forman	Ag Unity
Yvonne Vik	Municipal League
Meeting Dates	
April 1, 1998	
May 28, 1998	
July 21, 1998 – Black Hills Delineation Meeting, Technical Advisory Committee Members and other stakeholders were present.	
October 1, 1998	
October 22, 1998	

Appendix C1

Source Water Assessment Program
Technical Advisory Committee Meeting Summary
April 1, 1998

Attendees:

Bill Markley	SD DENR-Groundwater Quality
Anita Yan	SD DENR-Groundwater Quality
Tom Brandner	SD DENR-Groundwater Quality
Tricia Sebes	SD DENR-Groundwater Quality
Missy Mathis	SD DENR-Minerals & Mining
Rob Kittay	SD DENR-Drinking Water
Tim Bjork	SD DENR-Watershed Protection
Jim Feeney	SD DENR-Water and Waste Funding
M. Rassool Ahadi	SD DENR-Waste Management
Bill Baer	SD DENR-Surface Water Quality
Lonnie Steinke	SD DENR-Surface Water Quality
Ken Buhler	SD DENR-Water Rights
Derric Iles	SD DENR-Geological Survey
Stan Pence	SD DENR-Geological Survey
Foster Sawyer	SD DENR-Geological Survey
Assad Barari	SD DENR-Geological Survey
Tim Cowman	SD DENR-Geological Survey
Arden Davis	SD School of Mines and Technology
Jay Gilbertson	East Dakota Water Development District
David Hauschild	SD Water Congress
Pete Jahraus	SD Department of Agriculture
Martin Jarrett	Big Sioux Community Water System, Inc. and SD Water Congress
Tim Stefanich	City of Sioux Falls
Mike Strobel	US Geological Survey
Jack Theis	US EPA Region VIII
Mike Wireman	US EPA Region VIII
Jeff Williamson	US Bureau of Reclamation

Introduction and Meeting Overview **Bill Markley**

- Everyone was introduced.
- Summary of Wellhead Protection Program: Established in 1989. Gave SD DENR authority to produce guidance document; gave counties authority to zone wellhead protection areas. Wellhead Protection Program is a voluntary program developing across South Dakota. With the Wellhead Protection Program, however, surface water supplies are not addressed.
- Safe Drinking Water Act 1996 Amendments requires each state to develop a Source Water Assessment and Protection Program which will include:
  1. delineating areas of contribution to all public water supplies in the state (including wellhead protection areas, watersheds for sources of drinking water supplies);
  2. identifying potential sources of pollution;
  3. performing susceptibility/vulnerability analysis; and
  4. informing the public and including public participation during program development.
- There are 760 public water supplies in South Dakota which need to be included in the program, including rest stops along the interstates, campgrounds, and community water systems.
- Technical Advisory Committee needs to come to a consensus regarding:
  1. extent of search for potential sources of pollution;

2. how to handle the complex watersheds in the Black Hills;
3. how to handle the water sources where surface water and groundwater contribute to a water supply, such as along the Big Sioux River Basin; and
4. how to handle the water sources near the borders of the state, such as those along the Missouri River.

Source Water Assessment and Protection Plan Overview **Tricia Sebes**

- Source Water Protection is a pollution prevention measure that focuses on protecting the area surrounding public drinking water supplies.
- 1996 Safe Drinking Water Act Amendments allows states to set aside up to 10% of the fiscal 1997 Drinking Water State Revolving Funds; requires states to develop a Source Water Assessment Program (SWAP); and requires states to complete source water assessments for all public water supply systems.
- A complete Source Water Assessment Program Document will describe how South Dakota will accomplish the following:
  1. Involve the public
  2. Approach the assessments
  3. Distribute the information to the public
  4. Implement the SWAP
- Public Participation:
  1. Technical Advisory Committee – consists of representatives from all DENR Programs (except air quality) and representatives of outside agency and organizations
  2. Citizens Advisory Committee – consists of Board of Water Management and Board of Water and Natural Resources
  3. General Public Involvement – DENR will be holding a series of public meetings across the state to gather input on the SWAP and DENR must include a responsiveness summary showing public comments and how they were addressed
- Distribution of Information:
  1. Will use Geographic Information System (GIS) to make assessments available to the public
  2. Information may be made available to the public through the internet (via DENR and EPA homepage), at public water supply offices, at public libraries, through water bill inserts, and direct mailing.
- Implementation of SWAP: Intended Use Work Plan described briefly. Program document must be submitted to EPA by February 1999; EPA has 9 months to review document; South Dakota has 3.5 years to complete 760 assessments.
- Approach to Assessments:
  1. Delineate boundaries of assessment areas using all available hydrogeologic information for both ground and surface water systems.
  2. Conduct a contaminant source inventory within the delineated area.
  3. Assess the "susceptibility" of the source water to potential releases from the identified contaminant sources – extent of this assessment has not yet been defined.

EPA Perspective **Mike Wireman**

EPA has 3 person team for Source Water Assessment and Protection Program: John Giedt (overall program coordinator), Mike Wireman (technical contact person for state on Source Water Assessment and Protection), and Jack Theis (contact person for state on intended use plan). Each person oversees two states.

Money has been set aside for this program through the Drinking Water State Revolving Fund. Other money available through the Drinking Water State Revolving Fund in addition to the 10% of the state's allotment to administer or provide technical assistance for SWP programs for buying land, etc... The Conservation Reserve Program (CRP) was suggested as a potential incentive measure for source water protection, as it was used for the wellhead protection program. However, Mike indicated that the CRP budget is limited and he thinks that the CRP money may not be available widespread.

At this time, EPA needs a work plan. The work plan should provide a priority scheme. A checklist is coming out which is intended to guide states in conducting assessments from EPA headquarters. Checklist is currently being revised.

The concept of a water source's susceptibility to pollution is absent in the wellhead protection program, but it has been included in the SWAP Program. States need to evaluate the sum measure of risk to a water source by potential pollution sources. A technical guidance document for evaluating susceptibility is being prepared and is expected to be out this calendar year. Source area delineation is straightforward for groundwater, but no guidance exists for surface water source area delineation in the SWAP. Mike suggested delineating the entire area above an intake. Large protection areas will be a fact of life with. surface water protection. Mike has some guidance documents, the EPA is finalizing items for conjunctive delineation.

Mike believes that non-point sources will encompass large areas and may become problematic when identifying potential contaminant sources. There is a new focus on characterizing and dealing with non-point sources, as it has been poorly addressed in the past.

A total maximum daily load (TMDL) is a quantitative assessment of the cumulative loading of stream from contributing point and non-point pollutant sources. The EPA encourages states to use relevant information from existing TMDL programs to help complete source water delineations and assessments.

The notice for the groundwater disinfection rule will be coming out in the Federal Register. This rule is aimed at making a determination of whether a ground water system needs to disinfect to eliminate viruses. States should review the strategies being considered for the groundwater disinfection rule, such as requiring setback distances for microbial sources, establishing the non-vulnerability/susceptibility of a groundwater source to microbial contamination.

The EPA is working to get governmental agencies on board with source water protection in public lands, such as those in the National Forests.

Tom Brandner (DENR) asked about Tribal lands. Mike stated that Indian reservations are officially exempt from program, but EPA Region VIII will help Tribes if they indicate interest. Bill Markley (DENR) said that he has offered to provide assistance to tribes during semi-annual meetings. There have been no takers. There are no funds officially designated for this purpose in South Dakota, anyway, but other funding sources are possible. Source water assessments and protection will be a major point of discussion during future semi-annual meetings with the Tribes.

Other states are at the same point in this program as South Dakota. They have also set aside money that needs to be expended within four years (which works out to be the end of September 2001 for South Dakota). South Dakota could spend the money now, but any work completed prior to EPA's formal approval of the SWAP Work Plan must be acceptable to EPA. Because South Dakota's wellhead protection program has already been approved by the EPA, there should be no problem with going ahead with the groundwater assessments.

Work Plan for the State Revolving Fund Intend Use Plan **Tricia Sebes**

The following summary include comments from and discussion between the representatives of the TAC:
The Intended Use Work Plan was reviewed. The citizen board and DENR programs have approved the Intended Use Work Plan.

Discussion included coordinating efforts between programs with standardized methods to maximize currently available funds outside of the State Revolving Fund set-aside (carry over money, etc…). The State Revolving Fund set-aside may or may not be used to pay salaries of full-time employees. The money must be for someone working on source water assessment and protection. Use of funds must actually go to performance of assessments. SD won't have to touch SRF funds right now.

Assessments will be performed by DENR staff, including those in the Geological Survey, and, if necessary, by outside contractors. Discussed concerns regarding standardized criteria for assessments for consistency between SDGS and outside contractors. The TAC will be working on the standardization.

Discussed public meeting notification: a comment was made that the municipal league and rural water systems need to be involved, but both organizations have representatives in the TAC. The Municipal League will be meeting this month, the DENR will send a representative to discuss the SWAP program.

The availability of assessments is not a criteria for funding by communities for source water protection. Discussed the need for a strategy to move from source water assessments performed by the State into source water protection measures implemented by communities. A petition program is available to establish a pool of money for distribution to public water supplies which are experiencing problems. This program is a source of funding for the correction of problems identified after the assessments are complete.

It was clarified that the Intended Use Plan is a plan brought in with a grant application, which describes fund usage. The Intended Use Work Plan is a more detailed statement for a given activity of what the state intends to do. This work plan is prepared annually for future funding.

Due to lack of additional comments, the DENR will submit the Intended Use Work Plan to the EPA with no additional comments from TAC.

Prioritization of Public Water Supply Systems **Tricia Sebes**

Lists of public water supplies, along with the proposed prioritization were included in the informational package handed out at the beginning of the meeting. The surface water prioritization may change as information comes in and communities express interest. The list does not include systems served by other systems (an example was presented in handout). The aquifers were ranked first by vulnerability, and then by population. The surface water sources were ranked by population. The water supplies in the Black Hills were simply queried out and listed by population. If the vulnerability of a water supply was unknown, it was assumed to be vulnerable. Emphasized that the list is merely a prioritization scheme: all public water supplies will be assessed. Public water supplies where wellhead protection areas have been established (such as the City of Brookings) will likely require less work during the source water assessment. Wellhead protection area information will be used as the basis of the source water assessment. Only the aquifer susceptibility study and surface water delineation would need to be performed in those cases.

The TAC reached a consensus that the DENR will use the prioritization presented.

Discussion of Public Participation Requirements **Tom Brandner**

Items regarding public participation in the handout were reviewed. Public input is required on the technical aspects of the program. The DENR is planning to have meetings in Pierre and is considering using the Rural Development Telecommunications Network. The TAC discussed involving public at large. Mike Wireman suggested involving representatives of rural water systems and the Rural Water Association. It was also suggested that the DENR present information regarding the Source Water Assessment Program to water system operators during their training sessions. It's very important to get public participation in the Source Water Assessment and Protection Programs to gain acceptance. The Source Water Assessment Plan needs to be flexible and should be adjusted for each public water supply.

The TAC discussed how to identify non-point sources. The source water assessments should not include names (of owners or operators) of non-point sources due to concerns about public perception. Therefore, it was suggested that the source water assessments merely identify critical 40-acre cells. The Agricultural Non-point Source (AgNPS) Model can be used for cropland area but it was not designed for rangeland. The AgNPS Model is good for nutrient and sediment loading. The TAC discussed how to address storm water. Mike Wireman indicated that storm water retention basins need to be adequately designed.

Both non-point and point sources come and go, so at some point in time, it looks as if the source water assessments will need to be updated. There is no provision by the EPA to update the source water assessments, but the DENR anticipates that the source water assessment documents will be dynamic and will be updated beyond the year 2003. Mike Wireman suggested including updates as part of the work plan.

There is a need to coordinate the databases within and outside of the DENR. The United States Geological Survey and South Dakota Department of Game, Fish, and Parks have information that may be useful to the source water assessments. It was suggested that the water system operator be involved during the assessments to help identify sources in general. This is a very time-consuming method, but it works.

Neither the EPA nor the DENR wants to generate a document that nobody will use. After the assessments are completed, cities, counties, and other public water suppliers need methods to protect their source water. Mike Wireman indicated that the use of monitoring waivers is one tool. Once local public water suppliers realize that they have control, they will manage their source water areas. At this time, there is no specific legislation to require local implementation of a Source Water Protection Program and there are no plans in the near future. However, this legislation may be coming 10 years down the line.

Foster Sawyer (DENR – Geologic Survey) commented that the hydrogeologic unit maps may not be accurate enough and that he is not comfortable with counties writing zoning regulations based on those maps and potentially going to court with developers. Mike Wireman indicated that he hopes that 1:250,000-scale maps are not used by the counties; the 1:24,000-scale maps may be precise enough to take to court. Counties and communities also need to be careful about how they write zoning laws and allow for site-specific data to grant variances.

Public participation is essential to the success of the Source Water Assessment and Protection Program. Someone needs to attend the public organization meetings. While it is not feasible for representatives of the DENR to attend every city council meeting, it was suggested that the DENR can enlist assistance of the Rural Water Association and the Water Districts to inform the public. County commissions and the municipal leagues were also suggested. The possibility of including a representative of the Organization of County Commissioners as part of the TAC or other committee was discussed. The DENR anticipates that there will be much confusion between source water assessments, watershed assessments, and TMDLs. The DENR doesn't want the public to think that there are three or more different programs going on at the same time. The TAC discussed incorporating media via press releases.

The TAC discussed how to handle water source areas that extend into tribal lands. The State of South Dakota has good relations with most of the tribes. The DENR anticipates that most tribes will be cooperative, noted that the source water assessments should not be performed without their involvement. Discussed the potential need to also include tribal groups in the committees. The DENR will include tribal involvement in the Source Water Assessment Program Work Plan.

Source Water Assessment Activities in the Black Hills **Foster Sawyer**

The DENR believes that the Black Hills Hydrology and Water Management Study will provide very useful information for source water assessments. Project completion is scheduled for the year 2000, so the results should be available for use in source water assessments. The information collected is coming into use already.

The City of Spearfish is working with DENR to put together a wellhead protection area and is moving forward aggressively. Spearfish has two systems of drinking water: deep aquifers and shallow, unconfined aquifers. There is a need to tailor the assessment approach to the system evaluated. Information such as recharge area locations, sinkhole locations, and water collection areas are needed. A hydrogeologic unit map of Lawrence County has been prepared and presented. The DENR has experienced some problems with overlaying existing data regarding hydrogeologic units over topographic maps: enlarging some maps so that their scales match other maps limits the value of the information. Sensitivity of the maps is not field checked. The DENR again expressed concern that counties may not recognize problems with accuracy of some maps and they may implement zoning restrictions at the field level and potentially taking people to court.

Piedmont Valley has spent most of their efforts on private well identification. A vulnerability map is being prepared. The DENR is trying to steer Piedmont Valley towards preparing information that would be useful in future for the performance of source water assessments. A lot of information has been collected and generated, and Piedmont Valley is struggling with presenting data. They may be using GIS. The water supply in Piedmont Valley is actually much larger than most people realize.

According to Arden Davis (SD School of Mines and Technology), dye studies at Box Elder suggest that it takes 30 days to get into the Rapid City system. The flow paths within systems may be different and we'll never have exact information on this.

The TAC discussed how to perform a potential contaminant source inventory in a large area such as Spearfish. The DENR can look at using prioritized areas and using a sensitivity map. According to Mike Wireman, the EPA would expect less detailed information for the less frequently used transient water sources. The amount of detail required

would depend on the use of the well. Septic tanks, for example, are difficult to inventory. There probably are many bad septic tanks out there that are unknown of at this time. However, the upcoming disinfection rule will bring this problem to the forefront. All septic tanks fail in 20-25 years. Septic tanks installed in the Black Hills can be in fractured bedrock. Viruses generally have limited viability, but can live in the subsurface for a long time. Perhaps time of travel should be used instead of hydrogeological mapping in areas of fractured bedrock.

According to Mike Wireman (EPA), it's better to have a larger source water area to start with. States can then differentially evaluate create subareas. The Black Hills is a complicated system and sensitive area. The TAC discussed meeting with the Piedmont Valley Study Steering Committee and Western Dakota Water District to get a collaborative effort. Instead of delineating small areas, the DENR may wish to treat the Black Hills as a large unit.

Summary of Meeting and Agenda (After Lunch Break) **Bill Markley**

Activities this morning:

- Got concurrence on intended use work plan;
- Got concurrence on the prioritization scheme;
- Discussed public participation; and
- Reviewed specific projects in the Black Hills which may be relevant to the source water assessment program

Agenda for this afternoon:

- Review, in general, what data is already available, what's wrong with available data, and what data needs to be collected, including a presentation of baseline data currently available for presentation via GIS;
- Discuss the actual end products of the assessments; and
- Discuss methods to present and disseminate the source water assessment information to the county and communities in format that a layperson can understand.

Available Data and Data Collection **Tim Cowman and Missy Mathis**

Mr. Cowman presented a demonstration of digital mapping and how the DENR can incorporate and use digital mapping to make better products. The demonstration showed the utility of using digital base maps and products. The demonstration included a handout that shows the status of information available in GIS to date. There are four digital mapping products: Digital Line Graphs (DLGs), Digital Raster Graphics (DRGs), Digital Orthophoto Quads (DOQs), and Digital Elevation Models (DEMs). All of these products are "georeferenced," meaning that they will overlay each other with little manipulation.

DLGs: 1:100,000 scale line maps available for the entire state right now. Less coverage is available in 1:24,000 scale for the state.

DRGs: Scanned image of topographic maps. 1:24,000 scale maps available for entire state.

DOQs: Digital image of aerial photos; there is limited coverage for the state. There is a current effort to raise $1,000,000 to collaborate with the US Geological Survey (USGS) and other agencies to obtain complete coverage. If the funds are successfully raised, the USGS anticipates complete state coverage in 3-5 years.

DEMs: Grid of elevation points; only available for selected areas in the state. DENR has contracted to get some DEMs completed at the end of March – expect the results shortly.

The demonstration included a map illustrating the occurrence of surficial aquifer material in the City of Egan in Moody County using ArcView, a GIS software product. Data layers in ArcView are call themes. Layers included elevation contours, political and aquifer boundaries, roads, streams, test holes and wells (from Visual FoxPro database with latitude/longitude location data), surface geology (digitized), and scanned in geologic cross-sections. In ArcView, database information may be viewed by selecting a data point on a map. GIS and databases integrate well when location data is available.

Work performed to compile the demonstration included visiting the city's production wells, collecting location information using Global Positioning System (GPS) equipment, transferring information from GPS to ArcView. The demonstration included the DOQ (aerial photograph). GPS equipment gives about 1-meter accuracy, with differential correction. The accuracy will vary, depending on the time of day. Using ArcView, users can measure distances while on-screen with a measuring tool.

The demonstration showed that 1:100,000 scale data blown up to 1:12,000 scale can be inaccurate. However, users can perform "heads up" digitizing (on-screen adjustment of data on the GIS map) to correct obvious inaccuracies and errors. In the City of Egan, the water table contours show that the aquifer is recharging the Big Sioux River on west side, but that the river is recharging the aquifer into the well field on the east side of the river. The demonstration included a groundwater Zone of Contribution (ZOC) data layer created using hydrogeologic mapping and wellhead protection area delineation techniques and a surface water ZOC created using topographic map and surface water drainage areas. There may be a hydrogeologic connection between each side of the river. The demonstration also included a data layer of potential sources of contamination. The demonstration showed that a user can query for specific data in the GIS system. It also showed the need and ability to double-check accuracy of data by comparing data in DOQs and DRGs. DOQs may show potential contaminant sources which don't show up on topographic maps (DRGs). DLGs are useful for isolating rivers and querying for contaminant sources within a certain distance to the river. Users can also have GIS software automatically draw buffer zones. The demonstration included nitrate sampling data and how "hotlinks" can be created to show graph of time vs. nitrate concentrations for a particular well by selecting the well on a GIS map. The digital mapping products are available to DENR. The products can be made available via a File Transfer Protocol (FTP) site or via CD-ROM.

The TAC discussed the usefulness of DOQs and the lack of complete DOQ coverage in the state. Complete DOQ coverage is a goal. Even if the $1,000,000 in funds were available now, the DOQs won't be available for the whole state covered in time for the Source Water Assessment Program deadline. Whoever is paying the money decides which DOQ is done first. Satellite imagery is available, but its resolution is not as good as DOQs. The TAC discussed attempting to prioritize DOQ development based on Source Water Assessment Program prioritization. The USGS will want to do contiguous groups of DOQs, so can prioritize mostly on east river. The TAC discussed potential funding resources.

The State is trying to facilitate the use of digital mapping products within the state government right now. The next step is to make them available to the public, but that will be further into the future. For source water assessments, the minimum criteria will be 1:100,000 and 1:24,000 scale maps. The DLGs an DRGs are available right now and, at a minimum, will be used in the assessments. DOQs will be used when and where available and perhaps should be presented using the Internet due to length of time required to print DOQs. It was noted that DOQs will not be especially useful in areas using confined aquifers.

The TAC discussed the problem that, currently, the DENR Geologic Survey in Vermillion has access to the various DENR program databases in Pierre, but the DENR programs in Pierre don't have access to the Geologic Survey databases in Vermillion.

The TAC reviewed the information available in databases within various programs in the DENR. There is a lot of information, but, unfortunately, few of the databases include accurate location data that can be directly imported into a GIS application. Currently, there are several different software programs associated with each database. The DENR is in the process of converting all databases to one software (Visual FoxPro). The information in the drinking water program databases will be the most important at onset of the source water assessments. The DENR is already gathering GPS location data, but the process is slow.

The DENR Water Rights Program database will also be useful for source water area delineations - legal locations in this database have already been converted to latitude/longitude locations using a conversion software program, so there may be some inaccuracies. The Geologic Survey lithologic database will also be useful. Currently, the Groundwater Quality Program spills database is being converted to Visual FoxPro and the registered tanks database is being linked to the spills database. A database of drinking water maximum contaminant level violations is available and may be useful for source water assessments, but the DENR would need to perform additional research regarding the actual location of the high contaminant in the drinking water because sampling occurs at point of entry, not at the source. Other databases that may need to be considered include NPDES databases and agricultural databases.

With the databases which are available at the DENR right now, there is much work that needs to be done. The DENR needs to think about how to get the latitude/longitude information into the databases. In addition, there

currently are major bugs in the system (e.g. there is only one phone line to the GPS base station in Pierre for differentially correcting GPS data).

The TAC discussed the need to figure out the types of data not in the databases that South Dakota may need to provide. It is currently unclear if the EPA has minimum requirements for the source water assessments. Information regarding septic tanks is not readily available, but it currently is unclear if the EPA would require South Dakota to provide that information. Assad Barari (DENR-Geologic Survey) commented that perhaps South Dakota should include septic tanks in light of the upcoming disinfection rule. The TAC discussed the magnitude of an effort to find septic systems. The disinfection rule will require looking at a two-year time of travel for advective groundwater flow, based on virus viability. The wellhead protection areas were established based on a ten-year time of travel. The TAC discussed the question that, if septic systems will be regulated using a two-year time of travel, should South Dakota use a two-year time of travel for source water assessments? The TAC discussed possibility of looking only at viral viability for 2-year time of travel (recognizing inaccuracies inherent in that) for groundwater source areas which contain known septic systems and ten-year time of travel for all other cases. Mike Wireman commented that that would be a good approach and would, in effect, kill two birds with one stone. Surface water is treated for viral contamination anyway, so South Dakota won't have to consider the upcoming disinfection rule for the surface water supplies. When evaluating a surface water source, South Dakota can ignore viral (septic) sources.

Delineation Methods for Ground Water Sources **Tom Brandner**

The DENR is proposing to use wellhead protection area delineation methods previously approved by the EPA for wellhead areas. For vulnerable communities an analytical method would be used if sufficient information is available. If the necessary information is not available for using an analytical method, the DENR proposes to use a calculated or arbitrary fixed-radius until additional information is available. Vulnerable non-transient, noncommunity systems (schools) would be treated the same as vulnerable community water systems (described above). For vulnerable transient, non-community systems (restaurants, campgrounds, motels) and back-up or emergency systems, the DENR is proposing to use a calculated fixed radius or, if insufficient information is available, an arbitrary fixed-radius. For non-vulnerable confined water systems, the DENR is proposing to use a 500-foot radius around the wellhead.

The TAC discussed how to standardize assessment methods. The TAC discussed how the WHPA modeling program has been misused: WHPA works fine for unconsolidated sands and gravel, but WHPA is a poor tool for fractured bedrock, confined conditions, etc.. The TAC suggested that South Dakota may want to use hydrogeologic mapping in those instances. WHAM, another groundwater modeling program, is available and is better than WHPA, but it also has limitations. Hydrogeologic data and geographic setting information should be reviewed to determine the method of delineation. Temporal variations in flow will also affect delineated areas.

The TAC discussed the need to do some upfront data search of each potential area and decide, based on the available data, which method to use for delineating water source areas. The DENR needs to write up the proposed Source Water Assessment Program document and get EPA approval next year. Due to the short time frame, it behooves South Dakota to start doing delineations as soon as possible. The DENR asked Mike Wireman if there would be a problem with demonstration projects - Mike said that it would be a good idea and suggested selecting the most difficult sites. If the demonstration projects are approved, DENR would consider three sites: one in the Black Hills, Big Sioux River, and a third small community west of the Missouri River. The TAC discussed considering including a community water system that uses surface and ground water. The TAC also discussed the possibility of treating the Big Sioux River Aquifer System as one unit (basin) instead of breaking it up into smaller units based on the individual public water supply systems. If the DENR did use that approach, it would be a massive project. In addition, land developers and landowners may have problems with listing all of the Big Sioux Aquifer into one source water protection area. The TAC discussed the need to have differential source water areas (subwater shed areas), so that the public water supplier on the lower portion of a source water area doesn't have to protect everything upstream.

Colorado has performed demonstration source water assessment pilot projects. Mike Wireman will present those results during the next TAC meeting.

The TAC discussed ideas to delineate and protect surface water areas, such as an approach similar to the Conservation Reserve Program (CRP) to protect drainages. The TAC discussed the possibility of delineating an entire basin and then establishing a buffer zone with the use of CRP and State Water Revolving Fund monies. Landowners under a buffer zone would be compensated under Clean Water Action Plan. The TAC discussed the need to consider areas in the state where it would make sense to delineate an entire basin. EPA has issued guidance documents on how to deal with large systems which will be provided to the DENR. According to the guidance documents, states can create differential protection via "segmented watershed approach." The TAC discussed the possibility that a large system such as the Missouri River System, despite its size, may not be as difficult to assess as it appears. Smaller, intermittent streams may be more difficult and sensitive.

Miscellaneous Topics for Discussion

The DENR meets once a month internally. One of the issues brought out during the internal DENR meetings is that location data is not being gathered quickly enough. During the last internal meeting, the DENR had discussed the possibility of contracting out with an entity to collect location data at public water supply wells and intake structure this summer using GPS. Any contract that comes from the DENR requires the Governor's approval. There is a need to ensure that the GPS measurements are consistent between data collectors. So, the DENR is working on common standardized operating procedures for GPS data collection. Also, there is a need to avoid duplication. The TAC discussed the possibility of creating a common database of sites where GPS data has been collected, including a field for noting data collection method, and a comment field for describing collection point. Jay Gilbertson (East Dakota Water Development District) offered to potentially provide funds to perform the public water supply source GPS location data survey.

The TAC discussed the need to remember that the end product is something that the community can use. The TAC also discussed the need to obtain public acceptance of this program. For example, there would be a potential need to convince County commissioners that it may be more valuable not to plant a fertilizer-intense crop such as corn to protect the water source. This needs to be done so that we can effect changes in the state.

The susceptibility analysis guidance is underway at the EPA and in the fast track. Mike Wireman indicated that he might have a draft available in May. There is a Source Water Protection Conference to be held on April 28 and 29, 1998 in Dallas, Texas. Mike Wireman will be giving a presentation.

Schedule Next Meeting

Next TAC meeting confirmed for May 28, 1998.

July 9 and September 10, 1998 were tentatively scheduled for future TAC meetings.

During next meeting, the TAC wants to pinpoint delineation methods for ground and surface water. The DENR will have an outline ready for the Source Water Assessment Plan.

Appendix C2

Source Water Assessment Program
Technical Advisory Committee Meeting Summary
May 28, 1998

Attendees:

Anita Yan	SD DENR-Ground Water Quality
Tricia Sebes	SD DENR-Ground Water Quality
Missy Mathis	SD DENR-Minerals & Mining
Rob Kittay	SD DENR-Drinking Water
Gene Stueven	SD DENR-Watershed Protection
M. Rassool Ahadi	SD DENR-Waste Management
Bill Baer	SD DENR-Surface Water Quality
Tim Cowman	SD DENR-Geological Survey
Derric Iles	SD DENR-Geological Survey
Stan Pence	SD DENR-Geological Survey
Foster Sawyer	SD DENR-Geological Survey
Rodney Coker	American Water Association and Indian Health Services
Arden Davis	SD School of Mines and Technology
Dennis Davis	Association of Rural Water Systems
Jack Epstein	US Geological Survey
Mike Strobel	US Geological Survey
Jay Gilbertson	East Dakota Water Development District
Martin Jarrett	Big Sioux Community Water System, Inc. and SD Water Congress
Van Lindquist	West Dakota Water Development District
Tim Stefanich	City of Sioux Falls
Jeff Williamson	US Bureau of Reclamation
Yvonne Vik	Municipal League

Introduction and Meeting Overview **Tricia Sebes**

Everyone was introduced.

Rapid City's surface water delineation will not be presented due to computer problems.

DENR is contracting with Maxim Technologies, Inc., Eisenbraun & Associates, CETEC Engineering Services, Inc., and First District Association of Local Governments to complete an inventory of the location of wellheads, surface water intakes, pretreatment facilities, treatment plants, pumping facilities, storage facilities, and entry points into distribution systems using Global Positioning System (GPS) equipment. The physical condition of all wellheads and intakes will be assessed and a digital photograph will be taken of the wellhead/intake. The land use around all the water supply wells will be recorded (e.g. residential, commercial, industrial, cropland, or pasture). A limited potential contaminant source inventory will be conducted at all nonvulnerable PWSS within a 500-foot radius of the wellhead. The contractor's work will be submitted to DENR weekly; all work will be completed by September 30, 1998.

Delineation Methods for Ground Water Systems **Tricia Sebes**

The DENR proposed delineating a 500-foot radius around all nonvulnerable PWSS. Nonvulnerable systems are those determined *nonvulnerable* in the *1991 South Dakota PWSS Vulnerability Study*. There are approximately 150 nonvulnerable systems in South Dakota. All *vulnerable* systems include systems mapped in shallow aquifers, all systems determined vulnerable in the *1991 South Dakota PWSS Vulnerability Study*, and all systems with unknown vulnerability.

The DENR proposed using the calculated fixed radius method for Transient, Non-Community (TNC) Systems. These systems include campgrounds, restaurants, and motels. South Dakota has approximately 250 TNC systems. Depending on the availability hydrogeologic data, a more advanced delineation method may be used, such as hydrogeologic mapping.

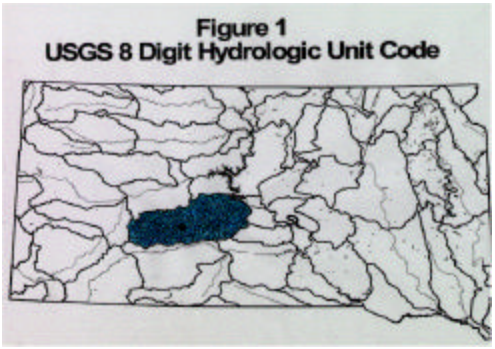
The DENR proposed using the calculated fixed radius method for all back-up wells or emergency wells. This includes systems that are served by other systems. Delineation methods for PWSS in the Black Hills will be determined at a later date. The DENR and USGS are currently working on mapping geology and hydrology of the Black Hills area to develop an aquifer sensitivity map to assist in developing source water delineation zones. Differential sensitivity may lead to differential protection zones.

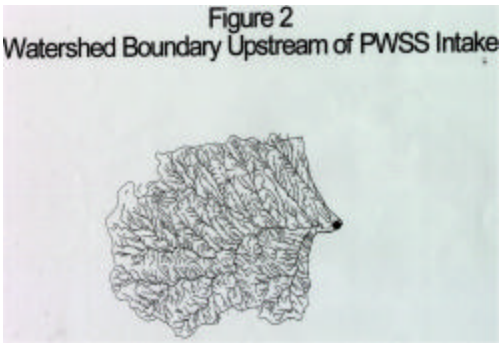
A maximum effort will be applied to all other vulnerable, community and non-transient non-community PWSS (schools, factories). This will include a combination of hydrogeologic mapping and analytical methods. The DENR is compiling "informational packets" of the available data for all public water supply systems which will include the following: location of PWSS, geologic logs, observation well data, water level information, hydrogeologic studies, well construction information, licensed or permitted pumping rate of the well, and water quality data.

The TAC discussed the availability of adequate data available to complete the assessments using the proposed methods. Most counties in the eastern portion of the state have completed county and sand & gravel studies.

Delineation Methods for Surface Water Systems **Tricia Sebes**

The DENR proposed Surface Water Delineation Methods for the 41PWSS in the state. The EPA requires the entire watershed upstream of the PWS intake structure be delineated up to the next PWS intake or to the state boarder. The DENR proposed using USGS 8-digit hydrologic unit codes (HUC) to delineate the surface water systems . Three maps will be presented to the public. The first map will include an illustration of the entire watershed in which the PWSS is located (figure 1); the second map will include an illustration of the entire watershed upstream of the PWS intake (figure 2); and the third map will include a detailed delineation of the PWS critical watershed area (figures 3-7).





The DENR proposed a Watershed Delineation area which included 3 zones of protection. Zone A included the area in the watershed out to 5 miles beyond the PWSS intake. A complete contaminant source inventory would be conducted in this area. Zone B would include a 0.5-mile contaminant inventory strip (CSI) along both sides of stream, out to 5 miles beyond Zone A. A complete contaminant source inventory would be conducted in the 0.5-mile CSI strip, and large potential contaminant sources, such as large feedlot operations and landfills, would be inventoried outside of 0.5-mile strip. Zone C would include the remaining delineated watershed. Only large potential contaminant sources will be inventoried in this area. The DENR presented various scenarios for the following: a watershed delineation for a river or stream, a watershed delineation for multiple PWS intakes in one watershed, two watershed delineations for a dam, lake, or reservoir, and a conjunctive delineation. These figures are shown below.

Figure 3: Watershed Delineation for River/Stream

Figure 4: Watershed Delineation for River or Stream with Multiple PWS Intakes

Figure 5:Watershed Delineation for Dam/Lake/Reservoir

Figure 6: Watershed Delineation for a Lake

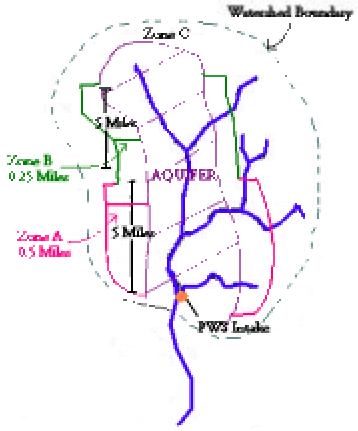
Figure 7: Conjunctive Delineation

The TAC had concerns about using the 8-digit HUC codes. This information is based on a 1978 USGS publication. Updated watershed maps for the James River, Vermillion River, Big Sioux River, and Minnesota and Red Rivers are available. The question was raised whether the 5 mile Zone A and Zone B are "river miles" or the distance from the PWS intake. The TAC would rather use river miles. In situations where the river channel is wider than the buffer zone, the TAC suggested widening the buffer to include the flood plain.

The TAC discussed the need for additional protection downgradient of the PWS intake for infiltration galleries. It was also mentioned that an entirely different delineation approach would have to be used for the Black Hills area.

The TAC suggested using the time of travel method to delineate the surface water systems. It was noted that this method would be useful if the purpose of the delineation is to inform the public water supply operator of a contamination spill. However, it will depend on the contaminant spilled; contaminants travel at different rates. A simple calculation of gradient can be used to estimate time of travel for each system. Considering the time constraints by EPA to complete this program, other members of the committee felt the DENR proposed method is a good start to the delineations, and once more information for each system is known - such as time of travel and potential contaminant sources - a more advanced, detailed method may be used.

The TAC questioned if the 5-mile fixed radius method was overprotective in areas without aquifer material. A different method for delineating surface water systems was proposed by the TAC. This method also includes 3 zones of protection. Zone A would extend 0.5 miles beyond the aquifer, out to 5 river miles beyond the PWSS intake. A complete contaminant source inventory would be conducted in this area. Zone B would extend 0.25 miles beyond the aquifer, out to 5 river miles beyond Zone A. A complete contaminant source inventory would be conducted in Zone B. Zone C would include the remaining delineated watershed. Only large potential contaminant sources will be inventoried in this area, such as large feedlot operations and landfills. If an aquifer is not present, Zone A would extend 0.5 miles beyond the river/stream, out to 5 miles beyond the PWS intake; Zone B would extend 0.25 miles beyond the river/stream, out to 5 miles beyond Zone A; and Zone C would include the rest of the watershed. The figure below illustrates the revised surface water delineation method.



Revised Surface Water Delineation Method

It was suggested that Zone C include a 100 foot buffer outside of the aquifer, or at a minimum, include the mapped aquifer. Other members of the TAC felt Zone C is not a concern, at least from the Big Sioux aquifer standpoint, due to the 10-mile distance upstream of the PWS intake. It was suggested that, in the Black Hills wider buffers, such as 1 mile in Zone A and 0.5 miles in Zone B, may have to be used due to the higher gradients and varied topography.

The TAC discussed the average widths of aquifers and the availability of aquifer information to complete the delineations. It was noted that the Big Sioux aquifer (BSA) is 5 miles wide between Volga and Brookings, and there are not many surface water systems outside the BSA. The surface outwash aquifers are well defined in the BSA region.

Contaminant Source Inventory Discussion **Missy Mathis**

The DENR presented the list of potential contaminant sources (PCS) that the GPS contractors will be using this summer to inventory PCS at non-vulnerable systems. A detailed list of potential contaminant sources, taken from Appendix 4 of the SD Wellhead Protection Program Document, was also discussed. When inventorying potential contaminant sources at vulnerable systems, the DENR proposed using existing databases, and will field check data if time allows and money is available. The DENR will also be asking all public water supply operators to conduct a contaminant source inventory with the department's guidance. Data from the department's databases will be sent to PWSS operator to update and/or correct, and a topographic map will be sent to them to map potential sources of contamination.

The DENR databases include all Tier 2 facilities, permitted animal feeding lot operations, wastewater treatment facilities, underground storage tanks, aboveground storage tanks, and spills. The DENR will be developing a database to keep track of all potential contaminant sources recorded this summer when inventorying nonvulnerable PWSS.

The TAC would like to include highways as a potential contaminant source. The TAC questioned whether quarries should be included as a potential contaminant source. It was decided to include quarries because they are an exposed area and a "window" to the aquifer. In some cases, an abandoned quarry many become a landfill. The question was raised whether or not all sizes of grain storage bins will be included as a potential contaminant source. It was noted that if the facility stores chemicals and/or it is included in the Tier 2 database, it will be considered a potential contaminant source. The TAC inquired whether or not abandoned landfills will be included as a potential contaminant source. It was noted that older landfills were used to burn waste; therefore, these landfills may not contain many contaminants. The TAC inquired how septic systems will be inventoried. Septic systems will be assumed in areas where sewer systems and wastewater treatment plants do not exist.

The TAC discussed what should be considered a "major" potential contaminant source. It was decided that major sources are relative to the size of the operation and aquifer in which the PWSS is located. The Sioux Falls airport will be considered a major source in the Sioux Falls wellfield.

Discussion of Draft Outline of the Source Water Document **Tricia Sebes**

The TAC did not have any comments on the draft SWAP outline.

Miscellaneous Topics for Discussion

The TAC discussed holding an additional meeting to discuss Black Hill delineation methods and contaminant source inventory methods. This meeting will be held in room 222 of the Mineral Industries Building at the South Dakota School of Mines & Technology in Rapid City. The following people will be attending and/or will be invited to attend:

SDGS:	Foster Sawyer, Derric Iles, Stan Pence, Tim Cowman
SD DENR:	Anita Yan, Tom Brandner, Tricia Sebes, Missy Mathis, Rassool Ahadi,
USGS:	Mike Strobel, Larry Putman, Jack Epstein,
US EPA:	Mike Wireman
US BOR:	Jeff Williamson
SDSM&T:	Arden Davis, Bruce Berdanier, Scott Kenner
West Dakota WDD:	Van Lindquidt
Rapid City:	Dan Bjerke
Lead-Deadwood:	Francis Tescona
Spearfish:	Ted Vore
Hot Springs:	John Sheltons
Pennington Cty:	Marcis Elkins

Schedule Next Meeting

Initially, the next TAC meeting was scheduled for July 9th; however, this meeting was rescheduled to **August 18th** and will be held over the RDT Network in Pierre, Rapid City, and Sioux Falls. Topics of discussion include: susceptibility determination, implementation of SWAP program, and a draft of the Source Water Assessment and Protection Document will be presented.

Appendix C3

Source Water Assessment Program
Black Hills Delineation Methods Meeting Summary
July 21, 1998

Attendees:

Anita Yan	SD DENR-Ground Water Quality
Tom Brandner	SD DENR-Ground Water Quality
Tricia Sebes	SD DENR-Ground Water Quality
M. Rassool Ahadi	SD DENR-Waste Management
Assad Barari	SD DENR-Geological Survey
Stan Pence	SD DENR-Geological Survey
Foster Sawyer	SD DENR-Geological Survey
Jack Epstein	US Geological Survey
Michael Strobel	US Geological Survey
Larry Putnam	US Geological Survey
Van Lindquist	West Dakota Water Development District
John Loucks	West Dakota Water Development District
Jay Gilbertson	East Dakota Water Development District
Dan Bjerke	City of Rapid City
Francis Toscana	Lead-Deadwood Sanitary District
Theodore Vore	City of Spearfish
John Scheltens	City of Hot Springs
Suzan Hixon	USFS- Black Hills National Forest
Scott Kenner	South Dakota School of Mines & Technology
Arden Davis	South Dakota School of Mines & Technology
Fred Carl	Black Hills Power and Light
Gene Nelson	Dacotah Cement
George Opitz	Lawrence County Commissioners
Jim Watson	Mining and Exploration Services
Lynn Hedges	Citizen

Introduction and Meeting Overview **Anita Yan**

Everyone was introduced.

The Source Water Assessment and Protection Program is a result of the 1996 Safe Drinking Water Act which requires all states to complete assessments for all public water supply systems. There are approximately 760 PWSS in South Dakota.

The focus of the meeting is to specifically address delineation methods for the Black Hills region.

Source Water Assessment and Protection Program Overview **Tricia Sebes**

Source Water Protection is a pollution prevention measure that focuses on protecting the area surrounding public drinking water supplies. The 1996 Safe Drinking Water Act Amendments allows states to set aside up to 10% of the fiscal 1997 Drinking Water State Revolving Funds; requires states to develop a Source Water Assessment Program (SWAP); and requires states to complete source water assessments for all public water supply systems.

A complete Source Water Assessment Program Document will describe how South Dakota will accomplish the following: involve the public, approach to the assessments, distribute assessment information to the public, and implement the program.

Public Participation includes forming a Technical Advisory Committee (TAC) and Citizen Advisory Committee (CAC). The TAC consists of representatives from most DENR Programs and representatives of outside agency and organizations. The CAC consists of the Board of Water Management and the Board of Water and Natural Resources. General public involvement will include holding public meetings across the state to gather input on the Source Water Assessment and Protection Program.

The approach to the assessments for ground water systems includes using delineation methods in accordance with South Dakota's Wellhead Protection Program. Delineations for surface water systems include the entire watershed upstream of any public water supply intakes or diversion structures up to the South Dakota border. A contaminant source inventory must be conducted within the delineated area. A susceptibility analysis of all potential contaminant sources must also be conducted in the delineated area.

The assessment information in the form of maps generated using a Geographic Information System (GIS) will be distributed to the public. This information may be made available to the public through the Internet (via the DENR and EPA homepage), at public water supply offices, and/or through water bill inserts.

The SWAP document must be submitted to EPA by February 1999; EPA has 9 months to review document; South Dakota has 2 years to complete 760 assessments, 1.5-year extension may be granted.

Completed activities:

- The Technical Advisory Committee (TAC) has convened in April and May. The TAC concurred with the DENR's proposed delineation methods for ground water and surface water systems outside of the Black Hills region
- DENR is contracting with Maxim Technologies, Inc., Eisenbraun & Associates, CETEC Engineering Services, Inc., and First District Association of Local Governments to complete an inventory of the location of wellheads, surface water intakes, pretreatment facilities, treatment plants, pumping facilities, storage facilities, and entry points into distribution systems using Global Positioning System (GPS) equipment. This work will be completed by September 30, 1998.

On-going activities include developing susceptibility criteria, gathering public input into the program, drafting the SWAP document for submittal to EPA.

Hydrogeologic Setting of the Black Hills Region **Foster Sawyer**

A summary of the hydrogeologic setting of the Black Hills region was presented. The Black Hills represent an uplifted area with crystalline rocks in the central core, and sandstone, limestone, and shale on the flanks of the uplift. Sedimentary formations on the flanks of the Black Hills, such as the Madison, Minnelusa, and Inyan Kara aquifers, dip away from the central core and plunge into the subsurface at the perimeter of the uplift where they are utilized as ground water sources. Other major sources of ground water in the Black Hills include saturated crystalline rocks in the central core and shallow alluvial deposits throughout the region.

One of the most significant aspects of the hydrology of the Black Hills region is the direct connection between water flowing at the land surface and the highly permeable formations, such as the Madison and Minnelusa aquifers, over which it flows. In this setting water can flow directly into cavernous, fractured limestone through sinkholes located along major streams. Once water has entered the cavernous limestone, it can move down-gradient, within the span of a few weeks, to wellheads on the flanks of the Black Hills where it is produced and consumed. Flow pathways within these limestone aquifers are complex and poorly understood, posing unique challenges to the design of an assessment or wellhead protection program in this setting.

Proposed Conjunctive Delineation Methods for the Black Hills **Foster Sawyer**

The direct connection between surface and ground water and the rapid ground water flow rates in large carbonate aquifers in the Black Hills require conjunctive delineation methods to adequately assess these source water areas. The 10 year time of travel (TOT) standard used for delineating ground water systems in eastern South Dakota is not appropriate for systems in the Black Hills which can have travel times in the range of a few days to a few weeks from recharge to consumption. In addition, given the complexity of subsurface flow in this setting, it is not possible

to accurately delineate all ground water flow paths, and source water areas overlap throughout the Black Hills region.

Therefore, a holistic approach to source water assessments in the Black Hills is recommended in order to encompass the many interconnected hydrologic processes affecting the source of local ground water supplies. The recommended approach is to consider the entire Black Hills uplift as a single, hydrologically interconnected area, and to concentrate assessment efforts in aquifer recharge areas for large sensitive aquifers, such as the Madison and Minnelusa aquifers, and along all perennial streams within the Black Hills. These hydrologically sensitive areas will be delineated as Assessment Area A, and they will receive a comprehensive contaminant source inventory (CSI). Other portions of the Black Hills that do not occur in these recharge and perennial stream areas will be delineated as Assessment Area C, and they will be subject to a limited contaminant source inventory only.

Examples of the proposed approach were presented for a confined system in the Madison aquifer, an unconfined aquifer in alluvium and an unconfined aquifer in fractured crystalline rock.

Confined systems in the Madison and Minnelusa aquifers:
The Black Hills delineation method for confined systems in the Madison and Minnelusa aquifers will utilize hydrogeologic mapping in conjunction with perennial streams upgradient from the recharge areas. The example illustrated was for a confined Madison well in Rapid City. Watersheds which have a possibility of contributing water to Rapid City's wellfield were delineated, as were the Madison and Minnelusa recharge areas upgradient from Rapid City. In addition, in accordance with South Dakota's Wellhead Protection Program, a 500 foot fixed radius around the wellhead was also included in the delineated source water area. Assessment area A for the comprehensive CSI will include the Madison and Minnelusa aquifer recharge areas within the zone of ground water contribution (ZOC) to the public water supply well. Also included in Assessment Area A are strips of land that extend 0.25 miles from each stream bank along perennial streams. Assessment Area C for the major CSI will consist of all areas not included in Assessment Area A. To keep assessment categories consistent with source water delineation methods outside of the Black Hills region, an "Assessment Area B" was not utilized.

Unconfined aquifers in alluvium:
An example of a public water supply system located in an alluvial deposit in the central Black Hills was illustrated. Assessment Area A for the comprehensive CSI will consist of a 0.25 mile arbitrary fixed radius around the wellhead and a 0.25 mile assessment area on each side of the stream or alluvium, whichever is greater, for the entire length of the stream. If headwater springs discharge from carbonate aquifers upgradient from the public water supply, then the recharge areas for these springs will also be included within Assessment Area A. Areas not lying within Assessment Area A, but that may be within the ZOC of the water supply, will fall within Assessment Area C and will receive a limited CSI.

A few public water supply systems on the perimeter of the Black Hills have infiltration galleries that induce flow from a stream into a collection gallery. In these cases, a 0.25-mile inventory area on each side of the stream will be utilized in conjunction with recharge areas for resurgent springs upgradient from the infiltration gallery.

Unconfined aquifers in fractured Precambrian rock:
An example of a public water supply located in fractured crystalline rock in the central Black Hills was illustrated. Assessment Area A for the comprehensive CSI will include a 0.25 mile arbitrary fixed radius around the wellhead, as well as a 0.25-mile inventory area along each side of the stream, up to the headwaters of the stream. If headwater springs discharge from carbonate aquifers upgradient from the public water supply, then the recharge areas for these springs will also be included within Assessment Area A. If information concerning ground water flow direction within local fractures is available, it will be used to adjust the delineation of the assessment area around the wellhead. Areas not lying within Assessment Area A, but that may be within the ZOC of the water supply will fall within Assessment Area C and will receive a limited CSI.

Discussion

The stakeholders (Black Hills Group-BHG) invited to attend this meeting discussed a variety of topics including: information available to conduct the assessments, using a time of travel delineation method, conducting a contaminant source inventory, and involving local communities in the source water program.

Information Available to Conduct Assessments

The USGS Black Hills Hydrology Study maps and Dr. Arden Davis' vulnerability map of Rapid City will be useful in completing the assessments for this region.

Time-of-Travel Delineation Method

The BHG questioned why travel times of streams are not being used to delineate watersheds, many studies are based on time of travel methods. A handout describing use of GIS to calculate travel times in Wales, England was distributed illustrating differential velocities, travel times, and linear storage of water in watersheds. Subwatersheds are delineated and can be corrected based on ground checking. It was noted this method could be used in the Black Hills region.

The USGS indicated a Digital Elevation Model (DEM) can be used to determine the watershed areas that contribute water to streams, and therefore, which streams are contributing to the PWSS. The stream coverage map is a part of the Black Hills Hydrology Study. Thirty-meter DEMs are available in the Black Hills region.

The practicality of using the time of travel as a delineation method was questioned. The travel times in the Black Hills area may be too fast to accurately utilize protection measures. The public will be most interested in how these differential travel times will affect their individual system. Time of travel calculations and resources can be concentrated zones that are most critical. If the zones are prioritized, more precision may be brought to the time of travel method. It was noted that due to time and money limitations, utilizing the time of travel method may not be practical.

The BHG noted that if the proposed delineation method considers all Black Hills PWSS to be vulnerable, the public may dismiss the source water program as being too overwhelming and hard to manage. However, if more vulnerable areas are segregated from less vulnerable areas, the source water program may be easier to manage, and therefore, more likely to be accepted/implemented.

A detailed contaminant source inventory may also not be practical due to the time and money difficulties; there is a limit to what can be accomplished in this phase of the source water program.

Contaminant Source Inventory (CSI)

The BHG asked if the information from the DENR/SDSM&T abandoned mine study will be used in the contaminant source inventory. The data from this study has location information and therefore can be used in a Geographical Information System (GIS). Approximately 2/3 of the abandoned mining facilities are on private land and may be difficult to access for field verification.

The BHG noted that the state can conduct a contaminant source inventory in a broad area; however, communities must be involved in order to refine the assessments. The state should be involved with the communities to find out individual needs. The BHG questioned how individual communities can control/limit upstream potential sources of contamination that are outside of their jurisdiction. Communities will have to work together to protect the watershed areas and manage potential pollution activities. The BHG was concerned about potential pollution activities occurring in watersheds upstream of PWS intake that systems may not know about or be able to manage. If known undesirable activities are occurring in the watershed, communication is needed in order to manage the watershed and communication is needed for advanced warning between PWSS operators to protect their respective water supplies if harmful situations exist.

The BHG asked what is considered to be a potential source of contamination. The potential pollution list presented at previous meetings was shown. Facility owners of potential pollution sources will not be identified. The BHG suggested adding "sediment" to the contaminant source inventory list.

The BHG suggested utilizing a "tiered" approach when conducting the assessments, concentrating the contaminant source inventory in the higher priority areas.

The BHG indicated that many contaminant sources may fall outside of the 0.25 mile assessment area. There is an explosion of development in the Black Hills area and most of these developments have septic systems. A lot of these

septic systems will most likely fall in the Zone C assessment area. All septic systems may not be inventoried; however, relative densities of septic systems may be noted.

The BHG discussed how far upstream of the PWS intake should the 0.25-mile CSI area along a stream terminate, and if the inventory area should include perennial streams only. It was noted that a preliminary run with a Digital Elevation Model (DEM) would show all tributaries. A computer-modeling program can show the number of drainages, indicating if there are too many in the assessment area to delineate. The stream orders are based on precipitation; there are 3,000 miles of perennial streams in the Black Hills.

The BHG questioned if the contaminant source inventory will include non-point sources of pollution. The use of land at all public water supply systems will be noted during the Global Positioning System (GPS) survey being conducted at all PWSS in the state this summer. Land uses include rangeland, pastureland, cropland, grassland, residential, industrial, commercial, and municipal.

The BHG suggested land ownership be considered in the contaminant source inventory. Private land should be classified as having potential for development and undeveloped land should be identified as having the potential for future development. Government lands may not need as much protection. The percentage of private land verses government land in watersheds is available through the US Forest Service.

Community Involvement in the Source Water Program

The BHG asked if purpose of the assessments is to inform the public water supply operator of a contamination spill. The purpose and goal of the Source Water Program is to have a tool for management of watersheds and create a map of the assessment areas that will educate the public. Individual communities in the BH area should take a regional view of all PWSS since their source water areas are interconnected. Individual assessment of the 300 PWSS in the BH area will not be effective because of the interconnection between PWSS source water areas and watersheds.

The BHG inquired how the state will involve the communities. The BHG suggested that the DENR prepare a demonstration for the public water supply systems illustrating a generic source water watershed delineation to educate public officials and citizens on the source water program. The BHG inquired how the source water protection program can be take to the next level. The Black Hills regional approach will be presented to the local governments. The local governments can manage their water supplies by working with county governments to form countywide ordinances to protect water supplies. For example, in the Big Sioux region, ten counties have county aquifer protection ordinances.

The BHG inquired what a source water assessment output will entail; and asked whether all communities would have a delineated map. Because the most sensitive portion of the Black Hills will be protected, many of the public water supply system delineations will overlap.

The BHG questioned the usefulness of the final DENR assessment for individual communities. Will the state conduct a minimal assessment to meet the SDWA deadline and with the limited amount funds available, $1.25 million dollars? The BHG would like to understand the assessment methods to see how their community may need to supplement the assessment data. The state will gather all existing data, use available resources and present the assessment to the communities. The assessments most likely will not be as detailed as individual communities may want; however, the assessment will be a stepping stone to start a source water protection program.

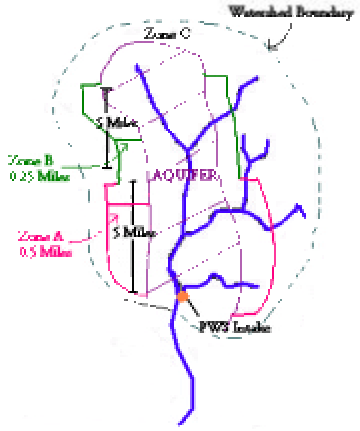
The BHG has concerns that using the 0.25-mile fixed radius may hinder community efforts to create local ordinances. Citizens may see this fixed number as "set in stone" and may be unwilling to adjust this distance for source water and possibly future regulations, such as septic system setback distances.

The city of Spearfish is using a method similar to that proposed by the DENR to delineate their wellhead protection area.

Surface Water Delineation Methods for non-Black Hills PWSS **Tricia Sebes**

The watershed boundary would be used to delineate the surface water source area. The proposed surface water delineation method for non-Black Hills PWSS includes 3 zones of PCS inventory prioritization. Zone A would extend 0.5 miles beyond the aquifer, out to 5 river miles beyond the PWSS intake. A complete contaminant source

inventory would be conducted in this area. Zone B would extend 0.25 miles beyond the aquifer, out to 5 river miles beyond Zone A. A complete contaminant source inventory would be conducted in Zone B. Zone C would include the remaining delineated watershed. Only large potential contaminant sources will be inventoried in this area, such as large feedlot operations and landfills. If an aquifer is not present, Zone A would extend 0.5 miles beyond the river/stream, out to 5 miles beyond the PWS intake; Zone B would extend 0.25 miles beyond the river/stream, out to 5 miles beyond Zone A; and Zone C would include the rest of the watershed. The figure below illustrates the proposed surface water delineation method.



Proposed Surface Water Delineation Method for non-Black Hills PWSS

Conclusion **Anita Yan**

The DENR asked the BHG to concur with the proposed delineation method for the Black Hills region. The BHG indicated the generalized method is probably the best approach for most communities because of the interconnection between watersheds.

Thank you for participating in this very important meeting.

Appendix C4

Source Water Assessment Program
Technical Advisory Committee Meeting Summary
October 1, 1998

Attendees:

Bill Markley	SD DENR-Ground Water Quality
Anita Yan	SD DENR-Ground Water Quality
Tom Brandner	SD DENR-Ground Water Quality
Tricia Sebes	SD DENR-Ground Water Quality
Missy Mathis	SD DENR-Minerals & Mining
Rob Kittay	SD DENR-Drinking Water
M. Rassool Ahadi	SD DENR-Waste Management
Bill Baer	SD DENR-Surface Water Quality
Bill Stewart	SD DENR-Watershed Protection
Jim Feeney	SD DENR-Water & Waste Funding
Assad Barari	SD DENR-Geological Survey
Stan Pence	SD DENR-Geological Survey
Foster Sawyer	SD DENR-Geological Survey
Jack Epstein	US Geological Survey
Larry Putnam	US Geological Survey
Jay Gilbertson	East Dakota Water Development District
Martin Jarrett	Big Sioux Community Water System, Inc. and SD Water Congress
Van Lindquist	West Dakota Water Development District
Lyle Johnson	City of Sioux Falls
Tim Stefanich	City of Sioux Falls
Heather Young	South Dakota State University graduate student
Jeff Williamson	US Bureau of Reclamation
Mike Wireman	US Environmental Protection Agency

Introduction **Anita Yan**

Everyone was introduced.

The purpose of the meeting is to discuss the Department of Environment and Natural Resources (DENR) Source Water Assessment Program (SWAP) draft document. The susceptibility portion of the document is not included. The DENR has been anticipating an EPA guidance document on conducting a susceptibility analysis for potential contaminant sources in assessment areas. DENR will present the proposed susceptibility analysis method at this meeting.

Chapter 1: Introduction to the Source Water Assessment and Protection Program **Tom Brandner**

The Technical Advisory Committee (TAC) did not have comments on the Executive Summary or Chapter 1 of the document.

Chapter 2: Public Participation and Outreach **Tricia Sebes**

The DENR presented the role the public has had in the development of the SWAP. Public involvement includes establishing a technical advisory committee, citizens advisory committee, interested party mailing list, holding a public meeting on the program, presenting SWAP information at workshops and seminars, and including SWAP information in newsletters and publications.

The TAC voiced concerns that the DENR is not adequately informing the water systems, cities, and general public about the SWAP program. The citizens advisory committee consisting of the Board of Water and Natural Resources and the Water Management Board are not adequately representing the public. The DENR noted that the citizens board meetings are open to the public and an agenda is published indicating SWAP information will be discussed at meetings. The DENR has also informed public water supply system operators at numerous workshops on SWAP, and has offered to speak to any group or organization on the source water program. The DENR has also sent SWAP information to owner/operators and mayors of all community and nontransient noncommunity public water supply systems in the state. The DENR has had little or no response to these efforts. The DENR will send a SWAP executive summary and an invitation to attend the SWAP draft document public meeting to approximately 1,000 individuals and organizations on the Department mailing list. The SWAP draft document will also be sent to any persons who request a copy. This information will be added to the public participation portion of the document.

The TAC indicated the Rural Water System publishes quarterly newsletters in which SWAP information could be published. Newspapers are another avenue where SWAP information can be distributed to a wide audience. The DENR will look into using these public outreach mechanisms.

The TAC questioned how the Tribes will be informed concerning the SWAP program. The DENR holds semiannually meetings with the Tribes informing them on environmental issues. The next meeting this fall will focus on the source water assessment program. The DENR is not required to delineate source water assessment areas for tribal water supply systems. However, the DENR will conduct an assessment at the request of Tribes. The Tribes may use the assessment approach established by the DENR or another assessment approach. Federal funds are available for the Tribes to develop a SWAP program. The Oglala-Sioux Tribe has received $50,000 to conduct assessments. Other Tribes may have received or applied for funds also.

The TAC suggested adding information concerning the Black Hills Delineation Methods meeting to the public participation portion of the document. This meeting was held in July 1998 and discussed Black Hills source water issues. Local stakeholders including city and county officials attended this meeting.

Chapter 3: Source Water Assessment Approach **Tricia Sebes**

The DENR presented a summary the source water assessment approach for both ground water and surface water systems.

Non-Black Hills Assessment Approach

The EPA suggested defining the following terms in the draft document: vulnerability, sensitivity, and susceptibility. The EPA defines sensitivity as the inherent hydrogeologic characteristics of the water supply. Vulnerability is a function of the sensitivity and the sources of contamination, and susceptibility is a measure of risk defined by the inherent characteristics of the water supply and the sources of contamination. The EPA indicated a 2-4 page ASTM guide on conducting ground water sensitivity and vulnerability assessments is available. This guide clearly defines vulnerability, sensitivity, and susceptibility. EPA will provide the DENR a copy of this guide; the DENR will distribute this guide to the TAC upon request.

In order to minimize the area of Zone A in surface water assessments, the EPA suggests clarifying the draft document to read "(Zone A extends) laterally 0.25 miles beyond each stream bank or *alluvial* aquifer boundary".

The TAC questioned what delineation method will be used to assess Lake Oahe. Lake Oahe will be delineated using the assessment approach for a river or stream. When conducting assessments for public water supply systems located near the dam, such as Mini Wiconi, the assessment area will extend 10 miles upstream of the public water supply intake, extending beyond the dam.

Due to the large amount of surface area in the Missouri River watershed basin, the EPA suggested limiting the extent of Zone B in this area. The EPA does not expect large multi-river states to conduct a detailed assessment in large river basins. Currently, Zone B in this area includes the entire watershed beyond Zone A. The TAC discussed reducing Zone B to a radius extending beyond Zone A, possibly 25 miles. A large portion of the Missouri River will be eliminated if this new method is applied. A geographical information system (GIS) can be used to easily estimate the portions of the Missouri River that will not be included in the assessment area.

The TAC noted the revised approach may not be appropriate for smaller watershed areas, such as the Big Sioux River and James River watershed basins. There is not enough water in these systems to dilute the water if a major problem would occur, unlike the Missouri River watershed basin.

Black Hills Assessment Approach

Public water supply systems located in confined aquifers in the Madison and Minnelusa aquifers will be delineated using a 500-foot arbitrary fixed radius around the wellhead. The recharge areas for these wells, located in the Madison and Minnelusa aquifers, will also be delineated. The EPA asked if it is possible to have a confined aquifer in the vulnerable Zone A Madison and Minnelusa recharge areas. The EPA is concerned that a public water supply owner/operators having a confined well in this sensitive area will only want to protect the minimum 500-foot radius around the wellfield, rather than the entire Zone A sensitive area. The EPA would like the draft document to clarify that confined wells located in the Zone A recharge area will need to utilize protection measures beyond the 500-foot arbitrary fixed radius. The DENR indicated that any well located in the Zone A recharge area will not be delineated using an arbitrary fixed radius, rather, the entire recharge area will be delineated due to the sensitive nature of the aquifer; the DENR will clarify this issue in the draft document.

The TAC suggested including additional aquifers as potential recharge areas such as the Inyan Kara and Minnekahta aquifers. The latest information from the *Black Hills Hydrology Study*, including all information on recharge areas, will be used to delineate source water areas in the Black Hills region.

The EPA indicated the 0.25-mile arbitrary fixed radius assessment area around fractured Precambrian bedrock wells may not be adequate due to the complexity of fractures and ground water/surface water interaction in these areas. The EPA typically does not recommend using an arbitrary fixed radius for this geologic setting; rather they would suggest using hydrogeologic mapping methods. The EPA recommended using hydrogeologic mapping for community systems and increasing the 0.25-mile arbitrary fixed radius for noncommunity systems. The DENR indicated the orientation on the fractures in these areas is usually unknown; therefore, it is very difficult to use hydrogeologic mapping methods. The TAC suggested the 0.25-mile assessment area along the stream banks should also be increased due to the highly fractured nature of these areas. The TAC noted that most development in the Black Hills region does not extend 0.25 miles beyond the stream bank. The DENR is considering increasing the 0.25-mile arbitrary fixed radius to 0.5-mile arbitrary fixed radius.

The EPA noted that increasing the assessment area in fractured Precambrian public water supply systems most likely will not increase the workload for conducting a potential contaminant source inventory due to the lack of development in these areas. However, these areas should be considered Zone A for management purposes. The public should be aware that these are hydrogeologically sensitive areas and developing these areas may be harmful to the water supply. The source water program is a proactive program and needs to prevent potential problems that may arise in the future.

Contaminant Source Inventory Discussion

The DENR presented the contaminant source inventory method that will be used in source water assessment areas. The DENR will use a "comprehensive" potential contaminant source inventory (CSI) in Zone A assessment areas. A comprehensive CSI includes using existing data from DENR and outside agency databases. A "limited" potential CSI, conducted in Zone B assessment areas, will include regulated facilities, facilities suspected of contaminant release, or major nonpoint contaminant sources. The DENR will ask for the assistance of public water supply operators to verify potential contaminant sources in assessment areas. As time and money allow, field verification of contaminant sources will be conducted.

The TAC questioned the differences between a "comprehensive" and "limited" potential CSI. Both inventories will include information from existing databases. There may not be databases for potential contaminant source that may pose a problem, such as septic tanks. The TAC and EPA recommend field-verifying Zone A assessment areas for vulnerable public water supply systems. The DENR will request assistance from all public water supply systems operators by providing the operators with the delineated area and asking them to verify the potential contaminant source in the delineated area. A potential CSI has been completed for all nonvulnerable public water supply systems within a 500-foot arbitrary fixed radius around the wellhead through field verification.

The TAC questioned if DENR and outside agency databases contain information on the condition of the potential contaminant sources. This information is needed in order to conduct a susceptibility analysis. The EPA suggested conducting a pilot assessment project using information in the existing databases, and field verifying the assessment areas to indicate the accuracy of the databases. This project will show which areas of the contaminant source inventory will need additional effort. A detailed contaminant source inventory, including on-site interviews, is already being conducted at the city of Volga wellhead protection area. The DENR can compare the results of this study with the results of a database search and make changes to the contaminant source inventory portion of the SWAP based on these results. However, the results of this study may not be available in the timeframe needed to complete the source water assessment document.

Given the EPA deadline to complete assessments for all public water supply systems, there will not be enough time to complete site visits at potential contaminant facilities. Therefore, when conducting a windshield survey or database search, a determination can be made of which sites may need an on-site visit to obtain additional information for the susceptibility determination. Limited field verification can also be conducted when the drinking water program conducts sanitary surveys. Surveys are conducted every three years for community systems and every five years for noncommunity systems.

Chapter 4: Distributing Assessment Information to the Public **Missy Mathis**

The DENR presented the procedure for making assessment information available to the public. Assessment information will be made available in both paper and electronic format. Digital raster graphs (1:24,000 topographic maps) and digital line graphs maps (1:100,000) are available for the entire state. Digital orthophotoquarterquads (1:12,000 aerial photo) will be used where available. All assessments will be linked to EPA's *Surf Your Watershed* and *Envirofacts* Internet web page and the DENR's web page. A hard copy will also be sent to all public water supply operators asking assistance in conducting contaminant source inventories. The final assessment will be sent to all town mayors and/or owners of public water supply systems.

Potential pollution sources will be identified as a number or symbol rather than by color ensuring the assessments will be understandable if reproduced in black and white format. Environmental Services Research Institute, Inc. (ESRI) has free software available to allow users to download maps on the Internet.

The TAC was concerned of what information will be made available to the public. The goal of the source water program is to make the public aware of the source and quality of their water on a regular basis. Therefore, information, such as the facility owner, is not necessary in the final assessment. Land ownership changes frequently, requiring assessments be updated more than necessary. DENR verified that facility ownership will not be presented in the final assessment report.

Chapter 5: Implementation of the Source Water Assessment and Protection Program **Anita Yan**

The deadline to complete the final Source Water Assessment and Protection Program document is February 6, 1999. The DENR has 2 years to complete the assessments and will ask for an 18-month extension. The DENR will use as many existing wellhead protection delineations as possible, and is working with the Rural Water Association to ensure their assessments are compatible with the source water assessment program. The DENR has been working with states in EPA Region VIII by participating in monthly conference calls. The DENR will work with communities to implement and update protection programs.

Even though it is not specifically required, the EPA suggested adding a strategy on how South Dakota will implement the source water protection program. The TAC indicated that cities do not have the tools to implement the program. Currently, it is not possible to manage water sources outside a 3-mile jurisdictional boundary beyond the incorporated city limits. It was suggested to ask assistance from the state legislature to help manage source water areas.

Susceptibility Discussion **Anita Yan**

The EPA is working on a guidance document for states on how to conduct a susceptibility analysis for potential contaminants in source water areas. The document is approximately 12 pages and discusses case studies other states have used to complete the analysis; this document will be available in a few weeks.

The EPA recommends the following guiding principals when proposing a susceptibility determination:

- the susceptibility analysis must be consistent statewide.
- anyone can use the susceptibility determination method and receive the same results
- the state or an outside entity should perform the susceptibility analysis
- the susceptibility analysis does not lead to arbitrary conclusions
- the results of the susceptibility analysis will lead to protection measures and allow local governments to prioritize source water issues

The DENR conceptual susceptibility approach is loosely modeled after the Hazard Ranking System, a scoring system used by EPA's Superfund program to assess the relative threat associated with actual and potential releases of hazardous substances from a site. Each site will be assigned a score based on sensitivity and risk factors including aquifer characteristics, distance to well, and background or pre-existing contaminant concentrations. South Dakota's susceptibility analysis will generate site scores based on the threat of the potential contaminant source to the specific drinking water source. The individual factors will be evaluated and the factor values will be combined mathematically to produce factor category values. The site score (S) which represents the susceptibility of the public water supply system to an individual potential contaminant source, will be obtained by combining the ground (S_{gw}) and surface (S_{sw}) water pathway scores using the root-mean-square equation shown below. Under this equation, higher scoring pathways have a greater relative impact on the overall site score than lower scoring pathways.

$$S = \sqrt{\frac{S_{(gw)}^{\ 2} + S_{(sw)}^{\ 2}}{2}}$$

The TAC noted there may be a need to have a susceptibility score for the whole public water supply system. The DENR indicated there may also be a need to include a conflict resolution clause in the draft document to deal with potential disputes between the DENR and facility owners.

The susceptibility analysis will hopefully encourage facility owners to examine their operations for potential problems. If there is not enough information to conduct a susceptibility analysis, the TAC suggested a worse case scenario be assumed for all facilities; however, it should be clearly noted in the public water supply written report that the susceptibility determination is based on uncertainty.

The EPA suggested using the existing *1991 SD Public Water Supply System Vulnerability Study* as a base for the susceptibility analysis. This study used the following factors to determine sensitivity of the water supplies: depth to top of aquifer, depth to water, geology of overlying material, and whether the system was confined or unconfined. All Black Hills public water supplies were considered sensitive.

The EPA indicated the "influence of the vadose zone" is also a very important factor. The TAC suggested a "hydrogeologic setting" factor should be considered, such as fractured bedrock or unconsolidated aquifer material.

The DENR will clarify any remaining issues and provide modifications to the draft document at the next TAC meeting.

Schedule Next Meeting

In order to discuss susceptibility issues, an additional meeting is tentatively scheduled on Thursday, October 22, 1998 in Pierre and Rapid City over the Rural Development Telecommunications Network.

Appendix C5

Source Water Assessment Program
Technical Advisory Committee Meeting Summary
October 22, 1998

Attendees

Bill Markley	DENR - Ground Water Quality
Anita Yan	DENR - Ground Water Quality
Tom Brandner	DENR - Ground Water Quality
Trica Sebes	DENR - Ground Water Quality
Missy Mathis	DENR - Minerals and Mining
Bill Baer	DENR - Surface Water Quality
Rob Kittay	DENR – Drinking Water
Gene Stueven	DENR - Watershed Protection
Stan Pence	DENR - Geological Survey
Foster Sawyer	DENR - Geological Survey
Jay Gilbertson	East Dakota Water Development District
Terry Plucker	SD Rural Water Association
Martin Jarrett	SD Water Congress and Big Sioux Community Rural Water
Tim Stanfinach	City of Sioux Falls
Jack Epstein	US Geological Survey
Larry Putnamn	US Geological Survey

Introduction **Anita Yan**

Everyone was introduced.

EPA sent the ASTM Guide: *Standard Guide to Selection of Methods for Assessing Ground Water or Aquifer Sensitivity and Vulnerability* if anyone is interested.

The deadline for the four contractors hired by the Department of Environment and Natural Resources (DENR) to gather Global Positioning System (GPS) information on all public water supply systems in the state was September 30, 1998. Currently, DENR personnel are reviewing the GPS data. DENR provided a potential contaminant source identification "key" to the contractors to help in the identification of the potential sources.

Proposed Susceptibility Approach **Anita Yan**

The objective of this meeting is to come to a consensus regarding the draft susceptibility analysis approach, and to discuss potential problems with the proposed approach and solve any potential problems. The Environmental Protection Agency (EPA) requires the susceptibility analysis be objective, not arbitrary and capricious, and be applied consistently statewide.

A susceptibility analysis must be conducted for each potential contaminant source. The analysis will evaluate the intrinsic and induced risk of the contaminant, and the contaminant source will be given a score for each. The intrinsic risk score and induced risk score will be normalized to give equal weight to intrinsic versus induced risks. The normalized intrinsic and induced risk scores will be combined using a root-mean-square formula to obtain the potential contaminant source risk score. Based on the resulting potential contaminant source risk score, the potential contaminant source will be designated as being a high, moderate, or low risk to the source water of the public water supply system being assessed.

The risk factor values are pre-assigned and depend on the situation or site condition. Where data is unavailable or unknown, a default value will be used, resulting in a conservative, higher risk score. The intrinsic and induced risk factors are assigned based on the site conditions or situation.

The results of the susceptibility analysis will be sent to the local public water supplier or community leader for review and comment. The results will include the site conditions or situation used to evaluate each potential contaminant source. If the recipient of the draft results provides corrections or additional information regarding the potential contaminant source risk factors that can be substantiated, the new information will be incorporated into the susceptibility analysis.

After the source water assessments (with the susceptibility determination) have been provided to each community, any concerned citizen can request a reevaluation of the susceptibility determination if new or corrected substantiated information regarding risk factors is provided. The susceptibility determination can be reevaluated locally or by the State, but revised source water assessments must be provided to the DENR for approvalThe pre-assigned risk factor values minimize subjectiveness and potential inconsistencies of susceptibility evaluations if conducted by different people. The root-mean-square formula automatically gives more weight to the risk category (induced vs. intrinsic risks) with the higher score.

South Dakota is not in a position to have information on the risk factors for all potential contaminant sources and public water supply systems. Sending draft results to a local representative will ensure that local knowledge will be incorporated into the susceptibility analysis. The "conflict resolution process" allows concerned citizens an opportunity to voice their concerns and provide additional data regarding the site conditions or situation that may influence the susceptibility determination.

The susceptibility analysis risk factor table and spreadsheet, which will be provided to the communities, allows community leaders to make informed decisions regarding siting of new facilities. It also allows community leaders and potential contaminant source owners/operators to see how an existing facility received its risk ranking, and potentially look for ways to reduce the risk to the drinking water source.

Susceptibility Analysis Examples

- Medium size feedlot in shallow, unconfined aquifer located > 1mile from the PWSS. Facility is implementing best management practices (BMP). The facility is assumed to have nitrate contamination. Susceptibility = MODERATE

- Land Application area located over unconfined aquifer >50 feet below ground surface (bgs), outside of the 100-year flood plain. Volume of contaminants are unknown and BMP are implemented. Susceptibility =MODERATE

- Agricultural chemical company w/ pre-existing spill in shallow, unconfined aquifer (0-50 feet bgs) located > 1 mile from PWSS. The quantity stored at the facility is greater than 5 times the SARA Title III reporting limits. Susceptibility = MODERATE

- Gas station located >25 miles from surface water source. The quantity stored is greater than the SARA Title III reporting limits. Susceptibility = HIGH

- Storm water drainage discharges 1-10 miles from the surface water PWSS. Pre-existing concentration in the intake and volume of contaminants are unknown. Susceptibility = HIGH

- Dry Cleaner located 0-500 feet from ground water source in confined aquifer (200-400 feet bgs). The distance to the recharge area is unknown. The well is located in the 100-year flood plain. The condition of the well is unknown. The quantity stored is greater than the SARA Title III reporting limits. It is not known if the facility practices BMPs. Susceptibility = MODERATE

The susceptibility analysis needs work in the following areas: non-point source contamination, contaminant sources greater than 25 miles from the PWSS, and an evaluation of the sensitivity of the contaminant source risk score to the risk factors.

The DENR will be holding a public meeting on the proposed Source Water Assessment and Protection plan on November 18, 1998, 3:00 to 5:30 pm and 8:00 to 10:00 pm, at 11 RDTN locations statewide. The agenda for this meeting will include a summary of the SWAP plan, a question and answer period, followed by a period where the audience can state their comments and concerns.

Discussion

The Technical Advisory Committee (TAC) questioned how the risk factor values were derived. The values were derived using best professional judgement and various EPA Wellhead Protection Program guidance documents. EPA did not distribute a final susceptibility guidance to DENR.

The communities will be given maps with a "high", "moderate", or "low" susceptibility rating for each potential contaminant source. What will DENR tell the communities regarding these ratings? The risk factors are conservatively high and they are a relative risk rating- not an absolute risk. The ratings are meant to be used by a community planner to help them prioritize areas they should be focussing on to protect their water supply.

The TAC suggested adding a risk factor value for soil media and slope over the potential contaminant source. The TAC also questioned why hydraulic conductivity was not considered as a susceptibility risk factor. This factor could be incorporated with the soil media risk factor. The availability of hydraulic conductivity information varies across the state. Therefore, the TAC suggested having a general category of hydraulic conductivity that is not based on a specific number, rather, it will be based on the soil or aquifer media. However, after further discussion, it was decided the soil media, slope and hydraulic conductivity risk factors are not needed; the depth to water and depth to aquifer risk factors are sufficient.

The TAC also suggested considering the density of animal feedlot operations within a source water assessment area. One feedlot upstream of a public water supply system (PWSS) may not be a problem; however three or four feedlots may cause a problem. Therefore, a "cumulative effects" factor for potential contaminant sources was suggested, or possibly evaluate the overall PWSS susceptibility. It was decided that the "cumulative effects" factor should be conducted at the local level, not in the state susceptibility rating. The TAC also suggested considering the pumping rate, dilution rate, and recharge rate of the PWSS in the susceptibility analysis.

The TAC suggested adding a "depth to aquifer" factor and consider the thickness and nature of the overlying material.

The TAC questioned the importance of the "distance of PWSS well to the recharge area" risk factor. This risk factor would be more important if it were included as an induced risk factor, and would read "distance of the contaminant source to the recharge area". This particular risk factor would be especially important in the Black Hills region, where ground water travel times are rapid in karst areas.

The TAC is concerned about potential contaminant sources located on the recharge areas in the Black Hills. The current susceptibility analysis would most likely rate these contaminant sources in the moderate or low range, rather than high. The TAC suggested modifying the susceptibility analysis in the Black Hills region, as done for the delineation method. The TAC also suggested either adding or increasing the risk factor values for karst areas; thereby, allowing for high susceptibility ratings over Black Hills recharge areas even though all other factors, including distance, are low.

The TAC suggested considering a "ground cover" risk factor such as forestland, rangeland, pavement, etc. for non-point source contamination identification. The condition of the ground cover must also be considered because it will affect the infiltration rate of the ground cover. This risk factor can be combined with a slope risk factor.

All bedrock aquifers are fractured; therefore, the TAC suggested the "fracture" characteristic be segregated into the "quality of the fractures" and assigned risk factor values. However, this information is not available for all areas in the state. The SDGS or the PWSS may want to gather this information, maybe through additional studies conducted by universities. The "degree of fractures" is subjective, and therefore cannot be used in the susceptibility analysis.

The TAC created an example using the proposed risk factor values for a gas station located over the Madison aquifer "loss" zone in the Black Hills. The example was determined to have a normalized intrinsic score of 89 and therefore, a "high" susceptibility rating. The TAC agreed that this score is appropriate for recharge areas in the Black Hills region.

The TAC is concerned with the intrinsic risk factor values for depth to water. A few of the ranges should be consolidated into one range. For example, the depth to water range should be simplified to ">200 feet", instead of using various ranges such as, "200-400 feet" and "400-800 feet".

The TAC discussed adding the aquifer material, such as a sand and gravel, as a risk factor. The susceptibility analysis accounts for the nature if the aquifer, for example if it is confined or unconfined. Therefore, the TAC concluded an additional risk factor is not needed.

The TAC suggested increasing the risk factor value for an unconfined aquifer to an "8" or "9" and increasing the value for a karst aquifer to "12" or "13". Karst aquifers are more vulnerable than fractured aquifers.

The TAC suggested adding a risk factor for each of the aquifers in the Black Hills rather than assigning risk factor based on the nature of individual characteristics of the aquifer. The TAC decided to refine the characteristics to fall within one category rather than assigning individual characteristics for each aquifer. The susceptibility analysis should be as simple as possible, allowing untrained, outside entities to use the analysis.

The TAC inquired how non-point source pollution would be handled. The TAC recommended concentrating non-point source identification efforts in Zone A, and examining percentages of non-point source land use in Zone B source water assessment areas.

The TAC inquired how the non-point source information would be collected. The GPS contract identifying the location of all PWSS in the state, also gathered land use information within a 500-foot radius around the wellhead. Also, the Natural Resources Conservation Service publishes Natural Resource Inventory data. This information has a Geographical Information System (GIS) layer that can identify the distance from a cornfield, for example, to a point source - wellhead. The NRI is updated every 5 years, however, the scale is 1: 250,000.

The TAC suggested reducing the risk factor value from "3" to "1" for the risk factor "PWSS well or intake conditions" for a well in good condition, and to also add an intermediate category, such as "fair". The TAC suggested combining the risk factor "PWSS well construction standards" and "PWSS well conditions" into one category. However, it was decided to keep these risk factors separate because the "PWSS well construction standards" risk factor takes into account the overall system and the "PWSS well conditions" risk factor takes into account the individual well. Information for both of these risk factors may be available through the Drinking Water Program.

The TAC suggested changing the risk factor score for "Known open release case attributed to the potential contaminant source" from "5" to "1" if the response is "no". The TAC suggested changing the risk factor value for "Greater than SARA Title III minimum reporting limits, but less than 5 times that limit" from "4" to "6".

The TAC suggested that landfills should not be weighted as heavily as SARA Title III facilities because the latter stores a concentrated amount of chemicals, and landfill material is spread out over a wide area. It was noted that the critical issue with landfills, and other potential contaminant sources, are the management practices at these facilities.

The TAC suggested considering tertiary treatment and mechanical treatment at wastewater treatment facilities in addition to evaluating volume stored at the facility.

The TAC suggested the minimum risk factor value for any feedlot with more than 100 animal units, regardless of amount of time used per year, should be "5". Animal unit information may be available through the local Natural Resources Conservation Service, if they are willing to divulge that information.

The TAC inquired if there are accepted, consistent, standardized best management practices for every potential contaminant source and land use category in the susceptibility analysis. How will the DENR determine if the facility owner is following best management practices? Research on all potential contaminant sources would have to be done, this may not be practical.

Due to the importance of this factor, the TAC noted that the "best management practices (BMP) in place" risk factor should have a higher risk factor value than the other factors, such as 40. DENR can only look at regulated facilities to examine BMPs, otherwise it may be considered trespassing. It was suggested that facilities with unknown best management practices should be given the default value; the facility may contest the susceptibility rating it they disagree.

Inspecting for BMP may not be possible. DENR does not have the resources, time, and personnel to conduct these inspections for every potential contaminant source.

The TAC suggested replacing the risk factor "best management practices" with "containment system in place?" Many of these contaminant systems are visible when conducting a windshield surveys or on-site inspections, e.g. underground storage tanks and above ground storage tanks.

The TAC suggested including manure storage areas with the animal feedlots category, and increasing the risk factor to "6". The TAC suggested distinguishing between tiled cropland and non-tiled cropland. Tiled cropland is a quick way of moving nutrients from the soil to a stream. Tiled cropland should have a higher risk factor than non-tiled cropland, "8" and "6", respectively

The TAC suggested, for Zone A assessment areas, addressing the intensity of land use. For example, row cropland should have a higher susceptibility rating than perennial grassland. Land with greater than 50% row crop should have a risk factor value of "7", and land less than 50% row crop should have a risk factor value of "3".

The TAC suggested increasing the risk factor value for a paint shop from a "6" to "8" and a printing facility should be increased to "6".

The TAC suggested deleting the risk factor "construction excavation areas" from the potential contaminant source inventory since it is a transient risk factor. This potential contaminant source will be deleted from the list.

The TAC raised concerns that the risk factors in the Residential Category are insignificant if every house were evaluated. The values should be simplified based on if the residential area uses septic systems, or if the area has a community wastewater system.

The TAC suggested rating all waste management facilities as having a risk factor value of "10" with the exception of recycling and waste reduction facilities.

The susceptibility analysis discussion will be continued after lunch at the DENR offices, everyone is welcome to attend.

Thank you for attending this meeting.

Appendix D

Citizen Advisory Committee Members	
WATER MANAGEMENT BOARD MEMBERS	**BOARD OF WATER AND NATURAL RESOURCES MEMBERS**
Francis Brink, consulting engineer	Don Bollweg, crop sprayer
Rodney Freeman, attorney	Dale Kennedy, farmer
Marian Gunderson, member at large	John Loucks, engineer
Leo Holzbauer, irrigation representative and trucker	Steve Lowrie, newspaper publisher
Bernita Loucks, realtor	Roger Larsen, insurance representative
Joel Rickenbach, rancher	Gregg Greenfield, attorney
Dwayne Rollag, SDSU Dean of Civil Engineering	Jerry Kleinsasser, farmer
MEETING DATES	**MEETING DATES**
December 3, 1997	November 12, 1997
February 25, 1998	March 26, 1998
December 2, 1998	December 9, 1998

Appendix D1

Source Water Assessment Program
Citizen Advisory Committee Meetings Summary
November 12, 1997 & December 3, 1997

November 12, 1998 Water Management Board Attendees:
Francis Brink
Dwayne Rollag
Rodney Freeman
Joel Rickenbach
Leo Holzbauer
Bernita Loucks
Marian Gunderson

December 3, 1998 Board of Water and Natural Resources Attendees:
Steve Lowrie
John Loucks
Dale Kennedy
Don Bollweg
Greg Greenfield
Roger Larsen

Introduction to the Source Water Assessment and Protection Program **Jeanne Goodman/Bill Markley**

The Source Water Assessment and Protection Program is a requirement of the 1996 Safe Drinking Water Act Amendments. These amendments require states to develop the source water assessment program, complete source water assessments for all public water supplies, and allow states to set aside up to 10% of FY97 Drinking Water State Revolving Funds to complete the assessments.

A complete Source Water Assessment and Protection Program document, that will be developed by DENR, will describe how South Dakota will involve the public in the development of the source water program. The document will also describe South Dakota's source water assessment approach, how the assessment information will be made available to the public, and how the source water program will be implemented.

South Dakota will organize a Technical Advisory Committee to develop the source water program. The committee will include DENR expertise, and outside agency expertise, including SD Department of Agriculture and Water Development Districts. In order to receive citizen input, South Dakota will utilize existing DENR citizens boards, Board of Water and Natural Resources and Water Management Board, as a Citizen Advisory Committee. South Dakota will also hold a series of public meetings throughout the state to gather citizen input on the program.

The first step to completing a source water assessment is delineating the area contributing water to a public water supply system. For ground water systems, this includes delineating the area of influence around a wellfield. For surface water systems, a delineation will include the entire watershed upstream of the public water supply intake or diversion point. The second step in a source water assessment is to identify significant potential contaminant sources within the delineated area. DENR must determine what is considered a "significant" potential contaminant source. The third step in a source water assessment is to determine the "susceptibility" of the water source to potential contaminant sources. This includes determining the likelihood that the pollution source will impact the water source. The extent of the susceptibility analysis is not yet defined.

Once the assessments have been completed, the results of the assessments must be made available to the public. DENR will most likely distribute the source water assessments to the public in a paper format and an electronic format, through the DENR Internet web site. The results of the assessments must include a map with the delineated area and significant contamination sources identified. The results of the susceptibility analysis must also be displayed on the map.

The DENR has set-aside 10% of FY 97 Drinking Water State Revolving Funds to complete the assessments. DENR will submit a work plan for set-aside as part of the 1997 Intended Use Plan to the EPA when completed. DENR will also hold public meetings throughout the state to gather input on the program. Following the development of the Source Water Assessment Program document, DENR will submit the document to EPA for approval. Once the document is approved, DENR will complete source water assessments for all public water systems in the state.

DENR must submit the proposed source water program document to EPA by February 1999. EPA has nine months to review the document, and once approved, all assessments must be completed within 2 years. The entire process - from assessments through management - requires input and support from the public, local governments, and public water supply system owners and operators.

Appendix D2

Source Water Assessment Program
Citizen Advisory Committee Meetings Summary
February 25, 1998 & March 26, 1998

February 25, 1998 Water Management Board Attendees:
Francis Brink
Dwayne Rollag
Rodney Freeman
Joel Rickenbach
Leo Holzbauer

March 26, 1998 Board of Water and Natural Resources Attendees:
Steve Lowrie
Dale Kennedt
Don Bollweg
Jerry Kleinsasser
Roger Larsen
Greg Greenfield

Work Plan for the State Revolving Fund Intend Use Plan **Tricia Sebes**

Source water protection uses pollution prevention measure to focus on protecting the area surrounding public drinking water supplies from potential contamination. The Source Water Assessment and Protection Program is a requirement of the 1996 Safe Drinking Water Act which requires states to develop a program. These amendments also require states to complete source water assessments for all public water supply systems and allows states to set-aside up to 10% of FY 1997 Drinking Water State Revolving Funds to complete the source water assessments.

South Dakota must develop a Source Water Assessment and Protection Program document that will describe how South Dakota will accomplish the following: involve the public in the development of the program, conduct the source water assessments, make the results of the assessments available to the public, and how South Dakota will implement the program.

South Dakota is required to establish a Citizens Advisory (CAC) and a Technical Advisory Committee (TAC) to assist in the development of the source water program. South Dakota is using the established citizen's boards, Water Management Board and the Board of Water and Natural Resources, as the CAC. The TAC will consist of representatives from DENR programs and outside agency expertise.

DENR must submit the proposed source water program document to EPA by February 1999. EPA has nine months to review the document, and once approved, all assessments must be completed within 2 years. The entire process - from assessments through management - requires input and support from the public, local governments, and public water supply system owners and operators.

The Intended Use Workplan describes the following: the funding amount available to conduct source water assessments; number of full time employees needed to conduct the assessments; the goals and objectives, outputs and deliverables of the source water program; the schedule for completing the assessments; the responsibilities of various agencies involved in the source water program; and a description of the evaluation process used to assess the success of the work funded under the Source Water Assessment and Protection Program.

DENR set aside 10% of the FY 1997 State Drinking Water Revolving Fund to complete the source water assessments. This amount totals $1,255,880. However, the estimated cost of completing the source water program is approximately $2,230,000. Additional funding sources may include Public Water Supply System, Nonpoint Source 319, and 106 Ground Water.

The goal of South Dakota's Intended Use Workplan is to complete the Source Water Assessment and Protection Program within time frame allowed by the Safe Drinking Water Act.

Outputs of the Source Water Assessment and Protection Program include: the Source Water Assessment and Protection Program document; contracts with entities outside the DENR to conduct source water assessments; public meeting summaries; completed assessments, including maps with delineated areas, potential pollution sources, and results of susceptibility analyses; and making the results of the source water assessments available to the public through informational brochures.

South Dakota plans to organize a Technical Advisory Committee by April 1998 and plans to submit the Intended Use Plan Workplan to EPA by mid-April. South Dakota plans to submit the completed program document to the EPA in February 1999. Following EPA approval, South Dakota plans to complete all source water assessment and provide assessment results to the public by May 2003.

The Ground Water Quality Program is responsible for: implementing the Source Water Assessment and Protection Program; organizing and directing the efforts of the technical advisory committee meetings; drafting the Source Water Assessment and Protection Program Plan; working with the DENR's citizen boards; conducting source water assessments for all public water supply systems; negotiating and administering contracts to complete source water assessments; and coordinating wellhead protection efforts with the source water assessment program.

The following DENR Programs will participate on the Technical Advisory Committee to assist in the development of the Source Water Assessment and Protection plan: Minerals and Mining Exploration Program, Drinking Water Program, Water and Waste Water Funding, Information Services, Watershed Program, South Dakota Geological Survey, Water Rights Program, Surface Water Program, and the Waste Management Program. Additional organizations that may participate in the development of the source water program include: Environmental Protection Agency, US Geological Survey, SD Association of Rural Water Systems, Water Development Districts, South Dakota Water Congress, American Water Works Association, SD Department of Agriculture, Universities, and Municipal League.

DENR will evaluate the success of the Source Water Assessment and Protection Program by the number of local source water protection programs that are developed; the number of significant pollution sources threatening a public water supply that are cleaned up, removed, or remediated to the extent that the threat is removed; and by the downward trend in the number of significant violations of standards by public water supply systems.

Appendix D3

Source Water Assessment Program
Citizen Advisory Committee Meetings Summary
December 2, 1998 & December 9, 1998

December 2, 1998 Water Management Board Attendees:
Francis Brink
Dwayne Rollag
Rodney Freeman
Joel Rickenbach
Leo Holzbauer
Bernita Loucks
Marian Gunderson

December 9, 1998 Board of Water and Natural Resources Attendees:
Steve Lowrie
John Loucks
Greg Greenfield
Roger Larsen

Source Water Assessment and Protection Program Update **Anita Yan**

The Source Water Assessment and Protection Program is an outgrowth of the Wellhead Protection Program. South Dakota's Wellhead Protection Program was approved by the Environmental Protection Agency (EPA) in 1992. The Source Water Assessment Program (SWAP) is a requirement of the 1996 Safe Drinking Water Act Amendments.

Elements of a complete SWAP include involving the public in the development of the program, conducting a source water assessment at all public water supply systems (PWSS) in South Dakota, distributing source water assessment information to the public, and implementing the source water protection program locally.

The technical advisory committee consists of 22 representatives from the following DENR programs: Ground Water Quality, Surface Water Quality, Drinking Water, Geological Survey, Watershed Protection, Water & Waste Funding, Water Rights, Waste Management. Non-DENR Representatives include the Association of Rural Water Systems, South Dakota Water Congress, Water Development Districts, American Water Works Association, SD Dept. of Agriculture, Ag Unity, Municipal League, City Sioux Falls, Indian Health Services, SD School of Mines & Technology, US Environmental Protection Agency, US Geological Survey, and US Bureau of Reclamation. This committee convened 4 times.

A Black Hills Delineation meeting was held to discuss source water issues in the Black Hills region. In addition to representatives on the Technical Advisory committee, the following stakeholders also attended: Black Hills Power and Light, the City of Rapid City, City of Spearfish, City of Hot Springs, Dakota Cement, Lawrence County Commissioners, Lead-Deadwood Sanitary District, Mining and Exploration Services, and US Forest Service/Black Hills National Forest.

DENR is utilizing the DENR Board of Water and Natural Resources and Water Management Board as the Citizens Advisory Committee.

The DENR has presented source water information at approximately 10 workshops and seminars throughout South Dakota. Source water information was sent to all public water supply systems owner/operators and mayors. In order to receive public involvement and comments on the source water program, two meetings were held on November 18, 1998. These meetings were advertised in 11 daily newspapers within South Dakota and in *Indian Country Today*. Governor Janklow issued a press release on the public meeting and invitations were sent to all 760

public water supply system (PWSS) owners/operators, and to approximately 1,000 potentially interested stakeholders.

A source water assessment is a method to evaluate the likelihood or potential for contaminants to get into a public drinking water supply. A complete source water assessment includes 3 steps: delineating the area contributing water to the system, inventorying the significant sources of pollution in the delineated area, and assessing the susceptibility of the water system to each pollution source.
The ground water delineation method for *non-sensitive*, non-Black Hills PWSS is a 500-foot arbitrary fixed-radius around the well. There are approximately 150 non-sensitive systems in South Dakota. The delineation method for vulnerable transient, non-community (TNC) PWSS is the calculated fixed-radius method. There are approximately 78 TNC PWSS in the state and these include campgrounds, restaurants, and motels. The delineation methods for the approximately 98 vulnerable, non-Black Hills PWSS are hydrogeologic mapping, analytical method, and/or calculated fixed-radius delineation method.

The delineation method for surface water PWSS located outside the Black Hills Region will include the entire watershed upstream of the public water supply intake. The delineation method will include three zones of assessment, Zone A, Zone B, and Zone C. Zone A extends 10 river miles upstream of the PWSS intake, including tributaries, and 0.25-mile laterally beyond the mapped aquifer or river. Zone B includes the remaining delineated watershed. However, for PWSS located along the Missouri River, the assessment area includes the watershed within a 25-mile diameter circle from the intake. For PWSS along the Missouri River, Zone C includes the remaining delineated watershed.

Due to the complex ground water and surface water interaction between SWAP areas in the Black Hills region, a holistic assessment approach is needed in this area. The delineation method will include two zones of assessment, Zone A and Zone B. Zone A will includes all aquifer recharge areas, a 0.25-mile or 0.5 mile radius around a wellhead, and 0.25 miles laterally beyond all stream or aquifers along the entire length of all perennial streams or tributaries. Zone B includes the remaining delineated watershed.

A comprehensive contaminant source inventory will be conducted in Zone A and includes using all existing data from DENR, EPA, and outside agency databases; contacting PWSS operator and/or community leaders to request assistance in the inventory; and conducting field surveys in the delineated area. A limited contaminant source inventory will be conducted in Zone B. This includes using existing data from DENR, EPA, and outside agency databases. A contaminant source inventory will not be conducted in Zone C.

DENR databases that will be used in the potential contaminant source inventory include: underground and aboveground storage tanks, community right-to-know information, animal feedlots and land application areas, abandoned mines, solid and hazardous waste facilities, and wastewater treatment facilities. Other non-DENR databases that will be used in the potential contaminant source inventory include: Fertilizer and Pesticide Inventory and Commercial Applicator Pesticide Use databases from the SD Dept of Agriculture, the Class V Underground Injection Control database from the US Environmental Protection Agency, the BASINS database from the US Geological Survey, and Natural Resources Inventory database from the Natural Resources Conservation Service.

A susceptibility analysis will be conducted on all potential contaminant sources identified in the inventory. Susceptibility is the potential for a public water supply system to draw contaminated water into the system at concentrations that would pose concern. Each potential contaminant source will be evaluated and rated as a high, moderate, or low risk. The susceptibility ratings are relative, not absolute. The ratings will be specific to the PWSS and the rating method is designed to minimize inconsistencies. The susceptibility ratings are based on “intrinsic” and “induced” risk factors. If risk factor information is unknown or does not apply, those affected risk factors are not included in the evaluation.

Intrinsic risk factors, those factors that cannot be controlled, include depth to water table or aquifer top, aquifer type, distance of the PWSS well or intake to recharge areas or water bodies, flood plain conditions around the well or intake, and existing concentrations of similar contaminants at the PWSS. Induced risk factors, those factors that can be controlled, include distance of the potential contaminant source to the public water supply well or intake, volume of contaminants at the potential contaminant source, and type of facility or land use attributed to the potential contaminant source.

Source water assessment information must be distributed to the public. The final source water assessment report will include a summary of assessment information, a map of the assessment area, the relative location of potential contaminant sources, and the susceptibility rating (high, moderate, low) for each contaminant source. Source water assessment information will be sent to the PWSS owner/operators, mayors, or other community leaders. The source water assessment information will also be available on the South Dakota's Internet web page. DENR encourages PWSS to distribute assessment information to the public.

The Source Water Assessment and Protection Program plan must be submitted to EPA by February 1999. Source water *assessments* are mandatory and must be completed by May 2003 by the state. Source water *protection* is voluntary and to be implemented by the local community. The EPA goal is to have 60% of community water system population covered by a full source water protection program by 2005. The entire process-from assessments through management-requires input and support from the public, local governments and PWSS owners/operators. DENR will work with communities to establish source water protection programs.

South Dakota will evaluate the success of the program by the number of local protection programs developed. South Dakota has already been promoting the assembly of planning teams of responsible individuals from the community to manage the potential sources of contamination within wellhead protection areas, and will continue to do so for source water protection areas. South Dakota has already been promoting regulatory, non-regulatory, and multiple-jurisdiction management strategies through the wellhead protection program and will continue to do so for source water protection areas.

South Dakota has set aside 10% of the Drinking Water State Revolving Fund money, $1.25 million dollars, to complete the source water assessments. The EPA approved South Dakota's Source Water Intended Use Workplan. The anticipated total cost of the SWAP Program is approximately $2.2 million dollars. DENR has 3.5 full time employees available to complete the source water assessments. South Dakota will use money from other grants and potentially approach other agencies to make up for the $900,000 shortfall in funding.

Global Positioning System information at all non-sensitive PWSS and land use data around all PWSS were collected in the summer of 1998. Currently, DENR is receiving comments from the general public on the draft Source Water Assessment and Protection Program plan. The DENR will address all comments and finalize the proposed Source Water Assessment and Protection Program plan for submittal to EPA in February 1999.

Water Management Board Questions and Comments

The Water Management Board (WMB) asked if DENR has been in contact with EPA throughout the development of the Source Water Assessment and Protection Program, and whether the approach presented to the Board is concurrent with EPA guidelines. An EPA representative was on the source water Technical Advisory Committee and assisted in the development of the program plan. However, the EPA representative did not collaborate with DENR on the delineation method proposed for public water supply systems that do not use their emergency well for drinking water purposes. DENR proposes not to conduct an assessment for these systems.

The WMB asked who would be conducting the source water assessments. The state is responsible for conducting all source water assessments; however, DENR may hire contractors to conduct portions of the assessments, such as gathering potential contaminant source information. Communities may also conduct their own source water assessments if they include all requirements in the EPA-approved Source Water Assessment and Protection Program plan, but these assessments will be reviewed by DENR.

The WMB inquired about the availability of DENR personnel to complete all source water assessments in the state. At least three full time employees (FTE) from Ground Water Quality and Minerals and Mining, and one FTE from the South Dakota Geological Survey will be working on the Source Water Assessment Program. Therefore, as mentioned earlier, DENR may contract with outside entities to conduct source water assessments. DENR has started to gather information to conduct the source water assessments by collecting Global Positioning Systems information on all public water supply systems in the state. DENR may conduct ground water source water assessments prior to EPA approval of the source water plan.

The WMB commented that the Source Water Assessment Program is another federal government program that requires the state to conduct an assessment for all public water supply systems. Currently funds are available to complete this program. Eventually, the US Congress will require all municipalities to implement Source Water Protection Programs; however, funding will not be available for to complete these requirements.

The WMB asked whether individual septic systems would be identified as potential contaminant sources in the source water assessment process. The WMB indicated that, at a minimum, those areas of known concentrated septic systems should be considered as a potential contaminant source. DENR will not consider individual septic systems as a potential contaminant source. However, DENR will treat septic systems as a non-point source of pollution. For example, if a residential development does not have a central wastewater treatment facility, the entire development would be evaluated as one unit, and assigned a susceptibility rating accordingly.

The WMB granted unconditional approval of the approach presented in the Source Water Assessment and Protection Program plan.

Board of Water and Natural Resources Questions and Comments

A commentator from the public questioned the susceptibility analysis rating scheme. The commentator mentioned it seems facilities will receive a "high" rating due to their location in relation to a public water supply system, and DENR is not taking into consideration that best management practices may be used at the facility. The commentator is concerned that facilities have to "prove their innocence" that they are not polluting to DENR. DENR indicated the susceptibility analysis considers other factors in addition to the location of a facility. These factors include the type of facility, volume of contaminants stored at the facility, and whether the facility utilizes pollution prevention measures. Therefore, one factor, such as location of the facility, may receive a higher rating; however, five other susceptibility factors may receive a lower rating. This may balance the final susceptibility rating to "low" rating rather than "high". In addition, the Source Water Assessment and Protection Program plan includes a "dispute resolution process" for an owner of a facility or other concerned citizen who wishes to dispute the susceptibility rating in their source water assessment.

The Board of Water and Natural Resources (BWNR) asked how DENR will address non-point source pollution in the potential contaminant source inventory. DENR will identify non-point sources based on land use in a particular area. Land use categories include agricultural, commercial, residential, municipal, or industrial.

The BWNR concurred with the methods and approaches described in the draft Source Water Assessment and Protection Program plan, subject to further refinement from the Technical Advisory Committee after they receive public comments.

Appendix D4

Invitation for the Water Management Board Meetings

NAME	ORGANIZATION	CITY	STATE	ITEMS RECEIVED
	ACTION FOR THE ENVIRONMENT	RAPID CITY	SD	A, M
WILLIAM COX, DIR	AS/CEV/CR	DALLAS	TX	A
CINDY LUNDIN	BLACK HAWK WATER USER DISTRICT	BLACK HAWK	SD	A
JANET RYAN	BLACK HILLS ALLIANCE	RAPID CITY	SD	A
EVERETT E. HOYT	BLACK HILLS FLY FISHERS	RAPID CITY	SD	A
JOMAY STEEN	BROOKINGS BUREAU OF ARGUS LEADER	SIOUX FALLS	SD	A
KURT ANDERSON	BUREAU OF RECLAMATION	RAPID CITY	SD	A
WILLIAM J HANNAH, CHMN	BUTTE CO BOARD OF COMMISSIONERS	BELLE FOURCHE	SD	A, M
JACK COLE	CANYON ECHO	SPEARFISH	SD	A, M
DAVE NELSON	CHEYENNE RIVER SIOUX TRIBE	EAGLE BUTTE	SD	A
BRUCE PIER, PWD	CITY OF PIERRE	PIERRE	SD	A
DAN BJERKE	CITY OF RAPID CITY	RAPID CITY	SD	A
EMMETT WHITE TEMPLE	CROW CREEK SIOUX TRIBE	FT THOMPSON	SD	A
THERESA KEAVENY	DAKOTA RURAL ACTION	BROOKINGS	SD	A, M
KEVIN FRIDLEY	DEPT OF AGRICULTURE	PIERRE	SD	A
JAY GILBERTSON	EAST DAKOTA WATER DEV DIST	BROOKINGS	SD	A, M
JOHN CHILDS	EISENBRAUN & ASSOCIATES	PIERRE	SD	A
DAVE GULLICKSON	FARMERS IMPLEMENT IRR CO	BROOKINGS	SD	A
	FINANCE & MANAGEMENT	PIERRE	SD	A
MIKE WESTON	FLANDREAU SANTEE SIOUX TRIBE	FLANDREAU	SD	A
JOHN COOPER, SECRETARY	GAME FISH & PARKS	PIERRE	SD	A
TIM OLSON	GAME FISH & PARKS	PIERRE	SD	A
	HURON DRILLING	HURON	SD	A
LARRY GREFF	HURON STEEL STRUCTURES	HURON	SD	A
DARRELL RASCHKE	JAMES RIVER WATER DEV DIST	HURON	SD	A, M
CAROL HUBER	LEGISLATIVE RESEARCH COUNCIL	PIERRE	SD	A
DAVID BECKER	LEGISLATIVE RESEARCH COUNCIL	PIERRE	SD	P, M
ELAINE WHITE PIPE	LOWER BRULE SIOUX TRIBE	LOWER BRULE	SD	A
ORDEL KROGSTAD	MA FARM BUREAU	BALTIC	SD	A, M
MIKE SHAW	MAY, ADAM, GERDES & THOMPSON	PIERRE	SD	A
NEAL ROWETT	MEADE COUNTY COMMISSIONER	STURGIS	SD	A
ROBERT MALLOW	MEADE COUNTY COMMISSIONER	BLACK HAWK	SD	A
KURT PFEIFLE	MID DAKOTA RURAL WATER SYSTEM	MILLER	SD	A, M
JOE DVORAK	MIDWEST ASSISTANCE PROGRAM	WALTHILL	NE	A
ELWOOD CORBINE, RDO	MNI SOSE WATER COALITION	RAPID CITY	SD	A, M
JACK KELLEY	MONTGOMERY WATSON	BOISE	ID	A
YVONNE VIK	MUNICIPAL LEAGUE	PIERRE	SD	A
	OFFICE OF STATE ENGINEER	PIERRE	SD	A
JOHN MOUSSEAU	OGLALA SIOUX TRIBE	PINE RIDGE	SD	A
DIRK MOORE	RAPID CITY JOURNAL	RAPID CITY	SD	A
BOB MERCER	RAPID CITY JOURNAL CAPITAL BUREAU	PIERRE	SD	A

NAME	ORGANIZATION	CITY	STATE	ITEMS RECEIVED
PHIL MOMERAK	RAPID SOFT WATER SERVICE	RAPID CITY	SD	A
SHERI POORE	REPORTER & FARMER	WEBSTER	SD	A
SYED Y. HUQ	ROSEBUD SIOUX TRIBE	ROSEBUD	SD	A
DAVE HAZELTINE	SCHOOL & PUBLIC LANDS	PIERRE	SD	A
RON OGREN	SD GRASSLAND COALITION	WESSINGTON SPRINGS	SD	A
CHARLES MICHAEL RAY	SD PUBLIC RADIO	RAPID CITY	SD	A
JULIE JOHNSON	SD RURAL DEVELOPMENT COUNCIL	PIERRE	SD	A
GEORGE VANSCO	SD RURAL WATER	SPEARFISH	SD	A
DENNIS DAVIS	SD RURAL WATER ASSOC	SIOUX FALLS	SD	A, M
DAVE HAUSCHILD	SD WATER CONGRESS	PIERRE	SD	A
JOHN WEST	SDSU EXTENSION SERVICE	RAPID CITY	SD	A
JOHN BISCHOFF	SDSU WATER RESOURCES INSTITUTE	BROOKINGS	SD	A
LISA GAUNNITZ	SF ARGUS LEADER	SIOUX FALLS	SD	A
JACKIE STUCKY	SIERRA CLUB	RAPID CITY	SD	A
SHEILA CRAWFORD	SISSETON-WAHPETON SIOUX TRIBE	AGENCY VILLAGE	SD	A
CHERYLE VAN ZEE	SOUTH CENTRAL WDD	CORSICA	SD	A, M
CHRIS HESLA	SOUTH DAKOTA WILDLIFE FEDERATION	PIERRE	SD	A
CEDRIC GOOD HOUSE	STANDING ROCK SIOUX TRIBE	FORT YATES	ND	A
GERARD BREEN	U. S. WEST	RICHFIELD	MN	A
	US FISH & WILDLIFE SERVICE	PIERRE SD	SD	A
CAPTAIN DAVID BEALE	USAF ENVMT LAW DIV - CENTRAL REGION	DALLAS	TX	A
CHRISTY KOTSCHWAR	USGS	RAPID CITY	SD	A
JIM ADAMSON	VERMILLION BASIN WDD	CENTERVILLE	SD	A
BERNITA LOUCKS	WATER MANAGEMENT BOARD	RAPID CITY	SD	P
DWAYNE A ROLLAG	WATER MANAGEMENT BOARD	BROOKINGS	SD	P
FRANCIS E BRINK	WATER MANAGEMENT BOARD	ABERDEEN	SD	P
JOEL RICKENBACH	WATER MANAGEMENT BOARD	OELRICHS	SD	P
LEO HOLZBAUER	WATER MANAGEMENT BOARD	WAGNER	SD	P
MARIAN GUNDERSON	WATER MANAGEMENT BOARD	YANKTON	SD	P
RODNEY FREEMAN JR	WATER MANAGEMENT BOARD	HURON	SD	P
VAN LINDQUIST	WEST DAKOTA WATER DEV DIST	RAPID CITY	SD	A
MIKE KURLE	WEST RIVER WATER DEVELOPMENT DISTRICT	MURDO	SD	A
MARK VICKERS	WSA	RAPID CITY	SD	A
JIM STONE	YANKTON SIOUX TRIBE	MARTY	SD	A
BOB GAHL		CORSICA	SD	A
CATHY WERNKE		GREGORY	SD	A
CHERYL WETMORE		SPEARFISH	SD	A
DALE COCKRELL		KALISPELL	MT	A
DON BARBER		MITCHELL	SD	A
DONALD PAY		RAPID CITY	SD	A,M
DORIS KUMM		WATERTOWN	SD	A
JIM GORDON		SPEARFISH	SD	A
JOHN FREDERICKSON		DEADWOOD	SD	A
KAREN FOGAS		SIOUX FALLS	SD	A

NAME	ORGANIZATION	CITY	STATE	ITEMS RECEIVED
KEN MCFARLAND		PIEDMONT	SD	A
LAWRENCE MEOSKA		PLANKINTON	SD	A
LILIAS JONES		BROOKINGS	SD	A
LINDA STENSLAND		SIOUX FALLS	SD	A
MARVIN TRUHE		RAPID CITY	SD	A
PAT CERNY		BURKE	SD	A
RALPH SCHNORR		ST. PAUL	MN	A
REP WILLIAM F CERNY JR		BURKE	SD	P
REP. LARRY DIEDRICH		ELKTON	SD	P
ROBERT J SLIPER		LEAD	SD	A
SEN FRANK J KLOUCEK		SCOTLAND	SD	P
SEN. MARGUERITE KLEVEN		STURGIS	SD	P
TIMOTHY LARSON		PLANKINTON	SD	A

NOTE:
"Items Received" refers to the following:

A Agenda
M Minutes
P The full packet contains all information the Board may need in considering a request including the agenda, minutes, cover sheets, and other documents such as funding applications, letters requesting amendments, and resolutions

Appendix D5

Invitation List for the Board of Water and Natural Resources Meetings

Name		Organization	City	State	Items Received
Gary	Heckenlaible	Action for the Environment	Rapid City	SD	A , M
Chuck	Ullery	Agricultural Engineering Dept - SDSU	Brookings	SD	A
Brad	Berven	Agronomy Services	Joe Foss Building		A , M
		Argus Leader	Sioux Falls	SD	A
Chet	Brokaw	Associated Press	Pierre	SD	A
		Fern Reynolds	Rosebud	SD	A , M
John	Guhin	Attorney General	Inter-Office		A , M
Daryl	Englund	Banner Associates Inc	Brookings	SD	A
Van	Lindquist	BH Council of Local Govts	Rapid City	SD	A , M
Jerry	Biedenfeld	Biedenfeld Consulting	Pierre	SD	A
Martin	Jarrett	Big Sioux RWS	Egan	SD	A
Dale	Kennedy	Board of Water & Natural Resources	Beresford	SD	P
Roger	Larsen	Board of Water & Natural Resources	Sioux Falls	SD	P
Steve	Lowrie	Board of Water & Natural Resources	Watertown	SD	P
Jerry	Kleinsasser	Board of Water & Natural Resources	Frankfort	SD	P
Donald D	Bollweg	Board of Water & Natural Resources	Harrold	SD	P
John	Loucks	Board of Water & Natural Resources	Rapid City	SD	P
Gregg S	Greenfield	Boyce Murphey McDowell & Greenfield	Sioux Falls	SD	P
		Brohm Mining Corp	Deadwood	SD	A , M
Bud	Stiles	Bureau of Reclamation	Pierre	SD	A , M
		Butte County Commissioners	Belle Fourche	SD	A
Mike	Williams	B-Y Water District	Tabor	SD	A
		Capital Journal	Pierre	SD	A
Dave	Hauschild	Central Plains Water Dev District	Pierre	SD	A , M
Dale	Hargens	Central Plains Water Development Dist	Orient	SD	A , M
Gregg	Bourland	Cheyenne River Sioux Tribe	Eagle Butte	SD	A
Bill	Schmidt	City of Belle Fourche	Belle Fourche	SD	A
Jimmy	Hilton	City of Rapid City	Rapid City	SD	A
Lyle	Johnson	City of Sioux Falls	Sioux Falls	SD	A , M
Doug	Johnson	City of Sioux Falls - City Health Dept	Sioux Falls	SD	A
Kenroy	Janzen	Clark Engineering Co	Rapid City	SD	A
Duane	Stokes	Clark Rural Water System	Clark	SD	A , M
Greg	Merrigan	Clay Rural Water System	Wakonda	SD	A , M
Harold	Miller	Crow Creek Sioux Tribe	Fort Thompson	SD	A
Bette	Berg	Daily Plainsman	Huron	SD	A
		Daily Press & Dakotan	Yankton	SD	A
		Daily Republic	Mitchell	SD	A
Bruce	Jacobson	Dept of Agriculture/Regulatory Services	Inter-Office Mail		A
John	Madden	DGR	Rock Rapids	IA	A
Ray	Sowers	Div of Res Conservation & Forestry	Joe Foss Building		A , M
Kevin	Fridley	Divison of Regulatory Services	Joe Foss Building		A , M
Jay	Gilbertson	East Dakota Water Dev. Dist	Brookings	SD	A , M

Name		Organization	City	State	Items Received
Earl	Acheson	East Dakota WDD	Chester	SD	A , M
Bert	Olson	First National Bank in Sioux Falls	Sioux Falls	SD	A , M
Roger	Mack	First Planning District	Watertown	SD	A
Thomas	Ranfranz	Flandreau Santee Sioux Tribe	Flandreau	SD	A
Doug	Hansen	Game Fish and Parks	Inter-Office		A
John	Cooper	Game Fish and Parks	Inter-Office		A
Doug	Hofer	Game Fish and Parks	Inter-Office		A
		Geological Survey - Akeley Science Cntr	Vermillion	SD	A
Terese	Hruska	Golden Reward Mining Co	Lead	SD	A , M
		Governor's Office	Inter-Office		A
Ron	Zylstra	Governor's Office			P
Norm	Lingle	Governors Office of Economic Develop	Inter-Office		P
Terry	Helms	Helms & Assoc	Aberdeen	SD	A
Amanda	War Bonnett	Indian Country Today	Rapid City	SD	A
David	Owen	Industry & Commerce of SD	Pierre	SD	A
Jim	Stukel	Jackson County Conservation District	Kadoka	SD	A
Darrell	Raschke	James River Water Dev Dist	Huron	SD	A , M
Wayne	Miller	James River Water Development Dist	Aberdeen	SD	A , M
Scott	Sumner	Johnson Huffman PC	Rapid City	SD	A
		KCCR Radio	Pierre	SD	A
Kobi	Ebert	KOTA TV	Rapid City	SD	A
Todd	Duex	LAC Minerals (USA) Inc	Lead	SD	A , M
Leo	Holzbauer	Lake Andes-Wagner Marty II	Wagner	SD	A
Carol	Huber	Legislative Research Council			A , M
Pam	Bonrud	Lewis & Clark RWS	Sioux Falls	SD	A
Michael	Jandreau	Lower Brule Sioux Tribe	Lower Brule	SD	A
David	Becker	LRC			P
Harriet	Montgomery	LWV Environmental Quality	Aberdeen	SD	A , M
Robert	Mallow	Meade County Commission	Black Hawk	SD	A
Neal	Rowett	Meade County Commission	Sturgis	SD	A
Kurt	Pfeifle	Mid-Dakota RWS	Miller	SD	A
R Evan	Fulton	Midwest Assistance Program	New Prague	MN	A
Joe	Dvorak	Midwest Assistance Program	Pickstown	SD	A , M
Donald G	Sinning	Minnehaha Sportsman Cons Club	Sioux Falls	SD	A
Elwood	Corbine	MNI-SOSE Intertribal Water Rights	Rapid City	SD	A , M
Wendy	Henning	Northeast Council of Governments	Aberdeen	SD	A , M
Harold	Deering	NR Attorney General's Office	Sioux Falls	SD	A
Harold	Salway	Oglala Sioux Tribe	Pine Ridge	SD	A
Paul	Adcock	Perkins County RWS Inc	Bison	SD	A
Greg	Henderson	Planning & Development Dist III	Yankton	SD	A , M
Steve	Miller	Rapid City Journal	Rapid City	SD	A
Norman	Wilson	Rosebud Sioux Tribe	Rosebud	SD	A
Randy	Schmidt	Sanitation Products	Sioux Falls	SD	A , M
Ellwyn	Nohr	Schmucker Paul Nohr & Assoc	Mitchell	SD	A , M
Dennis	Davis	SD Assoc of RWS	Sioux Falls	SD	A, M, CS

Name		Organization	City	State	Items Received
Donald	Pospishil	SD Assoc. of Rural Water Systems	Yankton	SD	A, M, CS
		SD Farm Bureau	Huron	SD	A
Kathy	Zander	SD Fertilizer and Chem Assoc	Pierre	SD	A
Ron	Ogren	SD Grassland Coalition	Wessington Springs	SD	A
Dianna	Miller	SD Mining Association	Sioux Falls	SD	A , M
Yvonne	Vik	SD Municipal League	Pierre	SD	A
Mark	Hollenbeck	SD Petroleum Council	Pierre	SD	A
		SD Pub Radio News - SD Pub Broadcasting	Vermillion	SD	A
Charles	Ray	SD Public Radio	Rapid City	SD	A
Julie	Johnson	SD Rural Dev Council Capital Lake Plaza	Pierre	SD	A , M
Ron	Holsteen	SD Rural Electric Assn	Pierre	SD	A
George	Vansco	SD Rural Water	Spearfish	SD	A
Robert	Wilcox	SD Solid Waste Management Association	Pierre	SD	A
Chris	Hesla	SD Wildlife Federation	Pierre	SD	A
David	Nelson	SDRC	Brookings	SD	A , M
Don	Meisner	Simpco	Sioux City	IA	A
Andrew	Grey Sr	Sisseton-Wahpeton Sioux Tribe	Sisseton	SD	A
Bruce	Lefler	Smith Barney	Omaha	NE	A , M
Cheryle	VanZee	South Central WDD	Corsica	SD	A , M
George	Gerrald	South Central WDD	Lake Andes	SD	A, M, CS
Pat	Cerny	South Central WDD	Burke	SD	A
Alec	Boyce	Southeastern Council of Governments	Sioux Falls	SD	A
Charles	Murphy	Standing Rock Sioux Tribe	Fort Yates	ND	A
Steve	Brockmueller	Stockwell Engineering Inc	Sioux Falls	SD	A
Ken	Pedersen	T-M Rural Water District	Parker	SD	A
Marvin D	Truhe	Truhe Law Offices	Rapid City	SD	A
Christy	Kotschwar	U.S. Geological Survey	Rapid City	SD	A
Rick	Benson	US Geological Survey	Huron	SD	A
Gerard	Breen	US West	Richfield	MN	A
John M	Smith	USAF AFLSA/JACE-CR	Dallas	TX	A
Jim	Adamson	Vermillion Basin WDD	Centerville	SD	A , M
Lisa	Disbrow	Waste Management Inc - Midwest	Hopkins	MN	A
James	Feeney	Water Resources Assist . Prog.	Inter-Office		P
John	Hatch	Water Rights	Inter-Office		A
Geoff	Heig	Watertown Municipal Utilities Dept	Watertown	SD	A
Curt	Hohn	WEB	Aberdeen	SD	A , M
Mike	Kurle	West River - Lyman/Jones RWS	Murdo	SD	A, M, CS
Joe	Hieb	West River Water Dev District	Reliance	SD	A , M
Carol	Koerner	Wharf Resources Mining Co	Lead	SD	A , M
Tim	Bjork	Wildlife Foundation-GF&P			A
James	Olson	Wilson Olson Nash & Becker PC	Rapid City	SD	A
Stephen	Cournoyer Jr	Yankton Sioux Tribe	Marty	SD	A
Lilias	Jones		Brookings	SD	A , M
Larry	Diedrich		Elkton	SD	P
Frank J	Kloucek		Scotland	SD	P

Name		Organization	City	State	Items Received
Julie K	Peterson		Sioux Falls	SD	A
Linda L	Stensland		Sioux Falls	SD	A , M
David	Waldner		Mitchell	SD	A
Don	Faulstich		Highmore	SD	A
Gloriane	Yost		Aberdeen	SD	A , M
Peter	Carrels		Aberdeen	SD	A , M
Robert	Gab		Eureka	SD	A , M
Dale	Robinson		Gettysburg	SD	A
Greg	Baker		Pierre	SD	A , M
William	Cerny		Burke	SD	P
Catherine	Wernke		Gregory	SD	A, M, CS
Jay	Alderman		Rapid City	SD	A
Donald	Pay		Rapid City	SD	A, M, CS
Syed	Huq		Rapid City	SD	A , M
Ken	McFarland		Piedmont	SD	A
Marguerit	Kleven		Sturgis	SD	P

NOTE:
"Items Received" refers to the following:

A Agenda
CS The coversheet contains an explanation of the agenda item, the recommended action for the item, and contact person
M Minutes
P The full packet contains all information the Board may need in considering a request including the agenda, minutes, cover sheets, and other documents such as funding applications, letters requesting amendments, and resolutions

Appendix E

Public invited to attend the November 18, 1998 Source Water Assessment and Protection Program Meeting

AFFILIATION	NAME	CITY	STATE
ABERDEEN	RICK WAHLEN	ABERDEEN	SD
AGAR	TIM JOST	AGAR	SD
ALCESTER	VERN JOHNSON	ALCESTER	SD
ALEXANDRIA	DENNIS BOGGS	ALEXANDRIA	SD
ALPENA	CARLA SMALL	ALPENA	SD
AMERICAN PRESIDENTS MOTEL	JOHN FEJFAR	CUSTER	SD
AMERICAN PRESIDENTS RESORT	JOHN FEJFAR	CUSTER	SD
AMHERST WATER COMPANY	JOHN LARSON	AMHERST	SD
ANGOSTURA DEN	BOB AZARSKI	HOT SPRINGS	SD
ARLINGTON	GENE LOHAN	ARLINGTON	SD
ARMOUR	DENNIS SPARKS	ARMOUR	SD
ARTESIAN SCHOOL	MARK VAN OVERSCHELDE	ARTESIAN	SD
ASTORIA	RICHARD JORSTAD	ASTORIA	SD
ATLANTIC MOUNTAIN RANCH MAIN SITE	MARK THOMPSON	CUSTER	SD
AURORA	MARTY HENDRICKS	AURORA	SD
AURORA-BRULE RWS	WADE BLASIUS	KIMBALL	SD
AVON	FAYE WILLIAMS	AVON	SD
B & J MOBILE HOME PARK	BOB POWLES	PIEDMONT	SD
BAD RIVER RWS	DWAYNE NEWMAN	PHILIP	SD
BADGER	MYRON ANDERSON	BADGER	SD
BADLANDS KOA	JERRY AND DIANE TAYLOR	INTERIOR	SD
BADLANDS RANCH RV RESORT	JACOB SHARP	INTERIOR	SD
BALTIC	RANDY MURPHY	BALTIC	SD
BANCROFT	DELBERT JENNINGS	BANCROFT	SD
BARNARD ELEMENTARY SCHOOL	TODD VOELLER	BARNARD	SD
BATESLAND	MARY DAVIS	BATESLAND	SD
BATTLE CREEK CAMP	MIKE VINTON	KEYSTONE	SD
BATTLECREEK CAMPGROUND	DEBRA STOCKWELL	CANISTOTA	SD
BAY VIEW RESORT	JULIA STUCKEY	BIG STONE CITY	SD
BEAR COUNTRY USA	BRENDAN CASEY	RAPID CITY	SD
BEAUTIFUL RUSHMORE CAVE, INC.	MR L W PULLEN	KEYSTONE	SD
BEAVER LAKE CAMPGROUND	HOYT NICHOLAS	CUSTER	SD
BELLE FOURCHE	DICK MOSELEY	BELLE FOURCHE	SD
BELLE FOURCHE LIVESTOCK EXCHANGE	DEAN AND EILEEN STRONG	BELLE FOURCHE	SD
BELVIDERE	HOWARD IRELAND	BELVIDERE	SD
BELVIDERE EAST KOA	MIKE AND JUDY THOMPSON	MIDLAND	SD
BERESFORD	CHARLES EASTMAN	BERESFORD	SD
BERRY PATCH CAMPGROUND	CHUCK BOSSEN	RAPID CITY	SD
BESTGEN WATER COMPANY	LEO BESTGEN	STURGIS	SD
BICENTENNIAL TRAILER COURT	DOROTHY HUNT	SPEARFISH	SD
BIG PINE CAMPGROUND	BOB GARBISCH	CUSTER	SD
BIG SIOUX RWS	MARTIN JARRETT	EGAN	SD
BIG STONE CITY	STANLEY ADOLPHSON	BIG STONE CITY	SD
BISON	ELMER BROCKEL	BISON	SD
BLACK HAWK WATER CO.	CINDY LUNDIN	BLACK HAWK	SD
BLACK HILLS CHILDREN'S CTR-NEW HOUSE	LEONARD HABERSTROH	RAPID CITY	SD
BLACK HILLS JELLYSTONE RV RESORT	KEITH SCHNEIDERMAN	RAPID CITY	SD
BLACK HILLS MAZE	DON TUCKER	RAPID CITY	SD
BLACK HILLS WATER COMPANY	TAMMY BROWN/JOE GRAF	BELLE FOURCHE	SD
BLM-FT. MEADE PICNIC AREA	DENNIS BUCHER	BELLE FOURCHE	SD
BLUCKSBERG MTN. WATER ASSOC.	CARL ERICKSON	STURGIS	SD
BLUMENGARD COLONY	PAUL HOFER	FAULKTON	SD
BLUNT	JAN HARKLESS	BLUNT	SD
BOB'S RESORT	FRANK SMITH	GETTYSBURG	SD
BON HOMME-YANKTON II RWS	MIKE WILLIAMS	TABOR	SD
BONESTEEL	ROBERT SCHMITZ	BONESTEEL	SD
BOULDER CANYON C.C.- CLUBHOUSE	TOM THOMAS	STURGIS	SD

AFFILIATION	NAME	CITY	STATE
BOULDER PARK CAMPGROUND	HANNA OEDEKOVEN	STURGIS	SD
BOULDER PARK WATER USERS ASSOCIATION	TOM HILL	STURGIS	SD
BOWDLE	HARLAN KOPECKEY	BOWDLE	SD
BOX ELDER	VINCE FINKHOUSE	BOX ELDER	SD
BOX ELDER CIVILIAN CONSERVATION CTR.	DAN PARSONS	NEMO	SD
BRADLEY	DAWN KENDRICK	BRADLEY	SD
BRANDON	WAYNE FLETCHER	BRANDON	SD
BRENTFORD	STEVEN KRAMP	BRENTFORD	SD
BRENTWOOD COLONY-HARD	MIKE WURTZ	WECOTA	SD
BRIDGEWATER	GAYLE MOEN	BRIDGEWATER	SD
BRISTOL	GARY SCHIMMEL	BRISTOL	SD
BRITTON	RANDY HEDGE	BRITTON	SD
BROADLAND	STEVE BROCK	HURON	SD
BROOKINGS	ANDY JENSEN	BROOKINGS	SD
BROOKINGS-DEUEL RWS	PAT GILLIGAN	TORONTO	SD
BROWN-DAY-MARSHALL RWS	DAVID WADE	BRITTON	SD
BRYANT	GARRY LADWIG	BRYANT	SD
BUCK N GATOR BAR	HARLAND DANIELSEN	RAPID CITY	SD
BUFFALO	GREG GINSBACH	BUFFALO	SD
BUFFALO GAP	WALTER DUFFY	BUFFALO GAP	SD
BUFFALO LAKE RESTAURANT	MABEL ALMOS	EDEN	SD
BUR OAK LODGE	RAYMOND FOSTER	WAUBAY	SD
BURKE	RICHARD BAILEY	BURKE	SD
BUTTE-MEADE RWS	RICK RICHARDS	NEWELL	SD
CALAMITY PEAK LODGE	DAVID PADGETT - L.L.C.	CUSTER	SD
CAMELOT	EUGENE TETZLAFF	PIERRE	SD
CAMP BOB MARSHALL	GARY HOLST	CUSTER	SD
CAMP JUDSON	RICH KALLANDER	KEYSTONE	SD
CAMP RIMROCK	CAMP MANAGER	RAPID CITY	SD
CANISTOTA	JIM WELLS	CANISTOTA	SD
CANOVA	WILLIAM PERRINE	CANOVA	SD
CANTON	JEFF FOSSOM	CANTON	SD
CANYON CAFE	BLANCHE FERGUSON	KEYSTONE	SD
CARPENTER CAFE	ROLAND WICKS	CARPENTER	SD
CARRIAGE HILLS	BOB POWLES	PIEDMONT	SD
CARTHAGE	ALLEN WINDEDAHL	CARTHAGE	SD
CASTLEWOOD	DON SEEKLANDER	CASTLEWOOD	SD
CATTLEMAN'S CLUB	RON BLAIR	PIERRE	SD
CATTLEMEN'S SALOON	RON MARTEL	MOBRIDGE	SD
CAVALRY TRAILS HOMEOWNER ASSOC.	ROBERT BUSSEY	RAPID CITY	SD
CAVOUR	TOM MOEDING	CAVOUR	SD
CEDAR CANYON WESLEYAN CAMP	JOHN BLAIN	RAPID CITY	SD
CENTENNIAL CAMPGROUND	DUANE FLESNER	SPEARFISH	SD
CENTENNIAL HILLS WATER COMPANY	BOB ENGLUND	SPEARFISH	SD
CENTERVILLE	KEITH ANDERSON	CENTERVILLE	SD
CENTRAL ELEMENTARY SCHOOL	CHRIS ANDERSON	MARTIN	SD
CHAMBERLAIN	GEORGE MILNAR	CHAMBERLAIN	SD
CHANCELLOR	GEORGE IHNEN	CHANCELLOR	SD
CHAPEL LANE WATER COMPANY	BOB POWLES	PIEDMONT	SD
CHESTER SANITARY DISTRICT	JEFFREY L CARRUTHERS	CHESTER	SD
CHEYENNE CROSSING STORE	KATHY A STEWART	LEAD	SD
CHRIS' CAMPGROUND	BRYCE CHRISTENSEN	SPEARFISH	SD
CHUCK WAGON CAFE	KENT BALES	HURON	SD
CIMARRON PARK	ART JANKLOW	RAPID CITY	SD
CIRCLE B RANCH	KEMP L HORN	RAPID CITY	SD
CIRCLE K RESORT	KEN HOLICKY	BROWNS VALLEY	MN
C-J SANDERS WATER INC.	JACK SANDERS	RAPID CITY	SD
CLAREMONT	WENDELL RYE	CLAREMONT	SD
CLARK	DARIN ALTFILLISCH	CLARK	SD
CLARK RWS	DUANE STOKES	CLARK	SD
CLAY RWS	GREG MERRIGAN	WAKONDA	SD
CLEAR LAKE	JIM ESCHE	CLEAR LAKE	SD
CLEAR LAKE LODGE	JIM POLKINGHORN	LAKE CITY	SD
CLEARFIELD COLONY	JONATHON WURTZ	DELMONT	SD
CLEGHORN SPRINGS	DOUGLAS THRASH	RAPID CITY	SD

AFFILIATION	NAME	CITY	STATE
CLOVER LEAF FARMERS COOP	DON HOFER	HOWARD	SD
COCA COLA BOTTLING COMPANY	DAVE BATES	RAPID CITY	SD
COE-COTTONWOOD REC AREA	LAURA CASTELNOVO	HOT SPRINGS	SD
COE-LK O/CAMPGROUND #1	JOHN BARTEL	PIERRE	SD
COE-LK O/CAMPGROUND #2-N	JOHN BARTEL	PIERRE	SD
COE-LK O/CAMPGROUND #2-S	JOHN BARTEL	PIERRE	SD
COE-LK O/CAMPGROUND #3-S/DSS	JOHN BARTEL	PIERRE	SD
COE-LK O/INDIAN MEMORIAL	JOHN BARTEL	PIERRE	SD
COE-LK O/MAINTENANCE SHOP SYSTEM	JOHN BARTEL	PIERRE	SD
COE-LK O/MARINA COMFORT STATION	JOHN BARTEL	PIERRE	SD
COE-LK O/POWERPLANT	RON FOSS	PIERRE	SD
COE-LK O/VISITOR'S CENTER	KARL JARVIS	PIERRE	SD
COE-LK S/LEFT TAILRACE	TERRY QUILT	CHAMBERLAIN	SD
COE-LK S/MAINTENANCE SHOP SYSTEM	ROBERT PLETKA	CHAMBERLAIN	SD
COE-LK S/RIGHT TAILRACE-POWERPLANT	RAY BINDER	CHAMBERLAIN	SD
COFFEE CUP FUEL STOP	BRENDA HABECK	SUMMIT	SD
COL. PINE HILLS/COUNTRYSIDE SOUTH	DAWN WEIDENBACH	RAPID CITY	SD
COL. PINE HILLS/WHISPERING PINES	DAWN WEIDENBACH	RAPID CITY	SD
COLMAN	DONALD BENNETT	COLMAN	SD
COLOME	JIM BOLTON	COLOME	SD
COLTON	MIKE SILVIA	COLTON	SD
CONDE	TAMMY SUCHOR	CONDE	SD
COPPER OAKS I	RON DAHLINGER	RAPID CITY	SD
CORNER BAR	LYLE O SAINSBURY	CAMP CROOK	SD
CORONA	JIM SETTJE	CORONA	SD
CORSICA	FRED WEERHEIM	CORSICA	SD
CORSON VILLAGE SANITARY DISTRICT	JOE SANDOVAL	CORSON	SD
COUNTRY ACRES	EDDIE WOHL	YANKTON	SD
COUNTRY CLUB ESTATES	JIM AIRHEART	HOT SPRINGS	SD
COUNTRY CLUB PROP OWNERS-BF	LINDA FULLER	BELLE FOURCHE	SD
COUNTRY GROVE ESTATES	LEROY VANDE WEERD	BRUCE	SD
COUNTRY VILLAGE PARK	RICK BRIETAG	ABERDEEN	SD
COUNTRY VILLAGE/NORTH	KATHY WORK	RAPID CITY	SD
COUNTRY VILLAGE/SOUTH	KATHY WORK	RAPID CITY	SD
COUNTRYSIDE	BOB POWLES	PIEDMONT	SD
COVERED WAGON RESORT	DEAN AND SANDY NICKEL	PIEDMONT	SD
CRESBARD	HARLAN NIPP	CRESBARD	SD
CROOKED CREEK CAMPGROUND-NEW WELL	GARRY SCHRANK	HILL CITY	SD
CROOKED CREEK CAMPGROUND-OLD WELL	GARRY SCHRANK	HILL CITY	SD
CROOKED OAK CANYON HOMEOWNERS	JOHN WEISBECK	PIEDMONT	SD
CROOKS SANITARY DISTRICT	LORI ARNOTT	CROOKS	SD
CSP-WBB/BLUE BELL	GREG GOEBEL	CUSTER	SD
CSP-WCL/CENTER LAKE-B.H.PLAYHOUSE	GREG GOEBEL	CUSTER	SD
CSP-WGT/GAME LODGE	GREG GOEBEL	CUSTER	SD
CSP-WLL/LEGION LAKE	GREG GOEBEL	CUSTER	SD
CSP-WSL/SYLVAN LAKE	GREG GOEBEL	CUSTER	SD
CSP-WSN/STOCKADE LAKE CAMPGROUND-N	GREG GOEBEL	CUSTER	SD
CSP-WSS/STOCKADE LAKE CAMPGROUND-S	GREG GOEBEL	CUSTER	SD
CSP-WWL/WILDLIFE STATION	GREG GOEBEL	CUSTER	SD
CUSTER	JOHN KELLEY	CUSTER	SD
CUSTER MOUNTAIN CAMPGROUND	PAUL NORDSTROM	CUSTER	SD
CUSTER-MT. RUSHMORE KOA	JEANNIE HAMLIN	CUSTER	SD
D & E WATER COMPANY	JAN BARNES	SPEARFISH	SD
D & J CAFE	JOYCE SIEBRASSE	LEBANON	SD
DAIRY BARN/HAYLOFT BED & BREAKFAST	BERDELL DUNWORTH	RAPID CITY	SD
DAIRY TWIST	LARRY MOORE	HILL CITY	SD
DAKOTA DUNES	DAVE FUEHRER	DAKOTA DUNES	SD
DAKOTA ROSE	PATRICIA POURIER	PINE RIDGE	SD
DAKOTAH CEMENT-EAST/WEST	GENE NELSON	RAPID CITY	SD
DAKOTAH CEMENT-NORTH	GENE NELSON	RAPID CITY	SD
DAKOTAH SPIRIT CG AND LODGE	CATHERINE FREY	PIEDMONT	SD
DALLAS	LEROY MILLER	DALLAS	SD
DAVIS	BONNIE BRANDSRUD	DAVIS	SD
DAVISON RURAL WATER, INC.	BUZZ MASON	MITCHELL	SD
DEADWOOD	JIM WINTERTON	DEADWOOD	SD

AFFILIATION	NAME	CITY	STATE
DEBERG WELL USERS ASSOCIATION	DON BURDICK	SPEARFISH	SD
DEER MOUNTAIN	STEVE RYAN	DEADWOOD	SD
DEERFIELD COLONY	SOLOMON STAHL	IPSWICH	SD
DELL ACRES MOBILE HOME PARK	STAN SCHWELLENBACH	PIERRE	SD
DELL ACRES RESIDENTIAL CORPORATION	DAWN SLAMA	PIERRE	SD
DELL RAPIDS	LARRY SCHILDHAUER	DELL RAPIDS	SD
DELMONT	LORRAINE HANTEN	DELMONT	SD
DEPT OF CORRECTIONS-CUSTER	MIKE TRELOAR	CUSTER	SD
DESMET	RANDY ASLESON	DESMET	SD
DOLAND	ROBERT STANFIELD	DOLAND	SD
DOT 426B-100TH MERIDIAN (EAST)	JIM HOAR	MURDO	SD
DOT 427B-100TH MERIDIAN (WEST)	JIM HOAR	MURDO	SD
DOT REST AREA 119-GLACIAL LAKES	JANEL ROHDE	ROSHOLT	SD
DOT REST AREA 422B-BELVIDERE(EAST)	JIM HOAR	MURDO	SD
DOT REST AREA 423B-BELVIDERE(WEST)	JIM HOAR	MURDO	SD
DOT REST AREA 504-505A-TILFORD	RON JARVIS	RAPID CITY	SD
DOT REST AREA 517A-SPEARFISH	RON JARVIS	RAPID CITY	SD
DOT REST AREA-WHETSTONE VALLEY	JANEL ROHDE	ROSHOLT	SD
DRAPER	DAVE TATUM	MURDO	SD
DUNES GOLF COMPLEX	CULLAN AND DIANE DEIS	FORT PIERRE	SD
DUPREE	MARK STAMBACH	DUPREE	SD
EAGLE BUTTE	JON GANJE	EAGLE BUTTE	SD
EAST GREGORY RWS	TERRY SEILER	FAIRFAX	SD
EAST RIDGE ACRES	BOB POWLES	PIEDMONT	SD
EASTWINDS MOBILE HOME PARK	DOUG DYKSTRA	YANKTON	SD
EDELWEISS MOUNTAIN	DAVE KOHN	RAPID CITY	SD
EDEN	MARY HEITMANN	EDEN	SD
EDGEMONT	RUSSELL ANDERSON	EDGEMONT	SD
EGAN	MICHELE JENSEN	EGAN	SD
ELK CREEK RESORT	BRYAN TEACHOUT	PIEDMONT	SD
ELK CREEK STEAKHOUSE	GENE GUNDERSON	PIEDMONT	SD
ELK POINT	VIRGIL BARRETT	ELK POINT	SD
ELKTON	MIKE KAMPMANN	ELKTON	SD
EMERY	MATT STARR	EMERY	SD
ENCHANTED HILLS WATER ASSOCIATION	DAROLD HEHN	RAPID CITY	SD
ENNING ELEMENTARY	BILL HOUSER	STURGIS	SD
ESTELLINE	LYLE VOHLKEN	ESTELLINE	SD
ETHAN	KEN PUEPKE	ETHAN	SD
EUREKA	RON HEMMINGSON	EUREKA	SD
EVERGREEN COLONY	PAUL KLEINSASSER	FAULKTON	SD
FAIRBURN WATER ASSOCIATION	SHARLENE PAWELSKI	FAIRBURN	SD
FAIRFAX	BRENDA WARNKE	FAIRFAX	SD
FAIRVIEW	SCOTT MONTGOMERY	FAIRVIEW	SD
FAITH	VIVIAN MILLER	FAITH	SD
FARMER'S INN CAFE	SHEILA SCHULZ	CLAIRE CITY	SD
FAULKTON	RON SANGSTER	FAULKTON	SD
FEDERAL BEEF PROCESSORS	CHUCK DEAN	RAPID CITY	SD
FISH N FRY CAMPGROUND NORTH	RANDY HAVLIK	DEADWOOD	SD
FISH N FRY CAMPGROUND SOUTH	RANDY HAVLIK	DEADWOOD	SD
FLANDREAU	RON ULWELLING	FLANDREAU	SD
FLORENCE	SHARI JACOBSEN	FLORENCE	SD
FLYING J/CONOCO TRAVEL PLAZA	TROY ERICKSON-MG OIL	RAPID CITY	SD
FLYING T CHUCKWAGON SUPPERS	JACK ENGEL	RAPID CITY	SD
FORDHAM COLONY	ZACH WOLLMAN	CARPENTER	SD
FORESTBURG WELL CO.	ROLLAND PETESCH	FORESTBURG	SD
FORT MEADE VA CENTER	RAY WILLIAMSON	FORT MEADE	SD
FORT PIERRE	JIM HAUGE	FORT PIERRE	SD
FORT WELIKIT FAMILY CAMPGROUND	PAUL AND SANDRA LECLAIR	BLACK HAWK	SD
FREDERICK	GARY SCHLOSSER	FREDERICK	SD
FREEMAN	DUANE WALTERS	FREEMAN	SD
FRUITDALE	HELEN RICHARDSON	FRUITDALE	SD
GARDEN CITY	ALAN LUCKHURST	GARDEN CITY	SD
GARRETSON	CRAIG NUSSBAUM	GARRETSON	SD
GARY	MIKE NOSBUSH	GARY	SD

AFFILIATION	NAME	CITY	STATE
GAS LIGHT	WESTLY PARKER	ROCKERVILLE	SD
GAYVILLE	KEVIN SAGE	GAYVILLE	SD
GEDDES	PAT BIDDLE	GEDDES	SD
GETTYSBURG	MIKE DEVINE	GETTYSBURG	SD
GFP 10-A/BEAR BUTTE STATE PARK V.C.	ALLEN NEDVED	STURGIS	SD
GFP 10-C/OUTLET	ALLEN NEDVED	STURGIS	SD
GFP 11-D/WEST BEND RECREATION AREA	RON MOEHRING	PIERRE	SD
GFP 12-A/LIEWELLYN JOHN'S CG AND PA	DALLAS INGLES	SHADEHILL	SD
GFP 12-C/MERRIMANS GROVE	DALLAS INGLES	SHADEHILL	SD
GFP 12-D/KETTERLINGS POINT	DALLAS INGLES	SHADEHILL	SD
GFP 12-E/HUGH GLASS CG AND PA	DALLAS INGLES	SHADEHILL	SD
GFP 12-K/NORTH BEACH	DALLAS INGLES	SHADEHILL	SD
GFP 13-C/ANGOSTURA CASCADE CG	DON GANNON	HOT SPRINGS	SD
GFP 13-D/ANGOSTURA HQ & CHEYENNE CG	DON GANNON	HOT SPRINGS	SD
GFP 13-E/ANGOSTURA HORSEHEAD CG	DON GANNON	HOT SPRINGS	SD
GFP 2-A/ROY LAKE E CAMPGROUND	DAVE DABERKOW	LAKE CITY	SD
GFP 2-B/ROY LAKE-NEW SHOP	DAVE DABERKOW	LAKE CITY	SD
GFP 3-B/LAKE LOUISE EAST	DALE SIMPSON	MILLER	SD
GFP 3-C/LAKE LOUISE SHOP	DALE SIMPSON	MILLER	SD
GFP 5-A/LAKE HERMAN SW PICNIC	GEORGE FLANERY	MADISON	SD
GFP 7-A/PALISADES CAMPGROUND	MARK STECK	CANTON	SD
GFP 7-B/PALISADES PICNIC AREA	MARK STECK	CANTON	SD
GLENDALE COLONY	JERRY KLEINSASSER	FRANKFORT	SD
GLENHAM	DARWIN CRABBE	GLENHAM	SD
GLM LAND	BILL GIKLING	RAPID CITY	SD
GOLDEN MEADOWS	BOB MANLEY	BLACK HAWK	SD
GRACEVALE COLONY	PAUL HOFER	WINFRED	SD
GRANDVIEW PROPERTY OWNERS	CURT GILLETTE	BELLE FOURCHE	SD
GRANT-ROBERTS RWS	WENDY STORM	MILBANK	SD
GRASS LAND COLONY	JOHN WALDNER	WESTPORT	SD
GREAT BEAR SKI VALLEY	SF PARKS AND REC	SIOUX FALLS	SD
GREEN ACRES	THOMAS & AIMEE SCHMIDT	BATH	SD
GREENWOOD COLONY	DAVID WURTZ	DELMONT	SD
GREGORY	DOUG STEFFEN	GREGORY	SD
GRENVILLE	SHIRLEY LESNAR	GRENVILLE	SD
GROTON	DAN JOHNSON	GROTON	SD
HANSON RWS	BUZZ MASON	EMERY	SD
HAPPY HOLIDAY INCORPORATED	JIM CZYWCZYNSKI	RAPID CITY	SD
HARNEY CAMP INC.	JOY AND JAMES PETERSON	HILL CITY	SD
HARNEY LOUNGE	TODD WEBER	HILL CITY	SD
HARRISBURG	DAN FINK	HARRISBURG	SD
HARROLD	DAVE KELLER	HARROLD	SD
HART RANCH	ELROY SANTJER	RAPID CITY	SD
HARTFORD	BRIAN WOESSNER	HARTFORD	SD
HAYLOFT	TONY HAY	CANISTOTA	SD
HAYTI	TERRY BRANDT	HAYTI	SD
HAZEL	DONALD BUCK	HAZEL	SD
HE DOG SCHOOL	MIKE KNOX	MISSION	SD
HEARTLAND RESTAURANT & LOUNGE	DONNA & LYLE HARTSHORN	HOT SPRINGS	SD
HECLA	GAYLE LLOYD	HECLA	SD
HENRY	JUDY KOS	HENRY	SD
HERITAGE PARK	GAY OVERBY	BLACK HAWK	SD
HERITAGE VILLAGE INC	CRAIG TIMM	CRAZY HORSE	SD
HERMOSA	RICHARD MILNER	HERMOSA	SD
HERREID	WILLIS VAN HUEKELOM	HERREID	SD
HERRICK	JEFF BARTLING	HERRICK	SD
HIDDEN VALLEY CAMPGROUND	ANITA AKER	DEADWOOD	SD
HIDDEN VALLEY WATER ASSOCIATION	LOUIS AND LOIS EWERT	RAPID CITY	SD
HIGH MEADOWS	RHONDA LIPP	BLACK HAWK	SD
HIGH MEADOWS RANCHETTES	ALAN VAN BOCHOVE	RAPID CITY	SD
HIGHLAND HILLS	DOUG FISCHER	RAPID CITY	SD
HIGHMORE	RICHARD HAMLIN	HIGHMORE	SD
HILL CITY	ART ANDERSON	HILL CITY	SD
HILLCREST COLONY	DAVE WALDNER	GARDEN CITY	SD
HILLSIDE COUNTRY COTTAGES	JIM & KATHY BOYUM	RAPID CITY	SD

AFFILIATION	NAME	CITY	STATE
HILLSVIEW TRAILER COURT	JIM SPARKS	SPEARFISH	SD
HITCHCOCK	SCOTT GROSS	HITCHCOCK	SD
HOLY SMOKE RESTAURANT	ARLIE & DANIELLE ELSHERE	KEYSTONE	SD
HORSE CREEK INN	SCOTT ZWAK	RAPID CITY	SD
HORSEHEAD RESORT	MICK HEYING	RAPID CITY	SD
HORSETHIEF RESORT CAMPGROUND	BOB AND VICKI IRVINE	HILL CITY	SD
HOSMER	PETER EISENBIESZ	HOSMER	SD
HOT SPRINGS	CHARLES AKERS	HOT SPRINGS	SD
HOT SPRINGS KOA	BILL ROSE	HOT SPRINGS	SD
HOVEN	WADE BAUS	HOVEN	SD
HOWARD	JERRY ADLER	HOWARD	SD
HUDSON	BRIAN SOHL	HUDSON	SD
HUMAN SERVICE CENTER	LARRY LANNING	YANKTON	SD
HUMBOLDT	DONALD BOLL	HUMBOLDT	SD
HURLEY	JOE GARRY	HURLEY	SD
HURON	HERB SCHEELE	HURON	SD
HURON COLONY	ALVIN WALDNER	HURON	SD
HUTTERVILLE COLONY	JOHN WALDNER	STRATFORD	SD
INTERIOR	GALEN LIVERMONT	INTERIOR	SD
IPSWICH	JACK FRIES	IPSWICH	SD
IRENE	DAN REMPP	IRENE	SD
IRON CREEK LAKE STORE & CAMPGROUND	RICHARD SLEEP	SPEARFISH	SD
IROQUOIS	ROLLIN WALTER	IROQUOIS	SD
ISABEL	LARRY SIMPSON	ISABEL	SD
JAMESVILLE COLONY	BENNY WURTZ	UTICA	SD
JAVA	CAROL ALBEE	JAVA	SD
JEFFERSON	ACTING WATER SUPT	JEFFERSON	SD
JOBEE ACRES	RICHARD NELSON	ABERDEEN	SD
JOE'S PLACE	JOE & JANICE DRAPER	WATAUGA	SD
JOHNSON SIDING STORE	JERRY DAVY	RAPID CITY	SD
KADOKA	LARRY JOHNSTON	KADOKA	SD
KEMP'S KAMP	BRUCE BRIESEMEISTER	KEYSTONE	SD
KENNEBEC	DON MANGER	KENNEBEC	SD
KEN'S TRAILER COURT	JERRY ELLINGSON	SPEARFISH	SD
KEYSTONE	TOM MULLOY	KEYSTONE	SD
KIMBALL	RONALD MASHEK	KIMBALL	SD
KINGBROOK I RWS	RANDY JENCKS	ARLINGTON	SD
KINGBROOK II RWS	RANDY JENCKS	ARLINGTON	SD
KINGBROOK III RWS	RANDY JENCKS	ARLINGTON	SD
KLEIN RANCH	NEIL SORENSON	WAUBAY	SD
LAKE ANDES	KARRY BAKER	LAKE ANDES	SD
LAKE CITY	ARWIN HEITMANN	BRITTON	SD
LAKE NORDEN	DARRYL KASTEIN	LAKE NORDEN	SD
LAKE PARK CAMPGROUND	SHERRY AND SCOTT NELSON	RAPID CITY	SD
LAKE PARK MOTEL	GENE AND THERESE QUINN	RAPID CITY	SD
LAKE PRESTON	SHON SLAIGHT	LAKE PRESTON	SD
LAKESIDE ESTATES	CLYDE LEHR	ABERDEEN	SD
LAKESIDE WATER USERS DISTRICT	BILL MEYER	OWANKA	SD
LAKEVIEW COLONY	JOE HOFER	LAKE ANDES	SD
LAKEVIEW ELEMENTARY SCHOOL	MIKE KNOX	MISSION	SD
LAMONT DEVELOPMENTAL CTR	BILL HENDERSON	CUSTER	SD
LANE	MARY MOELLER	LANE	SD
LANGFORD	DONALD FOOTE	LANGFORD	SD
LANTERN ESTATES	RUSTY KARLSON	SPEARFISH	SD
LATCHSTRING RESTAURANT	ROGER BUCHHOLZ	SPEARFISH	SD
LAUGHING WATER RESTAURANT	RUTH ZIOLKOWSKI	CUSTER	SD
LAZY J RV PARK	STELLA & MARVIN LUTZ	RAPID CITY	SD
LEAD	CLIFF ROOK	LEAD	SD
LEAD/DEADWOOD SANITARY DISTRICT	ROLLIN SIEVEKE	DEADWOOD	SD
LEMMON	ART PEDERSON	LEMMON	SD
LEMMON GOLF COURSE	ART PEDERSON	LEMMON	SD
LENNOX	ROGER ALMOND	LENNOX	SD
LEOLA	JOHN GRABOWSKA	LEOLA	SD
LEO'S TRAILER COURT	DAMON REEL	RAPID CITY	SD
LESTERVILLE	KELLY SAYLER	LESTERVILLE	SD

AFFILIATION	NAME	CITY	STATE
LETCHER	ACTING WATER SUPT	LETCHER	SD
LEWIE'S SALOON AND EATERY	LEWIS STERNHAGEN	LEAD	SD
LINCOLN COUNTY RWS	DENNIS LARSON	HARRISBURG	SD
LITTLEBURG ELEMENTARY SCHOOL	MIKE KNOX	MISSION	SD
LONG LAKE COLONY	JOHN WALDNER	WETONKA	SD
LONG VALLEY ELEMENTARY SCHOOL	KEN POPPE	KADOKA	SD
LOURIE LANE HOMEOWNERS ASSOCIATION	DONNA WEBB	SPEARFISH	SD
LOVING CARE GROUP HOME	CONNIE WAGNER	SPEARFISH	SD
MACGREGOR'S	CHRIS MEYER	WATERTOWN	SD
MADISON	JERRY MIKEL	MADISON	SD
MAGNESS CAFE	SHIRLEY HOFER	HURON	SD
MANSFIELD WATER USERS ASSOC.	TED KOESTER	MANSFIELD	SD
MARGIE'S DINNER CLUB	STAN AINSWORTH	SPEARFISH	SD
MARION	DWIGHT WALTNER	MARION	SD
MARR'S BEACH	MAURICE BEYER	MADISON	SD
MARTIN	LYLE HAINES	MARTIN	SD
MARVIN	BERT BERTELSON	MARVIN	SD
MAVERICK TRUCK STOP	BOB AZARSKI	HOT SPRINGS	SD
MAXWELL COLONY	PAUL WIPF	SCOTLAND	SD
MCCROSSAN BOYS RANCH	JOHN ADAMS	SIOUX FALLS	SD
MCINTOSH	DANNIE HUGHES	MCINTOSH	SD
MCLAUGHLIN	LORNIE HACH	MCLAUGHLIN	SD
MEDICINE MOUNTAIN SCOUT CAMP	DON PELOFSKE	CUSTER	SD
MELLETTE	GAYANNA GILMAN	MELLETTE	SD
MEMORIAL CHRISTIAN SCHOOL	ELAINE ECKMAN	RAPID CITY	SD
MENNO	FRED SAYLER	MENNO	SD
MERCHEN'S MOBILE HOME ACRES	ALVIN MERCHEN	HOT SPRINGS	SD
MESA VIEW WATER ASSOCATION	KAY DAUGHERTY	RAPID CITY	SD
MID DAKOTA RURAL WATER	BILL SARRINGER	PIERRE	SD
MIDLAND	REUBEN VOLLMER	MIDLAND	SD
MIDLAND HEIGHTS	BOB POWLES	PIEDMONT	SD
MILBANK	LARRY TIETJEN	MILBANK	SD
MILLBROOK COLONY	DAVID WALDNER	MITCHELL	SD
MILLER	BILL LEWELLYN	MILLER	SD
MILLERDALE COLONY	MIKE WALDNER	MILLER	SD
MINA LAKE SANITARY DISTRICT	DOUG EILERS	MINA	SD
MINNEHAHA COMMUNITY WATER CORP	JOHN BUSS	DELL RAPIDS	SD
MISSION	DON PETTIGREW	MISSION	SD
MISSION HILL	KAIJA JARED	MISSION HILL	SD
MITCHELL	ALAN SHERMAN	MITCHELL	SD
MOBILE DWELLERS RANCH	CHARMAYNE LIEBELT	ABERDEEN	SD
MOBRIDGE	BRAD MILLIKEN	MOBRIDGE	SD
MONROE	LEON SCHOENWALD	MONROE	SD
MONTROSE	JOHN RIECK	MONTROSE	SD
MOONSHINE GULCH SALOON	ROY & BETTY HARN	ROCHFORD	SD
MOOSE CROSSING	JEFF GRUBER	ESTELLINE	SD
MORRISTOWN	GARY UHRIG	MORRISTOWN	SD
MOUNT VERNON	ROBERT KOEPKE	MOUNT VERNON	SD
MOUNTAIN MEADOW RESORT	LORETTA JEFFERSON	HILL CITY	SD
MOUNTAIN MEADOW TRAILER COURT	LORETTA JEFFERSON	HILL CITY	SD
MOUNTAIN PLAINS II HOMEOWNERS	KEVIN KLEIN	DEADWOOD	SD
MOUNTAIN VIEW LODGE	LARRY AND KAREN MOORE	HILL CITY	SD
MPT INC	BILL PEARSON	DEADWOOD	SD
MURDO	RAY ERIKSON	MURDO	SD
MURRAY WATER COMPANY	RAY MURRAY	STURGIS	SD
MYSTERY MOUNTAIN HOLIDAY RESORT	ART JANKLOW	RAPID CITY	SD
NEMO GUEST RANCH-CAMPGROUND	DALE DEVERMAN	NEMO	SD
NEMO GUEST RANCH-STORE	DALE DEVERMAN	NEMO	SD
NEW EFFINGTON	MORRIS SHELSTAD	NEW EFFINGTON	SD
NEW UNDERWOOD	JERRY BLOOM	NEW UNDERWOOD	SD
NEWDALE COLONY	DAVID WALDNER	ELKTON	SD
NEWELL	VERN GARNER	NEWELL	SD
NEWPORT COLONY	JOE WURTZ	CLAREMONT	SD
NISLAND	BOB SWANSON	NISLAND	SD
NORTH SIOUX CITY	CRAIG CARROLL	NORTH SIOUX CITY	SD

AFFILIATION	NAME	CITY	STATE
NORTH SIOUX CITY/MCCOOK LAKE SYSTEM	JOE GRIES	MCCOOK LAKE	SD
NORTHDALE	BOB POWLES	PIEDMONT	SD
NORTHVILLE	RUTH CLEMENS	NORTHVILLE	SD
NPS-BADLANDS NATIONAL PARK	NICK KOENIGS	INTERIOR	SD
NPS-JEWEL CAVE NATIONAL MONUMENT	LARRY DILTS	CUSTER	SD
NPS-MOUNT RUSHMORE NATIONAL MEMORIAL	RODNEY HART	KEYSTONE	SD
NPS-WIND CAVE NATIONAL PARK	DALE SCHEIER	HOT SPRINGS	SD
NUNDA	JOHN DRAGSETH	NUNDA	SD
NWR-LA CREEK HEADQUARTERS AREA	CRIAN BRAUDIS	MARTIN	SD
OACOMA	LARRY GIEDD	OACOMA	SD
OAHE ACRES	DOUG RIPLEY	PIERRE	SD
OAHE MARINA AND RESORT	DOUG MAHOWALD	FT PIERRE	SD
OAHE PLAINS RWS	DOUG RIPLEY	PIERRE	SD
OAK MOUNTAIN COUNTRY ESTATES	BILL BURLESON	DEADWOOD	SD
OAKS/QUARTZ CANYON WATER USERS	GLEN LESTER	RAPID CITY	SD
OELRICHS	WILLIAM FORNEY	OELRICHS	SD
OLD HOME CAMPGROUND	BLANCHE FERGUSON	KEYSTONE	SD
OLDHAM	DON JENSEN	OLDHAM	SD
ONAKA	JULIA GOETZ	ONAKA	SD
ONIDA	RODNEY MENNENGER	ONIDA	SD
ORIENT	DOLORES CLEMENT	ORIENT	SD
OUR HOME, INC.	DAKOTA ENVIRONMENTAL	HURON	SD
OUTLAW RANCH	MARK THOMPSON	CUSTER	SD
OUTPOST LODGE	THOMAS OLSON	PIERRE	SD
OUTSKIRTS STEAKHOUSE AND LOUNGE	TODD F SCHULTE	SALEM	SD
PACTOLA PINES STORE	JOHN PERCEVICH	RAPID CITY	SD
PACTOLA WATER ASSOCIATION	PAUL RUST	RAPID CITY	SD
PALMER GULCH LODGE/MT. RUSHMORE KOA	AL JOHNSON	HILL CITY	SD
PARKER	IVAN FRIESE	PARKER	SD
PARKSTON	DARRELL WINTER	PARKSTON	SD
PEACEFUL PINES II	BONNIE GUTZMER	BLACK HAWK	SD
PEARL CREEK COLONY	PAUL WALDNER	IROQUOIS	SD
PEEVER	HAROLD FRYER	PEEVER	SD
PELICAN PLAZA	INA KAHNKE/BETTY STRAIT	WATERTOWN	SD
PHILIP	LES WINTRODE	PHILIP	SD
PICKSTOWN	DENNIS HOILIEN	PICKSTOWN	SD
PIEDMONT ELEMENTARY SCHOOL	BILL HOUSER	STURGIS	SD
PIEDMONT MEDICAL CENTER	STEPHANIE WILLIAMS	BLACK HAWK	SD
PIEDMONT SCHOOL GYM	BILL HOUSER	STURGIS	SD
PIERPONT	DICK NEHLS	PIERPONT	SD
PIERRE	FRED SNODERLY	PIERRE	SD
PIKE HAVEN RESORT	NANCY HOFFMAN	PIERRE	SD
PINE CLIFF	ED COX	RAPID CITY	SD
PINE GROVE	KURT SLENTZ	RAPID CITY	SD
PINE HILLS PARK	LES BONRUD	BLACK HAWK	SD
PINE LAKE HILLS	TOM KING	SIOUX FALLS	SD
PINE REST CABINS	STEVE JOHNSON	HILL CITY	SD
PINEVIEW WATER ASSOCIATION	BOB POWLES	PIEDMONT	SD
PLACERVILLE CAMP	KERRY STEEVER	RAPID CITY	SD
PLAINSVIEW MOBILE MANOR	BOB POWLES	PIEDMONT	SD
PLANKINTON	VERN HILL	PLANKINTON	SD
PLATTE	KEVIN KUIPER	PLATTE	SD
PLEASANT VALLEY COLONY	ANDREW TSCHETTER	FLANDREAU	SD
PLEASANT VALLEY ESTATES	ANTHONY HOFFMAN	ABERDEEN	SD
PLEASANT VALLEY HOMEOWNERS ASSOC	LARRY GRIFFIN	STURGIS	SD
PLEASANT VALLEY-SF	WAYNE DULLERUD	HARRISBURG	SD
POINSETT COLONY	LEVI TSCHETTER	ESTELLINE	SD
POLLOCK	FORREST BORR	POLLOCK	SD
PONDEROSA MOBILE HOME RANCH	VAL O'CONNER	RAPID CITY	SD
PONDEROSA MOUNTAIN RUSTIC CAMPGROUND	GEORGE BIEBER	RAPID CITY	SD
PONDEROSA PARK	TED MASSEY	RAPID CITY	SD
PONDEROSA RIDGE	MIKE POWELL	RAPID CITY	SD
PONDEROSA WATER COMPANY	BOB POWLES	PIEDMONT	SD
POWDER HOUSE LODGE	RON HEINIS	KEYSTONE	SD
PRAIRIE ACRE ESTATES	SHIRLEY WOLFF	RAPID CITY	SD

AFFILIATION	NAME	CITY	STATE
PRAIRIE HILLS RANCHETTES	JEFF RUTZ	BELLE FOURCHE	SD
PRAIRIEWOOD HOUSING DEVELOPMENT	BRUCE MITCHELL	ABERDEEN	SD
PRESHO	FORREST HUPP	PRESHO	SD
PRESHO LIVESTOCK AUCTION	DELORES VOLMER	PRESHO	SD
PROVO TOWNSHIP WATER	DON JACOBS	PROVO	SD
PUKWANA	WILLIS CLARK	PUKWANA	SD
QUAAL WATER ASSOCIATION	RON BARBER	BLACK HAWK	SD
QUAIL'S CROSSING	JOAN DAVIS	HILL CITY	SD
QUINN	EMIL VOTROBEK	QUINN	SD
RAFTER-J BAR RANCH	TOM GEORGE	HILL CITY	SD
RAMONA	RUSS FISCHER	RAMONA	SD
RANDALL II RWS	ALVIN VAN ZEE	LAKE ANDES	SD
RANDALL III RWS	ALVIN VAN ZEE	LAKE ANDES	SD
RAPID CITY	JOHN WAGNER	RAPID CITY	SD
RAPID CITY INDIAN HOSPITAL	LEROY DIPASQUALE	RAPID CITY	SD
RAPID VALLEY SANITARY DISTRICT	JIM JESTER	RAPID CITY	SD
RAVINIA	IRENE BURES	RAVINIA	SD
RAYMOND	RANDY REIS	RAYMOND	SD
REDFIELD	TOM LESSELYOUNG	REDFIELD	SD
REE HEIGHTS	MARLENE SCHOCK	REE HEIGHTS	SD
RELIANCE	RICHARD HANSON	RELIANCE	SD
REPTILE GARDENS, INC.	TOM GARRIGAN	RAPID CITY	SD
REVA ELEMENTARY SCHOOL	CHUCK MAXON	BUFFALO	SD
RICHMOND HEIGHTS	JOLENE HARMS	ABERDEEN	SD
RIMROCK RIDGE WATER ASSOCIATION	BUD NESTOR	RAPID CITY	SD
RIVER'S EDGE CAMPSITE	ORLOW EIDAM	GETTYSBURG	SD
RIVERSIDE ACRES	PAUL SCHAEFER	YANKTON	SD
RIVERSIDE COLONY	JOHN WALDNER	HURON	SD
RIVERSIDE TRAILER COURT	DAVID DEROSIER	SPEARFISH	SD
RIV-R-LAND WATER COMPANY	CRAIG CARROLL	NORTH SIOUX CITY	SD
ROBIN'S ROOST CABINS	DARWIN & JEAN SAMPSON	HILL CITY	SD
ROCKERVILLE TRADING POST	ED & GAIL SCHWARZ	ROCKERVILLE	SD
ROLLAND COLONY	CONRAD WIPF	WHITE	SD
ROLLING MEADOWS	DEAN ELVERUD	ABERDEEN	SD
ROOST RESORT	GARY DENKER	CUSTER	SD
ROSCOE	JIM FONDER	ROSCOE	SD
ROSHOLT	GARY PETERSON	ROSHOLT	SD
ROSLYN	JUDY SCHAUNAMAN	ROSLYN	SD
ROYKOTA RESORT CAFE	TOM OPSAHL	LAKE CITY	SD
RUSHMORE RESORT AND CAMPGROUND	JACK & CHERRY LEE BRADT	KEYSTONE	SD
RUSHMORE SHADOWS	ROBERT VARILEK	RAPID CITY	SD
RUSHMORE WATERSLIDE	DAVID NORMAN	RAPID CITY	SD
S. SPINK/N. BEADLE	SCOTT GROSS	HITCHCOCK	SD
SACORA STATION MOBILE HOME PARK	ROGER ZWEIFEL	RAPID CITY	SD
SALEM	WILLIAM SELLAND	SALEM	SD
SALVATION ARMY CAMP	JOHN MCCARTY	RAPID CITY	SD
SANDSTONE WATER COMPANY	JIM EMERY	BELLE FOURCHE	SD
SANDY BEACH RESORT	DAVE BENIKE	WAUBAY	SD
SANDY MEAD HOUSING DEVELOPMENT	DUANE DIEZ	DAKOTA DUNES	SD
SCHMIDT'S LANDING	JIM AND DONNA GREGORY	BIG STONE CITY	SD
SCOTLAND	DENNIS SHULTZ	SCOTLAND	SD
SD DEVELOPMENTAL CENTER-REDFIELD	BOB SCHUTTE	REDFIELD	SD
SELBY	DONEL LEMLER	SELBY	SD
SENECA	JIM BITZER	SENECA	SD
SHERIDAN LAKE MARINA	KAREN ANDERSON	RAPID CITY	SD
SIOUX FALLS	LYLE JOHNSON	SIOUX FALLS	SD
SIOUX FALLS KOA	NOEL LAIS	SIOUX FALLS	SD
SIOUX RWS	DOUG ANDERSON	WATERTOWN	SD
SIOUXLAND STORE	ALAN AND ROSE PEDERSEN	ARLINGTON	SD
SIPHON HILL WATER ASSOCIATION	JEROME SCHMIDT	RAPID CITY	SD
SISSETON	KEN CORDIE	SISSETON	SD
SKY RANCH FOR BOYS	SANDI SAINSBURY	SKY RANCH	SD
SKYLINE HEIGHTS	PATTY FOSTER	SIOUX FALLS	SD
SLASH J BAR AND GRILL	NANCY SPEAKS	PIEDMONT	SD
SOUTH CANYON COUNTRY ESTATES	JAN MESSER	RAPID CITY	SD

AFFILIATION	NAME	CITY	STATE
SOUTH FORK BAR AND GRILL	GRACE SCHMITT	WATERTOWN	SD
SOUTH LINCOLN RWS	JOHN SIEVERS	CANTON	SD
SOUTH SHORE	RON SCHMELING	SOUTH SHORE	SD
SOUTH WHITLOCK RESORT	RANDY & PAT HARER	GETTYSBURG	SD
SOUTHBROOK ESTATES	KELLY KOENIG	BROOKINGS	SD
SPEARFISH	MIKE KYTE	SPEARFISH	SD
SPEARFISH CANYON RESORT LLC	ROGER BUCHHOLZ	SPEARFISH	SD
SPEARFISH KOA	STEVEN SHARP	SPEARFISH	SD
SPEARFISH MEADOWS	LESLIE ANDERSON	SPEARFISH	SD
SPEARFISH VALLEY MOBILE EST.	BOB YOUNG	SPEARFISH	SD
SPINK COLONY	JOHN WIPF	FRANKFORT	SD
SPOKANE CREEK RESORT	CLAYTON BLANKENSHIP	KEYSTONE	SD
SPRING CANYON WATER COMPANY	BOB POWLES	RAPID CITY	SD
SPRING CREEK ELEMENTARY SCHOOL	MIKE KNOX	MISSION	SD
SPRING CREEK INN	LARRY AND KAREN MOORE	HILL CITY	SD
SPRING CREEK SANITARY DISTRICT	DOUG RIPLEY	PIERRE	SD
SPRING LAKE COLONY	TED DECKER	ARLINGTON	SD
SPRING VALLEY COLONY	JOE WALDNER	WESSINGTON SPRINGS	SD
SPRINGFIELD	GARY SEDLACEK	SPRINGFIELD	SD
ST. LAWRENCE	DIANE HOFFMAN	ST LAWRENCE	SD
ST. ONGE LIVESTOCK CAFE	CURT OLSON	ST ONGE	SD
ST. ONGE SANITARY DISTRICT	SUE SMITH	ST. ONGE	SD
STAGEBARN ELEMENTARY SCHOOL	BILL HOUSER	STURGIS	SD
STAGEBARN SUBDIVISION	BOB POWLES	PIEDMONT	SD
STATE TRAINING SCHOOL	BILL KRETSCHMER	PLANKINTON	SD
STATE VETERANS HOME	RON SIBAL	HOT SPRINGS	SD
STICKNEY	TERRY SCOTT	STICKNEY	SD
STOCKMAN`S LIVESTOCK CAFE	GAIL SOHLER	YANKTON	SD
STORLA SUNSET HOME	OSCAR THOMPSON	LETCHER	SD
STORM MOUNTAIN CENTER	STEVE FOSS	RAPID CITY	SD
STRATFORD	CONNIE HOEFT	STRATFORD	SD
STURGIS	ELDON CHRISTIANS	STURGIS	SD
SUBURBAN MOTEL DBA	RAJ BHAKTA	SIOUX FALLS	SD
SUGAR SHACK	GARY KELLER	DEADWOOD	SD
SUMMER SUN RESORT	MICK HEYING	RAPID CITY	SD
SUMMIT	ROYCE STRASSER	SUMMIT	SD
SUNNYSIDE MOBILE HOME PARK II	DAVE ROWE	RAPID CITY	SD
SUNRISE HOMEOWNERS ASSOCIATION	ANITA JAHNER	SPEARFISH	SD
SUNSET COLONY	JOE WALDNER	BRITTON	SD
SUNSET LODGE	JOHN GILKERSON	PIERRE	SD
SUNSHINE BIBLE ACADEMY	PAUL FIEBELKORN	MILLER	SD
TABOR	KAY MCCARTHY	TABOR	SD
TC AND G WATER/ROD SENGER	ROD SENGER	GLENCROSS	SD
TEA	SID MUNSON	TEA	SD
TEE PEE CAMPGROUND	ROBERT BEYERS	RAPID CITY	SD
TERRY PEAK CHALET	PAUL G AKROP	LEAD	SD
TERRY TROJAN WATER DISTRICT	KEVIN KLEIN	DEADWOOD	SD
THE NICHE	CAROL KEIERLEBER	BLACK HAWK	SD
THE RANCH AMUSEMENT PARK	CANDICE RICE	RAPID CITY	SD
THRALL MOUNTAIN PROPERTY ASSOCIATION	GARY CHASTAIN	RAPID CITY	SD
THREE FORKS CAMPGROUND	ROBERT AND KAREN LEMERE	HILL CITY	SD
THUNDERBIRD H.B. INC.	HERMAN STAHL	WECOTA	SD
THUNDERHEAD CAMP	RANDY REINARTZ	SIOUX FALLS	SD
TIMBER LAKE	NORMAN HIEB	TIMBER LAKE	SD
TIMBERLAND PARK	LOUIS BREWER	YANKTON	SD
T-M RURAL WATER DISTRICT	KEN PEDERSEN	PARKER	SD
TOLSTOY	DELLA BIEBER	TOLSTOY	SD
TOMAHAWK COUNTRY CLUB-6TH HOLE	JOHN SHULTZ	DEADWOOD	SD
TOMAHAWK COUNTRY CLUB-CLUBHOUSE	JOHN SHULTZ	DEADWOOD	SD
TOWER CAMPGROUND	STEVEN CRAIG	SIOUX FALLS	SD
TRAIL WEST	LARRY TELLINGHUISEN	RAPID CITY	SD
TRAILSHEAD LODGE	BOB & SANDY VAN DEEST	LEAD	SD
TRAVELODGE	OLIVER FREIMARK	RAPID CITY	SD
TRENT	BOB DICKEY	TRENT	SD
TRI-COUNTY RWS	WILLIS NELSON	EAGLE BUTTE	SD

AFFILIATION	NAME	CITY	STATE
TRIPP	DONALD FREY	TRIPP	SD
TRIPP COUNTY RWS	NEIL FRANK	WINNER	SD
TROUT HAVEN	STEVE KLIMA	DEADWOOD	SD
TSCHETTER COLONY	AARON HOFER	OLIVET	SD
TULARE	HARLEY SWANEY	TULARE	SD
TWIN BROOKS	KAREN GUSTAFSON	TWIN BROOKS	SD
TWIN LAKES RESORT	SHAWN PETERSON	WOONSOCKET	SD
TYNDALL	MERV ZWANZIGER	TYNDALL	SD
UNIVERSITY ESTATES	DEB GULBRANSON	BROOKINGS	SD
UPLAND COLONY	BEN WURTZ	ARTESIAN	SD
USFS-BHNF BISMARK LAKE CAMPGROUND	AL JOHNSON	HILL CITY	SD
USFS-BHNF CHIPPER CG	HERMAN HARRIS	HILL CITY	SD
USFS-BHNF COMMANCHE PARK CAMPGROUND	AL JOHNSON	HILL CITY	SD
USFS-BHNF DALTON LAKE CAMPGROUND	TERRY PARKINSON	DEADWOOD	SD
USFS-BHNF DUTCHMAN CAMPGROUND	LES DUNCAN	HILL CITY	SD
USFS-BHNF HANNA CAMPGROUND	TONY BALISTRERI	DEADWOOD	SD
USFS-BHNF HARRY MILLS PICNIC AREA	AL JOHNSON	HILL CITY	SD
USFS-BHNF HORSETHIEF LAKE CG	AL JOHNSON	HILL CITY	SD
USFS-BHNF NORTH COVE BEACH AND PA	HERMAN HARRIS	HILL CITY	SD
USFS-BHNF OREVILLE CAMPGROUND	AL JOHNSON	HILL CITY	SD
USFS-BHNF PACTOLA CAMPGROUND	BARBARA JOLLEY	HILL CITY	SD
USFS-BHNF PACTOLA VISITOR CENTER	SCOTT SPLEISS	HILL CITY	SD
USFS-BHNF ROCKY CAMPGROUND	HERMAN HARRIS	HILL CITY	SD
USFS-BHNF ROUBAIX LAKE CG	TERRY PARKINSON	DEADWOOD	SD
USFS-BHNF TIMON CAMPGROUND	TONY BALISTRERI	DEADWOOD	SD
USFS-BHNF WHITETAIL CAMPGROUND	LES DUNCAN	HILL CITY	SD
USFS-BHNF WOODSY CG	HERMAN HARRIS	HILL CITY	SD
UTICA	SHARON HALSTED	UTICA	SD
VA MEDICAL CENTER-HOT SPRINGS	FRANK MAYNARD	HOT SPRINGS	SD
VALE SANITARY DISTRICT	CASEY TIMM	VALE	SD
VALLEY MOTEL	LI-YEN WENDLAND	CUSTER	SD
VALLEY SPRINGS	STEVE HARSTAD	VALLEY SPRINGS	SD
VALLEY VIEW MOBILE HOME PARK	GAY OVERBY	BLACK HAWK	SD
VALLEY VIEW MOBILE HOME PARK	JIM PERRYMAN	SIOUX FALLS	SD
VEBLEN	NORM GROBE	VEBLEN	SD
VERMILLION	VERNON HASENBANK	VERMILLION	SD
VIBORG	SCOTT KOLTHOFF	VIBORG	SD
VICTOR SUPPER CLUB	JILL CEROLL	ROSHOLT	SD
VIVIAN SANITARY DISTRICT	KEVIN PATRICK	VIVIAN	SD
VOLGA	STEVE MEYER	VOLGA	SD
VOLIN	FONDA LACEY	VOLIN	SD
WAGNER	KEITH KROPUENSKE	WAGNER	SD
WAGON WHEEL VILLAGE I	WAYNE VIG	BOXELDER	SD
WAGON WHEEL VILLAGE II	WAYNE VIG	BOX ELDER	SD
WAKONDA	MIKE BOHLMANN	WAKONDA	SD
WALL	PAUL GOLDHAMMER	WALL	SD
WALLACE	EUDALE KELLER	WALLACE	SD
WALNUT PARK	KEVIN KLEIN	DEADWOOD	SD
WARNER SANITARY DISTRICT	RANDY RIECK	WARNER	SD
WASTA	JERRY SCHELL	WASTA	SD
WATERTOWN MUNICIPAL UTILITIES	JEFF DEVILLE	WATERTOWN	SD
WAUBAY	TONY EAGLE	WAUBAY	SD
WEB WATER DEVELOPMENT ASSOCIATION	TOM TOLLEFSON	ABERDEEN	SD
WEBSTER	ADRIAN RUMPZA	WEBSTER	SD
WENTWORTH	TERRY RECK	WENTWORTH	SD
WESSINGTON	DOUG DUBOIS	WESSINGTON	SD
WESSINGTON SPRINGS	CLINT JOST	WESSINGTON SPRINGS	SD
WEST PARK CAFE	DON KASPERSON	HURON	SD
WEST WHITLOCK RESORT	JIM BACON	GETTYSBURG	SD
WESTBERRY TRAILS WATER USERS ASSOC.	CASEY ALLEN	RAPID CITY	SD
WESTFIELD ADDITION	GINA DIKOFF	SPEARFISH	SD
WESTLINE WATER/GOLF COURSE	MAX SCKERL	SISSETON	SD
WESTMILLER WATER ASSOCIATION	SUZIE EASTHOUSE	BRITTON	SD
WESTON HEIGHTS	BOB OLSON	RAPID CITY	SD
WESTPORT	BRIAN HERTEL	WESTPORT	SD

AFFILIATION	NAME	CITY	STATE
WESTVIEW HOMEOWNERS ASSOC.	PAT HASSON	SPEARFISH	SD
WESTWARD HO TRAILER COURT	WAYNE VAN NORMAN	CUSTER	SD
WHARF RESOURCES	TIM THOMURE	LEAD	SD
WHARF-TERRY VALLEY	TIM THOMURE	LEAD	SD
WHEELS WEST RV PARK	ANDY JENSEN	CUSTER	SD
WHISPERING PINES CAMPGROUND	PETER KRONENBERG	RAPID CITY	SD
WHISPERING PINES WATER ASSOCIATION	PAT MAMMENGA	RAPID CITY	SD
WHISPERING WILLOWS	MARY STENKAMP	BOX ELDER	SD
WHITE	DAN DEYOUNG	WHITE	SD
WHITE LAKE	KEVIN BRADWISCH	WHITE LAKE	SD
WHITE RIVER	DON PETTIGREW	WHITE RIVER	SD
WHITE ROCK COLONY	MIKE WALDNER	ROSHOLT	SD
WHITE'S DRIVE INN	BARB WHITE	WOONSOCKET	SD
WHITETAIL COURT-UPPER	BILL OLIVE	LEAD	SD
WHITEWOOD	WES RASMUSSEN	WHITEWOOD	SD
WICKIUP VILLAGE CABINS	PAT PETERS	LEAD	SD
WILD BILL'S CAMPGROUND	CHARLES KING	DEADWOOD	SD
WILDCAT VALLEY	JUDY PENLAND	KEYSTONE	SD
WILHELM COURT	JAMES AND DORIS WILHELM	HOT SPRINGS	SD
WILLOW LAKE	ACTING WATER SUPT	WILLOW LAKE	SD
WILMOT	TIM REYELTS	WILMOT	SD
WINDMILL RESTAURANT	LARRY HEIL	RAPID CITY	SD
WINFRED WATER DISTRICT	ALLEN EICHMANN	WINFRED	SD
WINNER	DANNY AYERS	WINNER	SD
WOLF CREEK ELEMENTARY SCHOOL	WENDELL GHOST BEAR	PINE RIDGE	SD
WOLSEY	ESTHER JUNGEMANN	WOLSEY	SD
WONDERLAND HOMES	BOB POWLES	PIEDMONT	SD
WOOD	EILEEN LARSON	WOOD	SD
WOODLAND HILLS	BILL CRAFT	BLACK HAWK	SD
WOONSOCKET	TIM KATZ	WOONSOCKET	SD
WORTHING	ROGER KNUTSON	CANTON	SD
WR/LJ-CREIGHTON PROJECT	CHUCK HOLSETHER	PHILIP	SD
WR/LJ-KADOKA PROJECT	CHUCK HOLSETHER	PHILIP	SD
WYNSTONE DEVELOPMENT	MARK RUBIDA	ELK POINT	SD
YALE	ROLLIN WALTER	YALE	SD
YANKTON	ROGER HARTS	YANKTON	SD

AFFILIATION	NAME	CITY	STATE
	EDWARD SEDLACEK	TABOR	SD
	TERRY BRANDT	HAYTI	SD
	MICHAEL NOSBUSH	GARY	SD
	JAY OLSON	LETCHER	SD
	DAVID WAPLES	GARDEN CITY	SD
	DAVID TILLGREN	BRUCE	SD
	CURT TUTTLE	ARLINGTON	SD
	VIRGIL HENNING	VEBLEN	SD
	FLOYD BAIRD	STURGIS	SD
	ALVIN AHLERS	HERMOSA	SD
	HENRY STALLMAN	RELIANCE	SD
	TOM HALUZAK	GREGORY	SD
	DAN REMPP	IRENE	SD
	BRIAN SOHL	HUDSON	SD
	RICHARD BAILEY	BURKE	SD
	FLOYD JOHNSON	EGAN	SD
	GLEN REASER	OELRICHS	SD
	WILLIAM KEIRY	NISLAND	SD
	RODGER HARTS	YANKTON	SD
	DENNIS HOILIEN	PICKSTOWN	SD
	DONALD FOOTE	LANGFORD	SD
	GARY SCHLOSSER	FREDERICK	SD
	RON SANGSTER	FAULKTON	SD
	TIM KATZ	WOONSOCKET	SD
	ERWIN NIGHTINGALE	WHITE LAKE	SD
	RONALD DUBOIS	WESSINGTON	SD

AFFILIATION	NAME		CITY	STATE
	SAMUAL	GREGER	WAGNER	SD
	TERRY	SCOTT	STICKNEY	SD
	JUDY	SCHAUNAMAN	ROSLYN	SD
	RUSSELL	BYWATER	PICKSTOWN	SD
	ROYCE	STRASSER	SUMMIT	SD
	LARRY	GIEDD	OACOMA	SD
	RONALD	MASHEK	KIMBALL	SD
	KENNETH	PUEPKE	ETHAN	SD
	DOUG	DUBOIS	WESSINGTON	SD
	ELDON	PETERS	DELMONT	SD
	DENNIS	SPARKS	ARMOUR	SD
	DENNIS	BOGGS	ALEXANDRIA	SD
	KEVIN	KUIPER	PLATTE	SD
	DONALD	MANGER	KENNEBEC	SD
	DENNIS	BUCHHOLTZ	AURORA	SD
	LYLE	JOHNSON	SIOUX FALLS	SD
	LYNN	HEDGES	HERMOSA	SD
	JERRY	BLOOM	NEW UNDERWOOD	SD
	RODNEY	MENNENGER	ONIDA	SD
	KEN	CLARK	DALLAS	SD
	RAY	ERICKSON	MURDO	SD
	RUEBEN	VOLLMER JR	MIDLAND	SD
	KAY	ROGERSON	ELLSWORTH AFB	SD
	IVAN	FRIESE	PARKER	SD
	DONN	DUPPER	FAITH	SD
	DANNIE	HUGHES	MCINTOSH	SD
	LORNIE	HACH	MCLAUGHLIN	SD
	TOM	MULLOY	KEYSTONE	SD
	GEORGE	IHNEN	CHANCELLOR	SD
	DANIEL	ANDRE	BERESFORD	SD
3RD PLANNING & DEV DIST			MITCHELL	SD
ABERDEEN NRCS FIELD OFFICE	DOUG	FARRAND	ABERDEEN	SD
ACTION FOR THE ENVIRONMENT	RICHARD L	FORT	LEAD	SD
ACTION FOR THE ENVIRONMENT	GARY	HECKENLAIBLE	RAPID CITY	SD
AG UNITY	BRENDA	FORMAN	PIERRE	SD
AGRICULTURAL ENGINEERING DEPT - SDSU	CHUCK	ULLERY	BROOKINGS	SD
ALFALFA FEEDS INC	JIM	LARSON	DE SMET	SD
AMERICAN CREEK CONSERVATION DIST			KENNEBEC	SD
AMERICAN LUNG ASSN OF SD	ROBERT	ROBY	SIOUX FALLS	SD
AMERICAN PUBLIC WORKS ASSN - SD CHAPTER	GREGG	JONGELING	BROOKINGS	SD
ASPHALT PAVING & MATERIALS COMPANY	WILLIAM	BARTHOLOW	HURON	SD
ASSOC GENERAL CONTRACTORS OF SD			PIERRE	SD
ATTN SHEILA M OLIVER WQ TECHNICIAN			OLD AGENCY VILLAGE	SD
AURORA CONSERVATION DISTRICT			PLANKINTON	SD
AURORA COUNTY	JOHN	NILES	PLANKINTON	SD
AURORA COUNTY E&DS	JOHN	STUDENY	PLANKINTON	SD
AURORA COUNTY LEPC	DAVID	FINK	PLANKINTON	SD
AURORA-BRULE RURAL WATER SYSTEM	RICHARD	EKSTRUM	KIMBALL	SD
B-Y WATER DISTRICT	ALAN	NAMMINGA	TABOR	SD
BAD RIVER WATER QUALITY PROJECT	JERRY	THELEN	FORT PIERRE	SD
BALDRIDGE & ASSOC - ARCHITECTS & ENG	CHRIS	SCHILTZ	SIOUX FALLS	SD
BARNES HAY & FEED COMPANY	BILL	BEAVERS	GAYVILLE	SD
BDM RURAL WATER SYSTEM	FRANKLIN	OLSON	BRITTON	SD
BEADLE CONSERVATION DISTRICT	JUDY	TSCHETTER	HURON	SD
BEADLE CONSERVATION DISTRICT			HURON	SD
BEADLE COUNTY	ROBERT	MILLS	HURON	SD
BEADLE COUNTY LEPC	MEL	YOUNGERMAN	HURON	SD
BELLE FOURCHE IRRIGATION DIST	RANDY	OLIVER	NEWELL	SD
BENNETT CONSERVATION DISTRICT			MARTIN	SD
BENNETT COUNTY	DALE C	MCDONNELL	MARTIN	SD
BENNETT COUNTY E&DS	DONALD	LARSON	MARTIN	SD
BENNETT COUNTY LEPC	KIM	KARNS	MARTIN	SD
BIG SIOUX COMMUNITY RURAL WATER SYSTEM	MARTIN	JARRETT	EGAN	SD
BLACK HAWK WATER COMPANY INC	JOYCE	WILLIAMSON	BLACK HAWK	SD

AFFILIATION	NAME		CITY	STATE
BLACK HILLS ALLIANCE	JANET	RYAN	RAPID CITY	SD
BLACK HILLS FLY FISHERS	EVERETT E	HOYT	RAPID CITY	SD
BLACK HILLS FOREST RESOURCES ASSOC	MARY	FLANDERKA	RAPID CITY	SD
BLACK HILLS GROUP - SIERRA CLUB	SAM	CLAUSEN	RAPID CITY	SD
BLACK HILLS NATIONAL FOREST	AL	BRADDOCK	CUSTER	SD
BLACK HILLS POWER - ATTN TOM OHLMACHER			RAPID CITY	SD
BLACK HILLS POWER AND LIGHT	FRED	CARL	RAPID CITY	SD
BLACK HILLS RC&D	KURT	BUER	RAPID CITY	SD
BOARD OF MINERALS & ENVIRONMENT	CHARLES	MONSON	MILBANK	SD
BOARD OF MINERALS & ENVIRONMENT	BRIAN	RADKE	SIOUX FALLS	SD
BOARD OF MINERALS AND ENVIRONMENT	WILBERT	BLUMHARDT	BOWDLE	SD
BOARD OF MINERALS AND ENVIRONMENT	PAT	HEALY	SIOUX FALLS	SD
BOARD OF MINERALS AND ENVIRONMENT	RICHARD	SWEETMAN	SIOUX FALLS	SD
BOARD OF MINERALS AND ENVIRONMENT	LINDA	HILDE	MADISON	SD
BOARD OF WATER & NATURAL RESOURCES	STEVE	LOWRIE	WATERTOWN	SD
BOARD OF WATER & NATURAL RESOURCES	JERRY	KLEINSASSER	FRANKFORT	SD
BOARD OF WATER & NATURAL RESOURCES	ROGER	LARSEN	SIOUX FALLS	SD
BOARD OF WATER & NATURAL RESOURCES	DONALD D	BOLLWEG	HARROLD	SD
BOARD OF WATER & NATURAL RESOURCES	DALE	KENNEDY	BERESFORD	SD
BOARD OF WATER & NATURAL RESOURCES	JOHN	LOUCKS	RAPID CITY	SD
BON HOMME COUNTY	EUGENE	KOKESH	SCOTLAND	SD
BON HOMME COUNTY E&DS	RICHARD	BERRINGER	TYNDALL	SD
BON HOMME COUNTY LEPC	RON	WAGNER	TYNDALL	SD
BOX ELDER JOB CORP	CARL	ERICKSON	STURGIS	SD
BRITTON NRCS FIELD OFFICE	TOM	MARTIN	BRITTON	SD
BROHM MINING CORP			DEADWOOD	SD
BROOKINGS - DEUEL RWS	PATRICK	GILLIGAN	TORONTO	SD
BROOKINGS CONSERVATION DISTRICT			BROOKINGS	SD
BROOKINGS COUNTY	BARBARA	TELKAMP	BROOKINGS	SD
BROOKINGS COUNTY E&DS	TODD	STRUWE	BROOKINGS	SD
BROOKINGS COUNTY LEPC	MEL	KLOSTER	BROOKINGS	SD
BROOKINGS NRCS FIELD OFFICE	KAREN	HOWELL	BROOKINGS	SD
BROWN COUNTY	DENNIS	FEICKERT	ABERDEEN	SD
BROWN COUNTY E&DS	JESSE	LUCE	ABERDEEN	SD
BROWN COUNTY LEPC	FRANCIS	BRINK	ABERDEEN	SD
BROWN-MARSHALL CONSERVATION DIST			HECLA	SD
BRULE COUNTY	SALLY	REIMER	PUKWANA	SD
BRULE COUNTY LEPC	WAYNE	FALOR	CHAMBERLAIN	SD
BRULE-BUFFALO CD DISTRICT	WAYNE	FALOR	CHAMBERLAIN	SD
BRULE-BUFFALO CONSERVATION DIST			CHAMBERLAIN	SD
BUFFALO COUNTY	LYLE	PAWLOWSKI	GANN VALLEY	SD
BUFFALO COUNTY LEPC	WAYNE	WILLMAN	GANN VALLEY	SD
BUREAU OF INDIAN AFFAIRS	PAUL	HOFFMANN	ABERDEEN	SD
BUREAU OF LAND MANAGEMENT	DENNIS	BUCHER	BELLE FOURCHE	SD
BUREAU OF LAND MANAGEMENT-SDRA	RUSS	PIGORS	BELLE FOURCHE	SD
BUREAU OF RECLAMATION	JEFF	WILLIAMSON	PIERRE	SD
BUREAU OF RECLAMATION	BUD	STILES	PIERRE	SD
BUTTE CONSERVATION DISTRICT			BELLE FOURCHE	SD
BUTTE COUNTY	DONALD	KIVIMAKI	NEWELL	SD
BUTTE COUNTY COMMISSIONERS			BELLE FOURCHE	SD
BUTTE COUNTY E&DS	JACK	CHURCH	BELLE FOURCHE	SD
BUTTE COUNTY LEPC	MARY	MCKENNA	BELLE FOURCHE	SD
BUTTE-MEADE SANITARY WATER DISTRICT	LYNN	DUNN	NEWELL	SD
BY RURAL WATER SYSTEM	MIKE	WILLIAMS	TABOR	SD
CAMP CROOK ROUTE	JIM	JOHNSON	BELLE FOURCHE	SD
CAMPBELL CONSERVATION DISTRICT			MOUND CITY	SD
CAMPBELL COUNTY	LEROY	SANDMEIER	JAVA	SD
CAMPBELL COUNTY E&DS - %COURTHOUSE	LENORE	PFEIFLE	MOUND CITY	SD
CENTRAL PLAINS WATER DEVELOPMENT DIST	DALE	HARGENS	ORIENT	SD
CHAPEL LANE WATER COMPANY	F J	ISSLER JR	RAPID CITY	SD
CHARLES MIX CONSERVATION DISTRICT			LAKE ANDES	SD
CHARLES MIX COUNTY	HERMAN	PETERS	WAGNER	SD
CHARLES MIX COUNTY LEPC	BILL	YOUNGSTROM	LAKE ANDES	SD
CHESTER SANITARY DISTRICT	MICK	KRAMER	CHESTER	SD

AFFILIATION	NAME		CITY	STATE
CHEYENNE RIVER SIOUX TRIBE	GREGG	BOURLAND	EAGLE BUTTE	SD
CHRISTENSEN, MOORE, & COCKRELL	DALE	COCKRELL	KALISPELL	MT
CITY HALL	KEN	PEDERSON	BELLE FOURCHE	SD
CITY HEALTH DEPT - CITY HALL	ROBERT	MCGRATH	BROOKINGS	SD
CITY MAINT	CHAD	SCHLOTTERBECK	CASTLEWOOD	SD
CITY OF ABERDEEN	CLARENCE	FJELDHEIM	ABERDEEN	SD
CITY OF ABERDEEN	TIMOTHY	RICH	ABERDEEN	SD
CITY OF ABERDEEN	SCOTT	ANDERSON	ABERDEEN	SD
CITY OF ALCESTER	PETER	LARSEN	ALCESTER	SD
CITY OF ALEXANDRIA	LYLE	WEBER	ALEXANDRIA	SD
CITY OF ARLINGTON	G A	REDMAN	ARLINGTON	SD
CITY OF ARMOUR	ERNA	PUTNAM	ARMOUR	SD
CITY OF ASHTON	DAVE	PURCELL	ASHTON	SD
CITY OF AURORA	FRED	WEEKES	AURORA	SD
CITY OF AVON	EDWARD	VANGERPEN	AVON	SD
CITY OF BALTIC	STEVE	OLLERICH	BALTIC	SD
CITY OF BELLE FOURCHE	BILL	SCHMIDT	BELLE FOURCHE	SD
CITY OF BERESFORD	HOWARD	KENNEDY	BERESFORD	SD
CITY OF BIG STONE	VALENTIN	RAUSCH	BIG STONE CITY	SD
CITY OF BLUNT	JOHN	IRVINE	BLUNT	SD
CITY OF BONESTEEL	JEANNE	NELSON	BONESTEEL	SD
CITY OF BOWDLE	OTTO	BIEBER	BOWDLE	SD
CITY OF BOX ELDER	GLENN	BALDWIN	BOX ELDER	SD
CITY OF BRANDON			BRANDON	SD
CITY OF BRANDON	MIKE	SCHULTZ	BRANDON	SD
CITY OF BRIDGEWATER	STEVE	SIEVERS	BRIDGEWATER	SD
CITY OF BRISTOL	SHAYN	SCHMIEG	BRISTOL	SD
CITY OF BRITTON	KENNETH	STILLSON	BRITTON	SD
CITY OF BROOKINGS	WAYNE	HAUSCHILD	BROOKINGS	SD
CITY OF BROOKINGS			BROOKINGS	SD
CITY OF BRUCE	BILL	MCCRACKEN	BRUCE	SD
CITY OF BRYANT	STEPHANI	SAUDER	BRYANT	SD
CITY OF BURKE	GEORGE	KENZY	BURKE	SD
CITY OF CANISTOTA	G. SUE	KOEPP	CANISTOTA	SD
CITY OF CANTON	DAVID	GARD	CANTON	SD
CITY OF CARTHAGE	JOE	PEDERSON	CARTHAGE	SD
CITY OF CASTLEWOOD	RICK	TRUPE	CASTLEWOOD	SD
CITY OF CENTERVILLE	BEN	BJORDAL	CENTERVILLE	SD
CITY OF CHAMBERLAIN	DOUG	NELSON	CHAMBERLAIN	SD
CITY OF CLARK	CLARENCE	NEILL	CLARK	SD
CITY OF CLEAR LAKE	ALAN	SEVERSON	CLEAR LAKE	SD
CITY OF COLMAN	ALBERT	SCHIEBER	COLMAN	SD
CITY OF COLOME	ROBERT J	SCHEINOST	COLOME	SD
CITY OF COLTON	RUSSELL	SCHMIDT	COLTON	SD
CITY OF COLUMBIA	BRIAN	DENNERT	COLUMBIA	SD
CITY OF CONDE	STEVE	GRANDPRE	CONDE	SD
CITY OF CORSICA	DON	STAR	CORSICA	SD
CITY OF CROOKS	BARNEY	BERNARDS	CROOKS	SD
CITY OF CUSTER	ROBERT	SCHILLING	CUSTER	SD
CITY OF DEADWOOD	BARBARA	ALLEN	DEADWOOD	SD
CITY OF DELL RAPIDS	DEAN	LARSEN	DELL RAPIDS	SD
CITY OF DELMONT	EUGENE	BEEHLER	DELMONT	SD
CITY OF DESMET	MARK	HOEK	DESMET	SD
CITY OF DIMOCK	JOHN	UNTEREINER	DIMOCK	SD
CITY OF DOLAND	SCOTT	THOMPSON	DOLAND	SD
CITY OF DUPREE	JIM	VEIT	DUPREE	SD
CITY OF EAGLE BUTTE	RICHARD	ZACHER	EAGLE BUTTE	SD
CITY OF EDGEMONT	GARY	MARTIN	EDGEMONT	SD
CITY OF ELK POINT	ISABEL	TROBAUGH	ELK POINT	SD
CITY OF ELKTON	SUSAN	TELKAMP	ELKTON	SD
CITY OF EMERY	HARLEY	FLUTH	EMERY	SD
CITY OF ESTELLINE	STUART	BUSCH	ESTELLINE	SD
CITY OF EUREKA	ERVIN	GEBHARDT	EUREKA	SD
CITY OF FAITH	GLEN	HAINES	FAITH	SD
CITY OF FARMER	MARK	HEITER	FARMER	SD

AFFILIATION	NAME		CITY	STATE
CITY OF FAULKTON	JAMES E	WAGNER	FAULKTON	SD
CITY OF FLANDREAU	VERNON	WALKER	FLANDREAU	SD
CITY OF FORT PIERRE	SAM	TIDBALL	FORT PIERRE	SD
CITY OF FRANKFORT	ROY	ROBERTSON	FRANKFORT	SD
CITY OF FREEMAN	CLIFFORD	TJADEN	FREEMAN	SD
CITY OF GARRETSON	RAY	LARSON	GARRETSON	SD
CITY OF GARY	PERRY	HEATON	GARY	SD
CITY OF GEDDES	RONALD	DUFEK	GEDDES	SD
CITY OF GETTYSBURG	WILLIAM	DAVIS	GETTYSBURG	SD
CITY OF GREGORY	JAMES	SCISSONS	GREGORY	SD
CITY OF GROTON	GERALD	RIX	GROTON	SD
CITY OF HARRISBURG	CHUCK	WHEELER	HARRISBURG	SD
CITY OF HARTFORD	DANIEL	STERNER	HARTFORD	SD
CITY OF HECLA	LLOYD	TRAUTMANN	HECLA	SD
CITY OF HERREID	CURT	KOST	HERREID	SD
CITY OF HIGHMORE	MIKE	NEWTON	HIGHMORE	SD
CITY OF HILL CITY	CAROL	MAXFIELD	HILL CITY	SD
CITY OF HOSMER	ROGER	MALSAM	HOSMER	SD
CITY OF HOT SPRINGS	KARLEEN	KIRCHNER	HOT SPRINGS	SD
CITY OF HOT SPTINGS	JOHN	SCHELTENS	HOT SPRONGS	SD
CITY OF HOVEN	JERRY	HERICKS	HOVEN	SD
CITY OF HOWARD	LARRY	GAUGER	HOWARD	SD
CITY OF HURLEY	ROGER	THOMAS	HURLEY	SD
CITY OF HURON	MARY	PEARSON	HURON	SD
CITY OF IPSWICH	DAVE	PENFIELD	IPSWICH	SD
CITY OF IRENE	CLINTON	DAVIS	IRENE	SD
CITY OF IROQUOIS	JAMES	LYNCH	IROQUOIS	SD
CITY OF ISABEL	JACK	REICH	ISABEL	SD
CITY OF JEFFERSON	TOM	BRANDT	JEFFERSON	SD
CITY OF KADOKA	HARRY	WELLER	KADOKA	SD
CITY OF KIMBALL	ROBERT	MILLER	KIMBALL	SD
CITY OF LAKE ANDES	MERRITT C	STEGMEIER	LAKE ANDES	SD
CITY OF LAKE NORDEN	LARRY	STEFFENSEN	LAKE NORDEN	SD
CITY OF LAKE PRESTON	BENNY	MOGLER	LAKE PRESTON	SD
CITY OF LEAD	BEV	HINK	LEAD	SD
CITY OF LEMMON	WILLIAM	KOHN	LEMMON	SD
CITY OF LENNOX	DENNIS	WEELDREYER	LENNOX	SD
CITY OF LEOLA	TOM	MAHLKE	LEOLA	SD
CITY OF LETCHER	KATHRYN	FOUBERG	LETCHER	SD
CITY OF MADISON	ROYCE	HUENERS	MADISON	SD
CITY OF MARION	GLEN	RAPP	MARION	SD
CITY OF MARTIN	WILLIAM	KUXHAUS	MARTIN	SD
CITY OF MCINTOSH	MARVIN	BERTSCH	MCINTOSH	SD
CITY OF MCLAUGHLIN	EDWARD	WALKER	MCLAUGHLIN	SD
CITY OF MELLETTE	BRIAN	BAVER	MELLETTE	SD
CITY OF MENNO	ROGER	SIMONSEN	MENNO	SD
CITY OF MILBANK	RUDY	NEF	MILBANK	SD
CITY OF MILLER	DOUGLAS	DEBOER	MILLER	SD
CITY OF MISSION	HARVEY	HERMAN SR	MISSION	SD
CITY OF MISSION HILL	DEAN	CHRISTENSEN	MISSION HILL	SD
CITY OF MITCHELL	CLAGGETT	DAILEY	MITCHELL	SD
CITY OF MOBRIDGE	DARRELL	GILL	MOBRIDGE	SD
CITY OF MONTROSE	SCOTT	BRADY	MONTROSE	SD
CITY OF MT VERNON	CRAIG	RUNESTAD	MOUNT VERNON	SD
CITY OF MURDO	WAYNE	ESMAY	MURDO	SD
CITY OF NEW UNDERWOOD	ARNOLD	IVERSON	NEW UNDERWOOD	SD
CITY OF NEWELL	WESLEY	NELSON	NEWELL	SD
CITY OF NORTH SIOUX CITY	LIESEL L	HALLWAS	NORTH SIOUX CITY	SD
CITY OF OLDHAM	JIM	EYKAMP	OLDHAM	SD
CITY OF ONIDA	ARNE	JOHNSON	ONIDA	SD
CITY OF PARKER	JOHN	ROTH	PARKER	SD
CITY OF PARKSTON	RICHARD	WUDEL	PARKSTON	SD
CITY OF PHILIP	NANCY	EKSTRUM	PHILIP	SD
CITY OF PICKSTOWN	LARRY	SCHANCHT	PICKSTOWN	SD
CITY OF PIERRE	GARY	DREWES	PIERRE	SD

AFFILIATION	NAME		CITY	STATE
CITY OF PLANKINTON	LEROY K	GREENWOLD	PLANKINTON	SD
CITY OF PLATTE	JOHN	STEKLY	PLATTE	SD
CITY OF PRESHO	CARL	BRAKKE	PRESHO	SD
CITY OF RAPID CITY	JIM	SHAW	RAPID CITY	SD
CITY OF RAPID CITY	DAN	BJERKE	RAPID CITY	SD
CITY OF REDFIELD	DUANE	SANGER	REDFIELD	SD
CITY OF ROSCOE	VERNE	REIDT	ROSCOE	SD
CITY OF SALEM	LEE	STROUP	SALEM	SD
CITY OF SCOTLAND	GREG	GEMAR	SCOTLAND	SD
CITY OF SELBY	ROGER	WALKER	SELBY	SD
CITY OF SIOUX FALLS	GARY	HANSON	SIOUX FALLS	SD
CITY OF SIOUX FALLS	LYLE	JOHNSON	SIOUX FALLS	SD
CITY OF SIOUX FALLS - CITY HEALTH DEPT	DOUG	JOHNSON	SIOUX FALLS	SD
CITY OF SISSETON	JAMES W	PEARSON	SISSETON	SD
CITY OF SPEARFISH	WILLIAM	SPARROW	SPEARFISH	SD
CITY OF SPEARFISH	TED	VORE	SPEARFISH	SD
CITY OF SPENCER	RICHARD	KIRBY	SPENCER	SD
CITY OF SPRINGFIELD	NORMAN	SCHELSKE	SPRINGFIELD	SD
CITY OF STURGIS	CLIFFORD	LINN	STURGIS	SD
CITY OF TIMBER LAKE	JOE	SCHERER	TIMBER LAKE	SD
CITY OF TRIPP	CLYDE	KEPPLINGER	TRIPP	SD
CITY OF TYNDALL	HAROLD	HOFFMAN	TYNDALL	SD
CITY OF VALLEY SPRINGS	LARRY	BAKKER	VALLEY SPRINGS	SD
CITY OF VEBLEN	ROBERT	FITCH	VEBLEN	SD
CITY OF VERDON	IVY	NOGEL	VERDON	SD
CITY OF VERMILLION	WILLIAM	RADIGAN	VERMILLION	SD
CITY OF VERMILLION	JAMES W	ANTONEN	VERMILLION	SD
CITY OF VIBORG	CHARLES	KLUDT	VIBORG	SD
CITY OF VOLGA	GEORGE	ALBRIGHT	VOLGA	SD
CITY OF WAGNER	RICHARD	THALER	WAGNER	SD
CITY OF WALL	DAVE	HAHN	WALL	SD
CITY OF WATERTOWN	BRENDA	BARGER	WATERTOWN	SD
CITY OF WAUBAY	CARLTON	BARSE JR	WAUBAY	SD
CITY OF WEBSTER	MIKE	GROSEK	WEBSTER	SD
CITY OF WESSINGTON SPRINGS	BRIAN	BERGELEEN	WESSINGTON SPRINGS	SD
CITY OF WHITE	ART	WILBER	WHITE	SD
CITY OF WHITE LAKE	MARK	MUNSEN	WHITE LAKE	SD
CITY OF WHITE RIVER	RAY	BARTLETT	WHITE RIVER	SD
CITY OF WHITEWOOD	RICK	WHITELOCK	WHITEWOOD	SD
CITY OF WILLOW LAKE	LAVERNE	MANN	WILLOW LAKE	SD
CITY OF WILMOT	HARLON P	HANSEN	WILMOT	SD
CITY OF WINNER	KELLY B	MCCOLLAM	WINNER	SD
CITY OF WOONSOCKET	JOHN	BALL	WOONSOCKET	SD
CITY OF YANKTON	BRAD	OLSON	YANKTON	SD
CIVIL ENGINEERING DEPARTMENT	ARDEN	DAVIS	RAPID CITY	SD
CIVIL ENGINEERING DEPT - SDSM&T	WILLIAM	COYLE	RAPID CITY	SD
CIVIL ENGINEERING DEPT - SDSU	DWAYNE	ROLLAG	BROOKINGS	SD
CLARK CONSERVATION DISTRICT			CLARK	SD
CLARK COUNTY	FRANCIS	HASS	RAYMOND	SD
CLARK COUNTY CD	GAIL	SMITH	CLARK	SD
CLARK COUNTY LEPC	MELVIN	HANSON	CLARK	SD
CLAY COUNTY	GERALD	SOMMERVOLD	VERMILLION	SD
CLAY COUNTY COMMISSIONERS			VERMILLION	SD
CLAY COUNTY E&DS	BENJAMIN	TAYLOR	VERMILLION	SD
CLAY COUNTY LEPC	TERRY	JOHNSON	VERMILLION	SD
CLAY RURAL WATER SYSTEM	RANDY	JENSEN	WAKONDA	SD
CLEAR LAKE NRCS FIELD OFFICE	KEVIN	LUOMA	CLEAR LAKE	SD
CLEARFIELD - KEYA PAHA CONSERV DIST			WINNER	SD
CODINGTON CO EM	MIKE	HASART	WATERTOWN	SD
CODINGTON CONSERVATION DISTRICT			WATERTOWN	SD
CODINGTON COUNTY	CAROL	JOHNSON	FLORENCE	SD
CODINGTON COUNTY LEPC	JIM	HALLING	WATERTOWN	SD
CORPS OF ENGINEERS			PIERRE	SD
CORSON COUNTY	ARNOLD	ZIELKE	KELDRON	SD
CORSON COUNTY E&DS	STANLEY	RYE	MCINTOSH	SD

AFFILIATION	NAME		CITY	STATE
COURTHOUSE MAIN STREET	CAROLYN	JOHNSON	MARTIN	SD
CROOKS SANITARY DISTRICT	RICHARD	WENZEL	CROOKS	SD
CROW CREEK SIOUX TRIBE	HAROLD	MILLER	FORT THOMPSON	SD
CUSTER BOOT CAMP			CUSTER	SD
CUSTER CONSERVATION DISTRICT			CUSTER	SD
CUSTER COUNTY	JOE	MCFARLAND	CUSTER	SD
CUSTER COUNTY E&DS	MIKE	CARTER	CUSTER	SD
CUSTER COUNTY LEPC	DAN	DOOLEY	CUSTER	SD
CUSTER STATE PARK	GREG	GOEBEL	CUSTER	SD
DAKOTA ENVIRONMENTAL COUNCIL	MARION	WEEKS	VERMILLION	SD
DAKOTA PORK	DARRELL	WILL	HURON	SD
DAKOTA RURAL ACTION	DIXIE	HENDRICKS	BROOKINGS	SD
DAKOTA, MINNESOTA & EASTERN	LYNN	ANDERSON	BROOKINGS	SD
DAVISON CONSERVATION DISTRICT			MITCHELL	SD
DAVISON COUNTY	GARY	STADLMAN	ETHAN	SD
DAVISON COUNTY	KENNETH	REINESCH	MITCHELL	SD
DAVISON COUNTY E&DS - %COURTHOUSE	ALLAN	MILLER	MITCHELL	SD
DAVISON RURAL WATER SYSTEM	TOM	GREENWAY	MITCHELL	SD
DAY CONSERVATION DISTRICT			WEBSTER	SD
DAY COUNTY	LEONARD	NAESSIG	WEBSTER	SD
DAY COUNTY E&DS	JEFF	SCHMIDT	WEBSTER	SD
DAY COUNTY LEPC	ORVILLE	HASELHORST	WEBSTER	SD
DEADWOOD DEVELOPMENT CORP	HERB	HAIST	DEADWOOD	SD
DEPARTMENT OF CIVIL ENGINEERING			BROOKINGS	SD
DEPARTMENT OF CIVIL ENGINEERING - SDSM&T			RAPID CITY	SD
DEPARTMENT OF FISH AND WILDLIFE - SDSU	CHARLES	BERRY	BROOKINGS	SD
DEPT OF AG ENGINEERING -SDSU AG ENG DEPT	HAL	WERNER	BROOKINGS	SD
DEPT OF EARTH SCIENCE & PHYSICS - USD			VERMILLION	SD
DEPT OF GAME FISH & PARKS	TOM	CHAPMAN	RAPID CITY	SD
DEPT OF GAME FISH & PARKS	JOHN	KIRK	PIERRE	SD
DEPT OF GEOLOGY & GEOLOGICAL ENG - SDSMT			RAPID CITY	SD
DEPT OF HEALTH	BARB	SMITH	INTER-OFFICE	
DEPT OF WILDLIFE & FISHERIES SCI -SDSU	CHUCK	SCALET	BROOKINGS	SD
DESMET NRCS FIELD OFFICE	STEVE	MARAS	DESMET	SD
DEUEL CO. CONSERVATION DIST.	ELOIS	REDLIN	CLEAR LAKE	SD
DEUEL CONSERVATION DISTRICT			CLEAR LAKE	SD
DEUEL COUNTY	MARVIN	AMUNDSON	CLEAR LAKE	SD
DEUEL COUNTY LEPC	DAVID	SOLEM	CLEAR LAKE	SD
DEWEY COUNTY	ROBERT	BERNDT	EAGLE BUTTE	SD
DEWEY COUNTY E&DS	VERA	SCHWEITZER	TIMBER LAKE	SD
DOUGLAS CONSERVATION DISTRICT			ARMOUR	SD
DOUGLAS COUNTY	CORNELIU	SPAANS	CORSICA	SD
DOUGLAS COUNTY CD - SHERIFF'S OFFICE	TIM	HOLLANDER	ARMOUR	SD
DOUGLAS COUNTY LEPC	GLENNIS D	STERN	ARMOUR	SD
E&DS AREA COORDINATOR	COLE	HENDRY	ABERDEEN	SD
E&DS AREA COORDINATOR - CAMP RAPID	REGAN	SMITH	RAPID CITY	SD
EAST DAKOTA WATER DEVELOPMENT DISTRICT	JAY	GILBERTSON	BROOKINGS	SD
EAST DAKOTA WDD	EARL	ACHESON	CHESTER	SD
EAST GREGORY RURAL WATER SYSTEM	ART	HERTZ	FAIRFAX	SD
EAST PENNINGTON CONSERVATION DIST			WALL	SD
EC DEV COOR OFF OF DEV TRIPP COUNTY	KRISTI	WAGNER	WINNER	SD
EDMUNDS CONSERVATION DISTRICT			IPSWICH	SD
EDMUNDS COUNTY	ELROY	ESKE	MINA	SD
EDMUNDS COUNTY CONSERVATION DIST			IPSWICH	SD
EDMUNDS COUNTY EM	CHRIS	STEEN	IPSWICH	SD
EDMUNDS COUNTY LEPC	LELAND	TREICHEL	IPSWICH	SD
ELK CREEK CONSERVATION DISTRICT			STURGIS	SD
ELLIS & EASTERN RAILROAD	JOHN	MULLOY	SIOUX FALLS	SD
ELLSWORTH AFB	WILLIAM	MCCOLLAM	ELLSWORTH AFB	SD
ENV WATCH COM - SD WHEAT GROWERS ASSOC	BEN	GRISMER	ABERDEEN	SD
ENVIRONMENTAL HAZARDS CONTROL			RAPID CITY	SD
EROS DATA CENTER	RONALD	SCHULTZ	SIOUX FALLS	SD
FALL RIVER CONSERVATION DISTRICT			HOT SPRINGS	SD
FALL RIVER COUNTY	ERV	HEIMBUCK	HOT SPRINGS	SD
FALL RIVER COUNTY E&DS	NORMAN	PUDWILL	HOT SPRINGS	SD

AFFILIATION	NAME		CITY	STATE
FALL RIVER COUNTY LEPC	GALE	HARKLESS	HOT SPRINGS	SD
FALL RIVER WATER USER DISTRICT	LEONARD	BENSON	ORAL	SD
FARM BUREAU	KEITH	SENSKA	WOONSOCKET	SD
FARMERS HOME ADMINISTRATION - DIST OFF			MITCHELL	SD
FARMERS UNION EDUCATION DIRECTOR	ELAINE	TOBIN	HURON	SD
FAULK CONSERVATION DISTRICT			FAULKTON	SD
FAULK COUNTY	DEAN	STANLEY	FAULKTON	SD
FAULK COUNTY EM	ROGER	JONES	FAULKTON	SD
FAULK COUNTY LEPC	JAMES	WAGNER	FAULKTON	SD
FIRST PLANNING DISTRICT	ROGER	MACK	WATERTOWN	SD
FLANDREAU NRCS FIELD OFFICE	DENNIS	LARSON	FLANDREAU	SD
FLANDREAU SANTEE SIOUX TRIBE	THOMAS	RANFRANZ	FLANDREAU	SD
FLANDREAU SIOUX HEALTH DEPT	MIKE	WESTON	FLANDREAU	SD
FOREST SERVICE USDA	DARREL	KENOPS	CUSTER	SD
GAME FISH & PARKS	DAVE	JOHNSON	PIERRE	SD
GAME FISH AND PARKS	DAN	HREWING	FRANKFORT	SD
GEOLOGICAL SURVEY - AKELEY SCIENCE CNTR			VERMILLION	SD
GEOTEK ENGINEERING	MIKE	MEYER	SIOUX FALLS	SD
GF&P - RC REGINAL WILDLIFE OFFICE	RON	KOTH	RAPID CITY	SD
GOLDEN REWARD MINING CO	TERESE	HRUSKA	LEAD	SD
GRANT CONSERVATION DISTRICT			MILBANK	SD
GRANT COUNTY	CLAYTON	TUCHOLKE	LABOLT	SD
GRANT COUNTY LEPC	WILLIAM P	WELCH	MILBANK	SD
GRANT-ROBERTS RURAL WATER ASSN	JOHN	ROGGENBUCK	MILBANK	SD
GREGORY CONSERVATION DISTRICT			BURKE	SD
GREGORY COUNTY	GILBERT	FRANK	BURKE	SD
GREGORY COUNTY E&DS	DAMON	WOLF	BURKE	SD
HAAKON CONSERVATION DISTRICT			PHILIP	SD
HAAKON COUNTY	TOMMY	HICKMAN	MIDLAND	SD
HAAKON COUNTY CD	JERRY	NOTEBOOM	PHILIP	SD
HAAKON COUNTY LEPC	TOM	ODOM	PHILIP	SD
HAMILL CONSERVATION DISTRICT			WINNER	SD
HAMLIN CONSERVATION DISTRICT			HAYTI	SD
HAMLIN COUNTY	RANDALL	RUDEBUSCH	CASTLEWOOD	SD
HAMLIN COUNTY CD	DAVID	SCHAEFER	HAYTI	SD
HAMLIN COUNTY LEPC	JOHN	GRIFFITH	CASTLEWOOD	SD
HAND CONSERVATION DISTRICT			MILLER	SD
HAND COUNTY	BOB	SCHROEDER	MILLER	SD
HAND COUNTY E&DS - %COURTHOUSE	ANDREW	CANHAM	MILLER	SD
HAND COUNTY LEPC	ART	MANNING	MILLER	SD
HANSON CONSERVATION DISTRICT			ALEXANDRIA	SD
HANSON COUNTY	SHERMAN	LETCHER	ALEXANDRIA	SD
HANSON COUNTY E&DS	GLENN	SOLADAY	FULTON	SD
HANSON COUNTY LEPC	SHERMAN	LETCHER	ALEXANDRIA	SD
HANSON RURAL WATER SYSTEM	KEITH	SCHROEDER	EMERY	SD
HARDING CONSERVATION DISTRICT			BUFFALO	SD
HARDING COUNTY	EDWIN	HUNSUCKER	BUFFALO	SD
HARDING COUNTY AUDITOR	KATHY	CLANTON	BUFFALO	SD
HARDING COUNTY CD	CHARLENE	GUPTILL	BUFFALO	SD
HARDING COUNTY LEPC	KEN M	NELSON	BUFFALO	SD
HAYTI NRCS FIELD OFFICE	ROGER A	MUELLER	HAYTI	SD
HODGENS ENGINEERING	JAY	HODGENS	HURON	SD
HOMESTAKE MINING CO	JOHN	SHULTZ	LEAD	SD
HOWARD NRCS FIELD OFFICE	CHARLES	LEBEDA	HOWARD	SD
HUGHES CONSERVATION DISTRICT			PIERRE	SD
HUGHES COUNTY	SUE	SCHAEFER	PIERRE	SD
HUGHES COUNTY	BARBARA	BONHORST	PIERRE	SD
HUGHES COUNTY E&DS	GERARD	YEAGER	PIERRE	SD
HUTCHINSON COUNTY	SCOTT	SCHELSKE	TRIPP	SD
HUTCHINSON COUNTY E&DS	EDGER J	MAGERA	TRIPP	SD
HUTCHINSON COUNTY HIGHWAY DEPARTMENT	MILTON	HANDEL	OLIVET	SD
HUTCHINSON COUNTY LEPC	DAVE	HOFFMAN	TRIPP	SD
HYDE CONSERVATION DISTRICT			HIGHMORE	SD
HYDE COUNTY	LANE	ZIEGLER	HIGHMORE	SD
HYDE COUNTY CD	OLIVER	OLSEN	HIGHMORE	SD

AFFILIATION	NAME		CITY	STATE
HYDE COUNTY LEPC	BARRY L	ALGER	HIGHMORE	SD
INDIAN HEALTH SERVICE	JACK	SORUM	MARTIN	SD
INDIAN HEALTH SERVICES	DOUG	JENSEN	ABERDEEN	SD
INDUSTRY & COMMERCE OF SD			PIERRE	SD
IZAAK WALTON LEAGUE OF AMERICA	JAMES	MADSEN	WATERTOWN	SD
J&J ASPHALT COMPANY	JERRY	WAGNER	RAPID CITY	SD
JACKSON COUNTY	LARRY	BYRD	KADOKA	SD
JACKSON COUNTY CD - LEPC	GERARD	MAGELKY	KADOKA	SD
JACKSON COUNTY CONSERVATION DISTRICT	JIM	STUKEL	KADOKA	SD
JAMES RIVER WATER DEVELOPMENT DIST	WAYNE	MILLER	ABERDEEN	SD
JAMIR RECLAMATION INC	MARCIA	BOWES	BROOKINGS	SD
JERAULD CONSERVATION DISTRICT			WESSINGTON SPRINGS	SD
JERAULD COUNTY	BOBBY	JENSEN	ALPENA	SD
JERAULD COUNTY E&DS	CARL	SAMPSON	WESSINGTON SPRINGS	SD
JERAULD COUNTY LEPC	ROGER	LARSON	WESSINGTON SPRINGS	SD
JONES CONSERVATION DISTRICT			MURDO	SD
JONES COUNTY COMMISSION - JONES CO. LEPC	WARREN	MELCHER	MURDO	SD
JONES COUNTY E&DS - C/O SHERIFF'S OFFICE	CHRIS	JUNG	MURDO	SD
KINGBROOK RURAL WATER SYSTEM	LARRY	STERLING	ARLINGTON	SD
KINGSBURY CONSERVATION DISTRICT			DESMET	SD
KINGSBURY COUNTY	PAUL	PANKRATZ	ARLINGTON	SD
KINGSBURY COUNTY CD	CINDY	BAU	DESMET	SD
KINGSBURY COUNTY LEPC	LARRY	JENSEN	DESMET	SD
KYLE HEALTH CENTER ATTN OEH			KYLE	SD
LAKE ANDES-WAGNER MARTY II	LEO	HOLZBAUER	WAGNER	SD
LAKE CAMPBELL DEVELOPMENT ASSOC	BILL	PARRIOTT	BROOKINGS	SD
LAKE CAMPBELL DEVELOPMENT ASSOC	AL	GLOVER	BROOKINGS	SD
LAKE CO OFFICE OF NATURAL RESOURCES	SHIRLEY	SEBEN	MADISON	SD
LAKE COCHRANE SANITARY DISTRICT	MARGARE	SALTEE	GARY	SD
LAKE COUNTY	SHIRLEE	LEIGHTON	MADISON	SD
LAKE COUNTY	DEBRA	REINICKE	MADISON	SD
LAKE COUNTY LEPC - %RON HUGHES	DON	HOOK	MADISON	SD
LAKE HERMAN SANITARY DISTRICT	DONALD	ERICKSON	MADISON	SD
LAKE LOUISE RECREATION AREA	RON	MOEHRING	MILLER	SD
LAKE PELICAN ASSOCIATION	E C	KRULL	WATERTOWN	SD
LAKE POINSETT SANITARY DISTRICT	ROSE	PEDERSEN	ARLINGTON	SD
LAKES & STREAMS ASSOC	RICHARD	NEISH	CHESTER	SD
LAKESIDE ESTATES MOBILE HOME	CLYDE	LEHR	ABERDEEN	SD
LAWRENCE CO CENTENNIAL	GEORGE	LEDBETTER	DEADWOOD	SD
LAWRENCE CONSERVATION DISTRICT			SPEARFISH	SD
LAWRENCE COUNTY	MARLENE	BARRETT	DEADWOOD	SD
LAWRENCE COUNTY CD	HOWARD	MUCHOW	DEADWOOD	SD
LAWRENCE COUNTY COMMISSION	GEORGE	OPITZ	DEADWOOD	SD
LAWRENCE COUNTY LEPC	ROBERT	TRIDLE	DEADWOOD	SD
LEAD-DEADWOOD SANITARY DIST	FRANCIS	TOSCANA	DEADWOOD	SD
LEAGUE OF WOMEN VOTERS	VI	BAUS	SIOUX FALLS	SD
LEAGUE OF WOMEN VOTERS - BROWN COUNTY	EMILY EVE	LARSON	FREDERICK	SD
LEAGUE OF WOMEN VOTERS OF SD	MINA	HALL	SIOUX FALLS	SD
LEGISLATIVE AUDIT	MAURICE	CHISTIANSEN	PIERRE	SD
LEWIS & CLARK RECREATION	DENNIS	HOSS	YANKTON	SD
LEWIS & CLARK RWS	GARY	HANSON	SIOUX FALLS	SD
LEWIS & CLARK RWS	PAM	BONRUD	SIOUX FALLS	SD
LINCOLN CONSERVATION DISTRICT			CANTON	SD
LINCOLN COUNTY	DONOVAN	KOST	SIOUX FALLS	SD
LINCOLN COUNTY LEPC	CHAD	SKILES	CANTON	SD
LINCOLN COUNTY RURAL WATER SYSTEM	ROGER	LAMP	HARRISBURG	SD
LIVESTOCK ENERGY SYSTEMS INC	JEFF	WESTBURG	WHITEWOOD	SD
LOWER BRULE SIOUX TRIBE	SCOTT	JONES	LOWER BRULE	SD
LOWER BRULE SIOUX TRIBE	STEPHAN	STANLEY	LOWER BRULE	SD
LOWER BRULE SIOUX TRIBE	ELAINE	WHITE PIPE	LOWER BRULE	SD
LOWER JAMES RC&D - NORWEST BANK BLDG	JOHN	DEPPE	MITCHELL	SD
LWV ENVIRONMENTAL QUALITY	HARRIET	MONTGOMERY	ABERDEEN	SD
LWV OF BROWN CO	EVELYN	SAPA	ABERDEEN	SD
LWV OF BROWN COUNTY	EVE	LARSON	FREDERICK	SD
LYMAN COUNTY	R J	MERTENS	KENNEBEC	SD

AFFILIATION	NAME		CITY	STATE
LYMAN COUNTY CD	JOHN	MICHALEK	KENNEBEC	SD
LYMAN COUNTY LEPC	LESTER	PLANK	KENNEBEC	SD
LYMAN-JONES WATER DEV ASSOC INC	JOSEPH	HEIB	MURDO	SD
MARSHALL CONSERVATION DISTRICT			BRITTON	SD
MARSHALL COUNTY	MAURICE	ERICKSON	LANGFORD	SD
MARSHALL COUNTY CD	BRYCE	THOELKE	BRITTON	SD
MARSHALL COUNTY LEPC	VALERY	JASPERS	BRITTON	SD
MCCOOK CONSERVATION DISTRICT			SALEM	SD
MCCOOK COUNTY	RAY	SNYDERS	SPENCER	SD
MCCOOK COUNTY CD	BRAD	STIEFVATER	SALEM	SD
MCCOOK COUNTY LEPC	DEAN	KOCH	SALEM	SD
MCPHERSON CONSERVATION DISTRICT			LEOLA	SD
MCPHERSON COUNTY	MICHAEL	RATH	LONG LAKE	SD
MCPHERSON COUNTY CD - C/O COURTHOUSE	JEANIE	HOFFMAN	LEOLA	SD
MEADE COUNTY	NEAL	ROWETT	STURGIS	SD
MEADE COUNTY COMMISSION	ROBERT	MALLOW	BLACK HAWK	SD
MEADE COUNTY EMERGENCY MANAGEMENT	KATHIE	GRANT	STURGIS	SD
MEADE COUNTY LEPC	THOMAS F	JAROS	STURGIS	SD
MEDIA CENTER - SDSM&T	JIM	BAILEY	RAPID CITY	SD
MELLETTE CONSERVATION DISTRICT			WHITE RIVER	SD
MELLETTE COUNTY	JERRY	SCHWARTING	WHITE RIVER	SD
MELLETTE COUNTY COURTHOUSE	CINDAY	TUSLER	WHITE RIVER	SD
MELLETTE COUNTY EM	MURIEL	HUBER	WHITE RIVER	SD
MELLETTE COUNTY LEPC	DENNIS	LYON	WHITE RIVER	SD
MELLETTE/TODD WATER QUALITY PROGRAM	SENA	LAURITSEN	WHITE RIVER	SD
MID-DAKOTA E&DS DISTRICT	MELVIN	YOUNGERMAN	HURON	SD
MID-DAKOTA RWS	SUSAN	HARGENS	MILLER	SD
MIDWEST ASBESTOS ABATEMENT			AURORA	SD
MIDWEST ASSISTANCE PROGRAM	JOE	DVORAK	PICKSTOWN	SD
MILBANK NRCS FIELD OFFICE	DALE	JOHNSON	MILBANK	SD
MIN WICONI STEERING COMMITTEE	FRANK	MEANS	PINE RIDGE	SD
MINA LAKE SANITARY DISTRICT	MERLE	MOHR	MINA	SD
MINER CONSERVATION DISTRICT			HOWARD	SD
MINER COUNTY	THOMAS	DOLD	HOWARD	SD
MINER COUNTY E&DS	GARY	BELL	HOWARD	SD
MINER COUNTY LEPC	CINDY	CALLIES	HOWARD	SD
MINNEHAHA COMMUNITY WATER CORP	DONALD	HENTGES	DELL RAPIDS	SD
MINNEHAHA CONSERVATION DISTRICT			SIOUX FALLS	SD
MINNEHAHA COUNTY	KEN	MC FARLAND	SIOUX FALLS	SD
MINNEHAHA COUNTY	JAMES	ZWEEP	BRANDON	SD
MINNEHAHA COUNTY CD	MONTIE	HORN	SIOUX FALLS	SD
MINNEHAHA COUNTY CONSERVATION DISTRICT	RON	ADAMSON	SIOUX FALLS	SD
MINNEHAHA COUNTY LEPC	TIM	KENYON	SIOUX FALLS	SD
MINNEHAHA SPORTSMAN CONS CLUB	DONALD G	SINNING	SIOUX FALLS	SD
MISSOURI BASIN MUNICIPAL POWER AGENCY	FLOYD A	LARSEN	SIOUX FALLS	SD
MNI-SOSE INTERTRIBAL WATER RIGHTS	ELWOOD	CORBINE	RAPID CITY	SD
MOBILE HOME PARK DEVELOPMENT	DARRELL	VIG	STURGIS	SD
MOODY COUNTY	LAWRENC	MILES	COLMAN	SD
MOODY COUNTY E&DS	BOB	GILL	FLANDREAU	SD
MOODY COUNTY LEPC	PAUL	DAHMEN	FLANDREAU	SD
N CENTRAL RC&D COORDINATOR	KARL	WHITMORE	PIERRE	SD
N-F SANITARY SEWER DISTRICT	HENRIETT	GARNER	SIOUX FALLS	SD
NAT RES CONSERVATION SERV - FED BLDG	LE ROY	HOLTSCLAW	HURON	SD
NATURAL RESOURCES CONSERVATION SERVICE			HURON	SD
NATURAL RESOURCES SF LWV	MINA	HALL	SIOUX FALLS	SD
NECOG	CHAD A	CARLSON	ABERDEEN	SD
NEWTON HILLS STATE PARK	LOREN	BEARD	CANTON	SD
NO-TILL ASSOCIATION	RICK	HEINTZMAN	ONAKA	SD
NORTHDALE COMMUNITY SERVICES ASSOC	STEVE	MC AFEE	BLACK HAWK	SD
NORTHEAST COUNCIL OF GOVERNMENTS	FAYE	KANN	ABERDEEN	SD
NORTHEAST TERMINAL INC	BYRON	RUHR	WATERTOWN	SD
NR ATTORNEY GENERAL'S OFFICE	HAROLD	DEERING	SIOUX FALLS	SD
NRCS	GARY J	COPLAN	BROOKINGS	SD
NRCS	RODNEY D	BAUMBERGER	RAPID CITY	SD
NRCS	DENNIS F	SHOUP	PIERRE	SD

AFFILIATION	NAME		CITY	STATE
NRCS - NORWEST BANK BLDG	VERLE R	SMITH	MITCHELL	SD
NRCS FIELD OFFICE	EARL	HENDERSON	CLARK	SD
NUTECH CORPORATION	BOB	CULLUM	CUSTER	SD
OAKWOOD LAKES STATE PARK	J LEE	KRATOCHVIL	BRUCE	SD
OFF OF WATER RES - ROSEBUD SIOUX TRIBE			ROSEBUD	SD
OFFICE OF ENERGY POLICY			PIERRE	SD
OFFICE OF THE PRESIDENT	RICHARD	DOWEN	RAPID CITY	SD
OFFICE OF THE PRESIDENT	DR JERALD	TUNHEIM	MADISON	SD
OFFICE OF THE PRESIDENT - SDSU	DROBERT	WAGNER	BROOKINGS	SD
OFFICE OF THE PRESIDENT - USD	DR BETTY	TURNER-ASHER	VERMILLION	SD
OGLALA SIOUX TRIBE	JOHN	STEELE	PINE RIDGE	SD
OGLALA SIOUX TRIBE	JOHN	MOUSSEAU	PINE RIDGE	SD
OST NATURAL RESOURCES REG AGENCY	JODIE	WOUNDS	PINE RIDGE	SD
OST WATER RESOURCES DEPT	JACKIE	ROWLAND	PINE RIDGE	SD
OTTER TAIL POWER COMPANY	MARK	ROLFES	BIG STONE CITY	SD
PARKER NRCS FIELD OFFICE	NYLE	HERBENER	PARKER	SD
PENNINGTON CO CD - C/O COURTHOUSE	PARK	OWENS	RAPID CITY	SD
PENNINGTON CONSERVATION DISTRICT			RAPID CITY	SD
PENNINGTON COUNTY	GALE	HOLBROOK	RAPID CITY	SD
PENNINGTON COUNTY FSA OFFICE	MARIELLE	ROSS	RAPID CITY	SD
PENNINGTON COUNTY LEPC	KAREN M.	GESSNER	RAPID CITY	SD
PERKINS CONSERVATION DISTRICT			BISON	SD
PERKINS COUNTY	NOBEL	VEAL	MEADOW	SD
PERKINS COUNTY CD	KELLY	SERR	BISON	SD
PICKEREL LAKE ASSOCIATION	BERDETTE	ZASTROW	COLUMBIA	SD
PLANNING & DEVELOPMENT DIST III	GREG	HENDERSON	YANKTON	SD
PLANNING DEPT	SHIRLEY	MARVIN	LOWER BRULE	SD
POTTER CONSERVATION DISTRICT			GETTYSBURG	SD
POTTER COUNTY	NEAL	LEMLER	GETTYSBURG	SD
POTTER COUNTY E&DS	SHIRLEY	JENSEN	GETTYSBURG	SD
POTTER COUNTY LEPC	KAREN	DOERR	GETTYSBURG	SD
PRAIRIE HILLS AUDUBON SOCIETY			RAPID CITY	SD
PRAIRIEWOOD SAN SEWER DIST			ABERDEEN	SD
PUNISHED WOMAN'S LAKE ASSOCIATION	DAN	MARQUARDT	CLEAR LAKE	SD
RANCHER & FARM BUREAU - MEADE CO	DAVID	RICHARDS	STURGIS	SD
RANDALL COMMUNITY WATER DISTRICT	IVAN	HALL	LAKE ANDES	SD
RANDALL COMMUNITY WATER DISTRICT	ALVIN	VAN ZEE	LAKE ANDES	SD
RAPID CITY PLANNING DEPARTMENT	MARCIA	ELKINS	RAPID CITY	SD
RAPID VALLEY WATER SERV COMPANY	ALVIN	ZIETLOW	RAPID CITY	SD
RE/SPEC INC.	BRADLEY	CHASE	RAPID CITY	SD
REDFIELD NRCS FIELD OFFICE	ELMER	WARD	REDFIELD	SD
ROBERTS CONSERVATION DIST	KENT	DUERRE	SISSETON	SD
ROBERTS CONSERVATION DISTRICT			SISSETON	SD
ROBERTS COUNTY	LAVONNE	RINGSAKER	ROSHOLT	SD
ROBERTS COUNTY CD	RICHARD	OIEN	SISSETON	SD
ROBERTS COUNTY CONSERVATION DIST	JUNE	HELGESON	SISSETON	SD
ROBERTS COUNTY LEPC	ROD	OLERUD	SISSETON	SD
ROSEBUD SIOUX TRIBE	NORMAN	WILSON	ROSEBUD	SD
ROSEBUD WATER & SEWER	TAOUFIC	BEARDT	MISSION	SD
ROYAL C JOHNSON VETERANS HOSPITAL	SHARON	CHAPLES	SIOUX FALLS	SD
RURAL DEVELOPMENT	ROBERT	BOTHWELL	HURON	SD
RUSHMORE RESORT AND CAMPGROUND	JACK	BRADT	KEYSTONE	SD
SALEM NRCS FIELD OFFICE - AG SERV CENTER	DAVE	GEORGE	SALEM	SD
SANBORN CONSERVATION DISTRICT			WOONSOCKET	SD
SANBORN COUNTY	DENTON	THOMPSON	MOUNT VERNON	SD
SANBORN COUNTY CD	ERNIE	ANDERSON	WOONSOCKET	SD
SANBORN COUNTY LEPC	JOHN	O'CONNEL	LETCHER	SD
SD ASSN OF CONSERVATION DISTS	GENE	WILLIAMS	INTERIOR	SD
SD ASSOC OF CONSERVATION DIST	TIM	REICH	BELLE FOURCHE	SD
SD ASSOC OF COOPERATIVES	BRENDA	FOREMAN	HURON	SD
SD ASSOC OF RWS	DENNIS	DAVIS	SIOUX FALLS	SD
SD ASSOC OF TOWNS AND TOWNSHIPS			HURON	SD
SD ASSOC. OF ENVIRONMENTAL PROFESSIONALS	ED	STREIBEL	RAPID CITY	SD
SD ASSOC. OF RURAL WATER SYSTEMS	DONALD	POSPISHIL	YANKTON	SD
SD ASSOCIATION OF RURAL WATER SYSTEMS	TERRY	PLUCKER	SIOUX FALLS	SD

AFFILIATION	NAME		CITY	STATE
SD ASSOCIATION OF RURAL WATER SYSTEMS	DENNIS	DAVIS	SIOUX FALLS	SD
SD AUTOMOBILE DEALERS ASSOCIATION	R VAN	JOHNSON	SIOUX FALLS	SD
SD CAMPGROUND OWNERS ASSOCIATION	SHERRYLEE	BRADT	KEYSTONE	SD
SD CANOE ASSOCIATION	PETER	LARSEN	ALCESTER	SD
SD CATTLEMAN'S ASSOCIATION	MICHAEL	SCHMIDT	DELL RAPIDS	SD
SD CATTLEMEN'S ASSN	TONYA	NESS	KENNEBEC	SD
SD CATTLEMEN'S ASSOCIATION	STEVE	WILLARD	PIERRE	SD
SD CHAPTER OF THE WILDLIFE SOCIETY	CASEY	KRUSE	YANKTON	SD
SD CONSERVATION COMMISSION	RICHARD	FEGUSON	ARTISIAN	SD
SD CORN GROWERS	JANE	FOLBERG	SIOUX FALLS	SD
SD COUNTY COMM ASSOCIATION			PIERRE	SD
SD DENTAL ASSOCIATION	TRUDY	FEIGUM	PIERRE	SD
SD DEPARTMENT OF AGRICULTURE	PETER	JAHARUS	PIERRE	SD
SD DISPOSAL SYSTEMS INC	KURTIS T	BARKER	EDGEMONT	SD
SD FARM BUREAU	MICHAEL	HELD	HURON	SD
SD FARM BUREAU	LOWELL	MESMAN	PIERRE	SD
SD FERTILIZER AND CHEM ASSOC	KATHY	ZANDER	PIERRE	SD
SD GLACIAL LAKES ASSOCIATION			WATERTOWN	SD
SD HOSPITAL ASSOCIATION	FRANK M	DREW	SIOUX FALLS	SD
SD INDEPENDENT CROP CON. ASSOC.	CHARLES	BOE	OACOMA	SD
SD MINING ASSOCIATION	DIANNA	MILLER	SIOUX FALLS	SD
SD MUNICIPAL LEAGUE	YVONNE	VIK	PIERRE	SD
SD MUNICIPAL LEAGUE	YVONNE	VIK	PIERRE	SD
SD PETROLEUM COUNCIL			PIERRE	SD
SD PETROLEUM MARKETERS ASSOC	DAWNA	OSBORNE	PIERRE	SD
SD PORK PRODUCERS	TOM	FARNSWORTTH	MADISON	SD
SD RURAL DEV COUNCIL CAPITAL LAKE PLAZA	JULIE	JOHNSON	PIERRE	SD
SD RURAL ELECTRIC ASSN	RON	HOLSTEEN	PIERRE	SD
SD RURAL WATER	GEORGE	VANSCO	SPEARFISH	SD
SD SCHOOL OF MINES AND TECHNOLOGY	DR SCOTT	KENNER	RAPID CITY	SD
SD SECTION OF THE AMERICAN WATER WORKS	RODNEY	COKER	FORT PIERRE	SD
SD SHEEP GROWERS ASSOCIATION	LAURA	JOHNSON	REVA	SD
SD SOLID WASTE MANAGEMENT ASSOCIATION	SALLY	REIMAN	PIERRE	SD
SD STATE LAKES ASSOC - SAMP LAW OFFICE	ROLLYN H	SAMP	SIOUX FALLS	SD
SD STOCKGROWERS ASSOC	LARRY	NELSON	BUFFALO	SD
SD STOCKGROWERS ASSOCIATION	DARLENE	HEUTTL	RAPID CITY	SD
SD WATER & WASTEWATER ASSOCIATION	LORRIANE	WEIMER	PIERRE	SD
SD WATER CONGRESS	DAVID	HAUSCHILD	PIERRE	SD
SD WHEAT, INC.	RICK	VALLERY	PIERRE	SD
SD WILDLIFE FEDERATION	CHRIS	HESLA	PIERRE	SD
SDACD	ANGELA	EHLERS	PIERRE	SD
SDHDA	MIKE	ECHOLS	PIERRE	SD
SDRC	DAVID	NELSON	BROOKINGS	SD
SDSM&T - GEOLOGY DEPT	PERRY	RAHN	RAPID CITY	SD
SDSU - COLLEGE OF ENGINEERING			BROOKINGS	SD
SF HEALTH DEPT	MORRIS	FORSTING	SIOUX FALLS	SD
SHANNON COUNTY	DEBORAH	ROOKS-COOK	OGLALA	SD
SHANNON COUNTY E&DS - C/O TRIBAL GOV	DENNIS	BREWER	PINE RIDGE	SD
SHANNON COUNTY LEPC	NICK	CUMMINGS	PINE RIDGE	SD
SIEGEL, BARNETT, & SHULTZ	GREGG	MAGERA	ABERDEEN	SD
SIERRA CLUB	KAREN	FOGAS	SIOUX FALLS	SD
SILVER CREEK WATERSHED	KENNETH	BREKKE	BALTIC	SD
SIMONS CONSTRUCTION COMPANY	TIM	GOSSMAN	RAPID CITY	SD
SIOUX FALLS FLOOD CONTROL - ENG DEPT	JAMES	ROBERTSON	SIOUX FALLS	SD
SIOUX FALLS HEALTH DEPARTMENT	TOM	OLSON	SIOUX FALLS	SD
SIOUX FALLS NRCS FIELD OFFICE	BRIAN	TOP	SIOUX FALLS	SD
SIOUX FALLS UTILITIES	TIM	STEFANICH	SIOUX FALLS	SD
SIOUX RURAL WATER SYSTEM INC	RONALD	TIMMONS	WATERTOWN	SD
SISSETON-WAHPETON SIOUX TRIBE			SISSETON	SD
SISSETON/WAHPETON SIOUX	SHEILA M	CRAWFORD	AGENCY VILLAGE	SD
SOUTH BROWN CONSERVATION DISTRICT			ABERDEEN	SD
SOUTH CENTRAL WDD	WM L	SOULEK	LAKE ANDES	SD
SOUTH CENTRAL WDD	PAT	CERNY	BURKE	SD
SOUTH DAKOTA CONSERVATION COMM	ORLOW	EIDAM	GETTYSBURG	SD
SOUTH DAKOTA DIVISION OF FORESTRY	DONALD	WAGNER	RAPID CITY	SD

AFFILIATION	NAME		CITY	STATE
SOUTH DAKOTA DIVISION OF FORESTRY	LYLE	LOWE	PIERRE	SD
SOUTH DAKOTA ELECTRIC UTILITY COMPANY	ROBERT H	MILLER	PIERRE	SD
SOUTH DAKOTA HOUSING DEV AUTHORITY	FRED	WAXLER	PIERRE	SD
SOUTH DAKOTA PEACE & JUSTICE CNTR	JEANNE	KOSTER	WATERTOWN	SD
SOUTH DAKOTA RESOURCES COALITION	LUANNE	NAPTON	BROOKINGS	SD
SOUTH DAKOTA RETAILORS	JERRY	WHEELER	PIERRE	SD
SOUTH DAKOTA RURAL ELECTRIC ASSOC	RON	HOLSTEEN	PIERRE	SD
SOUTH DAKOTA STATE UNIVERSITY	PATRICK	EMMONS	BROOKINGS	SD
SOUTH DAKOTA WATER CONGRESS	DALE	HARGENS	MILLER	SD
SOUTH LINCOLN RWS	CHARLES	KUEHL	CANTON	SD
SOUTHEASTERN COUNCIL OF GOVERNMENTS	ALEC	BOYCE	SIOUX FALLS	SD
SOUTHERN HILLS GENERAL HOSPITAL			HOT SPRINGS	SD
SOUTHERN MISSOURI WATER DEVELOPMENT DIST	GEORGE	HERROLD	LAKE ANDES	SD
SPEARFISH BLACK HILLS PIONEER			SPEARFISH	SD
SPEARFISH CANYON OWNERS ASSN	ARLENDO	LILLEHAUG	LEAD	SD
SPENCER QUARRIES INC	RICHARD	WALDERA	SPENCER	SD
SPINK CONSERVATION DISTRICT			REDFIELD	SD
SPINK COUNTY	RICHARD	MUELLER	REDFIELD	SD
SPINK COUNTY EM	DAVID	DURFEE	REDFIELD	SD
SPINK COUNTY LEPC	RICHARD	MULLER	REDFIELD	SD
ST LUKES MIDLAND REGIONAL MEDICAL CENTER	MIKE	LIPP	ABERDEEN	SD
STANLEY COUNTY	BOB	WILCOX	FORT PIERRE	SD
STOCK'S ELECTRIC			LEMMON	SD
SULLY CONSERVATION DISTRICT			ONIDA	SD
SULLY COUNTY	ROYAL	OLSON	ONIDA	SD
SULLY COUNTY CD	CURT	OLSON	ONIDA	SD
SULLY COUNTY LEPC	BILL	FLOYD	ONIDA	SD
T & R ELECTRIC	J A	THOMPSON	COLMAN	SD
TM RURAL WATER DISTRICT	IRVIN	DYKSTRA	PARKER	SD
TODD CONSERVATION DISTRICT			MISSION	SD
TODD COUNTY	GREGG	GRIMSHAW	MISSION	SD
TODD COUNTY CD	DOLOR	TURGEON	MISSION	SD
TODD COUNTY LEPC	GREGG	GRIMSHAW	MISSION	SD
TOSHIBA	STEVEN	VOLD	MITCHELL	SD
TOWN O F PEEVER	MILFORD	HORNER	PEEVER	SD
TOWN OF AGAR	ROBERT	JOACHIM	AGAR	SD
TOWN OF AKASKA	DUANE	WELLS	AKASKA	SD
TOWN OF ALPENA	MARK	PETERSON	ALPENA	SD
TOWN OF ALTAMONT	JOHN	HARRIS	ALTAMONT	SD
TOWN OF ANDOVER	SARA	SCHURING	ANDOVER	SD
TOWN OF ARTESIAN	VICKIE	FRIDLEY	ARTESIAN	SD
TOWN OF ASTORIA	TERRY	LOVRE	ASTORIA	SD
TOWN OF BADGER	MYRON	ANDERSEN	BADGER	SD
TOWN OF BANCROFT	DELBERT	JENNINGS	BANCROFT	SD
TOWN OF BATESLAND	NORMAN	DAVIS	BATESLAND	SD
TOWN OF BELVIDERE	CRYSTAL	PAULSON	BELVIDERE	SD
TOWN OF BISON	BONNIE J	CROW	BISON	SD
TOWN OF BRADLEY	RUSSELL	NEAL	BRADLEY	SD
TOWN OF BRANDT	ROBERT	MEWHERTER	BRANDT	SD
TOWN OF BRENTFORD	WILLIAM	MITCHELL	BRENTFORD	SD
TOWN OF BROADLAND	STEVE	BROCK	HURON	SD
TOWN OF BUFFALO	MARGARE	NELSON	BUFFALO	SD
TOWN OF BUFFALO GAP	RAYMOND	CLEMENTS JR	BUFFALO GAP	SD
TOWN OF BUSHNELL	TRACEY	MEYER	BUSHNELL	SD
TOWN OF BUTLER	STEPHANI	HUWE	BUTLER	SD
TOWN OF CAMP CROOK	AUDREY	CORDELL	CAMP CROOK	SD
TOWN OF CANOVA	DALTON	FENTON	CANOVA	SD
TOWN OF CAVOUR	KENNETH	WISE	CAVOUR	SD
TOWN OF CENTRAL CITY	MARC	STRAUB	LEAD	SD
TOWN OF CHANCELLOR	RAYMOND	IHNEN	CHANCELLOR	SD
TOWN OF CHELSEA	ROBERT	CARDA	CHELSEA	SD
TOWN OF CLAIRE CITY	H ROBERT	SCHULTZ	CLAIRE CITY	SD
TOWN OF CLAREMONT	GARY	LENLING	CLAREMONT	SD
TOWN OF COTTONWOOD	CLARA	WALL	COTTONWOOD	SD

AFFILIATION	NAME		CITY	STATE
TOWN OF CRESBARD	DIANE	BISBEE	CRESBARD	SD
TOWN OF DALLAS	BARRY	SINKULAR	DALLAS	SD
TOWN OF DANTE	RICHARD	RYSAVY	DANTE	SD
TOWN OF DAVIS	JEFFREY	MARK	DAVIS	SD
TOWN OF DOLTON	LES	BORAH	DOLTON	SD
TOWN OF DRAPER	RAYMOND	FREIER	DRAPER	SD
TOWN OF EDEN	MARY	DUNN	EDEN	SD
TOWN OF EGAN	JOHN	VALENTINE	EGAN	SD
TOWN OF ERWIN	LEROY	TRENANY	ERWIN	SD
TOWN OF ETHAN	DUANE	DUBA	ETHAN	SD
TOWN OF FAIRBURN	DEBRA J	PATTERSON	FAIRBURN	SD
TOWN OF FAIRFAX	BRUCE	PISTULKA	FAIRFAX	SD
TOWN OF FAIRVIEW	MATT	NAGEL	FAIRVIEW	SD
TOWN OF FLORENCE	DELL	JACOBSON	FLORENCE	SD
TOWN OF FREDERICK	SCOTT	CAMPBELL	FREDERICK	SD
TOWN OF FRUITDALE	DAVID	BRENNEISEN	FRUITDALE	SD
TOWN OF FULTON	DONNIE	CHEESEMAN	FULTON	SD
TOWN OF GARDEN CITY	LEON	ROWELL	GARDEN CITY	SD
TOWN OF GAYVILLE	MICHAEL	PETERSEN	GAYVILLE	SD
TOWN OF GLENHAM	LONNIE	PERMAN	GLENHAM	SD
TOWN OF GOODWIN	DONALD	FIEBER	GOODWIN	SD
TOWN OF GRENVILLE	ELVIS	BLOCK	GRENVILLE	SD
TOWN OF HARROLD	GARY	HOBERT	HARROLD	SD
TOWN OF HAYTI	GREG	BIEDERSTEDT	HAYTI	SD
TOWN OF HAZEL	ALBERT	SCHAMENS	HAZEL	SD
TOWN OF HENRY	GORDON	VAN SICKLE	HENRY	SD
TOWN OF HERMOSA	STEVE	HAMMER	HERMOSA	SD
TOWN OF HERRICK	CORY G	WETZLER	HERRICK	SD
TOWN OF HETLAND	ED	HEITMANN	HETLAND	SD
TOWN OF HILLSVIEW	MARTIN	MALSAM	HILLSVIEW	SD
TOWN OF HITCHCOCK	FRANK	PODRAZA	HITCHCOCK	SD
TOWN OF HUDSON	TOM	FLEMMING	HUDSON	SD
TOWN OF HUMBOLDT	ALAN	RAUSCH	HUMBOLDT	SD
TOWN OF INTERIOR	TERESA	WOODEN KNIFE	INTERIOR	SD
TOWN OF JAVA	ARTHUR	FRANK	JAVA	SD
TOWN OF KENNEBEC	CHARLES	BOWER	KENNEBEC	SD
TOWN OF KEYSTONE	ROBERT	NELSON	KEYSTONE	SD
TOWN OF KRANZBURG	CHARLES	STRANG	KRANZBURG	SD
TOWN OF LABOLT	GLEN	SCHULL	LABOLT	SD
TOWN OF LAKE CITY	ADRIAN	HEITMAN	LAKE CITY	SD
TOWN OF LANE	SHIRLEY	HINES	LANE	SD
TOWN OF LANGFORD	MONTEFRE	LIKNESS	LANGFORD	SD
TOWN OF LEBANON	RON	BRONS	LEBANON	SD
TOWN OF LESTERVILLE	KEVIN	FRANGENBERG	LESTERVILLE	SD
TOWN OF LESTERVILLE			LESTERVILLE	SD
TOWN OF LILY	ELMER	SOLBERG	LILY	SD
TOWN OF LONG LAKE	RODNEY	HOFFMAN	LONG LAKE	SD
TOWN OF LOWRY	HARVEY	HUBER	LOWRY	SD
TOWN OF MARVIN	STACY	THADEN	MARVIN	SD
TOWN OF MIDLAND	JERRY	NEMEC	MIDLAND	SD
TOWN OF MONROE	JOHN	VISSER	MONROE	SD
TOWN OF MORRISTOWN	PENNY	RINDERNECK	MORRISTOWN	SD
TOWN OF MOUND CITY	JAMES	KANABLE	MOUND CITY	SD
TOWN OF NAPLES	MAVIS	SMITH	NAPLES	SD
TOWN OF NEW EFFINGTON	BRAD	TANGEN	NEW EFFINGTON	SD
TOWN OF NEW WITTEN	STEVEN	MACH	NEW WITTEN	SD
TOWN OF NISLAND	JIM	KARLSON	NISLAND	SD
TOWN OF NORTHVILLE	MAX	BORCHARD	NORTHVILLE	SD
TOWN OF NUNDA	EUGENE	DRAGSETH	NUNDA	SD
TOWN OF OACOMA	ALICE	HUTMACHER	OACOMA	SD
TOWN OF OELRICHS	JAMES	LINEHAN	OELRICHS	SD
TOWN OF OLIVET	RANDY	PETERS	OLIVET	SD
TOWN OF ONAKA	SHANNON	WALDMAN	ONAKA	SD
TOWN OF ORIENT	ROBIN	YOUNG	ORIENT	SD
TOWN OF ORTLEY	DAVID	JOHNSON	ORTLEY	SD

AFFILIATION	NAME		CITY	STATE
TOWN OF PIERPONT	DOROTHY	PETRICH	PIERPONT	SD
TOWN OF POLLOCK	DENNIS	MOSER	POLLOCK	SD
TOWN OF PUKWANA	MARGUER	PRIEBE	PUKWANA	SD
TOWN OF QUINN	WES	STVERAK	QUINN	SD
TOWN OF RAMONA	JERRY	HENRICHS	RAMONA	SD
TOWN OF RAVINIA	DEROL	HALL	RAVINIA	SD
TOWN OF RAYMOND	PATRICIA	NUTTBROCK	RAYMOND	SD
TOWN OF REE HEIGHTS	RENAE	PHINNEY	REE HEIGHTS	SD
TOWN OF RELIANCE	RONALD	MCMANUS	RELIANCE	SD
TOWN OF REVILLO	LOWELL	SCHULTZ	REVILLO	SD
TOWN OF ROCKHAM	MARVIN	BECKER	ROCKHAM	SD
TOWN OF ROSHOLT	RICK	LECLAIR	ROSHOLT	SD
TOWN OF ROSLYN	BEVAN	SCHMIDT	ROSLYN	SD
TOWN OF ROSWELL	JAMES	HANSON	HOWARD	SD
TOWN OF SENECA	KIRK	HOEFERT	SENECA	SD
TOWN OF SHERMAN	NEIL	WINTERTON	SHERMAN	SD
TOWN OF SINAI	BRAD	MITCHELL	SINAI	SD
TOWN OF SOUTH SHORE	RONALD	SCHMELING	SOUTH SHORE	SD
TOWN OF ST FRANCIS	ADAM	LITTLE ELK	SAINT FRANCIS	SD
TOWN OF ST LAWRENCE	RICHARD	WALDROP	SAINT LAWRENCE	SD
TOWN OF STICKNEY	MIKE	VANDEN HOEK	STICKNEY	SD
TOWN OF STOCKHOLM	MELVIN	DRAGT	STOCKHOLM	SD
TOWN OF STRANDBURG	LEONARD	RUFER	STRANDBURG	SD
TOWN OF STRATFORD	MARK	TOLUSTAD	STRATFORD	SD
TOWN OF SUMMIT	DERALD	BOGENREIF	SUMMIT	SD
TOWN OF TABOR	LEONARD	CIMPL	TABOR	SD
TOWN OF TEA	HERMAN	OTTEN	TEA	SD
TOWN OF TOLSTOY	JIM	SCHMIDT	TOLSTOY	SD
TOWN OF TORONTO	RICHARD	GRIMLIE	TORONTO	SD
TOWN OF TRENT	LOWELL	CHRISTENSEN	TRENT	SD
TOWN OF TULARE	DOUG	TIPTON	TULARE	SD
TOWN OF TURTON	BETTY	BARRIE	TURTON	SD
TOWN OF TWIN BROOKS	RUSSELL	BOHN	TWIN BROOKS	SD
TOWN OF UTICA	CHARLES	HALSTED	UTICA	SD
TOWN OF VERDON	IVY	NOGEL	CONDE	SD
TOWN OF VIENNA	ARNELL	RAASTAD	VIENNA	SD
TOWN OF VILAS	CRAIG	HANSON	VILAS	SD
TOWN OF VIRGIL	TOM	WESTPHAL	BIRGIL	SD
TOWN OF VOLIN	ARLEN	STEENHOVEN	VOLIN	SD
TOWN OF WAKONDA	BERNARD	STEFFEN	WAKONDA	SD
TOWN OF WALLACE	ROSS	KELLER	WALLACE	SD
TOWN OF WARD	KATHY	BAKER	WARD	SD
TOWN OF WARNER	DENNIS	CHRISTENSON	WARNER	SD
TOWN OF WASTA	JUSTIN	CRAWFORD	WASTA	SD
TOWN OF WENTWORTH	WAYNE	TROUSDALE	WENTWORTH	SD
TOWN OF WESSINGTON	JEFFREY	REINHARDT	WESSINGTON	SD
TOWN OF WESTPORT	ALICE	MULLNER	WESTPORT	SD
TOWN OF WETONKA	ROGER	ROHWEDDER	WETONKA	SD
TOWN OF WHITE ROCK	RUDY	RODRIGUEZ	WHITE ROCK	SD
TOWN OF WOLSEY	RUTH	BRODKORB	WOLSEY	SD
TOWN OF WOOD	MARTY	RYNO	WOOD	SD
TOWN OF WORTHING	GEORGE	ZAHN	WORTHING	SD
TOWN OF YALE	RICK	ERICKSON	YALE	SD
TRI-COUNTY CONSERVATION DISTRICT			FAITH	SD
TRI-COUNTY WATER ASSOCIATION INC	GLEN	BRINGMAN	EAGLE BUTTE	SD
TRIPP COUNTY	MARION	BEST	WITTEN	SD
TRIPP COUNTY CD	LEONARD	RASMUSSEN	WINNER	SD
TRIPP COUNTY LEPC	LOUIS	POLASKY	WINNER	SD
TRIPP COUNTY WUD	JACK	FRANTZ	WINNER	SD
TURNER COUNTY	LUVERNE	LANGEROCK	MARION	SD
TURNER COUNTY E&DS	DEAN	ERICKSON	DAVIS	SD
TURNER COUNTY LEPC	RICHARD J	PEDDE	PARKER	SD
U.S. GEOLOGICAL SURVEY	CHRISTY	KOTSCHWAR	RAPID CITY	SD
UNION COUNTY	ROGER	BOLDENOW	ELK POINT	SD
UNION COUNTY E&DS	JAMES	HAUG	ELK POINT	SD

AFFILIATION	NAME		CITY	STATE
UNION COUNTY LEPC	JOHN	GILLE	ELK POINT	SD
UNION COUNTY STATE PARK			BERESFORD	SD
UNITED SIOUX TRIBES OF SOUTH DAKOTA	ORVILLE	HICKS	PIERRE	SD
US ARMY CORPS OF ENGINEERS	STEVE	NAYLOR	PIERRE	SD
US BUREAU OF RECLAMATION	KURT	ANDERSON	RAPID CITY	SD
US EPA REGION 8	MIKE	WIREMAN	DENVER	CO
US EPA REGION 8	MARCELL	HUTCHINSON	DENVER	CO
US FISH & WILDLIFE SERVICE			PIERRE	SD
US FOREST SERVICE	TERRY	ARMBRUSTER	LAKEWOOD	CO
US FOREST SERVICE - BH NATL FOREST	SUSAN	HIXON	CUSTER	SD
US GEOLOGICAL SURVEY	LARRY	PUTNAM	RAPID CITY	SD
US GEOLOGICAL SURVEY	STEVE	SANDO	HURON	SD
US GEOLOGICAL SURVEY	RICK	BENSON	HURON	SD
US GEOLOGICAL SURVEY	MIKE	STROBEL	RAPID CITY	SD
US PUBLIC HEALTH SERVICE	JAMES F	LAWLER	ABERDEEN	SD
USBR	PAULA	SUNDE	RAPID CITY	SD
USCOE BIG BEND DAM	MARY	FLANDREA	CHAMBERLAIN	SD
USCOE GAVINS POINT DAM	MICHAEL	SHEA	YANKTON	SD
USDA - CFSA - FEDERAL BUILDING	DIANE	CLAYTON	HURON	SD
USDA - NRCS	DAVE	KONECHNE	PIERRE	SD
USDA FARM SERVICE AGENCY	MARIELLE	ROSS	RAPID CITY	SD
USDA NATL RES CONSERV SERV - FIELD OFF			TYNDALL	SD
USFS	RON	GLOVER	RAPID CITY	SD
USGS	KEN	LINDSKOV	RAPID CITY	SD
USGS NATIONAL CENTER	JACK	EPSTEIN	RESTON	VA
MEDICAL CENTER			FORT MEADE	SD
VERMILLION BASIN WDD	JIM	ADAMSON	CENTERVILLE	SD
VIVIAN SANITARY DISTRICT	LESA	PATRICK	VIVIAN	SD
WALL LAKE SANITARY DISTRICT	RUSS	FLEMING	HARTFORD	SD
WALLING WATER MANAGEMENT	RUSS	LARSEN	SIOUX FALLS	SD
WALWORTH CONSERVATION DISTRICT			SELBY	SD
WALWORTH COUNTY	PHYLLISS	PUDWILL	SELBY	SD
WALWORTH COUNTY E&DS	DON	OPIE	MOBRIDGE	SD
WASTE MANAGEMENT OF THE BLACK HILLS	JOE	KONDRUP SR	RAPID CITY	SD
WASTELINE	DEBORAH	BARTON	RAPID CITY	SD
WASTEWATER OPERATIONS	STEVE	DRAVLAND	SIOUX FALLS	SD
WATER RES/HAZ MAT PRG ROSEBUD SIOUX TRBE	SYED	HUQ	ROSEBUD	SD
WATER RESOURCES - OGLALA SIOUX TRIBE			PINE RIDGE	SD
WATER RESOURCES RES INSTITUTE - SDSU	DAVE	GERMAN	BROOKINGS	SD
WATERTOWN MUNICIPAL UTILITIES DEPT	GEOFF	HEIG	WATERTOWN	SD
WATERTOWN NRCS FIELD OFFICE	ARLENE	JENSON	WATERTOWN	SD
WEB WATER DEVEL ASSOC INC	LEONARD	NAESSIT	ABERDEEN	SD
WEB WATER DEVELOPMENT ASSOCIATION	CURT	HOLM	ABERDEEN	SD
WEST DAKOTA WATER DEVELOPMENT DIST	GALE	HOLBROOK	RAPID CITY	SD
WEST DAKOTA WATER DEVELOPMENT DISTRICT	VAN	LINDQUIST	RAPID CITY	SD
WEST RAPID CIVIC ASSN	RAYMOND	LUCAN	RAPID CITY	SD
WEST RIVER RURAL WATER SYSTEM INC	GEORGE	RENNING	MURDO	SD
WEST RIVER WATER DEV DISTRICT	JOE	HIEB	RELIANCE	SD
WHARF RESOURCES MINING CO	CAROL	KOERNER	LEAD	SD
WONDERLAND HOMES SUBDIVISION	ROBERT	POWLES	PIEDMONT	SD
YANKTON CONSERVATION DISTRICT			YANKTON	SD
YANKTON COUNTY	JERRY	BIENERT	YANKTON	SD
YANKTON COUNTY CD	CARL	JOHNSON	YANKTON	SD
YANKTON COUNTY LEPC	KEN	BUHL	YANKTON	SD
YANKTON SIOUX TRIBE	STEPHEN	COURNOYER JR	MARTY	SD
YANKTON SIOUX TRIBE	PAULA	BUTLER	MARTY	SD
YANKTON SIOUX TRIBE	JIM	STONE	MARTY	SD
YANKTON SIOUX TRIBE	CLIFFORD	JOHNSON	MARTY	SD
YANKTON SIOUX TRIBE	MICHAEL	FISCHER	MARTY	SD
ZIEBACH CONSERVATION DISTRICT			DUPREE	SD
ZIEBACH COUNTY	CLINTON	FARLEE	DUPREE	SD
ZIEBACH COUNTY E&DS	RALPH	PESICKA	DUPREE	SD
	DONALD	PAY	RAPID CITY	SD
CANYON ECHO	JACK	COLE	SPEARFISH	SD
IOWA DEPARTMENT OF NATURAL RESOURCES	DENNIS	ALT	DESMOINES	IA

MINNESOTA DEPARTMENT OF HEALTH	BRUCE	OLSEN	ST. PAUL	MN
NEBRASKA DEPT. OF ENVIRONMENTAL QUALITY	MARTY	LINK	LINCOLN	NE
WYOMING DEPT. OF ENVIRONMENTAL QUALITY	KEVIN	FREDERICK	CHEYENNE	WY
MONTANA DEPT. OF ENVIRONMENTAL QUALITY	JOE	MEEK	HELENA	MT
NORTH DAKOTA DEPT. OF ENVIRONMENTAL QUALITY	DAVE	GLATT	BISMARCK	ND

Appendix F

Source Water Advertisement placed in the following Newspapers on November 4, 1998	
CITY	**NEWSPAPER**
Aberdeen	*American News*
Brookings	*Register*
Huron	*The Plainsman*
Madison	*Daily Leader*
Mitchell	*The Daily Republic*
Pierre	*Capital Journal*
Rapid City	*Rapid City Journal*
Sioux Falls	*Argus Leader*
Spearfish	*Black Hills Pioneer*
Watertown	*Public Opinion*
Yankton	*Daily Press & Dakotan*
Vermillion	*Plain Talk*
Rapid City	*Indian Country Today*

Public Meeting Locations on Source Water Assessment and Protection Program Document through Rural Development Telecommunications Network November 18, 1998	
CITY	**FACILITY**
Aberdeen	Northern State University
Brookings	South Dakota State University
Mitchell	Mitchell Technical Institute
Madison	Dakota State University
Pierre	Capital University Center
Rapid City	South Dakota School of Mines & Technology
Sioux Falls	Southeast Technical Institute
Spearfish	Black Hills State University
Vermillion	University of South Dakota
Watertown	Lake Area Technical Institute
Yankton	South Dakota Human Services Center

Appendix F1

Notice of Source Water Assessment and Protection Program Public Meeting:

The South Dakota Department of Environment and Natural Resources invites the public to a presentation and workshop on new activities designed to protect drinking water supplies. The new activities will be part of the State's Source Water Assessment Program, which is a required by the 1996 Amendments to the Federal Safe Drinking Water Act. As part of this, the department is undertaking a statewide effort to identify possible activities in South Dakota that can affect the quality of drinking water sources for the 760 public drinking water systems in the state.

The meetings will include an overview of the Department's proposed Source Water Assessment Program plan and a question and answer session, which will be followed by a comment period when citizens may voice their comments, suggestions, and recommendations regarding the proposed plan. Input from the public will be addressed into the Department's final Source Water Assessment Program plan that will be submitted to the U.S. Environmental Protection Agency for approval before the February 1999 deadline.

The Department will host two public input meetings over the Rural Development Telecommunications (RDT) Network on Wednesday, November 18, 1998 from 3:00-5:30 pm and 8:00-10:00 pm Central Standard Time. The public is invited to attend any of the eleven RDT Network stations as listed:

For more information on the Source Water Assessment Program, contact Tricia Sebes at 605-773-3296, email: **,** or view the draft Source Water Assessment plan on the department's Website at www.state.sd.us/denr under *Hot Topics*.

SDSM&T Classroom Building, Rm. 109 501 E. Saint Joseph Street Rapid City, SD Phone: (605) 394-2377	**Lake Area Technical Institute** Main Building, Rm. 125 230 11th Street NE Watertown, SD Phone: (605) 882-5284, Ext. 271	**Capital University Center** RDT Network Room 809 East Dakota Pierre, SD Phone: (605) 224-6131
Northern State University Beulah Williams Library, Rm. 117 1200 S. Jay Street Aberdeen, SD Phone: (605) 626-2496	**Mitchell Technical Institute** Main Building, Rm. 131 821 North Capital Mitchell, SD Phone: (605) 995-3065	**Southeast Technical Institute** Mickelson Education Center, Rm. 205 2301 Career Place Sioux Falls, SD Phone: (605) 367-7624, Ext. 264
Black Hills State University E.Y. Library, Rm. L020 1200 University Station Spearfish, SD Phone: (605) 642-6407	**Dakota State University** Karl E. Mundt Library, Rm. 202 820 North Washington Madison, SD Phone: (605) 256-5203	**SD Human Services Center** George S. Mickelson Center for the Neurosciences, Training Center Rm. #3 3515 Broadway Ave. Yankton, SD Phone: (605) 668-3593
University of South Dakota Center for Continuing Education 414 East Clark Vermillion, SD Phone: (605) 677-6515 (3-5:30 p.m. in Studio II/8-10 p.m. in Studio I)	**South Dakota State University** 101 Pugsley Center 8th and Medary Brookings, SD Phone: (605) 688-6058 (3-5:30 p.m. in Studio II/8-10 p.m. in Studio I)	

Appendix F2

Source Water Assessment and Protection Program
Public Meetings Summary and Comments
November 18, 1998

Attendees:

Bill Markley	SD DENR-Ground Water Quality
Anita Yan	SD DENR-Ground Water Quality
Tom Brandner	SD DENR-Ground Water Quality
Tricia Sebes	SD DENR-Ground Water Quality
Missy Mathis	SD DENR-Minerals and Mining
Rob Kittay	SD DENR-Drinking Water
Bill Baer	SD DENR-Surface Water Quality
Lonnie Steinke	SD DENR-Watershed Protection
Derric Iles	SD DENR-Geological Survey
Assad Barrari	SD DENR-Geological Survey
Tim Cowman	SD DENR-Geological Survey
Stan Pence	SD DENR-Geological Survey
Foster Sawyer	SD DENR-Geological Survey
Joe Nadenicek	SD DENR-Office of the Secretary
Greg Merrigan	Clay Rural Water System
Earl Aeheson	East Dakota Water Development District
Hobert Storer	East Dakota Water Development District
Martin Jarrett	South Dakota Water Congress
Charles Boe	SDICCA
Brad Karlen	Farmer/Citizen
Bill Willis	Town of Ethan
Cheryle Van Zee	South Central Water Development District
Bill Lewellen	City of Miller
Fred Snoderly	City of Pierre
Willis Nelson	Tri-County Water
Joe Kafka	Associated Press
Stacy Ellwanger	SD Health Lab
Jeff Williamson	US Bureau of Reclamation
Alan Voller	Farm Services Agency
Richard Hamlin	City of Highmore
Rodney Coker	Indian Health Services
Dugan Bad Warrior	Cheyenne River Sioux Tribe
Van Lindquist	West Dakota Water Development District
Ed Yelick	West Dakota Water Development District
Pat Cerny	South Central Water Development District
Bill Cerny	State Representative Legislative Oversight
Jim Taylor	Wind Cave National Park
Norma Diede	Eastridge Acres Development Association
John Hammond	Everready
Kelly Lane	Douglas Schools
Fred Zoll	Nitche Water System
Ed Striebel	SD Association of Environmental Professionals
Ann Sandvig	Black and Veatch
Bud Nestor	Rimrock Ridge Water
Mark Mayer	CETEC Engineering
John Wagner	Rapid City Water Division
Scott Kenner	SD School of Mines and Technology
Neal Williams	Ellsworth Air Force Base
Charles Akers	City of Hot Springs
Valerie Cox	Pine Cliff
L.J. Hasen	Energy Laboratories, Inc.
Jake Fitzgerald	West River/Lyman Jones Rural Water System
William Forney	City of Oelrichs
Bob Mallow	Meade County Commissioner
Jack Erickson	SD Game, Fish & Parks Department
Charles Sorell	Black Hills Children's Home
Leonard Haberstead	Black Hills Children's Home
Robert Powers	Citizen
Darlene Huettl	SD Stockgrowers Association
Norman Redwill	Fall River County
Lyle Haynes	City of Martin
Randall Nelson	City of Rapid City
Curt Pochardt	Prairie Hills Audubon Society
Mike Carter	Custer County Emergency Management
Kathie Grant	Meade County Emergency Management
Randy Dockendorf	Press and Dakotan
Ronald Gall	US Army Corps of Engineers
Scott Wik	US Army Corps of Engineers
Carl Johnson	Yankton County Emergency Management
Rodger Harts	City of Yankton
Jerry Busby	City of Yankton
Kenneth Bundle	Codington County Soil Conservation
Joe Stein	Sierra Club
Julian Wick	Lake Pelican Water District
Stan Lamb	Farm Services Agency
Craig Mitchell	City of Watertown-WWTF
Mike Buerger	City of Watertown-WWTF
Mike Kamm	Watertown Municipal Utilities
Richard Smith	Lake Poinsett Watershed
Jim Dylla	Hamlin/Codington Conservation Districts
John Lentz	Hamlin County NRCS
Leif Erickson	Glacial Lakes Prairies Tourism
John Little	Upper Big Sioux Watershed Advisory Board
Randall Rudebusch	Citizen
Terry Plucker	SD Association of Rural Water Systems
Jay Gilbertson	East Dakota Water Development District
Bill Dempsey	East Dakota Water Development District
George Albright	City of Volga
Steve Meyer	City of Volga
Pat Gilligan	Brookings-Deuel Rural Water System
John Maursetter	SD State University
Heather Young	SD State University
Jim Dornbush	SD State University-retired
Russ Derickson	Minnesota Department of Agriculture
Randy Asleson	City of DeSmet
Jim Nass	City of Brookings
Randy Jencks	Kingbrook Rural Water System
Barbara Telkamp	Brookings County Commission
Pete Gilbertson	Citizen
Larry Hope	City of Marion
Dwight Waltner	City of Marion
Mike Meyer	GeoTek Engineering Services, Inc.
Ken Pedersen	T-M Rural Water District
Irvin Dykstver	T-M Rural Water District
Charles Kuehl	South Lincoln Rural Water System
Jim Auen	Minnehaha Community Water Corp.
Craig Rosenberg	Minnehaha County Extension
Steve Munk	Minnehaha County Extension
Jim Zeck	SD Association of Rural Water Systems
Ardis Neish	SD Lakes and Streams
Dick Neish	SD Lakes and Streams
Tim Stefanich	City of Sioux Falls
Floyd Larsen	Missouri River Emergency Services
Brian Top	USDA-Natural Resources Conservation Service
Larry Osen	Minnehaha County Farm Services Agency
Karen Fogas	Sierra Club
Loren Schaller	Farm Services Agency
Ronald Christensen	Natural Resources Conservation Service

Attendees Cont.

Marvin Bury	Day County	Leslie Snoogy	City of Belle Fouche
Pat Kladko	City of Aberdeen Commission	Fancies Toscana	Lead Deadwood Sanitary District #1
Gloria Yost	Citizen	James Winterton	City of Deadwood
T. Torlfa	WEB Water Development	Jerry Ellengson	Ken's Trailer Court
Rick Wahlen	City of Aberdeen	Tim Thomure	Wharf Resources
Janel Ellingson	City of Aberdeen	Marty Talley	Homestake Mining Company
Gerry Bennett	Spearfish Canyon Owners Association	Elliott Moser	Homestake Mining Company
Jack Cole	Black Hills Water Rangers Association	Bill Kerry	Butte Conservation District
Bob Young	Spearfish Valley Mobile Est.	Eldon Christenson	City of Sturgis Water Department
Larry Roberdean	Mountain Plains II Subdivision	Karen Sleep	Iron Creek Lake Store
Charles Kilmer	Mountain Plains II Subdivision	Dwayne Keeney	St. Onge Water
Bob Swanson	Town of Nisland	Leo Bestgen	Bestgen Water Company
Jim Karlson	Town of Nisland		

Introduction **Bill Markley**

Thank you for coming to this important meeting.

The South Dakota Department of Environment and Natural Resources (DENR) is required to draft a Source Water Assessment and Protection Program through requirements of the 1996 Safe Drinking Water Act Amendments.

The purpose of this meeting is to provide the public an overview of the proposed program and give the public a chance to ask questions and provide comments to DENR. Written questions and comments can be submitted to the DENR by December 18, 1998.

In December 1998, the draft Source Water Assessment and Protection Program plan will be presented to DENR's Water Management Board and Board of Water and Natural Resources for approval. Following approval from the DENR citizen boards, the final draft plan will be submitted to the Environmental Protection Agency (EPA) in February 1999 for approval.

Source Water Assessment and Protection Program Overview **Anita Yan**

Why is DENR conducting source water assessments?

The availability of safe drinking water is vital to the economy and growth of South Dakota. The SD DENR is the primary agency responsible for protecting aquifers of the state for future beneficial use as drinking water. To facilitate protection of the public drinking water supplies in South Dakota, DENR is developing methods to identify possible sources of contamination to the 760 public drinking water systems in the state. These methods will be incorporated into the state's Source Water Assessment Program, a requirement of the 1996 Amendments to the Federal Safe Drinking Water Act.

Why should the public be interested in the source water assessment program?

Drinking water issues affect everybody because everyone wants to have confidence that they're getting safe drinking water when they turn on their tap to take a drink. While the majority of public drinking water systems in our state can provide that confidence, these assessments will help ensure that confidence remains for many years to come. Those involved in agricultural, commercial, and industrial enterprises may have additional interest in DENR's approaches to the assessments because certain facilities and activities may be included in the inventory of potential pollution sources.

What is a source water assessment?

A source water assessment includes three steps:

1. defining the most critical area contributing water to a public water source
2. inventorying potential pollution sources in that critical area, and
3. rating the potential pollution sources to determine their relative threat to the water supply

Every state is required to provide assessment information to the public no later than May 2003. Local communities, including water system operators, community leaders, and planners will be responsible for taking the information in

these assessments, designating a source water protection area, and determining methods to protect their public drinking water supply.

How will the source water assessment areas be delineated?

For ground water wells, the critical areas contributing water will be delineated using several methods already in use in South Dakota under the Wellhead Protection Program. These methods may be as simple as drawing a circle around the well, or it may be quite complicated and involve mathematical modeling. EPA approved South Dakota's Wellhead Protection Program in September 1992. The Source Water Assessment Program is an extension of the Wellhead Protection Program in that now surface water sources are included.

For public water supply systems supplied by surface water, South Dakota is required to delineate the entire watershed. However, the department will concentrate its efforts in the areas nearest to and upstream of the surface water intake.

The department is proposing to treat the Black Hills as a single unit due to the complex nature of the aquifer recharge areas which affect streams and underground water flows. The department proposes to use a combination of the ground water and surface water delineation methods and will include aquifer recharge areas in the Black Hills.

Once the critical area contributing water to a public drinking water supply has been identified, an inventory of possible pollution sources will be conducted.

Why and how will the potential contaminant source inventory be conducted?

In order to protect, manage, and plan, a community needs to know where the possible problems exist. A potential contaminant source inventory will consist of using the existing information within DENR and other state and federal agency databases. These databases include facilities regulated by the federal and state government and facilities where releases of contaminants to the environment have been reported.

Land uses and facilities that may be identified during the potential contaminant source inventory include, but are not limited to: mining operations, medical institutions, golf courses, animal feedlots, pasture and rangeland, cropland, manure and chemical application areas, manure and chemical storage areas, and petroleum storage facilities, such as gasoline stations. Table 3.1 in the draft Source Water Assessment Plan is a detailed list of potential contaminant sources.

To help manage the potential contaminant source identification, local governments and community leaders will be encouraged to assist with their inventory. As time and other resources allow, a more detailed inventory, including field verification, may be conducted.

Why and how will the susceptibility analysis be conducted?

If a facility is identified as a potential source of pollution to drinking water, the susceptibility of the drinking water source to contamination by the potential pollution source will be evaluated. An analysis will be conducted to rate the susceptibility of a public water supply system to each potential contaminant source identified in the source water assessment area. Susceptibility is defined as the potential for a public water supply system to draw contaminated water into a ground water well or surface water intake. Relative to each public water supply system, each potential contaminant source will be evaluated for several risk factors. Based on the evaluation, the individual risk factors will be assigned values. The risk factor values will be combined mathematically to result in a susceptibility score. The possible scores, and therefore potential risks, under this system will be divided into high, moderate and low ranges.

The susceptibility analyses will provide an overall relative rating of the susceptibility of a drinking water source to contamination by a potential pollution source. The ratings are meant to provide the water system operators, community leaders and planners a system to prioritize their management measures and are not meant to be absolute risk ratings. In other words, a high rating does not necessarily mean that the public water supply system is highly susceptible to contamination from a potential pollution source. Instead, a high rating means that compared to a potential pollution source with a moderate rating, this facility poses more of a threat to the drinking water source.

The draft Source Water Assessment Program plan includes several examples of how the risk posed by potential sources of contamination, including agricultural sources, to a public drinking water supply source would be evaluated.

How will the citizens of South Dakota benefit from the Source Water Assessment and Protection Program?
The availability of safe drinking water is vital to the economy of this state and important to every person living in this state. Most people are good stewards of the land and natural resources. Most people are responsible citizens who wish to do what they can to maintain their quality of life and to protect the natural resources that contribute to their quality of life. However, sometimes it is not clear what can or should be done to protect those resources. The source water assessments will provide some of this information. The source water assessments will provide information regarding the relative risk posed by a facility or a land use to possible contamination of a public drinking water supply. Once this risk is known, individual citizens can work to reduce this risk.

The Source Water Assessment Program is not a regulatory program. The methods outlined in the Source Water Assessment Program may also be used as part of the planning and siting of future facilities to reduce potential risk to public drinking water sources. However, the pertinent information gathered through the Source Water Assessment Program will be provided to the water system operators, community leaders, and planners for their use. The water system operators, community leaders and planners may implement management measures to protect the local public drinking water supply. These management measures may include, but are not limited to education, voluntary implementation of best management plans, voluntary water quality monitoring, encouragement of water conservation, and zoning.

Who is responsible for conducting the source water assessments?
In South Dakota, DENR has the responsibility of developing this program and conducting these assessments. If the local public water system operator wants to do their own assessment, the department will provide the guidance and assistance so that all assessments are done consistently across the state. The department may issue contracts for portions of the assessments to qualified firms or agencies.

When will the source water assessments be conducted?
South Dakota must submit the Source Water Assessment Program plan to the United States Environmental Protection Agency (EPA) for approval by February 1999. The EPA has until November 1999 to approve the plan. However, the wellhead protection portions of the program have already been approved and the DENR may begin those portions of the assessments in December 1998. Assessments for all 760 public drinking water systems in South Dakota must be completed within 3 1/2 years of EPA's approval of the final Source Water Assessment Program plan. Therefore, it is expected that the Source Water Assessments will be completed for all public water supply systems within South Dakota by May 2003.

For more Information
More information on the Source Water Assessment Program, including the draft plan in its entirety and a summary of the program, can be found on the Department of Environment and Natural Resources' website at: www.state.sd.us/denr under Hot Topics, or contact Tricia Sebes at the Department of Environment and Natural Resources, Ground Water Quality Program, at 605-773-3296, or email at tricia.sebes@.state.sd.us.

Questions

NOTE: *For completeness, answers to questions may include information not presented during the public meetings.*

1. Are the source water assessments tied to Total Maximum Daily Load (TMDL) assessments that are currently being conducted by DENR?

A TMDL is a quantitative assessment of water quality problems and contributing pollutant sources. A TMDL provides the information needed to specify the amount of a pollutant that needs to be reduced by individual sources so that lakes, rivers, streams, or estuaries meet state water quality standards and designated water uses.

The Source Water Assessment Program and the TMDL Program are separate programs within DENR; however, there is a lot of overlap between the programs. Information collected through the TMDL assessments will add to the

information collected through the Source Water Assessment Program, and vice versa. However, it will not be possible to develop TMDLs for every listed water body within the time frame of the Source Water Assessment Program. The time frame to develop TMDLs for all the listed water body is 13 years, in accordance with EPA guidelines. For water serving as a source for a public water supply, the data developed as part of the TMDL assessment can provide a basis for implementing local source water protection programs.

2. Should the risk factor "PWSS well or intake condition" in Appendix T, *Susceptibility Analysis Risk Factors* on page 130, be included as an intrinsic risk factor rather than an induced risk factor? Induced risk factors are specific to the potential contaminant source; a well or intake is not a source of contamination.

Intrinsic risk factors are the risk factors that exist by virtue of the hydrogeologic and physical setting of the water source, including depth to water, aquifer characteristics, and flood plain conditions. *Induced* risk factors are risk factors that exist due to human activities at the water source and at the various potential contaminant sources. Induced risk factors include distance of potential contaminant to the water source, volume of contaminant stored at the facility, and well or intake condition. Therefore, DENR will consider "PWSS well or intake condition" to be an *induced* risk factor.

3. Although the Source Water Assessment and Protection Program is currently not mandatory, will the program be mandatory in the future?

South Dakota is required by the 1996 Safe Drinking Water Act Amendments to develop a Source Water *Assessment* Program. However, South Dakota is not required to develop a Source Water *Protection* Program. Communities can use the information collected through source water assessments to develop source water protection programs to manage their water supplies. DENR is not requiring the implementation of source water protection programs; however, DENR will assist any community interested in developing a source water protection program. DENR is not aware of any directives from EPA to require protection programs. However, it is always possible EPA may require mandatory protection measures in the future.

4. Why are septic systems only included in the "residential" category in Table 3.1: *Potential Contaminant Sources Listed by Category* on page 34 of the draft document? Commercial facilities may also use septic systems.

DENR will include septic systems in both the "residential" and "commercial" categories in Table 3.1 in the final document.

5. Does the location of a potential contaminant source dictate the susceptibility rating? For example, will a storage tank in good condition located in close proximity to a water source receive a higher susceptibility rating than a storage tank in poor condition located farther from the water source? Will the state regulate the facility with the higher rating prior to regulating the facility with the lower rating?

A potential contaminant source located close to a water source does not necessarily result in a high susceptibility rating. There are many factors considered in the susceptibility analysis including distance to the water source, volume of contaminants stored at the facility, and utilization of pollution prevention measures at the facility. The Source Water Assessment Program is not a regulatory program; rather, it is a tool that communities can use to manage their water supplies. The Source Water Assessment Program will not affect other regulatory programs. However, if there is violation at a potential contaminant source, DENR will take the necessary action to correct any potential problems.

6. How many source water assessments have been completed and what information has been gathered to complete the assessments?

The location of all public water supply systems in South Dakota has been collected using Global Positioning System (GPS) equipment. A complete source water assessment program includes three steps: 1) delineate the area contributing water to the water source, 2) inventorying all potential contaminant sources in the delineated area, and 3) determining the susceptibility of the potential contaminant sources to the water source. Source water assessments

have been started at approximately 150 public water systems. No source water assessments have been completed in the state; however, communities in eastern South Dakota have developed wellhead protection programs. These communities have delineated the area contributing water to their system and have implemented management strategies to protect their water supplies, including county zoning ordinances.

DENR is able to start portions of the source water assessment program prior to receiving EPA approval. These portions include delineating ground water areas and conducting potential contaminant source inventories around those delineated areas. However, the DENR must receive EPA approval before conducting surface water assessments or any susceptibility analyses.

7. Was the public water supply system locational survey conducted in summer 1998 completed under the Wellhead Protection Program?

South Dakota has identified the location of a public water supply systems along with reservoirs and other water distribution structures for a variety of reasons; however, the effort was spearheaded by the Source Water Assessment Program.

8. Are any other states using the susceptibility method proposed by South Dakota? Do we know what susceptibility method other states are using, and do we feel that the proposed method is the best for South Dakota?

South Dakota does not know specifically what other states are proposing for their susceptibility analysis; however, when viewing other state documents on the Internet, South Dakota's method seems to be more detailed in terms of distinguishing risk factors. The EPA has provided very general guidance to states for developing a susceptibility method. The method must be consistent across South Dakota and cannot be arbitrary and capricious, meaning the results of the analysis must be consistent no matter who is conducting the susceptibility analysis. DENR feels the proposed method is appropriate for South Dakota. To date, Kentucky is the only state that has an approved Source Water Assessment and Protection Program.

9. Because water and watersheds do not recognize boundaries, what is in the draft source water assessment plan regarding developing a cooperative working relationship between federal, state, and tribal entities?

On the Federal level, the EPA has been working with Forest Service and other federal agencies to develop interagency agreements. South Dakota has been working with all states in EPA Region VIII by participating in monthly conference calls to plan coordinate source water assessments efforts. Although the required assessment area will not extend beyond the state or tribal border, South Dakota has sent the draft document to the tribes and surrounding states to gather input and ask for assistance in identifying any potential contaminant source that may affect the water quality in South Dakota. The DENR has been attempting to schedule an informational meeting with the Tribes in December to discuss Source Water Assessment and Protection Program issues.

10. What resource does DENR have available to complete the source water assessments?

South Dakota has set aside 10% or $1,255,880 of FY1997 Drinking Water Revolving Fund allotment for source water assessment and protection. The estimates of costs of completing the program exceed funds available by approximately $974,000. Other funding sources will be used to supplement this effort. These potential funds include Public Water System Supervision, Nonpoint Source 319, 106 Ground Water and potentially other environmental funding sources. A minimum of 3.5 DENR full time employees will be utilized for the development and implementation of South Dakota's Source Water Assessment and Protection Program.

11. Who is responsible for media control and press releases to ensure the source water assessment information will not cause hysteria in the community?

The source water assessment information collected and provided to the community leaders and planners is intended to be used to develop community source water protection programs. DENR considered the possibility that the

assessment information could be misused, causing undue concern within a community. To minimize that possibility, DENR will not provide potential contaminant source ownership information. DENR is not planning on writing press releases; any press release would be controlled locally.

12. When a source water assessment area is delineated, will DENR verify the delineated boundaries, either through monitoring wells or aquifer tests?

DENR is not planning to verify source water assessment areas; DENR is limited by time and money constraints. However, DENR encourages local communities to "fine-tune" their source water assessments by verifying their delineated areas. A community's final assessment report can be revised if additional information becomes available.

13. Does DENR have guidelines available to help communities develop source water protection programs? What assistance will DENR provide to communities interested in implementing protection programs?

The Source Water Assessment and Protection Program is building upon the DENR's existing Wellhead Protection Program. The DENR has developed a document entitled *SD Wellhead Protection Guidelines* which contains information on how communities can manage their source water protection areas by, for example, educating the community, conducting community clean-up days, and developing zoning ordinances. This document is available on the DENR-Ground Water Quality Internet website or by contacting DENR at (605) 773-3296.

DENR is also considering the development and implementation of a state source water quality protection petition program. This state-administered program is voluntary for states and is intended to support locally driven efforts designed to address a limited number of contaminants identified in the local source water assessments. However, a state may submit a Petition Program for approval by EPA at any time, unlike the Source Water Assessment and Protection Program Plan, which must be submitted to the EPA by February 1999. More information regarding the petition program will be added to the final Source Water Assessment and Protection Plan.

14. Has DENR set-aside money for land acquisition from the Drinking Water State Revolving Fund?

No, however funds for land acquisition and conservation easements are available as loans under the Drinking Water State Revolving Fund. DENR may set-aside funds for land acquisition loans in the future.

15. How is *Section 3.5.5: Contaminants of Concern* on page 36 of the draft document linked to the contaminant source inventory?

A listing of *contaminants of concern* is required in the Source Water Assessment and Protection Program Plan to indicate that sources of all regulated contaminants are considered, and to serve as a basis for the list of potential contaminant sources. DENR will expand Section 3.5.5 in the final document to clarify this link.

16. What is the difference between Zone A and Zone B contaminant source inventory?

DENR will concentrate potential contaminant source inventory efforts in the most critical area near drinking water sources. Therefore, a *comprehensive* contaminant source inventory will be conducted in Zone A source water assessment areas. This includes using all existing information from DENR and outside agency databases listed in Table 3.2, page 35 of the draft document to complete an inventory. Field verification of potential contaminant sources will also be conducted in Zone A in some source water assessment areas. Public water supply systems operators will also be asked to supply potential contaminant source inventory information in Zone A source water assessment areas.

A *limited* contaminant source inventory will be conducted in Zone B source water assessment areas. The inventory in these areas will only include regulated facilities or major nonpoint source potential contaminant sources.

17. Define Zone A and Zone B assessment areas in the Black Hills region.

Zone A in the Black Hills region includes a 0.25-mile assessment area along each perennial stream and all aquifer recharge areas. Depending on the hydrogeologic setting of the public water supply system, Zone A also includes an arbitrary fixed radius around the wellhead. Zone A in systems located in confined aquifers includes a 500-foot radius around the wellhead; Zone A in systems located in alluvial aquifers includes a 0.25-mile radius around the wellhead; and Zone A in systems located in fractured Precambrian bedrock includes a 0.5-mile radius around the wellhead.

Zone B in the Black Hills region includes the remaining delineated watershed.

18. Does the draft Source Water Assessment and Protection Program document include a map of the entire Black Hills region? Does the draft document contain a narrative description of the Black Hills region assessment methods?

The draft document does not include a map of the entire Black Hills region; however, the document does contain hypothetical figures and narrative descriptions for all Black Hills hydrogeologic settings and assessment approaches.

19. Who has the authority to regulate potential contaminant sources in watershed areas?

Although a potential contaminant source may have a high potential risk, the source is not necessarily a problem. If a potential contaminant source poses a problem, such as having a known contaminant release, the problem will be addressed at the state level. Depending on the nature of the problem, several agencies may be involved, including DENR.

20. How will DENR approach large agricultural holdings on private land in the "blanket" Black Hills region source water assessment?

DENR will use Natural Resources Conservation Service land use information to identify large areas of agricultural nonpoint potential contaminant sources. All public water supply systems will receive an individual draft source water assessment for their system and will be asked to provide comments to the DENR. All systems will also be asked to provide additional potential contaminant source inventory information in their source water assessment areas.

21. Does the Zone A, 10-mile source water assessment area for surface water systems located outside the Black Hills region include tributaries? The proposed Zone A, 10-mile, 0.25-mile lateral assessment area will not be sufficient for public water supply systems located in the Aberdeen area.

Zone A source water assessment areas include all perennial streams and tributaries up to 10 miles beyond the public water supply intake. The source water Technical Advisory Committee determined the 10-mile assessment area. The committee concluded that this set distance would be a sufficient assessment area for inventorying potential contaminant sources that may affect the water quality for most surface water systems in South Dakota. However, if communities wish to expand their assessment area, DENR will assist in customizing their source water assessment areas.

22. Will the Source Water Assessment and Protection Program protect private drinking water systems?

A public water supply system is defined as any water system that serves 15 connections or 25 people per day for a minimum of 60 days per year. Unfortunately, time and resources are not available to conduct source water assessments for private drinking water systems. However, DENR will provide information to any private system wishing to design a source water protection program.

23. What information can public water supply systems provide to DENR?

Public water supply systems should start considering the locations of potential contaminant sources located near the water source that may pose a high potential risk. DENR will field verify potential contaminant sources in some source water assessment areas.

24. What community leaders will be required to pass information to the public?

During the assessment process for each individual public water supply system, DENR will contact the specific system approximately one month before the assessment is to be finalized to solicit any comments on the draft assessment. Additionally, DENR will meet with any community that wishes to discuss the results of the assessment, including the procedures used to derive the assessments, and discuss implementation options. When the assessment has been finalized, DENR will send the prescribed information to the local public water supply officials. Assessment results will be available in both electronic and paper formats. This includes both the narrative and map portions of the assessments.

DENR will also make all necessary assessment information available over South Dakota's Internet web page, so the information can be available to all citizens. Because Internet access may not be available to all individuals and communities, maps and reports will be available in paper format for communities and/or individuals that request the information in this form. Assessment information will be sent directly to public water supply operators, city mayors or councilmen, and interested citizens. DENR will encourage each local community to make the information available to all its citizens. For example, a notice can be placed in customer's water bills, in the system's consumer confidence report, or presented in some other outreach format which describes the availability of the source water assessment information and how it can be acquired.

25. Are water suppliers and communities responsible for contaminant source inventories?

In addition to using existing information from the databases listed in Table 3.2 to conduct a potential contaminant source inventory in the assessment area, the department will also employ the assistance of a local representative, such as a water system operator and/or a community leader. For each assessment area, after the department has compiled and mapped the potential contaminant sources identified through the information in the databases, the mapped inventory will be sent to the local representative(s). The local representative will be asked, based on their knowledge of the local area, to verify the presence and locations of the potential contaminant sources and to identify the location of any additional sources that were not identified through the database search. As time and resources allow, the department will perform field verifications, which will include the identification of potential contaminant sources and locations by driving through the source water protection area. The department will obtain and record the locations of additional identified potential contaminant sources using global positioning system equipment or maps.

26. How large will the source water assessment area be for a well that is 50 feet below ground surface in an unconfined aquifer? The depth to ground water is 22 feet below ground surface. The public water supply system currently has a nitrate problem.

A comprehensive effort using available hydrogeologic information will be applied to all sensitive, unconfined public water supply systems. However, the amount and quality of available hydrogeologic information will dictate the delineation method used. The delineation method for this system may include one or a combination of the following: hydrogeologic mapping, analytical methods, or calculated fixed radius. The size of wellhead protection areas in similar hydrogeologic settings in the eastern part of South Dakota typically range in size from 1 to 2 miles in length, and 0.5 to 1 mile in width.

27. I am a teacher and am finding that more and more teachers are becoming interested in water issues. Are there any provisions in this project to get information into our classrooms? Building awareness and water

management ethics in students is a lot of work, but it is the most far sighted approach to affecting change locally and statewide that will maintain and improve South Dakota surface water in the next century.

Although DENR understands the importance of educating the public on water quality issues, DENR will not specifically concentrate on distributing source water assessment information into the public school system. However, source water assessment information is readily available to any teacher interested in discussing this topic in their classrooms. Information is available through the department Internet web site, http://www.state.sd.us/state/executive/denr/DES/Ground/Sourcewater/sourcewater.htm, or through contacting the department at (605) 773-3296.

28. Can student groups get involved in collecting or evaluating source water assessment data?

DENR may request assistance from university students to collect potential contaminant source inventory information.

29. What form of assistance/guidance will the DENR provide the water system operators in the development of their individual Source Water Protection Programs once the source water assessments are complete? My reason for asking the question stems back to a concern that I have regarding the ability of many system operators to develop source water protection programs for their systems. Although ground water professionals deal with groundwater issues almost daily, many of the operators we are talking about are not groundwater professionals or even employed by the water systems they serve. Many are, in fact, employed in other walks of life and volunteer their time to the operation of their system. As such, many water systems lack the manpower and resources necessary to develop a source water protection program. It is my fear that, without significant on-going participation by the DENR, the development of a non-mandatory protection program will just not happen for many systems and the efforts of the assessment activities will have been wasted. I would ask that you keep this in focus as a major goal of the Program.

Question is partially addressed in #13. DENR acknowledges that many public water supply system operators may not have the background or resources to develop source water protection programs. However, all public water supply system operators and owners are encouraged to work with the local or regional planners and local community leaders to develop and implement protection measures. DENR will offer assistance and promote source water protection programs, but the PWSS must take the lead in developing such a program.

Comments

Jack Cole, Black Hills Water Rangers

Next summer, the Black Hills Water Rangers hope to be accredited by the EPA. This group will be testing surface water in some of the major streams in the Black Hills and local domestic wells. The group intends to report the results of the testing to the EPA and the DENR. The commentator thanks DENR for developing the Source Water Assessment and Protection Program, and is elated and enthused about the program.

Montana citizens have outlawed all open pit cyanide mining in the state of Montana because of polluted drinking water and serious problems, including deformed children. The commentator will send the list of problem mines that have polluted water to DENR. Commentator indicated DENR may want to contact these communities that have had serious problems to see what they have done to correct their problems.

DENR will contact EPA for more information on problems resulting from open pit cyanide mining in Montana.

Tim Stefanich, City of Sioux Falls

In section 3.4.1.4: *Non-sensitive Public Water Supply Systems* on page 21 of the draft document, DENR should add a "non" in the following sentence: A minimum radius of 500 feet will be used for systems in confined aquifers that are greater than 100 feet below ground surface with a relatively extensive, low permeability confining layer or those determined (**non)-**sensitive in the 1991 South Dakota Public Water Supply System Vulnerability Study.

Commentator also suggests adding the following terms to the glossary: "*intrinsic*" and "*induced*"

DENR will make the suggested changes in the final document.

Jack Cole, Black Hills Water Rangers
DENR may want to look closely at the Berkley open pit mine in Butte, Montana. This mine is similar to the open pit gold mine in Lead, SD. The Berkley pit has been filling up with water for 10 to 15 years and it is predicted that in 2 years it will pollute all the drinking water in that part of Montana. So far, EPA has spent $120 million trying to figure out the water problems. Commentator is not suggesting that the same problems will occur in Lead, but the open pits are very similar.

DENR will contact EPA for more information regarding the Berkely open pit mine.

Martin Jarrett, SD Water Congress

Commentator is concerned about the amount of money and time spent to develop water protection programs. Commentator does not know of any public water source that has improved its raw water quality due to past programs, such as the Wellhead Protection Program. "If we don't see change at the local level, let's not try to fool the taxpayers about spending their money, because we are going to spend it one way or the other. We are either going to spend it on making a change at the local level, or spend money on more water treatment. Those are the two choices we have."

DENR agrees that source water protection programs are needed in South Dakota; however, local community members must spearhead these efforts.

Bill Kerry, Butte Conservation District
Be sure to involve the Conservation Districts in this assessment and in solving the problems, as the Conservation District supervisors are the ones with their feet on the ground in every area of each watershed on a continuing basis and are very knowledgeable.

When distributing source water assessment information to the public water supply operator, city mayors and/or county officials, DENR will recommend these entities inform local conservation districts of the source water assessment availability.

Barb Gillespie, interested public
Commentator has lived on a farm for 37 years. The quality of water in her shallow wells is poor. She has had E. coli problems in her drinking water well, which has caused her to discontinue using the well for drinking water purposes. The well supplied a large amount of water. Shallow wells may not be the only wells affected; deep wells may be affected in the future if too much industry and agriculture is concentrated in one place. The land is fragile the further west one goes in the state, and may not always replenish itself.

The Source Water Assessment and Protection Program will address both shallow and deep drinking water sources, and will identify any potential sources of pollution that may pose potential problems. However, the Source Water Assessment and Protection Program is not designed to assess problems with private wells.

*The national Farmstead Assessment System (Farm*A*Syst) "is a voluntary program which helps farmers and rural residents protect ground water by reducing pollution risk on their property. Farm*A*Syst, and its companion program, Home*A*Syst, offers rural residents and farmers a way to protect groundwater, their source of drinking water by evaluating their property to identify potential hazards. Farm*A*Syst helps participants take action to reduce or eliminate those risks." For more information on this program, contact South Dakota's Farm*A*Syst coordinator at South Dakota State University, Box 2120 Brookings, SD 57007, phone (605) 688-5141, or view the Farm*A*Syst Internet website at http://www.wisc.edu/farmasyst/index.html.*

Mark Maher, CETEC Engineering Services, Inc.
"South Dakota will be treating the Black Hills as one region, which is appropriate. However, the local water suppliers and government will not be able to protect/manage areas outside of their area of jurisdiction without some assistance. It would be nice to have a "water supplier alliance" for the Black Hills region which may include

interested water suppliers, townships, and cities within Wyoming as well as South Dakota. Individually, each water system or town would not have much clout, but protection and management concerns could be addressed as an allied group. Perhaps a group could be formed under the American Water Works Association."

Due to the potential overlap of source water assessment areas in the Black Hills region, DENR promotes the idea of forming a source water protection alliance among community members, local governments, and county officials in this region.

Mike Meyer, GeoTek Engineering and Testing Services, Inc.
Thank you for the opportunity to comment on the DENR's proposed source protection program. I support the DENR's efforts to protect public water supplies (PWS) from contamination. Prevention is much cheaper than clean-up. I would like to offer a few suggestions for your consideration.

The source water protection program involves voluntary participation by the PWS. I am wondering if the DENR, perhaps in cooperation with the US EPA, might look into potential financial incentives to promote active involvement. For example, for PWS that develop an active program, perhaps some reduction in monitoring frequency (and/or parameters) might be considered.

Because the program is voluntary, I suspect to be successful, every effort should be made to encourage local involvement. Ideally, this would include the DENR staff visiting selected PWS sites and meeting with local PWS staff, etc. to get their suggestions.

I am aware the DENR cannot visit all 760 PWS. However, if you exclude the non-community PWS and the non-vulnerable community PWS, this should leave a workable number of PWS sites to visit. I think your chances of success are better if PWS staff think you are seeking their input rather than information being handed down to them from the DENR. The importance of face to face contact cannot be overestimated.

I understand development of wellhead protection areas (WHPA) for community PWS typically involves preparation of an analytical type model (such as US EPA WHPA model with 10 year travel) to provide a map of the zone of influence. Such maps can be expected to be heavily relied upon for important decisions such as zoning, clean-up requirements etc.

It is suggested the DENR consider working with others to perform field verification of a few selected vulnerable community PWS. A number of PWS (especially RWS) already have existing monitoring wells. It may be worthwhile preparing "standard" DENR WHPA maps based on typically available data (often sparse) to a few sites where monitoring wells, etc. are used to actually define the "true" zone of influence. This would enhance the credibility of the program.

For example, the SDGS, USGS, or persons such as Arden Davis (SDSMT) or Pat Emmons (SDSU) might assist at a few sites to review field data and compare more sophisticated models (such as MODFLOW) to the analytical models.

Financial incentives for PWS operator to voluntarily participate in the Source Water Protection Program already exist. Public water supply systems located in areas that are not susceptible to contamination from volatile organic chemicals (VOC), or synthetic organic chemicals (SOC), can apply for "susceptibility" or "use" waivers to reduce monitoring requirements. When applying for these waivers, public water supply systems are required to submit information such as potential contaminant sources, hydrogeologic information, well logs, and monitoring well data. For "use" waivers they must identify specific contaminant sources within a one-mile radius of the well. However, following the completion of the source water assessments, public water supply systems will be required to submit the above information for the entire source water assessment area. A majority of this information will be collected during the source water assessment process; thereby making the waiver submittal process less time consuming.

The department agrees that the success of the Source Water Assessment and Protection Program is dependent on the willingness of drinking water suppliers and communities to be involved in the development and management of their source water protection area. South Dakota will contact every public water supply system approximately one month before the assessment is finalized, to solicit any comments on the draft assessment. Additionally, DENR will

meet with any community that wishes to discuss the results of the assessment, including procedures used to derive the assessments, and discuss implementation options.

Although DENR would like to field verify as many source water assessment areas as possible, the department does not have the time, money, or resources available to implement this project. All available information, including existing pump test results, water level measurements, and monitoring well data, will be used when delineating source water assessment areas. Public water supply systems and communities are encouraged to gather additional hydrologic or hydrogeologic data to assist with their delineation.

Michael Schmidt, SD Cattlemen's Association

The South Dakota Cattlemen's Association (SDCA) has reviewed the draft document *South Dakota Water Assessment and Protection Program* dated November 6, 1998 and wishes to offer comment. We appreciate the opportunity to provide our input into such a priority subject as insuring quality water in South Dakota and we thank you for this opportunity.

Much of the document is quite technical in the nature of the material presented and while a lot of this technical data may be widely accepted in fields of expertise from which they are drawn we question if the proposed procedures to determine "relative risk factor" are the best available. We also realize that when applying these formulas to actual field conditions that Mother Nature is still in charge and often throws little quirks of nature at us. We also hope that when technicians, engineers, etc. apply these formulas to actual field conditions that these qualified people also realize Mother Natures propensity to provide these quirks and be willing to adjust accordingly. Some of the variables in the formulas are determined from sampling procedures and we request that these procedures be standardized if they are not. Often times a sample of water taken from the top of an aquifer is quite different from one drawn deeper into the aquifer. We are not advocating any one procedure over the other but we are asking for standardization within accepted guidelines.

SDCA has in force Resolution 98-35 **Local Control** that was again reviewed and passes at our annual meeting this year. It reads in part:

"Resolved, That if involvement of governmental agencies and regulation is deemed necessary to address a problem or concern, SDCA work to keep the involved level of government and the decision making process as close to the problem as is reasonably feasible;"

We welcome that fact that this issue being addressed at the state level. Many of these watersheds cross many smaller governmental jurisdictional boundaries and we feel that the state level is high enough to transcend many of these boundaries yet close and responsive enough to the citizens of the state to address problems in a timely and efficient manner.

SDCA has one major concern about this draft document. **Section 3.6.4 Risk Factor Values** lays out the ground work and formulas for producing a relative risk factor for a given operation such as an animal feeding operation. Again we trust that the tables and formulas used in this mathematical process are based in generally accepted and verified disciplines. Our major concern is, that when this relative risk factor is determined, how is this risk factor going to be used. For example, if an animal feeding operation receives a determined score in the moderate range in Table 3.3 will this mean that the operation will automatically be subjected to an inspection such as those possible under the general permitting process? While we recognize the need to sometimes determine a relative number such as this relative risk factor we have serious concerns about who is going to have access to this information and how it is going to be used when it is developed. We believe that this issue needs to be addressed and maybe some safe guards put in place as to how this data is used and distributed.

Reviewing the number and types of examples that are given in the text for determining "relative risk factor" we note that a majority of them are applied to agricultural practices and some of our members are questioning if this means that agriculture is being targeted in this effort. Agricultural producers are rural residents and in that capacity clean water is important to agriculture also. We do not want to be singled out as the "only" possible source of contamination under this assessment.

To help resolve some of these issues some SDCA members would be willing to meet with DENR to discuss some of them face to face. That being the case we request such a meeting. Hopefully a time and place can be agreed upon to accomplish such a meeting.

The South Dakota Cattlemen's Association appreciates this opportunity and thanks you for considering our input.

DENR met with the SD Cattleman's Association (SDCA) on January 21, 1999 to discuss their concerns. A representative from the SD Pork Producers Council and a representative from South Dakota State University also attended the meeting.

DENR anticipated many of the concerns expressed by the SDCA and attempted to solicit the potential concerns of the agricultural community by including a representative of Ag Unity on the Source Water Assessment and Protection Program Technical Advisory Committee (TAC). DENR was unaware that the SDCA and the Pork Producers Council are not members of Ag Unity. However, to gather additional input from an agricultural viewpoint, DENR also used both the Board of Water and Natural Resources and Water Management Board as the Citizens Advisory Committee; members of these Boards have an agricultural background. The SDCA questioned DENR for not including a representative from South Dakota State University on the TAC. However, a university representative from South Dakota School of Mines & Technology was on the TAC.

DENR discussed the SDCA concerns of public access to the source water assessment information and how the information will be used. DENR explained the source water assessment report will be provided to the public water supply system owner/operator and to a local community elected official. The Environmental Protection Agency (EPA) requires the reports to be made available to the general public. To meet this requirement, South Dakota plans to make the reports available via the State Internet website. The SDCA concern about having safe guards in place for the use and distribution of the information generated through the source water assessments is also a concern for DENR. Therefore, the source water assessments will not have detailed information regarding the public water supply system well and intake locations, nor will the reports include the business names or addresses of the potential contaminant sources. However, these items will be shown on a map and referenced by an identifying number.

DENR explained that the purpose of performing a source water assessment is to provide the local elected officials with a means to prioritize their initial source water management and protection efforts for their individual public water supply system. DENR has no intentions of using the susceptibility ratings as a prioritization for inspections.

DENR discussed the standardization of the Source Water Assessment methods with the SDCA. The desire by the department for standardization shows in the level of technical detail presented in the draft plan. Unfortunately, however, the amount of relevant information is not consistently available for each water system. Therefore, the level of complexity of the source water delineations will vary, depending upon the nature of the system and the amount of available information.

DENR discussed the SDCA concern that the professionals conducting the assessments acknowledge that field conditions may vary and should adjust the assessments accordingly. The department acknowledges field conditions will vary. For example, information obtained from site-specific borings may not corroborate with aquifer boundaries shown on geologic maps. Therefore, the department will ask the local elected officials and public water supply system operators for their assistance in gathering site-specific information that may not be available at the state level. The amount of flexibility afforded to the professional for determining the susceptibility ratings will be limited to the guidelines set forth in the draft SWAP plan. The EPA requires, and DENR is committed to, the principle that the susceptibility analysis must not result in arbitrary and capricious ratings. DENR, with the assistance of the participating members of the TAC, developed the table of risk factor values in Appendix S with standardization in mind.

DENR discussed the SDCA concern of sampling methods that may affect the susceptibility analysis. Sampling methods may affect the susceptibility analysis if concentrations of similar contaminants have been measured at the well or intake. This information will be obtained from compliance monitoring required by each public water supply system. Compliance monitoring requirements are standardized within DENR. DENR does not anticipate installing

new monitoring wells or advancing additional borings as part of the State's assessment effort, and will not be sampling private wells as part of the assessment effort.

SDCA commented that agriculture appears to be targeted in the source water examples in the draft SWAP document. DENR acknowledges that there was a larger number of agricultural potential contaminant sources in the examples, however, DENR does not intend to specifically target agricultural practices. All identified potential pollution sources will be evaluated equally. DENR will add additional examples using non-agricultural potential contaminant sources.

The SDCA asked that each susceptibility rating be sent to the individual potential contaminant source owner for their review and comment before the final source water assessment report is published. DENR revised the susceptibility analysis so that the public water supply system will receive an overall susceptibility rating. This overall susceptibility rating may be published in the final report rather than an individual susceptibility rating for each potential contaminant source. In addition, DENR revised the susceptibility analysis so that regulated potential contaminant source in compliance with Local, State and Federal regulations will receive a deduction up to 15-points from the overall susceptibility rating. The 15-point deduction will reflect the decrease in risk from facilities that are less likely to cause pollution due to regulatory controls.

DENR discussed the SDCA concern of who will have access to the susceptibility analysis information. DENR explained each potential contaminant source identified will have a high, moderate, or low rating; however, this information will not be presented in the final source water assessment report. If, however, questions arise regarding the susceptibility rating of a particular facility, the rating, calculations and other details regarding the susceptibility analysis may be made available to the requestor. In addition, although business names will not be presented in the assessment reports, local government agencies may need specific information about a potential contaminant source. Subject to the mandates and rules of the Freedom of Information Act, specific information regarding potential contaminant sources, such as the items noted above, will be made available to the public upon written request.

The SDCA suggested adding an additional category to the risk factor, "Pollution Prevention Measures in Place?" The SWAP plan includes the following characteristics: "unknown", "no", "some measures in place", and "yes". DENR feels an additional factor is not needed due to the 15-point, regulatory compliance credit.

SDCA is concerned that local communities will have the authority to change the susceptibility analysis method. Therefore, SDCA suggested revising the following sentence in the draft SWAP plan, "However, local communities will be encouraged to refine these susceptibility analysis with DENR guidance and assistance, possibly by considering these and other factors not included, to suit the individual community needs." DENR deleted this sentence from the SWAP plan.

SDCA suggested adding a section to the draft SWAP plan that protects the potential contaminant source owner from frivolous complaints. The SDCA reconsidered this suggestion and later decided against requesting the addition of this section.

The SDCA would like to review and comment any changes to the susceptibility analysis, and would like to meet with DENR after EPA has provided comments on the draft SWAP plan.

Scott Kenner, SD School of Mines and Technology

My main concern is timing. Currently the levels of delineation and evaluation are qualitative. My meaning is that they take into account the areas that are readily linked to source waters but there is limited consideration of the actual travel time. For example, the corridor along the creek is identified through the whole reach. However there may be a location in a watershed that can contribute to the creek as soon or sooner than the upper reaches.

I realize the effort and time the state has to do this and believe you have a starting point. I also feel there needs to be great care in presenting the results in that they to not necessarily identify all high level concerns and do not represent true response times. The logic may be better presented as the starting point upon which more detail can be added or developed as the potential problem(s) identified are understood.

Therefore, I am not disagreeing with the approach, but feel strongly about how the results will be presented. There needs to be a full understanding of the initial level of delineation and that more detailed efforts can be used as needed.

The department agrees that the assessment methods described in the draft Source Water Assessment and Protection Plan represent a point with which every community can start a source water protection program. The department also agrees that, for surface water systems, the delineated source water areas may not necessarily represent response times, nor will they necessarily identify all high level concerns.

Every community has its own needs and that, combined with the fact that every setting is unique, behooves each community to evaluate whether or not their assessment meets their needs, when the assessments become available. If the assessment does not meet their needs, the department encourages the communities to supplement the assessments, if necessary, with assistance from the department.

The possibility of using time-of-travel for surface water systems was discussed during the May 28, 1998 technical advisory committee meeting. It was noted during the meeting that this method would be useful if the purpose of the delineation is to inform the public water supply operator of a contamination spill. However, the time to travel from one location to another will depend on the contaminant spilled; contaminants travel at different rates. In addition, surface time-of-travel also depends on a number of other variable factors, such as slope, soil type, and stream flow rates. A simple calculation of gradient can be used to estimate time of travel for each system.

In addition, the possibility of using time-of-travel was discussed during the Ad Hoc Technical Advisory Committee meeting convened to discuss the delineation methods to be used in the Black Hills. During that meeting, it was discussed that the travel times in the Black Hills area may be too fast to accurately utilize protection measures.

Considering the time constraints by EPA to complete this program, members of the committee felt the DENR proposed method is a good start to the delineations, and once more information for each system is known - such as time of travel and potential contaminant sources - a more advanced, detailed method may be used.

Appendix G

Workshops and Seminars

DATE	WORKSHOP/SEMINAR	~ NUMBER ATTENDING	ATTENDEES/INVITEES (DENR WORKSHOPS)
6/17/97	Source Water Assessment and Protection Program Guidance Workshop	60	PWS operators, Water Development District Managers, Federal Agency Representatives, Tribal environmental coordinators, agricultural organizations, and environmental groups.
12/10/97	SD Association of Rural Water Systems' Source Water Protection Workshop	130	PWS operators, Water Development District Managers, Environmental Consultants, EPA, Academia, Community Planners, RWS Assn.
2/3/98	Safe Drinking Water Act Seminar	100	PWS Operators and Managers, EPA, RWS Assn., Environmental Consultants, City officials
2/4/98	American Water Works Association Annual Seminar	35	City Planners, Public Water Work Directors
2/11/98	Water Treatment and Distribution Operators Seminar	75	PWS Operators and Managers, Water Development District Managers, RWS Assn., EPA, Contractors, Consultants, Academia
3/19/98	Nonpoint Source Task Force Meeting	25	Federal Agency Representatives, agricultural organizations
3/19/98	SD DENR 10th Annual Ground Water Quality Conference	80	Environmental Consultants, Local Governments, Academia, Federal Agencies
4/22/98	SD School of Mines &Technology Water Resources Forum	40	Academia, Federal Agency Representatives, Students, PWS Managers
6/30/98	Missouri River Corridor Action Team Meeting	15	Federal Agency Representatives, City Planners
10/21/98	SD Water Congress	20	Water Development Districts Managers, PWS Managers, Rural Water System Managers, City Officials, State Officials, Public Officials
11/18/98	DENR SWAP Public Meeting	130	Environmental groups, local governments, health organizations, PWS, Indian officials, agricultural organizations, federal officials, and universities.
12/16/98	SD Association of Rural Water Systems' Wellhead Protection Workshop	25	PWS Operators and Managers, Water Development District Managers, Environmental Consultants
1/12/99	SD Association of Rural Water Systems' 24th Annual Technical Conference	70	PWS operators, Water Development District Managers, Environmental Consultants
2/3/99	American Water Works Association Annual Seminar	70	PWS operators, Water Development District Managers, Environmental Consultants
2/26/99	South Dakota Planners Association Workshop	30	State, Regional, County, and City officials, mostly those involved with planning
3/9/99	SD DENR 11th Annual Ground Water Quality Conference	80	Environmental Consultants, Local Governments, Academia, Federal Agencies

Appendix H

Source Water Assessment and Protection Information Presented in the following Newsletters, Publications, and Press Releases	
Date	**Newsletter or Publication**
June 30, 1997	DENR Press Release
Summer 1997	Article in *Clarifier* Volume 63, Number 2
April 7, 1998	Source Water Assessment fact sheet sent to all community and non-transient non-community public water supply system operators and mayors
Summer 1998	Article in *Clarifier* Volume 64, Number 2
November 4, 1998	Publications of public meeting notice on the draft Source Water Assessment and Protection Program Document.
November 12, 1998	Governor's Press Release
January 1999	Article in *The Spigot* Volume 99, Issue 1
November 26, 1999	DENR Press Release

June 30, 1997 DENR Press Release and *Clarifier* Article Volume 63, Number 2:

Protecting the public's drinking water supply was the focus of a June 17 meeting held in Pierre. Over 60 local, state, and tribal officials met to discuss EPA's new State Source Water Assessment and Protection Program.

Congress created the State Source Water Assessment and Protection Program last August as an amendment to the federal Safe Drinking Water Act. The amendment requires states to develop programs aimed at preventing pollution from contaminating surface and underground public water supply sources.

South Dakota is required to submit a Source Water Assessment and Protection Program to EPA within 18 months. Following program approval from EPA, the Department of Environment and Natural Resources will be required to conduct assessments for over 750 public water systems. These assessments will include defining the area contributing water to a public supply, conducting an inventory of potential contaminant sources and determining the vulnerability of the water supply. " We look forward to working with the local and tribal drinking water communities on this important new program," said Nettie Myers, Secretary of DENR. The assessments should be completed within 2 to 4 years and will be available to the public.

DENR plans several public meetings in the future to gather input into a state assessment program. For more information, contact Jeanne Goodman at (605) 773-3296.

Fact sheet sent to all community and non-transient non-community public water supply system operators and mayors:

Most drinking water systems in South Dakota depend on ground water for their source of drinking water. However, there are other public drinking water systems that depend on surface water supplies for their drinking water, such as lakes and streams. In either case, it is likely that the drinking water system is using that source because there is not another reliable, high quality source of water available. Therefore, to protect the future of our state, it is important to protect our water supplies from potential contaminant sources.

The federal 1996 Safe Drinking Water Act's "Source Water Assessment and Protection Program" utilizes pollution prevention measures that focus on protecting the area surrounding a public drinking water supply. This program requires each state to identify existing and potential pollution sources that may impact the quality of public drinking water supplies. The South Dakota Department of Environment and Natural Resources is coordinating this effort for our state.

A Source Water Assessment must be completed for each of the 760 public drinking water systems in South Dakota. This includes outlining or delineating the part of the watershed or ground water area that contributes water to the water supply; identifying the potential sources of pollution in those areas; and determining the susceptibility of the water supply to these pollution sources. Local communities, working in cooperation with state agencies, can use the information gathered through the assessment process to address current problems and prevent future problems to the quality of their drinking water supplies.

To receive input from all interested parties, the Department of Environment and Natural Resources will be holding public meetings to obtain comments on the development of the plan for conducting the assessments. The results of the Source Water Assessments for each public water supply will be made available to the public. For additional information on this federally required program, please contact Tricia Sebes of the South Dakota Department of Environment and Natural Resources at the Joe Foss Building, 523 E. Capitol, Pierre, SD 57501, phone: (605) 773-3296, e-mail: tricias@denr.state.sd.us.Source Water Assessment and Protection Program Getting Involved in Protecting Your Community's Source of Drinking Water.

Clarifier Article Volume 64, Number 2

The first Technical Advisory Committee Meeting for the Source Water Assessment and Protection Program was held on April 1, 1998 in Pierre. The Source Water Assessment Program (SWAP), a requirement of the federal 1996 Safe Drinking Water Act, utilizes pollution prevention measures that focus on protecting the area surrounding a public drinking water supply. This includes outlining or delineating the part of the watershed or ground water area that contributes water to the water supply; identifying the potential sources of pollution in those areas; and determining the susceptibility of the water supply to these pollution sources. These activities collectively comprise a source water assessment. Local communities, working in cooperation with state agencies, can use the information gathered through the assessment process to address current problems and prevent future problems to the quality of their drinking water supplies.

The South Dakota Department of Environment and Natural Resources (DENR) has organized a Technical Advisory Committee (TAC) to advise the department in the development of South Dakota's Source Water Assessment and Protection Program. Along with DENR expertise, the TAC also consists of representatives from American Water Works Association, East Dakota Water Development District, West Dakota Water Development District, SD Water Congress, US Geological Survey, and the US Environmental Protection Agency, among others.

The first meeting of the TAC was held on April 1, 1998. Items that were discussed included the following: a prioritization method for conducting assessments for the 760 public water supply systems in South Dakota; a plan on how the public will be informed of the results of the SWAP program; a discussion of the data available to conduct the assessments, and data available to inventory potential contaminant sources in a source water protection area.

Additional TAC meetings are tentatively scheduled for May 28, July 9, and September 10, 1998 in Pierre. To receive input from all interested parties, the Department of Environment and Natural Resources will also be holding public meetings to obtain comments on the development of the plan for conducting the assessments. The results of the Source Water Assessments for each public water supply will be made available to the public. For additional information on this federally required program, please contact Tricia Sebes of the South Dakota Department of Environment and Natural Resources at the Joe Foss Building, 523 E. Capitol, Pierre, SD 57501, phone: (605) 773-3296, e-mail: tricias@denr.state.sd.us.

November 12, 1998 Governor Janklow Press Release

PIERRE – To help protect drinking water supplies in South Dakota, Governor Bill Janklow is inviting the public to comment on the state Department of Environment and Natural Resources' (DENR) draft of its Source Water Assessment Program.

"We want to hear comments and suggestions from the people of South Dakota, including the agricultural, commercial, residential and industrial sectors regulated by DENR," Janklow said. "It will help us make sure we're doing everything we can to protect our drinking water."

The Source Water Assessment Program will determine the methods DENR uses to identify possible sources of contamination to the 760 public drinking water systems in the state. The Source Water Assessments include defining the most critical area around a water source, inventorying potential pollution sources, and determining the vulnerability of the water supply to those inventoried sources.

The public input meetings will be held over the RDTN network on Wednesday, November 18th. Two meetings will be held, the first from 3:00 pm – 5:30 pm, the second from 8:00 pm – 10:00 pm (all times central). The meetings will be carried at RDTN sites in Aberdeen, Brookings, Madison, Mitchell, Pierre, Rapid City, Sioux Falls, Spearfish, Vermillion, Watertown and Yankton.

The meetings will include an overview of the department's proposed Source Water Assessment Program plan and a question and answer session, followed by time for citizens to offer comments and suggestions regarding the proposed plan. Public input will be included in the DENR's final Source Water Assessment Program plan that will be submitted to the U.S. Environmental Protection Agency for approval.

For more information about the Source Water Assessment Program, visit DENR's website at www.state.sd.us/denr (under "Hot Topics") or contact Tricia Sebes, DENR Ground Water Quality Program, at 605-773-3296. Note: RDTN locations are listed below.

DENR SOURCE WATER ASSESSMENT PROGRAM MEETINGS Wednesday, November 18, 1998 3:00 pm – 5:30 pm & 8:00 pm – 10:00 pm (central times)		
SDSM&T Classroom Building, Rm. 109 501 E. Saint Joseph Street Rapid City, SD Phone: (605) 394-2377	**Lake Area Technical Institute** Main Building, Rm. 125 230 11th Street NE Watertown, SD Phone: (605) 882-5284, Ext. 271	**Capital University Center** RDT Network Room 809 East Dakota Pierre, SD Phone: (605) 224-6131
Northern State University Beulah Williams Library, Rm. 117 1200 S. Jay Street Aberdeen, SD Phone: (605) 626-2496	**Mitchell Technical Institute** Main Building, Rm. 131 821 North Capital Mitchell, SD Phone: (605) 995-3065	**Southeast Technical Institute** Mickelson Education Center, Rm. 205 2301 Career Place Sioux Falls, SD Phone: (605) 367-7624, Ext. 264
Black Hills State University E.Y. Library, Rm. L020 1200 University Station Spearfish, SD Phone: (605) 642-6407	**Dakota State University** Karl E. Mundt Library, Rm. 202 820 North Washington Madison, SD Phone: (605) 256-5203	**SD Human Services Center** George S. Mickelson Center for the Neurosciences, Training Center Rm. #3 3515 Broadway Ave. Yankton, SD Phone: (605) 668-3593
University of South Dakota Center for Continuing Education 414 East Clark Vermillion, SD Phone: (605) 677-6515 (3-5:30 p.m. in Studio II/8-10 p.m. in Studio I)	**South Dakota State University** 101 Pugsley Center 8th and Medary Brookings, SD Phone: (605) 688-6058 (3-5:30 p.m. in Studio II/8-10 p.m. in Studio I)	

Article for *The Spigot,* the official publication of the SD Section of the American Water Works Association, Volume 99, Issue 1

Having good quality, safe drinking water at a reasonable cost is something that most people take for granted, especially if their water comes from a public water supply system. To ensure that the water supply is safe and to avoid costly treatment or relocation of their supply, the local community must be aware of the activities that could adversely impact their drinking water source. A program designed to help communities address potential sources of contamination to their ground water is called Source Water Assessment and Protection. The Source Water Protection Program involves the protection of public water supplies by managing the critical areas contributing water to a ground water well or surface water intake. Before a community can effectively protect its drinking water supply from potential sources of pollution in those critical areas, it must first know where those potential sources of pollution are located. The Source Water Assessment Program is intended to provide information regarding the location of pollution sources in the water source area and the relative risk of contamination to the drinking water supply posed by the potential pollution sources.

The 1996 federal Safe Drinking Water Act Amendments require every state to develop a Source Water Assessment Program. The Department of Environment and Natural Resources (DENR) is coordinating this effort in South Dakota. The program requirements include involving the public throughout the development of the assessment program; developing a strategy to complete assessments for the approximately 760 public water supply systems in South Dakota; and developing a strategy for making the results of the assessments available to the public when completed. Local communities, working in cooperation with state agencies, can use the information gathered through the assessment process to reduce future threats to the quality of their drinking water supplies.

A source water assessment is a three-step process that includes delineating the part of the watershed or ground water area that contributes water to the water supply; identifying the significant potential sources of drinking water contamination in those areas; and rating the water supply's susceptibility to contamination from those sources. An assessment must be completed for each of the approximately 760 public water supply systems in South Dakota.

South Dakota's Wellhead Protection Program will serve as the basis for assessing public drinking water systems supplied by ground water. A combination of wellhead protection delineation methods will be used to define source water assessment areas depending on the type of public water supply system. The delineated assessment area for surface water systems will extend 10 river miles upstream from the surface water intake. Additionally, a one-half mile-wide contributing zone extending laterally beyond any upstream alluvial aquifer will also be delineated to provide for an adequate evaluation of potential threats to a particular surface water supply.

An inventory of potential contaminant sources located within the source water assessment area is necessary for proper source water protection, management, and planning. With this information, a community can manage its source water protection area with a better understanding of the potential impacts to its drinking water supply. The level of effort for the potential contaminant source inventory will be based on geographic location relative to the drinking water well or intake, and the available resources including time, money, and personnel. To help manage the potential contaminant source identification, local governments and community leaders will be encouraged to assist with the inventory around their water supply.

A susceptibility analysis will be conducted to determine the susceptibility of a public water supply system to each of the potential contaminant sources identified in the source water assessment area. Susceptibility is defined as the potential for a public water supply system to draw water contaminated at concentrations that would pose concern in the well or surface-water intake.

This program potentially affects every public drinking water supply in South Dakota. In order to receive input regarding the program from the general public and other stakeholders such as business owners and water supply operators, DENR held two public meetings on November 18, 1998 at 11 Rural Development Telecommunication Network sites throughout the state. The meetings included an overview of the proposed Source Water Assessment and Protection Program plan, followed by a comment period where citizens voiced their concerns regarding the proposed plan. The final deadline for submitting comments to the DENR on the proposed program was December 18, 1998. Input from the public will be addressed in South Dakota's final proposed Source Water Assessment and

Protection Program plan that will be submitted to the U.S. Environmental Protection Agency for approval in February 1999.

South Dakota's anticipated date for completion of all source water assessments is May 2003. DENR encourages local communities to work in cooperation with local citizens and landowners to use the collected assessment information to establish local source water protection programs that fit local needs and which will provide long-term protection of their drinking water supplies.

For more information on the Source Water Assessment and Protection Program, visit DENR's website at http://www.state.sd.us/state/executive/denr/DES/Ground/Sourcewater/sourcewater.htm, or contact Tricia Sebes, DENR Ground Water Quality Program, at (605) 773-3296.

November 26, 1999 DENR Press Release

PIERRE –The South Dakota Department of Environment and Natural Resources is moving forward with a plan to better protect the sources of water for South Dakota's more than 700 public drinking water systems.

The Source Water Assessment and Protection Program outlines methods for identifying critical areas around each public drinking water system's water source, inventorying potential sources of pollution near the water sources, and determining how susceptible each water source is to contamination.

The plan calls for the studies to be completed by May 2003. Annual consumer confidence reports for drinking water quality will announce the availability of the studies as they are completed. Local communities can use the information gathered through the studies to take steps to protect current and future threats to the quality of their drinking water.

South Dakota is the first state in the Rocky Mountain region to have its program approved by the U.S. Environmental Protection Agency (EPA). The federal agency said the state program "will significantly enhance ongoing efforts to protect waters used as sources of drinking water. . ."

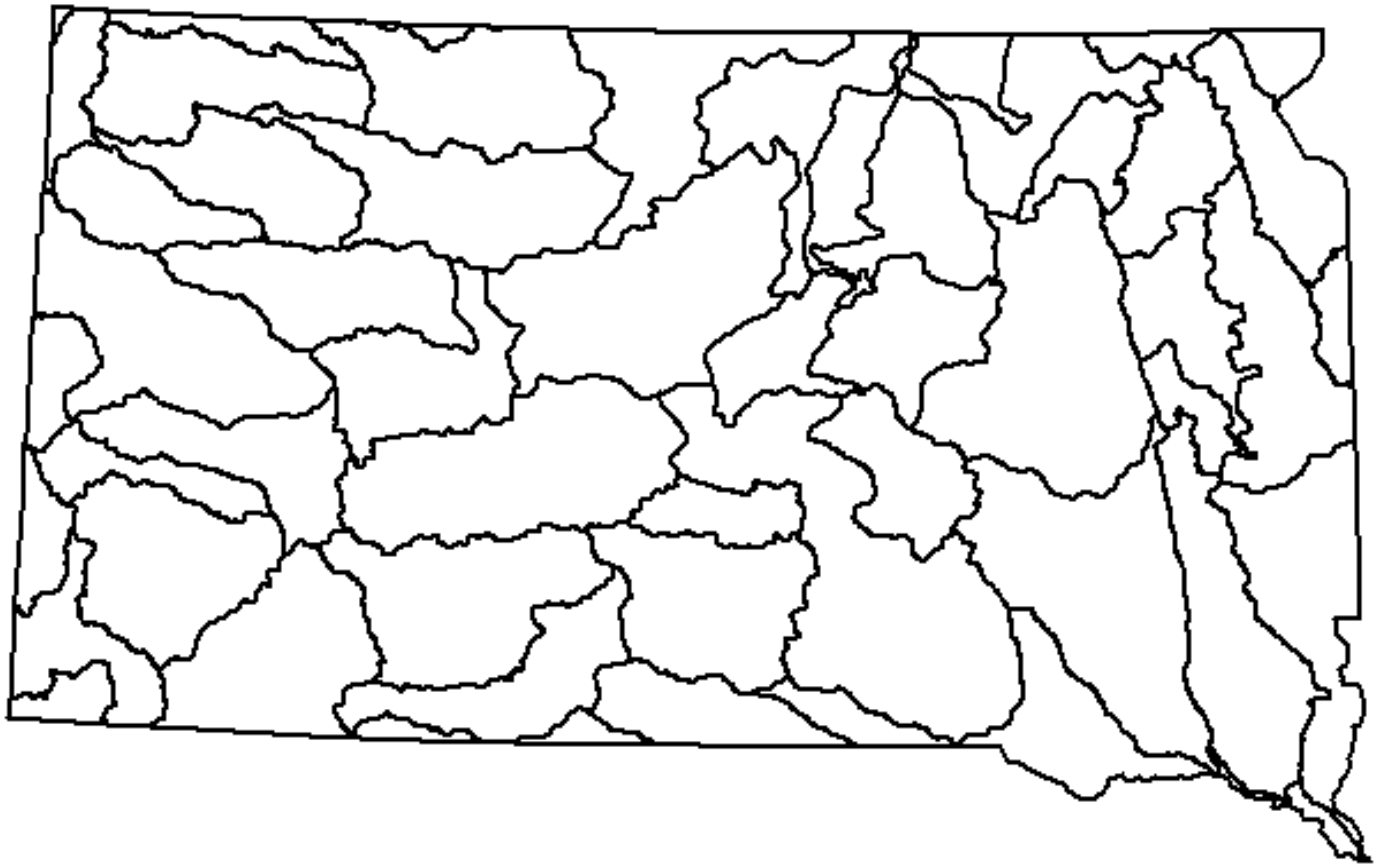
"We are pleased to receive EPA approval of this plan," said DENR Secretary Nettie H. Myers. "The input and advice that we received from our technical advisory committee, the Board of Water and Natural Resources, the Water Management Board, and from individual citizens made the plan approvable and yet it is a plan that fits South Dakota."

Members of the 22-person technical advisory committee included representatives from various water organizations, water development districts, agriculture organizations, cities, health groups, and universities, and scientists and engineers from federal and state agencies.

States are required to develop a Source Water Protection Program as part of the amendments to the 1996 federal Safe Drinking Water Act.

Appendix I

US Geological Survey 8-Digit Hydrologic Unit Code



Appendix J

Key for Appendices K, L, M, N, O, P

Note: Non-Black Hills region ground water public water supply systems are in Appendices J-M, Non-Black Hills region surface water public water supply systems are in Appendix N, and all Black Hills public water supply systems are in Appendix O.

EPA ID
Environmental Protection Agency identification number for public water system

SYSTEM NAME
Public Water Supply System Name

COUNTIES

AU	Aurora	DG	Douglas	JA	Jackson	PT	Potter
BD	Beadle	DN	Davison	JE	Jerauld	PE	Penningt
BF	Buffalo	DU	Deuel	JN	Jones	RB	Roberts
BG	Brookings	DW	Dewey	KG	Kingsbury	SA	Sanborn
BH	Bon Homme	ED	Edmunds	LA	Lawerence	SN	Shannon
BL	Brule	FA	Faulk	LK	Lake	SP	Spink
BN	Brown	FR	Fall River	LN	Lincoln	ST	Stanley
BT	Bennett	GT	Grant	LY	Lyman	SU	Sully
BU	Butte	GY	Gregory	MD	Meade	TD	Todd
CA	Campbell	HD	Hand	MR	Miner	TR	Tripp
CD	Codington	HK	Haakon	ML	Marshall	TU	Turner
CK	Clark	HM	Hamlin	MC	McCook	UN	Union
CL	Clay	HR	Harding	MP	McPherson	WL	Walworth
CM	Charles Mix	HS	Hanson	MA	Minnehaha	YA	Yankton
CN	Corson	HT	Hutchinson	MY	Moody	ZB	Ziebach
CU	Custer	HU	Hughes	MT	Mellette		
DA	Day	HY	Hyde	PK	Perkins		

SYSTEM TYPE

C	community public water system (municipalities, housing developments, RWS, trailer courts)
P	non-transient non-community public water system (schools, factories)
N	transient non-community public water system (restaurants, campgrounds, hotels)
W	consecutive water system (purchases water from another system)

CHEMICAL POPULATION
Total population served by public water supply system

VULNERABILITY

V	vulnerable
N	non-vulnerable

Note: if vulnerability is unknown, the system is assumed to be vulnerable

SOURCE CODE

G	ground water system
S	surface water system
P	purchased surface water
W	purchased ground water
GS	ground and surface water

ACTIVE
Public water supply system is active

Appendix K

Sensitive Community & Non-transient, Non-community Ground Water Public Water Supply Systems

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
1	0005	ASTORIA	DU	C	155	V	G	A
2	0036	BATESLAND	SN	C	124	V	G	A
3	0037	BELLE FOURCHE	BU	C	4335	V	G	A
4	0386	BERESFORD	UN	C	1875	V	G	A
5	0429	BIG SIOUX RWS	MY	C	4081	V	G	A
6	0039	BISON	PK	C	450	V	G	A
7	0045	BONESTEEL	GY	C	290	V	G	A
8	0048	BRANDON	MA	C	4300	V	G	A
9	0071	BROOKINGS	BG	C	16270	V	G	A
10	0430	BROOKINGS-DEUEL RWS	BGDU	C	5987	V	G	A
11	0078	BUFFALO	HR	C	488	V	G	A
12	0079	BURKE	GY	C	800	V	G	A
13	0002	CASTLEWOOD	HM	C	549	V	G	A
14	0085	CENTERVILLE	TU	C	900	V	G	A
15	0944	CENTRAL ELEMENTARY SCHOOL	BT	P	54	V	G	A
16	0088	CHESTER SANITARY DISTRICT	LK	C	220	V	G	A
17	0881	CLARK RWS	CK	C	4822	V	G	A
18	0626	CLAY RWS	CL	C	3294	V	G	A
19	0092	CLEAR LAKE	DU	C	1308	V	G	A
20	0390	COLTON	MA	C	700	V	G	A
21	2093	DAKOTA DUNES	UN	C	1100	V	G	A
22	0059	DESMET	KG	C	1172	V	G	A
23	0873	EAST GREGORY RWS	GY	C	383	V	G	A
24	0640	ENNING ELEMENTARY	MD	P	40	V	G	A
25	0119	ESTELLINE	HM	C	658	V	G	A
26	0127	FLANDREAU	MY	C	2311	V	G	A
27	0130	FORT PIERRE	ST	C	1850	V	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
28	0138	GARRETSON	MA	C	924	V	G	A
29	2079	GRACEVALE COLONY	LK	C	100	V	G	A
30	0864	GRANT-ROBERTS RWS	GT	C	2800	V	G	A
31	0145	GREGORY	GY	C	1500	V	G	A
32	0148	HARRISBURG	LN	C	800	V	G	A
33	0149	HARROLD	HU	C	155	V	G	A
34	2037	HE DOG SCHOOL	TD	C	244	V	G	A
35	0154	HERMOSA	CU	C	242	V	G	A
36	0156	HERRICK	GY	C	130	V	G	A
37	0164	HOVEN	PT	C	675	V	G	A
38	0171	INTERIOR	JA	C	90	V	G	A
39	0176	JAVA	WL	C	200	V	G	A
40	0060	JEFFERSON	UN	C	560	V	G	A
41	0511	KINGBROOK II RWS	KG	C	3275	V	G	A
42	0874	KINGBROOK III RWS	LK	C	1800	V	G	A
43	0186	LAKE CITY	ML	C	46	V	G	A
44	0187	LAKE NORDEN	HM	C	427	V	G	A
45	2108	LAKESIDE WATER USERS DISTRICT	PE	C	65		G	A
46	0939	LAKEVIEW ELEMENTARY SCHOOL	TD	P	50	V	G	A
47	0192	LEMMON	PK	C	1615	V	G	A
48	0938	LITTLEBURG ELEMENTARY SCHOOL	TD	P	25	V	G	A
49	0940	LONG VALLEY ELEMENTARY SCHOOL	JA	P	36	V	G	A
50	0199	MADISON	LK	C	6400	V	G	A
51	0202	MARTIN	BT	C	1151	V	G	A
52	0197	MCINTOSH	CN	C	302	V	G	A
53	0198	MCLAUGHLIN	CN	C	780	V	G	A
54	0207	MILBANK	GT	C	3879	V	G	A
55	0432	MINNEHAHA COMMUNITY WATER CORP	MA	C	10000	V	G	A
56	0401	MISSION	TD	C	740	V	G	A
57	0217	MONTROSE	MC	C	480	V	G	A
58	0218	MORRISTOWN	CN	C	60	V	G	A
59	0013	NEW EFFINGTON	RB	C	219	V	G	A
60	2029	NEWPORT COLONY	BN	C	101	V	G	A
61	0177	NORTH SIOUX CITY/MCCOOK LAKE SYSTEM	UN	C	1300	V	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
62	2154	OAHE ACRES	HU	C	38	V	G	A
63	0230	OELRICHS	FR	C	138	V	G	A
64	0235	PARKER	TU	C	950	V	G	A
65	0354	PELICAN PLAZA	CD	C	90	V	G	A
66	0242	PIERRE	HU	C	13000	V	G	A
67	0624	PINE LAKE HILLS	MA	C	350	V	G	A
68	2086	PLEASANT VALLEY COLONY	MY	C	60	V	G	A
69	0303	PLEASANT VALLEY-SF	MA	C	50	V	G	A
70	0278	REE HEIGHTS	HD	C	85	V	G	A
71	0953	REVA ELEMENTARY SCHOOL	HR	P	34	V	G	A
72	0519	RIV-R-LAND WATER COMPANY	UN	C	175	V	G	A
73	0054	RIVERSIDE ACRES	YA	C	150	V	G	A
74	2080	ROLLAND COLONY	BG	C	33	V	G	A
75	0283	ROSHOLT	RB	C	408	V	G	A
76	2130	SANDY MEAD HOUSING DEVELOPMENT	UN	C	40		G	A
77	0866	SIOUX RWS	HM	C	2375	V	G	A
78	0003	SKY RANCH FOR BOYS	HR	C	75	V	G	A
79	0297	SKYLINE HEIGHTS	MA	C	126	V	G	A
80	2068	SOUTH SHORE	CD	C	176	V	G	A
81	0072	SOUTHBROOK ESTATES	BG	C	90	V	G	A
82	0937	SPRING CREEK ELEMENTARY SCHOOL	TD	P	115	V	G	A
83	0326	SUMMIT	RB	C	267	V	G	A
84	0143	TC AND G WATER/ROD SENGER	DW	C	173	V	G	A
85	0411	TIMBER LAKE	DW	C	515	V	G	A
86	0333	TRENT	MY	C	245	V	G	A
87	0520	TRIPP COUNTY RWS	TR	C	4110	V	G	A
88	0336	TWIN BROOKS	GT	C	54	V	G	A
89	0337	TYNDALL	BH	C	1250	V	G	A
90	0300	VALLEY VIEW MOBILE HOME PARK	MA	C	275	V	G	A
91	0342	VERMILLION	CL	C	10130	V	G	A
92	0346	VOLGA	BG	C	1350	V	G	A
93	0352	WASTA	PE	C	78	V	G	A
94	0361	WESSINGTON	BDHD	C	270	V	G	A
95	0362	WESSINGTON SPRINGS	JE	C	1083	V	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
96	0206	WESTLINE WATER/GOLF COURSE	RB	C	110	V	G	A
97	0367	WHITE RIVER	MT	C	550	V	G	A
98	2027	WHITE ROCK COLONY	RB	C	76	U	G	A
99	0370	WILLOW LAKE	CK	C	317	V	G	A
100	0371	WILMOT	RB	C	566	U	G	A
101	0373	WINNER	TR	C	3400	V	G	A
102	0935	WOLF CREEK ELEMENTARY SCHOOL	SN	P	607	V	G	A

Appendix L

Sensitive Transient, Non-community Ground Water Public Water Supply Systems

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
1	0646	BADLANDS KOA	JA	N	102		G	A
2	2161	BADLANDS RANCH RV RESORT	JA	N	80		G	A
3	0648	BATTLECREEK CAMPGROUND	MC	N	25		G	A
4	0528	BEAR COUNTRY USA	PE	N	304		G	A
5	0962	BOB'S RESORT	PT	N	50		G	A
6	0736	BUFFALO LAKE RESTAURANT	ML	N	40		G	A
7	0989	BUR OAK LODGE	DA	N	25		G	A
8	2109	CATTLEMAN'S CLUB	HU	N	25		G	A
9	1109	CATTLEMEN'S SALOON	CN	N	50	V	G	A
10	1051	CENTENNIAL CAMPGROUND	LA	N	25		G	A
11	0657	CIRCLE K RESORT	RB	N	25		G	A
12	0656	CLEAR LAKE LODGE	ML	N	30		G	A
13	8019	COE-LK O/CAMPGROUND #1	HU	N	100	V	G	A
14	8020	COE-LK O/CAMPGROUND #2-N	HU	N	50	V	G	A
15	8021	COE-LK O/CAMPGROUND #2-S	HU	N	50	V	G	A
16	8022	COE-LK O/CAMPGROUND #3-S/DSS	HU	N	75	V	G	A
17	8025	COE-LK O/MARINA COMFORT STATION	HU	N	50	V	G	A
18	8036	COE-LK S/LEFT TAILRACE	BF	N	125		G	A
19	1045	CORNER BAR	HR	N	70	V	G	A
20	0966	D & J CAFE	PT	N	30		G	A
21	2137	DOT REST AREA-WHETSTONE VALLEY	RB	N	1000		G	A
22	2162	DUNES GOLF COMPLEX	ST	N	47		G	A
23	1076	FARMER'S INN CAFE	RB	N	30		G	A
24	0921	GFP 11-D/WEST BEND RECREATION AREA	HU	N	157		G	A
25	0836	GFP 12-A/LIEWELLYN JOHN'S CG AND PA	PK	N	50		G	A
26	0838	GFP 12-C/MERRIMANS GROVE	PK	N	75		G	A
27	0842	GFP 12-D/KETTERLINGS POINT	PK	N	25		G	A
28	0843	GFP 12-E/HUGH GLASS CG AND PA	PK	N	50		G	A
29	0840	GFP 12-K/NORTH BEACH	PK	N	75		G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
30	0817	GFP 2-A/ROY LAKE E CAMPGROUND	ML	N	100		G	A
31	0819	GFP 2-B/ROY LAKE-NEW SHOP	ML	N	200		G	A
32	0844	GFP 3-B/LAKE LOUISE EAST	HD	N	25		G	A
33	0969	GFP 3-C/LAKE LOUISE SHOP	HD	N	25		G	A
34	0853	GFP 7-A/PALISADES CAMPGROUND	MA	N	602	V	G	A
35	0854	GFP 7-B/PALISADES PICNIC AREA	MA	N	25		G	A
36	1112	GREAT BEAR SKI VALLEY	MA	N	130		G	A
37	1044	JOE'S PLACE	CN	N	50		G	A
38	1039	KLEIN RANCH	CN	N	56		G	A
39	1105	LEMMON GOLF COURSE	PK	N	100		G	A
40	0061	MACGREGOR'S	CD	N	100	V	G	A
41	1113	MAGNESS CAFE	BD	N	75		G	A
42	0693	MARR'S BEACH	LK	N	152		G	A
43	2124	MOOSE CROSSING	HM	N	27		G	A
44	8042	NPS-BADLANDS NATIONAL PARK	JA	N	108	V	G	A
45	8048	NWR-LA CREEK HEADQUARTERS AREA	BT	N	28		G	A
46	2111	OAHE MARINA AND RESORT	ST	N	100		G	A
47	0965	OUTPOST LODGE	HU	N	25		G	A
48	0970	OUTSKIRTS STEAKHOUSE AND LOUNGE	MC	N	83		G	A
49	0699	PIKE HAVEN RESORT	SU	N	70		G	A
50	0897	PRESHO LIVESTOCK AUCTION	LY	N	75		G	A
51	0702	RIVER'S EDGE CAMPSITE	PT	N	33		G	A
52	0585	ROYKOTA RESORT CAFE	ML	N	50		G	A
53	0705	SANDY BEACH RESORT	DA	N	40		G	A
54	0723	SCHMIDT'S LANDING	RB	N	75		G	A
55	0707	SIOUX FALLS KOA	MA	N	750		G	A
56	1009	SIOUXLAND STORE	HM	N	60		G	A
57	0052	SOUTH FORK BAR AND GRILL	CD	N	30	V	G	A
58	0967	SOUTH WHITLOCK RESORT	PT	N	165		G	A
59	1024	STOCKMAN`S LIVESTOCK CAFE	YA	N	25		G	A
60	2101	SUBURBAN MOTEL DBA	MA	N	25		G	A
61	0958	SUNSET LODGE	SU	N	35		G	A
62	0712	TOWER CAMPGROUND	MA	N	30		G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
63	1007	TWIN LAKES RESORT	SA	N	50		G	A
64	2045	VICTOR SUPPER CLUB	RB	N	65		G	A
65	1116	WEST PARK CAFE	BD	N	100		G	A
66	1096	WHITE'S DRIVE INN	SA	N	40		G	A

Appendix M

Sensitive Consecutive Ground Water Public Water Supply Systems

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
1	0004	ALCESTER	UN	C	843	V	W	A
2	0058	AURORA	BG	C	602	V	W	A
3	0034	BALTIC	MA	C	700	V	W	A
4	0091	CLARK	CK	C	1292	V	W	A
5	0094	COLOME	TR	C	320	V	W	A
6	2138	COUNTRY GROVE ESTATES	BG	C	50	V	W	A
7	0102	DALLAS	GY	C	150	V	W	A
8	2099	EASTWINDS MOBILE HOME PARK	YA	C	190	V	W	A
9	0115	EGAN	MY	C	235	V	W	A
10	0117	ELKTON	BG	C	650	V	W	A
11	0122	FAIRFAX	GY	C	120	V	W	A
12	0139	GARY	DU	C	274	V	W	A
13	0140	GAYVILLE	YA	C	412	V	W	A
14	0166	HUDSON	LN	C	350	V	W	A
15	0168	HURLEY	TU	C	390	V	W	A
16	0075	UNIVERSITY ESTATES	BG	C	140	V	W	A

Appendix N

Low-sensitive Ground Water Public Water Supply Systems

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
1	0024	AGAR	SU	C	85	N	G	A
2	0062	ALEXANDRIA	HS	C	588	N	W	A
3	0025	ALPENA	JE	C	250	N	G	A
4	0030	AMHERST WATER COMPANY	ML	C	35	N	W	A
5	0385	ARLINGTON	KG	C	908	N	W	A
6	0028	ARMOUR	DG	C	850	N	P	A
7	1083	ARTESIAN SCHOOL	SA	P	137	N	G	A
8	0031	AVON	BH	C	625	N	P	A
9	0032	BADGER	KG	C	114	N	G	A
10	0035	BANCROFT	KG	C	28	N	W	A
11	0950	BARNARD ELEMENTARY SCHOOL	BN	P	130	N	G	A
12	0721	BAY VIEW RESORT	RB	N	25	N	G	A
13	0038	BELVIDERE	JA	C	62	N	G	A
14	0007	BIG STONE CITY	GT	C	670	N	W	A
15	2144	BLACK HILLS WATER COMPANY	BU	C	150	N	G	A
16	2057	BLUMENGARD COLONY	FA	C	75	N	G	A
17	0046	BOX ELDER	PE	C	2850	N	G	A
18	0047	BRADLEY	CK	C	117	N	W	A
19	0065	BRENTFORD	SP	C	70	N	P	A
20	2066	BRENTWOOD COLONY-HARD	FA	C	90	N	G	A
21	0066	BRIDGEWATER	MC	C	550	N	P	A
22	0067	BRISTOL	DA	C	419	N	P	A
23	0069	BROADLAND	BD	C	48	N	G	A
24	0882	BROWN-DAY-MARSHALL RWS	BNDAML	C	1821	N	G	A
25	0076	BRYANT	HM	C	374	N	W	A
26	0223	BUTTE-MEADE RWS	BU	C	2122	N	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
27	0506	CAMELOT	HU	C	156	N	W	A
28	0080	CANISTOTA	MC	C	608	N	W	A
29	0081	CANOVA	MR	C	140	N	G	A
30	0082	CANTON	LN	C	2900	N	G	A
31	1004	CARPENTER CAFE	CK	N	30	N	G	A
32	0083	CARTHAGE	MR	C	180	N	G	A
33	0084	CAVOUR	BD	C	166	N	G	A
34	2176	CENTENNIAL HILLS WATER COMPANY	LA	C	25	N	G	A
35	0087	CHANCELLOR	TU	C	260	N	W	A
36	0541	CHUCK WAGON CAFE	BD	N	150	N	G	A
37	0090	CLAREMONT	BN	C	135	N	P	A
38	2020	CLEARFIELD COLONY	DG	C	80	N	G	A
39	2078	CLOVER LEAF FARMERS COOP	MR	C	65	N	G	A
40	2150	COCA COLA BOTTLING COMPANY	PE	P	70	N	G	A
41	8121	COE-LK O/MAINTENANCE SHOP SYSTEM	HU	P	30	N	G	A
42	0131	COFFEE CUP FUEL STOP	RB	N	999	N	G	A
43	2149	COL. PINE HILLS/COUNTRYSIDE SOUTH	PE	C	85	N	G	A
44	0093	COLMAN	MY	C	485	N	W	A
45	0096	CONDE	SP	C	203	N	P	A
46	0009	CORONA	RB	C	118	N	G	A
47	0097	CORSICA	DG	C	670	N	P	A
48	0098	CORSON VILLAGE SANITARY DISTRICT	MA	C	75	N	G	A
49	2173	COUNTRY CLUB PROP OWNERS-BF	BU	C	45	N	W	A
50	0099	CRESBARD	FA	C	180	N	P	A
51	0391	CROOKS SANITARY DISTRICT	MA	C	860	N	G	A
52	0103	DAVIS	TU	C	95	N	W	A
53	2056	DEERFIELD COLONY	ED	C	95	N	G	A
54	0063	DELL ACRES MOBILE HOME PARK	HU	C	100	N	G	A
55	0243	DELL ACRES RESIDENTIAL CORPORATION	HU	C	45	N	G	A
56	0105	DELL RAPIDS	MA	C	2800	N	W	A
57	0106	DELMONT	DG	C	250	N	P	A
58	0108	DOLAND	SP	C	306	N	P	A
59	0802	DOT 426B-100TH MERIDIAN (EAST)	LY	N	975	N	G	A
60	0803	DOT 427B-100TH MERIDIAN (WEST)	LY	N	1000	N	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
61	0789	DOT REST AREA 119-GLACIAL LAKES	RB	N	600	N	G	A
62	0800	DOT REST AREA 422B-BELVIDERE(EAST)	JA	N	960	N	G	A
63	0801	DOT REST AREA 423B-BELVIDERE(WEST)	JA	N	1000	N	G	A
64	0109	DRAPER	JN	C	80	N	G	A
65	0110	DUPREE	ZB	C	500	N	P	A
66	0010	EAGLE BUTTE	DW	C	3035	N	P	A
67	0113	EDEN	ML	C	110	N	P	A
68	0114	EDGEMONT	FR	C	906	N	G	A
69	0116	ELK POINT	UN	C	1862	N	G	A
70	8004	ELLSWORTH AIR FORCE BASE	PE	C	5086	N	P	A
71	0118	EMERY	HS	C	380	N	W	A
72	0120	ETHAN	DN	C	351	N	W	A
73	0121	EUREKA	MP	C	1100	N	P	A
74	2050	EVERGREEN COLONY	FA	C	60	N	G	A
75	0393	FAIRVIEW	LN	C	73	N	G	A
76	0125	FAULKTON	FA	C	800	N	W	A
77	0128	FLORENCE	CD	C	192	N	W	A
78	0925	FLYING J/CONOCO TRAVEL PLAZA	PE	P	500	N	G	A
79	2064	FORDHAM COLONY	CK	C	100	N	G	A
80	0129	FORESTBURG WELL CO.	SA	C	75	N	G	A
81	0134	FREEMAN	HT	C	1300	N	P	A
82	0135	FRUITDALE	BU	C	75	N	W	A
83	0137	GARDEN CITY	CK	C	93	N	G	A
84	0141	GEDDES	CM	C	303	N	P	A
85	0126	GFP 5-A/LAKE HERMAN SW PICNIC	LK	N	50	N	G	A
86	2060	GLENDALE COLONY	SP	C	106	N	G	A
87	0144	GLENHAM	WL	C	134	N	P	A
88	2028	GRASS LAND COLONY	BN	C	80	N	G	A
89	0425	GREEN ACRES	BN	C	70	N	P	A
90	2022	GREENWOOD COLONY	DG	C	100	N	G	A
91	0146	GRENVILLE	DA	C	81	N	P	A
92	0147	GROTON	BN	C	1196	N	P	A
93	0878	HANSON RWS	HS	C	3600	N	P	A
94	0150	HARTFORD	MA	C	1600	N	W	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
95	1055	HAYLOFT	MC	N	32	N	G	A
96	0151	HAYTI	HM	C	372	N	W	A
97	0509	HAZEL	HM	C	103	N	W	A
98	0152	HECLA	BN	C	398	N	G	A
99	0153	HENRY	CD	C	215	N	W	A
100	0155	HERREID	CA	C	470	N	P	A
101	0158	HIGHMORE	HY	C	834	N	P	A
102	2065	HILLCREST COLONY	CK	C	140	N	G	A
103	0161	HITCHCOCK	BD	C	95	N	W	A
104	0162	HOSMER	ED	C	310	N	P	A
105	0165	HOWARD	MR	C	1075	N	W	A
106	0167	HUMBOLDT	MA	C	490	N	W	A
107	2042	HURON COLONY	BD	C	140	N	G	A
108	2026	HUTTERVILLE COLONY	BN	C	89	N	G	A
109	0397	IPSWICH	ED	C	900	N	P	A
110	0173	IRENE	CLTUYA	C	475	N	P	A
111	0174	IROQUOIS	KG	C	328	N	W	A
112	2018	JAMESVILLE COLONY	YA	C	120	N	G	A
113	0019	JOBEE ACRES	BN	C	87	N	P	A
114	0181	KADOKA	JA	C	750	N	G	A
115	0184	KIMBALL	BL	C	752	N	P	A
116	0398	LAKE PRESTON	KG	C	670	N	W	A
117	2017	LAKEVIEW COLONY	CM	C	100	N	G	A
118	0180	LANE	JE	C	60	N	G	A
119	0189	LANGFORD	ML	C	298	N	W	A
120	0193	LENNOX	LN	C	1900	N	G	A
121	0194	LEOLA	MP	C	520	N	P	A
122	0195	LESTERVILLE	YA	C	150	N	P	A
123	0196	LETCHER	SA	C	250	N	P	A
124	2051	LONG LAKE COLONY	BN	C	70	N	G	A
125	0200	MANSFIELD WATER USERS ASSOC.	BNSP	C	80	N	G	A
126	0201	MARION	TU	C	830	N	G	A
127	0203	MARVIN	GT	C	38	N	G	A
128	2023	MAXWELL COLONY	BH	C	110	N	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
129	0296	MCCROSSAN BOYS RANCH	MA	C	100	N	W	A
130	0204	MELLETTE	SP	C	184	N	P	A
131	0205	MENNO	HT	C	800	N	P	A
132	0012	MIDLAND	HK	C	230	N	G	A
133	2010	MILLBROOK COLONY	DN	C	108	N	G	A
134	0211	MILLER	HD	C	1700	N	G	A
135	2072	MILLERDALE COLONY	HD	C	140	N	G	A
136	0212	MISSION HILL	YA	C	200	N	P	A
137	0023	MOBILE DWELLERS RANCH	BN	C	80	N	G	A
138	0216	MONROE	TU	C	155	N	G	A
139	0220	MOUNT VERNON	DN	C	380	N	G	A
140	0224	NEW UNDERWOOD	PE	C	570	N	G	A
141	2081	NEWDALE COLONY	BG	C	57	N	G	A
142	0222	NEWELL	BU	C	650	N	G	A
143	0225	NISLAND	BU	C	160	N	G	A
144	0226	NORTH SIOUX CITY	UN	C	2300	N	G	A
145	0227	NORTHVILLE	SP	C	105	N	P	A
146	0228	NUNDA	LK	C	40	N	G	A
147	0231	OLDHAM	KG	C	189	N	W	A
148	0232	ONAKA	FA	C	49	N	P	A
149	0233	ONIDA	SU	C	800	N	P	A
150	0234	ORIENT	FA	C	70	N	G	A
151	2004	OUR HOME, INC.	BD	P	96	N	G	A
152	0236	PARKSTON	HT	C	1600	N	P	A
153	2073	PEARL CREEK COLONY	BD	C	99	N	G	A
154	0237	PEEVER	RB	C	195	N	G	A
155	0241	PIERPONT	DA	C	173	N	W	A
156	0245	PLANKINTON	AU	C	604	N	G	A
157	0246	PLATTE	CM	C	1313	N	P	A
158	0404	PLEASANT VALLEY ESTATES	BN	C	85	N	P	A
159	2075	POINSETT COLONY	HM	C	40	N	G	A
160	0247	POLLOCK	CA	C	380	N	P	A
161	0617	PRAIRIE HILLS RANCHETTES	BU	C	128	N	G	A
162	2125	PRAIRIEWOOD HOUSING DEVELOPMENT	BN	C	249	N	P	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
163	0248	PRESHO	LY	C	660	N	G	A
164	0396	PROVO TOWNSHIP WATER	FR	C	31	N	G	A
165	0250	PUKWANA	BL	C	280	N	P	A
166	0251	QUINN	PE	C	92	N	G	A
167	0252	RAMONA	LK	C	245	N	G	A
168	0275	RAVINIA	CM	C	88	N	P	A
169	0276	RAYMOND	CK	C	96	N	P	A
170	0277	REDFIELD	SP	C	2750	N	P	A
171	0279	RELIANCE	LY	C	165	N	G	A
172	0504	RICHMOND HEIGHTS	BN	C	80	N	P	A
173	2040	RIVERSIDE COLONY	BD	C	120	N	G	A
174	0508	RIVERSIDE TRAILER COURT	BU	C	72	N	W	A
175	0620	ROLLING MEADOWS	BN	C	105	N	P	A
176	0282	ROSCOE	ED	C	360	N	P	A
177	0284	ROSLYN	DA	C	251	N	P	A
178	0880	S. SPINK/N. BEADLE	BDSP	C	589	N	G	A
179	0288	SALEM	MC	C	1350	N	G	A
180	2143	SANDSTONE WATER COMPANY	BU	C	150	N	P	A
181	0290	SCOTLAND	BH	C	986	N	P	A
182	0503	SD DEVELOPMENTAL CENTER-REDFIELD	SP	C	750	N	P	A
183	0292	SENECA	FA	C	60	N	P	A
184	0293	SINAI	BG	C	120	N	G	N
185	0310	SISSETON	RB	C	2181	N	G	A
186	0870	SOUTH LINCOLN RWS	LN	C	3400	N	G	A
187	2059	SPINK COLONY	SP	C	84	N	G	A
188	2076	SPRING LAKE COLONY	KG	C	85	N	G	A
189	2016	SPRING VALLEY COLONY	JE	C	115	N	G	A
190	0286	ST. LAWRENCE	HD	C	223	N	G	A
191	0056	STATE TRAINING SCHOOL	AU	C	300	N	G	A
192	0318	STICKNEY	AU	C	329	N	P	A
193	2003	STORLA SUNSET HOME	SA	P	57	N	G	A
194	0408	STRATFORD	BN	C	85	N	P	A
195	2025	SUNSET COLONY	ML	C	90	N	G	A
196	1029	SUNSHINE BIBLE ACADEMY	HD	P	140	N	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
197	0999	T-M RURAL WATER DISTRICT	MCTU	C	4256	N	PG	A
198	0327	TABOR	BH	C	450	N	P	A
199	0409	TEA	LN	C	1500	N	W	A
200	2049	THUNDERBIRD H.B. INC.	FA	C	130	N	G	A
201	0331	TOLSTOY	PT	C	65	N	G	A
202	0589	TRAVELODGE	PE	N	175	N	G	A
203	0334	TRIPP	HT	C	635	N	G	A
204	2019	TSCHETTER COLONY	HT	C	115	N	G	A
205	0335	TULARE	SP	C	224	N	G	A
206	2077	UPLAND COLONY	SA	C	100	N	G	A
207	0338	UTICA	YA	C	80	N	P	A
208	0415	VALE SANITARY DISTRICT	BU	C	150	N	W	A
209	0340	VALLEY SPRINGS	MA	C	850	N	G	A
210	0341	VEBLEN	ML	C	321	N	G	A
211	0343	VIBORG	TU	C	812	N	W	A
212	0345	VIVIAN SANITARY DISTRICT	LY	C	90	N	G	A
213	0347	VOLIN	YA	C	175	N	P	A
214	0348	WAGNER	CM	C	1500	N	P	A
215	2071	WAGON WHEEL VILLAGE I	PE	C	300	N	G	A
216	0001	WAGON WHEEL VILLAGE II	MD	N	25	N	G	A
217	0349	WAKONDA	CL	C	340	N	W	A
218	0417	WALL	PE	C	850	N	G	A
219	0350	WALLACE	CD	C	90	N	W	A
220	0418	WARNER SANITARY DISTRICT	BN	C	400	N	P	A
221	0357	WAUBAY	DA	C	647	N	G	A
222	0360	WEBSTER	DA	C	2017	N	P	A
223	2098	WESTMILLER WATER ASSOCIATION	ML	C	45	N	W	A
224	0862	WESTON HEIGHTS	MD	C	441	N	G	A
225	0179	WESTPORT	BN	C	112	N	P	A
226	0364	WHITE	BG	C	550	N	W	A
227	0366	WHITE LAKE	AU	C	400	N	P	A
228	0368	WHITEWOOD	LA	C	891	N	G	A
229	0372	WINFRED WATER DISTRICT	LK	C	80	N	W	A
230	0375	WOLSEY	BD	C	480	N	W	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
231	0924	WOOD	MT	C	84	N	W	A
232	0376	WOONSOCKET	SA	C	677	N	G	A
233	0377	WORTHING	LN	C	530	N	G	A
234	2156	WR/LJ-CREIGHTON PROJECT	PEJN	C	550	N	G	A
235	0378	YALE	BD	C	128	N	G	A

Appendix O

Surface Water Source Public Water Supply Systems

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
1	0020	ABERDEEN	BN	C	24927	V	S	A
2	0621	AURORA-BRULE RWS	BL	C	3685	V	S	A
3	0107	BELVIDERE EAST KOA	HK	N	35	V	S	A
4	0865	BON HOMME-YANKTON II RWS	BHYA	C	15666	V	S	A
5	0388	BRITTON	ML	C	1394	V	GS	A
6	0086	CHAMBERLAIN	BL	C	2347	V	S	A
7	8024	COE-LK O/INDIAN MEMORIAL	CA	N	150		S	A
8	8026	COE-LK O/POWERPLANT	HU	P	25	V	S	A
9	8117	COE-LK O/VISITOR'S CENTER	HU	N	75		S	A
10	8037	COE-LK S/MAINTENANCE SHOP SYSTEM	BF	P	25	V	S	A
11	8038	COE-LK S/RIGHT TAILRACE-POWERPLANT	BF	P	25	V	S	A
12	0169	HURON	BD	C	12448	V	GS	A
13	0175	ISABEL	DW	C	319	V	S	A
14	0182	KENNEBEC	LY	C	350	V	S	A
15	0185	LAKE ANDES	CM	C	980	V	S	A
16	2175	MID DAKOTA RURAL WATER	HUHY	C	3704		S	A
17	0214	MITCHELL	DN	C	16062	V	S	A
18	0215	MOBRIDGE	WL	C	3768	V	S	A
19	0221	MURDO	JN	C	679	V	S	A
20	0229	OACOMA	LY	C	376	V	S	A
21	0238	PHILIP	HK	C	1070	V	S	A
22	8001	PICKSTOWN	CM	C	130	V	S	A
23	0433	RANDALL II RWS	CM	C	4726	V	S	A
24	0435	RANDALL III RWS	CM	C	3668	V	S	A
25	0294	SIOUX FALLS	MA	C	100814	V	GS	A
26	2089	SPRING CREEK SANITARY DISTRICT	HU	N	25		S	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
27	0317	SPRINGFIELD	BH	C	850	V	S	A
28	0112	TRI-COUNTY RWS	ZB	C	7975	V	S	A
29	0356	WATERTOWN MUNICIPAL UTILITIES	CD	C	17592	V	GS	A
30	1089	WEB WATER DEVELOPMENT ASSOCIATION	WLEDBN	C	30000	V	S	A
31	0959	WEST WHITLOCK RESORT	PT	N	50		S	A
32	0423	YANKTON	YA	C	12703	V	S	A

Appendix P

Black Hills Region Public Water Supply Systems

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
1	2183	AMERICAN PRESIDENTS MOTEL	CU	N	25		G	A
2	0588	AMERICAN PRESIDENTS RESORT	CU	N	304	V	G	A
3	2115	ANGOSTURA DEN	FR	N	102		G	A
4	1011	ATLANTIC MOUNTAIN RANCH MAIN SITE	CU	N	62		G	A
5	2122	B & J MOBILE HOME PARK	MD	C	156	V	G	A
6	2091	BATTLE CREEK CAMP	PE	N	100		G	A
7	1038	BEAUTIFUL RUSHMORE CAVE, INC.	PE	N	450		G	A
8	0529	BEAVER LAKE CAMPGROUND	CU	N	153	V	G	A
9	1048	BELLE FOURCHE LIVESTOCK EXCHANGE	LA	N	25	V	G	A
10	0644	BERRY PATCH CAMPGROUND	PE	N	356		G	A
11	0387	BESTGEN WATER COMPANY	MD	C	73	V	G	A
12	0426	BICENTENNIAL TRAILER COURT	LA	C	75	V	G	A
13	0532	BIG PINE CAMPGROUND	CU	N	130	V	G	A
14	0043	BLACK HAWK WATER CO.	MD	C	1785	V	G	A
15	2121	BLACK HILLS CHILDREN'S CTR-NEW HOUSE	PE	C	75		G	A
16	0556	BLACK HILLS JELLYSTONE RV RESORT	PE	N	150		G	A
17	2104	BLACK HILLS MAZE	PE	N	166		G	A
18	2144	BLACK HILLS WATER COMPANY	BU	C	150	N	G	A
19	8053	BLM-FT. MEADE PICNIC AREA	MD	N	25		G	A
20	0324	BLUCKSBERG MTN. WATER ASSOC.	MD	C	427	V	G	A
21	0534	BOULDER CANYON C.C.- CLUBHOUSE	LA	N	35		G	A
22	0651	BOULDER PARK CAMPGROUND	MD	N	30		G	A
23	2005	BOULDER PARK WATER USERS ASSOCIATION	MD	C	83	V	G	A
24	8000	BOX ELDER CIVILIAN CONSERVATION CTR.	LA	C	250	V	G	A
25	2039	BUCK N GATOR BAR	PE	N	100		G	A
26	0077	BUFFALO GAP	CU	C	200	V	G	A
27	0271	C-J SANDERS WATER INC.	PE	C	480	V	Y	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
28	0537	CALAMITY PEAK LODGE	CU	N	40		G	A
29	8055	CAMP BOB MARSHALL	CU	N	50		G	A
30	0964	CAMP JUDSON	PE	N	100		G	A
31	1036	CAMP RIMROCK	PE	N	40		G	A
32	0539	CANYON CAFE	PE	N	25	V	G	A
33	0265	CARRIAGE HILLS	PE	C	270	V	G	A
34	2106	CAVALRY TRAILS HOMEOWNER ASSOC.	PE	C	54		G	A
35	1062	CEDAR CANYON WESLEYAN CAMP	PE	N	93		G	A
36	2176	CENTENNIAL HILLS WATER COMPANY	LA	C	25	N	G	A
37	0264	CHAPEL LANE WATER COMPANY	PE	C	1227	V	G	A
38	0540	CHEYENNE CROSSING STORE	LA	N	25	V	G	A
39	0655	CHRIS' CAMPGROUND	LA	N	120	V	G	A
40	0257	CIMARRON PARK	PE	C	200	V	G	A
41	0903	CIRCLE B RANCH	PE	N	300	V	G	A
42	0262	CLEGHORN SPRINGS	PE	C	120	V	G	A
43	2150	COCA COLA BOTTLING COMPANY	PE	P	70	N	G	A
44	8103	COE-COTTONWOOD REC AREA	FR	N	260		G	A
45	2149	COL. PINE HILLS/COUNTRYSIDE SOUTH	PE	C	85	N	G	A
46	0263	COL. PINE HILLS/WHISPERING PINES	PE	C	606	V	G	A
47	2136	COPPER OAKS I	PE	C	35	V	Y	A
48	0629	COUNTRY CLUB ESTATES	FR	C	50	V	G	A
49	2173	COUNTRY CLUB PROP OWNERS-BF	BU	C	45	N	W	A
50	0884	COUNTRY VILLAGE/NORTH	PE	C	321	V	G	A
51	0428	COUNTRY VILLAGE/SOUTH	PE	C	219	V	G	A
52	1081	COUNTRYSIDE	PE	C	585	V	G	A
53	2133	COVERED WAGON RESORT	PE	N	32		G	A
54	2171	CROOKED CREEK CAMPGROUND-NEW WELL	PE	N	100		G	A
55	0527	CROOKED CREEK CAMPGROUND-OLD WELL	PE	N	100		G	A
56	0915	CROOKED OAK CANYON HOMEOWNERS	MD	C	60	V	G	A
57	0771	CSP-WBB/BLUE BELL	CU	N	113		G	A
58	0773	CSP-WCL/CENTER LAKE-B.H.PLAYHOUSE	CU	N	59		G	A
59	0774	CSP-WGT/GAME LODGE	CU	N	530		G	A
60	0775	CSP-WLL/LEGION LAKE	CU	N	85		G	A
61	0780	CSP-WSL/SYLVAN LAKE	CU	N	297		G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
62	0779	CSP-WSN/STOCKADE LAKE CAMPGROUND-N	CU	N	19		G	A
63	0778	CSP-WSS/STOCKADE LAKE CAMPGROUND-S	CU	N	23		G	A
64	2087	CSP-WWL/WILDLIFE STATION	CU	N	25		G	A
65	0101	CUSTER	CU	C	1741	V	G	A
66	0610	CUSTER MOUNTAIN CAMPGROUND	CU	N	80		G	A
67	0650	CUSTER-MT. RUSHMORE KOA	CU	N	184		G	A
68	0392	D & E WATER COMPANY	LA	C	108	V	G	A
69	2118	DAIRY BARN/HAYLOFT BED & BREAKFAST	PE	N	42		G	A
70	2102	DAIRY TWIST	PE	N	101		G	A
71	0900	DAKOTA ROSE	FR	N	300		G	A
72	0643	DAKOTAH CEMENT-EAST/WEST	PE	P	200	V	G	A
73	2070	DAKOTAH CEMENT-NORTH	PE	P	35	V	G	A
74	2123	DAKOTAH SPIRIT CG AND LODGE	PE	N	100		G	A
75	0104	DEADWOOD	LA	C	1830	V	P	A
76	2095	DEBERG WELL USERS ASSOCIATION	LA	C	60		G	A
77	0549	DEER MOUNTAIN	LA	C	100	V	S	A
78	0384	DEPT OF CORRECTIONS-CUSTER	CU	C	300	V	G	A
79	0807	DOT REST AREA 504-505A-TILFORD	MD	N	300	V	G	A
80	0810	DOT REST AREA 517A-SPEARFISH	MD	N	300	V	G	A
81	1000	EAST RIDGE ACRES	MD	C	110	V	G	A
82	0273	EDELWEISS MOUNTAIN	PE	C	192	V	G	A
83	0114	EDGEMONT	FR	C	906	N	G	A
84	0630	ELK CREEK RESORT	MD	N	60		G	A
85	0929	ELK CREEK STEAKHOUSE	MD	N	104	V	G	A
86	8004	ELLSWORTH AIR FORCE BASE	PE	C	5086	N	P	A
87	0266	ENCHANTED HILLS WATER ASSOCIATION	PE	C	175	V	G	A
88	0877	FAIRBURN WATER ASSOCIATION	CU	C	38		W	A
89	2033	FEDERAL BEEF PROCESSORS	PE	P	300	V	G	A
90	0645	FISH N FRY CAMPGROUND NORTH	LA	N	90		G	A
91	2132	FISH N FRY CAMPGROUND SOUTH	LA	N	25		G	A
92	0925	FLYING J/CONOCO TRAVEL PLAZA	PE	P	500	N	G	A
93	1061	FLYING T CHUCKWAGON SUPPERS	PE	N	204		G	A
94	8002	FORT MEADE VA CENTER	MD	C	800	V	S	A
95	2165	FORT WELIKIT FAMILY CAMPGROUND	PE	N	27		G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
96	0135	FRUITDALE	BU	C	75	N	W	A
97	2031	GAS LIGHT	PE	N	55		G	A
98	0846	GFP 10-A/BEAR BUTTE STATE PARK V.C.	MD	N	50		G	A
99	2107	GFP 10-C/OUTLET	MD	N	25		G	A
100	0833	GFP 13-C/ANGOSTURA CASCADE CG	FR	N	263		G	A
101	0834	GFP 13-D/ANGOSTURA HQ & CHEYENNE CG	FR	N	40		G	A
102	0835	GFP 13-E/ANGOSTURA HORSEHEAD CG	FR	N	225		G	A
103	2142	GLM LAND	PE	P	180		G	A
104	0516	GOLDEN MEADOWS	MD	C	114	V	G	A
105	2174	GRANDVIEW PROPERTY OWNERS	BU	C	25		G	A
106	0669	HAPPY HOLIDAY INCORPORATED	PE	C	67	V	G	A
107	0963	HARNEY CAMP INC.	PE	N	29		G	A
108	0927	HARNEY LOUNGE	PE	N	25	V	G	A
109	0910	HART RANCH	PE	N	50	V	G	A
110	1015	HEARTLAND RESTAURANT & LOUNGE	FR	N	25	V	G	A
111	0587	HERITAGE PARK	MD	C	188	V	G	A
112	0905	HERITAGE VILLAGE INC	CU	N	602		G	A
113	0172	HIDDEN VALLEY CAMPGROUND	LA	N	30	V	G	A
114	0269	HIDDEN VALLEY WATER ASSOCIATION	PE	C	50	V	G	A
115	0395	HIGH MEADOWS	MD	C	130	V	G	A
116	0011	HIGH MEADOWS RANCHETTES	PE	C	55	V	G	A
117	0050	HIGHLAND HILLS	PE	C	40	V	G	A
118	0159	HILL CITY	PE	C	800	V	G	A
119	1019	HILLSIDE COUNTRY COTTAGES	PE	N	50		G	A
120	0312	HILLSVIEW TRAILER COURT	LA	C	37	V	G	A
121	2140	HOLY SMOKE RESTAURANT	PE	N	30		G	A
122	0904	HORSE CREEK INN	PE	N	23		G	A
123	1013	HORSEHEAD RESORT	FR	N	144		G	A
124	0671	HORSETHIEF RESORT CAMPGROUND	PE	N	127		G	A
125	0163	HOT SPRINGS	FR	C	4170	V	G	A
126	0678	HOT SPRINGS KOA	FR	N	52		G	A
127	0672	IRON CREEK LAKE STORE & CAMPGROUND	LA	N	50		G	A
128	0599	JOHNSON SIDING STORE	PE	N	75	V	G	A
129	0562	KEMP'S KAMP	PE	N	68		G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
130	0314	KEN'S TRAILER COURT	LA	C	100	V	G	A
131	1082	KEYSTONE	PE	C	232	V	G	A
132	0679	LAKE PARK CAMPGROUND	PE	N	50		G	A
133	0908	LAKE PARK MOTEL	PE	N	80	V	G	A
134	0049	LAMONT DEVELOPMENTAL CTR	CU	C	60	V	G	A
135	0315	LANTERN ESTATES	LA	C	161	V	G	A
136	0565	LATCHSTRING RESTAURANT	LA	N	440		G	A
137	0547	LAUGHING WATER RESTAURANT	CU	N	150		G	A
138	0563	LAZY J RV PARK	PE	N	152		G	A
139	2164	LEAD	LA	C	3800		P	A
140	0190	LEAD/DEADWOOD SANITARY DISTRICT	LA	C	5647	V	S	A
141	0258	LEO'S TRAILER COURT	PE	C	25	V	G	A
142	2114	LEWIE'S SALOON AND EATERY	LA	N	28		G	A
143	0416	LOURIE LANE HOMEOWNERS ASSOCIATION	LA	C	99	V	G	A
144	0895	LOVING CARE GROUP HOME	LA	P	37	V	G	A
145	0568	MARGIE'S DINNER CLUB	LA	N	140	V	G	A
146	0570	MAVERICK TRUCK STOP	FR	N	75	V	G	A
147	1031	MEDICINE MOUNTAIN SCOUT CAMP	PE	N	175	V	G	A
148	1115	MEMORIAL CHRISTIAN SCHOOL	PE	P	177	V	G	A
149	0518	MERCHEN'S MOBILE HOME ACRES	FR	C	80	V	G	A
150	2177	MESA VIEW WATER ASSOCATION	PE	C	100		G	A
151	0515	MIDLAND HEIGHTS	MD	C	177	V	G	A
152	1033	MOONSHINE GULCH SALOON	PE	N	27	V	G	A
153	0695	MOUNTAIN MEADOW RESORT	PE	N	25	V	G	A
154	2083	MOUNTAIN MEADOW TRAILER COURT	PE	N	25		G	A
155	2169	MOUNTAIN PLAINS II HOMEOWNERS	LA	C	90		G	A
156	0580	MOUNTAIN VIEW LODGE	PE	N	31		G	A
157	2178	MPT INC	LA	N	45		G	A
158	0323	MURRAY WATER COMPANY	MD	C	210	V	G	A
159	0615	MYSTERY MOUNTAIN HOLIDAY RESORT	PE	N	106		G	A
160	2116	NEMO GUEST RANCH-CAMPGROUND	LA	N	15		G	A
161	0535	NEMO GUEST RANCH-STORE	LA	N	50		G	A
162	0514	NORTHDALE	MD	C	489	V	G	A
163	8044	NPS-JEWEL CAVE NATIONAL MONUMENT	CU	N	434		G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
164	8046	NPS-MOUNT RUSHMORE NATIONAL MEMORIAL	PE	N	6900	V	G	A
165	8047	NPS-WIND CAVE NATIONAL PARK	FR	N	285	V	G	A
166	2151	OAK MOUNTAIN COUNTRY ESTATES	LA	C	30		G	A
167	2135	OAKS/QUARTZ CANYON WATER USERS	PE	C	130		G	A
168	0575	OLD HOME CAMPGROUND	PE	N	30	V	G	A
169	1014	OUTLAW RANCH	CU	N	25	V	G	A
170	1069	PACTOLA PINES STORE	PE	N	200		G	A
171	0902	PACTOLA WATER ASSOCIATION	PE	N	25		G	A
172	0697	PALMER GULCH LODGE/MT. RUSHMORE KOA	PE	N	999		G	A
173	2000	PEACEFUL PINES II	PE	C	102	V	G	A
174	0892	PIEDMONT ELEMENTARY SCHOOL	MD	P	100	V	G	A
175	0639	PIEDMONT MEDICAL CENTER	PE	N	75	V	G	A
176	2129	PIEDMONT SCHOOL GYM	MD	P	99	V	G	A
177	0270	PINE CLIFF	PE	C	178	V	G	A
178	0948	PINE GROVE	PE	C	270	V	G	A
179	0041	PINE HILLS PARK	MD	C	305	V	G	A
180	0909	PINE REST CABINS	PE	N	39		G	A
181	2153	PINEVIEW WATER ASSOCIATION	PE	C	34		G	A
182	1067	PLACERVILLE CAMP	PE	N	100	V	G	A
183	0259	PLAINSVIEW MOBILE MANOR	PE	C	297	V	G	A
184	2172	PLEASANT VALLEY HOMEOWNERS ASSOC	MD	C	60		G	A
185	0260	PONDEROSA MOBILE HOME RANCH	PE	C	144	V	G	A
186	2157	PONDEROSA MOUNTAIN RUSTIC CAMPGROUND	PE	N	32		G	A
187	0405	PONDEROSA PARK	PE	C	54	V	G	A
188	0863	PONDEROSA RIDGE	PE	C	90	V	G	A
189	2134	PONDEROSA WATER COMPANY	PE	C	30		G	A
190	0581	POWDER HOUSE LODGE	PE	N	300		G	A
191	0014	PRAIRIE ACRE ESTATES	PE	C	417	V	G	A
192	0617	PRAIRIE HILLS RANCHETTES	BU	C	128	N	G	A
193	0396	PROVO TOWNSHIP WATER	FR	C	31	N	G	A
194	2127	QUAAL WATER ASSOCIATION	MD	C	53		G	A
195	0906	QUAIL'S CROSSING	PE	N	36		G	A
196	0582	RAFTER-J BAR RANCH	PE	N	800		G	A
197	0406	RAPID CITY	PE	C	73000	V	GS	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
198	2182	RAPID CITY INDIAN HOSPITAL	PE	P	200		G	A
199	0274	RAPID VALLEY SANITARY DISTRICT	PE	C	8000	V	GS	A
200	0890	REPTILE GARDENS, INC.	PE	N	900		G	A
201	2084	RIMROCK RIDGE WATER ASSOCIATION	PE	C	36	V	G	A
202	0508	RIVERSIDE TRAILER COURT	BU	C	72	N	W	A
203	0583	ROBIN'S ROOST CABINS	PE	N	32		G	A
204	0600	ROCKERVILLE TRADING POST	PE	N	60		G	A
205	0732	ROOST RESORT	CU	N	44		G	A
206	0703	RUSHMORE RESORT AND CAMPGROUND	PE	N	25		G	A
207	0536	RUSHMORE SHADOWS	PE	N	320		G	A
208	1037	RUSHMORE WATERSLIDE	PE	N	500		G	A
209	0546	SACORA STATION MOBILE HOME PARK	MD	C	34	V	G	A
210	1035	SALVATION ARMY CAMP	PE	N	50	V	G	A
211	2143	SANDSTONE WATER COMPANY	BU	C	150	N	P	A
212	0290	SCOTLAND	BH	C	986	N	P	A
213	8109	SHERIDAN LAKE MARINA	PE	N	103		G	A
214	0272	SIPHON HILL WATER ASSOCIATION	PE	C	40	V	G	A
215	0637	SLASH J BAR AND GRILL	MD	N	75	V	G	A
216	0627	SOUTH CANYON COUNTRY ESTATES	PE	C	339	V	G	A
218	0311	SPEARFISH	LA	C	8000	V	G	A
218	2160	SPEARFISH CANYON RESORT LLC	LA	N	54		G	A
219	0708	SPEARFISH KOA	LA	N	150		G	A
220	0875	SPEARFISH MEADOWS	LA	C	67	V	G	A
221	0625	SPEARFISH VALLEY MOBILE EST.	LA	C	155	V	G	A
222	0649	SPOKANE CREEK RESORT	CU	N	67		G	A
223	0015	SPRING CANYON WATER COMPANY	PE	C	84	V	G	A
224	0542	SPRING CREEK INN	PE	N	53	V	G	A
225	1047	ST. ONGE LIVESTOCK CAFE	LA	N	30	V	G	A
226	0287	ST. ONGE SANITARY DISTRICT	LA	C	250	V	G	A
227	0893	STAGEBARN ELEMENTARY SCHOOL	MD	P	400	V	G	A
228	2159	STAGEBARN SUBDIVISION	MD	C	165		G	A
229	0055	STATE VETERANS HOME	FR	C	250	V	G	A
230	1032	STORM MOUNTAIN CENTER	PE	N	62		G	A
231	0321	STURGIS	MD	C	6700	V	G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
232	2167	SUGAR SHACK	LA	N	27		G	A
233	1012	SUMMER SUN RESORT	FR	N	70		G	A
234	2001	SUNNYSIDE MOBILE HOME PARK II	PE	C	175	V	G	A
235	0512	SUNRISE HOMEOWNERS ASSOCIATION	LA	C	63	V	G	A
236	0710	TEE PEE CAMPGROUND	PE	N	25	V	G	A
237	0595	TERRY PEAK CHALET	LA	N	150		G	A
238	0053	TERRY TROJAN WATER DISTRICT	LA	C	390	V	W	A
239	0402	THE NICHE	MD	C	70	V	G	A
240	2103	THE RANCH AMUSEMENT PARK	PE	N	400		G	A
241	0513	THRALL MOUNTAIN PROPERTY ASSOCIATION	PE	C	70	V	G	A
242	0598	THREE FORKS CAMPGROUND	PE	N	36		G	A
243	1052	THUNDERHEAD CAMP	LA	N	50		G	A
244	0922	TOMAHAWK COUNTRY CLUB-6TH HOLE	LA	N	100		G	A
245	0597	TOMAHAWK COUNTRY CLUB-CLUBHOUSE	LA	N	100		G	A
246	0239	TRAIL WEST	MD	C	321	V	G	A
247	1050	TRAILSHEAD LODGE	LA	N	60	V	G	A
248	0589	TRAVELODGE	PE	N	175	N	G	A
249	0734	TROUT HAVEN	LA	N	204		G	A
250	8054	USFS-BHNF BISMARK LAKE CAMPGROUND	CU	N	27		G	A
251	8073	USFS-BHNF CHIPPER CG	PE	N	25		G	A
252	8056	USFS-BHNF COMMANCHE PARK CAMPGROUND	CU	N	26		G	A
253	8099	USFS-BHNF DALTON LAKE CAMPGROUND	LA	N	25		G	A
254	8062	USFS-BHNF DUTCHMAN CAMPGROUND	PE	N	48		G	A
255	8075	USFS-BHNF HANNA CAMPGROUND	LA	N	35		G	A
256	8057	USFS-BHNF HARRY MILLS PICNIC AREA	CU	N	25		G	A
257	8063	USFS-BHNF HORSETHIEF LAKE CG	PE	N	78		G	A
258	8070	USFS-BHNF NORTH COVE BEACH AND PA	PE	N	82		G	A
259	8064	USFS-BHNF OREVILLE CAMPGROUND	PE	N	40		G	A
260	8071	USFS-BHNF PACTOLA CAMPGROUND	PE	N	125		G	A
261	8110	USFS-BHNF PACTOLA VISITOR CENTER	PE	N	900	V	G	A
262	8078	USFS-BHNF ROCKY CAMPGROUND	PE	N	30		G	A
263	8068	USFS-BHNF ROUBAIX LAKE CG	LA	N	200		G	A
264	8077	USFS-BHNF TIMON CAMPGROUND	LA	N	30		G	A
265	8066	USFS-BHNF WHITETAIL CAMPGROUND	PE	N	31		G	A

	Epaid	System Name	County	System Type	Chemical Population	Vulnerable	Sourcecode	Active
266	8074	USFS-BHNF WOODSY CG	PE	N	52		G	A
267	8003	VA MEDICAL CENTER-HOT SPRINGS	FR	C	660	V	G	A
268	0606	VALLEY MOTEL	CU	N	51	V	G	A
269	0040	VALLEY VIEW MOBILE HOME PARK	MD	C	291	V	G	A
270	2071	WAGON WHEEL VILLAGE I	PE	C	300	N	G	A
271	0001	WAGON WHEEL VILLAGE II	MD	N	25	N	G	A
272	0316	WALNUT PARK	LA	C	173	V	G	A
273	0253	WESTBERRY TRAILS WATER USERS ASSOC.	PE	C	177	V	G	A
274	0521	WESTFIELD ADDITION	LA	C	73	V	G	A
275	0862	WESTON HEIGHTS	MD	C	441	N	G	A
276	0876	WESTVIEW HOMEOWNERS ASSOC.	LA	C	102	V	G	A
277	0611	WESTWARD HO TRAILER COURT	CU	C	50	V	G	A
278	0933	WHARF RESOURCES	LA	P	180	V	G	A
279	2128	WHARF-TERRY VALLEY	LA	C	279	V	G	A
280	0609	WHEELS WEST RV PARK	CU	N	45	V	G	A
281	0716	WHISPERING PINES CAMPGROUND	PE	N	25		G	A
282	0268	WHISPERING PINES WATER ASSOCIATION	PE	C	48	V	G	A
283	2094	WHISPERING WILLOWS	PE	C	105	V	G	A
284	0612	WHITETAIL COURT-UPPER	LA	N	26		G	A
285	0368	WHITEWOOD	LA	C	891	N	G	A
286	0614	WICKIUP VILLAGE CABINS	LA	N	60		G	A
287	0605	WILD BILL'S CAMPGROUND	LA	N	70	V	G	A
288	0907	WILDCAT VALLEY	PE	N	27		G	A
289	2147	WILHELM COURT	FR	C	135		G	A
290	0886	WINDMILL RESTAURANT	PE	N	800	V	G	A
291	0421	WONDERLAND HOMES	MD	C	750	V	G	A
292	0042	WOODLAND HILLS	MD	C	220	V	G	A

Appendix Q

Chemicals or Products that may be present at Potential Contaminant Sources

Source	Health, Environmental, or Aesthetic Contaminant[1,2,3]
NATURALLY OCCURRING SOURCES	
Rocks and soils	*Aesthetic Contaminants:* Iron and iron bacteria; manganese; calcium and magnesium (hardness) *Health and Environmental Contaminants:* Arsenic; asbestos; metals; chlorides; fluorides; sulfates; sulfate-reducing bacteria and other microorganisms
Contaminated water	Excessive sodium; bacteria; viruses; low pH (acid) water
Decaying organic matter	Bacteria
Geological radioactive gas	Radionuclides (radon, etc.)
Natural hydrogeological events and formations	Salt-water/brackish water intrusion (or intrusion of other poor quality water); contamination by a variety of substances through sink-hole infiltration in limestone terrains
AGRICULTURAL SOURCES	
Animal feedlots and burial areas	Livestock sewage wastes; nitrates; phosphates; chloride; chemical sprays and dips for controlling insect, bacterial, viral, and fungal pests on livestock; coliform[4] and noncoliform bacteria; viruses
Manure spreading areas and storage pits	Livestock sewage wastes; nitrates
Livestock waste disposal areas	Livestock sewage wastes; nitrates
Crop areas and irrigation sites	Pesticides;[5] fertilizers;[6] gasoline and motor oils from chemical applicators
Chemical storage areas and containers	Pesticide[5] and fertilizer[6] residues
Farm machinery areas	Automotive wastes;[7] welding wastes
Agricultural drainage wells and canals	Pesticides;[5] fertilizers;[6] bacteria; salt water (in areas where the fresh-saltwater interface lies at shallow depths and where the water table is lowered by channelization, pumping, or other causes)
RESIDENTIAL SOURCES	
Common household maintenance and hobbies	*Common Household Products.*[8] Household cleaners; oven cleaners; drain cleaners; toilet cleaners; disinfectants; metal polishes; jewelry cleaners; shoe polishes; synthetic detergents; bleach; laundry soil and stain removers; spot removers and dry cleaning fluid; solvents; lye or caustic soda; household pesticides;[9] photochemicals; printing ink; other common products *Wall and Furniture Treatments:* Paints; varnishes; stains; dyes; wood preservatives (creosote); paint and lacquer thinners; paint and varnish removers and deglossers; paint brush cleaners; floor and furniture strippers *Mechanical Repair and Other Maintenance Products:* Automotive wastes;[7] waste oils; diesel fuel; kerosene; #2 heating oil; grease; degreasers for driveways and garages; metal degreasers; asphalt and roofing tar; tar removers; lubricants; rustproofers; car wash detergents; car waxes and polishes; rock salt; refrigerants
Lawns and gardens	Fertilizers;[5] herbicides and other pesticides used for lawn and garden maintenance[10]
Swimming pools	Swimming pool maintenance chemicals[11]
Septic systems, cesspools, and sewer lines	Septage; coliform and noncoliform bacteria;[4] viruses; nitrates; heavy metals; synthetic detergents; cooking and motor oils; bleach; pesticides;[9,10] paints; paint thinner; photographic chemicals; swimming pool chemicals;[11] septic tank/cesspool cleaner chemicals;[12] elevated levels of chloride, sulfate, calcium, magnesium, potassium, and phosphate
Underground storage tanks	Home heating oil
Apartments and condominiums	Swimming pool maintenance chemicals;[11] pesticides for lawn and garden maintenance and cockroach, termite, ant, rodent, and other pest control;[9,10] wastes from onsite sewage treatment plants; household hazardous wastes[8]

SOURCE: US EPA, Wellhead Protection: A Guide for Small Communities, EPA 625/R-93/002

Potential Sources of Ground Water Contamination (continued)

Source	Health, Environmental, or Aesthetic Contaminant[1,2,3]
MUNICIPAL SOURCES	
Schools and government offices and grounds	Solvents; pesticides;[9,10] acids; alkalis; waste oils; machinery/vehicle servicing wastes; gasoline and heating oil from storage tanks; general building wastes[13]
Park lands	Fertilizers;[6] herbicides;[10] insecticides[9]
Public and residential areas infested with mosquitoes, gypsy moths, ticks, ants, or other pests	Pesticides[5,9]
Highways, road maintenance depots, and deicing operations	Herbicides in highway rights-of-way;[5,10] road salt (sodium and calcium chloride); road salt anticaking additives (ferric ferrocyanide, sodium ferrocyanide); road salt anticorrosives (phosphate and chromate); automotive wastes[7]
Municipal sewage treatment plants and sewer lines	Municipal wastewater; sludge;14 treatment chemicals[15]
Storage, treatment, and disposal ponds, lagoons, and other surface impoundments	Sewage wastewater; nitrates; other liquid wastes; microbiological contaminants
Land areas applied with wastewater or wastewater byproducts	Organic matter; nitrate; inorganic salts; heavy metals; coliform and noncoliform bacteria;[4] viruses; nitrates; sludge;[14] nonhazardous wastes[16]
Storm water drains and basins	Urban runoff; gasoline; oil; other petroleum products; road salt; microbiological contaminants
Combined sewer overflows (municipal sewers and storm water drains)	Municipal wastewater; sludge;[14] treatment chemicals;[15] urban runoff; gasoline; oil; other petroleum products; road salt; microbial contaminants
Recycling/reduction facilities	Residential and commercial solid waste residues
Municipal waste landfills	Leachate; organic and inorganic chemical contaminants; wastes from households[8] and businesses;[13] nitrates; oils; metals
Open dumping and burning sites, closed dumps	Organic and inorganic chemicals; metals; oils; wastes from households[8] and businesses[13]
Municipal incinerators	Heavy metals; hydrocarbons; formaldehyde; methane; ethane; ethylene; acetylene; sulfur and nitrogen compounds
Water supply wells, monitoring wells, older wells, domestic and livestock wells, unsealed and abandoned wells, and test hole wells	Surface runoff; effluents from barnyards, feedlots, septic tanks, or cesspools; gasoline; used motor oil; road salt
Sumps and dry wells	Storm water runoff; spilled liquids; used oil; antifreeze; gasoline; other petroleum products; road salt; pesticides;[5] and a wide variety of other substances
Drainage wells	Pesticides;[9,10] bacteria
Well pumping that causes interaquifer leakage, induced filtration, landward migration of sea water in coastal areas; etc.	Saltwater; excessively mineralized water
Artificial ground water recharge	Storm water runoff; excess irrigation water; stream flow; cooling water; treated sewage effluent; other substances that may contain contaminants, such as nitrates, metals, detergents, synthetic organic compounds, bacteria, and viruses
COMMERCIAL SOURCES	
Airports, abandoned airfields	Jet fuels; deicers; diesel fuel; chlorinated solvents; automotive wastes;[7] heating oil; building wastes[13]
Auto repair shops	Waste oils; solvents; acids; paints; automotive wastes;[7] miscellaneous cutting oils
Barber and beauty shops	Perm solutions; dyes; miscellaneous chemicals contained in hair rinses
Boat yards and marinas	Diesel fuels; oil; septage from boat waste disposal areas; wood preservative and treatment chemicals; paints; waxes; varnishes; automotive wastes[7]

Potential Sources of Ground Water Contamination (continued)

Source	Health, Environmental, or Aesthetic Contaminant[1,2,3]
Bowling alleys	Epoxy; urethane-based floor finish
Car dealerships (especially those with service departments)	Automotive wastes;[7] waste oils; solvents; miscellaneous wastes
Car washes	Soaps; detergents; waxes; miscellaneous chemicals
Camp grounds	Septage; gasoline; diesel fuel from boats; pesticides for controlling mosquitoes, ants, ticks, gypsy moths, and other pests;[5,9] household hazardous wastes from recreational vehicles (RVs)[8]
Carpet stores	Glues and other adhesives; fuel from storage tanks if forklifts are used
Cemeteries	Leachate; lawn and garden maintenance chemicals[10]
Construction trade areas and materials (plumbing, heating and air conditioning, painting, paper hanging, decorating, drywall and plastering, acoustical insulation, carpentry, flooring, roofing and sheet metal, wrecking and demolition, etc.)	Solvents; asbestos; paints; glues and other adhesives; waste insulation; lacquers; tars; sealants; epoxy waste; miscellaneous chemical wastes
Country clubs	Fertilizers;[6] herbicides;[5,10] pesticides for controlling mosquitoes, ticks, ants, gypsy moths, and other pests;[9] swimming pool chemicals;[11] automotive wastes
Dry cleaners	Solvents (perchloroethylene, petroleum solvents, Freon); spotting chemicals (trichloroethane, methylchloroform, ammonia, peroxides, hydrochloric acid, rust removers, amyl acetate)
Funeral services and crematories	Formaldehyde; wetting agents; fumigants; solvents
Furniture repair and finishing shops	Paints; solvents; degreasing and solvent recovery sludges
Gasoline services stations	Oils; solvents; miscellaneous wastes
Golf courses	Fertilizers;[6] herbicides;[5,10] pesticides for controlling mosquitoes, ticks, ants, gypsy moths, and other pests[9]
Hardware/lumber/parts stores	Hazardous chemical products in inventories; heating oil and fork lift fuel from storage tanks; wood-staining and treating products such as creosote
Heating oil companies, underground storage tanks	Heating oil; wastes from truck maintenance areas[7]
Horticultural practices, garden nurseries, florists	Herbicides, insecticides, fungicides, and other pesticides[10]
Jewelry/metal plating shops	Sodium and hydrogen cyanide; metallic salts; hydrochloric acid; sulfuric acid; chromic acid
Laundromats	Detergents; bleaches; fabric dyes
Medical institutions	X-ray developers and fixers;[17] infectious wastes; radiological wastes; biological wastes; disinfectants; asbestos; beryllium; dental acids; miscellaneous chemicals
Office buildings and office complexes	Building wastes;[13] lawn and garden maintenance chemicals;[10] gasoline; motor oil
Paint stores	Paints; paint thinners; lacquers; varnishes; other wood treatments
Pharmacies	Spilled and returned products
Photography shops, photo processing laboratories	Biosludges; silver sludges; cyanides; miscellaneous sludges
Print shops	Solvents; inks; dyes; oils; photographic chemicals
Railroad tracks and yards	Diesel fuel; herbicides for rights-of-way; creosote for preserving wood ties
Research laboratories	X-ray developers and fixers;[17] infectious wastes; radiological wastes; biological wastes; disinfectants; asbestos; beryllium; solvents; infectious materials; drugs; disinfectants (quaternary ammonia, hexachlorophene, peroxides, chlornexade, bleach); miscellaneous chemicals

Potential Sources of Ground Water Contamination (continued)

Source	Health, Environmental, or Aesthetic Contaminant[1,2,3]
COMMERCIAL SOURCES (continued)	
Scrap and junk yards	Any wastes from businesses[13] and households;[8] oils
Sports and hobby shops	Gunpowder and ammunition; rocket engine fuel; model airplane glue
Above-ground and underground storage tanks	Heating oil; diesel fuel; gasoline; other petroleum products; other commercially used chemicals
Transportation services for passenger transit (local and interurban)	Waste oil; solvents; gasoline and diesel fuel from vehicles and storage tanks; fuel oil; other automotive wastes[7]
Veterinary services	Solvents; infectious materials; vaccines; drugs; disinfectants (quaternary ammonia, hexachlorophene, peroxides, chlornexade, bleach); x-ray developers and fixers[17]
INDUSTRIAL SOURCES	
Material stockpiles (coal, metallic ores, phosphates, gypsum)	Acid drainage; other hazardous and nonhazardous wastes[16]
Waste tailing ponds (commonly for the disposal of mining wastes)	Acids; metals; dissolved solids; radioactive ores; other hazardous and nonhazardous wastes[15]
Transport and transfer stations (trucking terminals and rail yards)	Fuel tanks; repair shop wastes;[7] other hazardous and nonhazardous wastes[15]
Above-ground and underground storage tanks and containers	Heating oil; diesel and gasoline fuel; other petroleum products; hazardous and nonhazardous materials and wastes[16]
Storage, treatment, and disposal ponds, lagoons, and other surface impoundments	Hazardous and nonhazardous liquid wastes;[16] septage; sludge[14]
Chemical landfills	Leachate; hazardous and nonhazardous wastes;[16] nitrates
Radioactive waste disposal sites	Radioactive wastes from medical facilities, power plants, and defense operations; radionuclides (uranium, plutonium)
Unattended wet and dry excavation sites (unregulated dumps)	A wide range of substances; solid and liquid wastes; oil-field brines; spent acids from steel mill operations; snow removal piles containing large amounts of salt
Operating and abandoned production and exploratory wells (for gas, oil, coal, geothermal, and heat recovery); test hole wells; monitoring and excavation wells	Metals; acids; minerals; sulfides; other hazardous and nonhazardous chemicals[16]
Dry wells	Saline water from wells pumped to keep them dry
Injection wells	Highly toxic wastes; hazardous and nonhazardous industrial wastes;[16] oil-field brines
Well drilling operations	Brines associated with oil and gas operations
INDUSTRIAL PROCESSES (PRESENTLY OPERATED OR TORN-DOWN FACILITIES)[18]	
Asphalt plants	Petroleum derivatives
Communications equipment manufacturers	Nitric, hydrochloric, and sulfuric acid wastes; heavy metal sludges; copper-contaminated etchant (e.g., ammonium persulfate); cutting oil and degreasing solvent (trichloroethane, Freon, or trichloroethylene); waste oils; corrosive soldering flux; paint sludge; waste plating solution
Electric and electronic equipment manufacturers and storage facilities	Cyanides; metal sludges; caustics (chromic acid); solvents; oils; alkalis; acids; paints and paint sludges; calcium fluoride sludges; methylene chloride; perchloroethylene; trichloroethane; acetone; methanol; toluene; PCBs
Electroplaters	Boric, hydrochloric, hydrofluoric, and sulfuric acids; sodium and potassium hydroxide; chromic acid; sodium and hydrogen cyanide; metallic salts
Foundries and metal fabricators	Paint wastes; acids; heavy metals; metal sludges; plating wastes; oils; solvents; explosive wastes

Potential Sources of Ground Water Contamination (continued)

Source	Health, Environmental, or Aesthetic Contaminant[1,2,3]
Furniture and fixtures manufacturers	Paints; solvents; degreasing sludges; solvent recovery sludges
Machine and metalworking shops	Solvents; metals; miscellaneous organics; sludges; oily metal shavings; lubricant and cutting oils; degreasers (tetrachlorethylene); metal marking fluids; mold-release agents
Mining operations (surface and underground), underground storage mines	Mine spoils or tailings that often contain metals; acids; highly corrosive mineralized waters; metal sulfides
Unsealed abandoned mines used as waste pits	Metals; acids; minerals; sulfides; other hazardous and nonhazardous chemicals[16]
Paper mills	Metals; acids; minerals; sulfides; other hazardous and nonhazardous chemicals;[16] organic sludges; sodium hydroxide; chlorine; hypochlorite; chlorine dioxide; hydrogen peroxide
Petroleum production and storage companies, secondary recovery of petroleum	Hydrocarbons; oil-field brines (highly mineralized salt solutions)
Industrial pipelines	Corrosive fluids; hydrocarbons; other hazardous and nonhazardous materials and wastes[16]
Photo processing laboratories	Cyanides; biosludges; silver sludges; miscellaneous sludges
Plastics materials and synthetics producers	Solvents; oils; miscellaneous organics and inorganics (phenols, resins); paint wastes; cyanides; acids; alkalis; wastewater treatment sludges; cellulose esters; surfactant; glycols; phenols; formaldehyde; peroxides; etc.
Primary metal industries (blast furnaces, steel works, and rolling mills)	Heavy metal wastewater treatment sludge; pickling liquor; waste oil; ammonia scrubber liquor; acid tar sludge; alkaline cleaners; degreasing solvents; slag; metal dust
Publishers, printers, and allied industries	Solvents; inks; dyes; oils; miscellaneous organics; photographic chemicals
Public utilities (phone, electric power, gas)	PCBs from transformers and capacitors; oils; solvents; sludges; acid solution; metal plating solutions (chromium, nickel, cadmium); herbicides from utility rights-of-way
Sawmills and planers	Treated wood residue (copper quinolate, mercury, sodium bazide); tanner gas; paint sludges; solvents; creosote; coating and gluing wastes
Stone, clay, and glass manufacturers	Solvents; oils and grease; alkalis; acetic wastes; asbestos; heavy metal sludges; phenolic solids or sludges; metal-finishing sludge
Welders	Oxygen, acetylene
Wood preserving facilities	Wood preservatives; creosote

[1]In general, ground water contamination stems from the *misuse and improper disposal* of liquid and solid wastes; the *illegal dumping or abandonment* of household, commercial, or industrial chemicals; *the accidental spilling* of chemicals from trucks, railways, aircraft, handling facilities, and storage tanks; or the *improper siting, design, construction, operation, or maintenance* of agricultural, residential, municipal, commercial, and industrial drinking water wells and liquid and solid waste disposal facilities. Contaminants also can stem from *atmospheric pollutants*, such as airborne sulfur and nitrogen compounds, which are created by smoke, flue dust, aerosols, and automobile emissions, fall as acid rain, and percolate through the soil. When the sources listed in this table are used and managed properly, ground water contamination is not likely to occur.

[2]Contaminants can reach ground water from activities occurring on the land surface, such as industrial waste storage; from sources below the land surface but above the water table, such as septic systems; from structures beneath the water table, such as wells; or from contaminated recharge water.

[3]This table lists the most common wastes, but not all potential wastes. For example, it is not possible to list all potential contaminants contained in storm water runoff or research laboratory wastes.

[4]Coliform bacteria can indicate the presence of pathogenic (disease-causing) microorganisms that may be transmitted in human feces. Diseases such as typhoid fever, hepatitis, diarrhea, and dysentery can result from sewage contamination of water supplies.

[5]Pesticides include herbicides, insecticides, rodenticides, fungicides, and avicides. EPA has registered approximately 50,000 different pesticide products for use in the United States. Many are highly toxic and quite mobile in the subsurface. An EPA survey found that the most common pesticides found in drinking water wells were DCPA (dacthal) and atrazine, which EPA classifies as *moderately toxic* (class 3) and *slightly toxic* (class 4) materials, respectively.

[6]The EPA National Pesticides Survey found that the use of fertilizers correlates to nitrate contamination of ground water supplies.

[7]Automotive wastes can include gasoline; antifreeze; automatic transmission fluid; battery acid; engine and radiator flushes; engine and metal degreasers; hydraulic (brake) fluid; and motor oils.

[8]Toxic or hazardous components of common household products are noted in Table 3-2.

[9]Common household pesticides for controlling pests such as ants, termites, bees, wasps, flies, cockroaches, silverfish, mites, ticks, fleas, worms, rats, and mice can contain active ingredients including napthalene, phosphorus, xylene, chloroform, heavy metals, chlorinated hydrocarbons, arsenic, strychnine, kerosene, nitrosamines, and dioxin.

[10]Common pesticides used for lawn and garden maintenance (i.e., weed killers, and mite, grub, and aphid controls) include such chemicals as 2,4-D; chlorpyrifos; diazinon; benomyl; captan; dicofol; and methoxychlor.

[11]Swimming pool chemicals can contain free and combined chlorine; bromine; iodine; mercury-based, copper-based, and quaternary algicides; cyanuric acid; calcium or sodium hypochlorite; muriatic acid; sodium carbonate.

[12]Septic tank/cesspool cleaners include synthetic organic chemicals such as 1,1,1 trichloroethane, tetrachloroethylene, carbon tetrachloride, and methylene chloride.

[13]Common wastes from public and commercial buildings include automotive wastes; rock salt; and residues from cleaning products that may contain chemicals such as xylenols, glycol esters, isopropanol, 1,1,1-trichloroethane, sulfonates, chlorinated phenolys, and cresols.

[14]Municipal wastewater treatment sludge can contain organic matter; nitrates; inorganic salts; heavy metals; coliform and noncoliform bacteria; and viruses.

[15]Municipal wastewater treatment chemicals include calcium oxide; alum; activated alum, carbon, and silica; polymers; ion exchange resins; sodium hydroxide; chlorine; ozone; and corrosion inhibitors.

[16]The Resource Conservation and Recovery Act (RCRA) defines a hazardous waste as a solid waste that may cause an increase in mortality or serious illness or pose a substantial threat to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. A waste is hazardous if it exhibits characteristics of ignitability, corrosivity, reactivity, and/or toxicity. Not covered by RCRA regulations are domestic sewage; irrigation waters or industrial discharges allowed by the Clean Water Act; certain nuclear and mining wastes; household wastes; agricultural wastes (excluding some pesticides); and small quantity hazardous wastes (i.e., less than 220 pounds per month) generated by businesses.

[17]X-ray developers and fixers may contain reclaimable silver, glutaldehyde, hydroquinone, phenedone, potassium bromide, sodium sulfite, sodium carbonate, thiosulfates, and potassium alum.

[18]This table lists potential ground water contaminants from many common industries, but it does not address all industries.

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Appendix R

Databases available for Potential Contaminant Source Inventories	
GOVERNMENT AGENCY	**DATABASE NAME AND DESCRIPTION**
South Dakota Department of Environment and Natural Resources (SD DENR) Ground Water Quality Program	**Superfund Amendments and Reauthorization Act (SARA) Title III / Tier II** The Title III / Tier II (Community Right-to-Know) database contains information on Title III reporting facilities. Information includes: the facility name, SIC code, location, owner, chemicals stored, amounts stored, and other safety information.
	SARA Title III / Toxic Release Inventory This database contains information about releases and transfers of listed chemicals from manufacturing facilities. Beginning with the 1998 reporting year it will also include some facilities from other industry sectors.
	Underground and Above Ground Storage Tanks The tanks database contains information on above ground and underground storage tanks located throughout the state. Information includes: facility, location, status, material, and construction of tank, type and amount of substance stored.
	Underground Injection Control The Underground Injection Control database contains information about Class II wells used to accept waste from oil field production activities or used to enhance oil recovery. It includes information on the location, area geology and aquifer, well construction, injection pressures and volumes, and information about other wells in the vicinity.
	Regulated Substance Releases The Ground Water Quality Program maintains a database of reported spills and releases of regulated substances. Information includes all petroleum, agricultural and industrial chemical spills reported to DENR. Additional information includes: location, substance, responsible party, amount released, status of file, case reviewer, impacts of the release, and other pertinent information.
SD DENR Surface Water Quality Program	**Septic Tanks** The Septic Tanks database includes information about septic tank systems located within the state which require plans and specifications. Systems requiring approval include mound systems, cluster systems and experimental systems. Information includes year of system construction, maximum design capacity, owner's name and legal descriptions.
	Animal Waste Management Systems The database identifies the permit applications we have received for coverage under the swine or livestock general permits. It contains information on the producer, feedlot location (including legal description and latitude/longitude), consultant, type of animals, number or animals, sizes of animals, and other appropriate data. This database shows the location of all feedlots that have requested approval of plans and specifications since 1996. As part of this database, a table has been developed showing information on some feedlots existing prior to 1996. This portion of the database is not complete or up-to-date, but provides some limited information on other feedlots in the state.
	Animal Waste Land Application Areas This database is in development and consists of a spreadsheet with information regarding the locations of animal waste land application areas used by livestock producers.

Databases available for Potential Contaminant Source Inventories

GOVERNMENT AGENCY	DATABASE NAME AND DESCRIPTION
SD DENR Minerals & Mining Program	**Construction Aggregate / Mining License** The mining license database contains information on mine operators who mine for construction aggregate, pegmatite minerals, limestone, iron ore, sand, gypsum and shale. The data references the type of operation licensed, license activity, production figures, acreage's affected and reclaimed, inspection information, and reclamation bonds held by the department.
	Exploration/Life-of-Mine The exploration database contains information pertinent to permitted large and small scale mine permits as well as permitted exploration operations. The data references the type of operation permitted; permit activity, production figures, acreage's affected and reclaimed, inspection information, and reclamation bonds held by the department.
	Abandoned Mines Inventory DENR completed an inventory of inactive and abandoned mine lands (IAMs) in the Black Hills to identify potential problem sites. The inventory was consolidated into a database that includes information on historic mines. It identifies approximately 900 hardrock IAM sites within a specified area of Meade, Lawrence, Pennington, and Custer counties.
SD DENR Waste Management Program	**Hazardous Waste Storage Facilities and Generators** The Waste Management Program maintains a database that contains information on hazardous waste storage facilities and generators. Information includes name, type, type of waste accepted, location, address, county, contact person, phone number and other pertinent information for the facility.
	Solid Waste Facilities The Waste Management Program's database contains information on all active and closed solid waste facilities. Information includes name, type, type of waste accepted, location, address, county, contact person, phone number and other pertinent information for the facility.
SD DENR Water & Waste Funding Program, Surface Water Quality Program, and Ground Water Quality Program	**Wastewater Treatment Facilities** The Wastewater Treatment Facility database includes information primarily about municipal wastewater treatment facilities. This includes location, system type and size, aquifer, ground water monitoring requirements and ground water quality information.
South Dakota Department of Agriculture	**Fertilizer and Pesticide Inventory** This database is an inventory of all facilities that conduct fertilizer and pesticide handling activities in South Dakota and are required to comply with Department of Agriculture requirements for fertilizer and pesticide storage and handling.
	Fertilizer Enforcement This database is an inventory of all fertilizer investigations completed in response to complaints, spills and routine inspections. The database is used to track the type and status of each case. The database includes cases involving contaminated sites, violations of containment requirements, licensing, spills, and other pertinent information.
	Commercial Applicator Pesticide Use This database is a summary of pesticide use by commercial applicators. Historically this information has been collected on a statewide basis every third year. Additionally, beginning in 1991 this data has been collected on an annual basis in those counties where ground water studies are currently underway.

Databases available for Potential Contaminant Source Inventories	
GOVERNMENT AGENCY	**DATABASE NAME AND DESCRIPTION**
US Environmental Protection Agency	**STORET** STORET is EPA's data management program for ambient water quality. This database contains decades of raw surface and ground water data. This information may not necessarily provide direct information regarding potential contaminant sources. However, the information stored in this database may be useful to community leaders and planners for their source water protection and management efforts.
	Landview II A geographic mapping program containing EPA regulated sites, demographic and economic information from the 1990 census. Landview II also includes a subset of facilities, sites and monitoring stations from the following databases: CERCLA Information Systems, Permit Compliance System and Toxic Release Inventory System.
	Envirofacts Warehouse The Envirofacts Warehouse consists of environmental information from EPA databases on Superfund (CERCLA) sites, drinking water, toxic and air releases, hazardous waste, water discharge permits, and grants information. Online queries are used to retrieve data or generate maps of environmental information by choosing from several mapping applications available through EPA's Maps On Demand.
	Underground Injection Control (UIC) Class V Injection Wells The EPA is developing a database containing information on UIC Class V injection wells in South Dakota. The Underground Injection Control database contains information about Class V wells used to accept wastes not otherwise described under the other classifications.
	SDWIS Drinking Water information is stored in EPA's Safe Drinking Water Information System (SDWIS). SDWIS contains information about public water systems and their violations of EPA's regulations for safe drinking water. These statutes and accompanying regulations establish maximum contaminant levels (MCLs), treatment techniques, and monitoring and reporting requirements to ensure that water provided to customers is safe for human consumption. This information may not necessarily provide direct information regarding potential contaminant sources. However, the information stored in this database may be useful to community leaders and planners for their source water protection and management efforts.
United States Geological Survey	**BASINS** Better Assessment Science Integrating Point and Nonpoint Sources (BASINS) is a multipurpose environmental analysis system used for performing watershed and water quality-based studies. BASINS includes data regarding both point and nonpoint pollution sources.
United States Department Agriculture – Natural Resources Conservation Service	**Natural Resources Inventory (NRI)** This database includes information regarding land use. The NRI is a multi-resource inventory based on data collected from randomly sampled sites. This inventory program provides a record of the status, condition, and apparent trend of the Nation's soil, water and related resources.

Appendix S

Contaminants of Concern

CAS #	REGULATED ORGANICS VOCs	MCL ug/L	Trade name, synonym, etc.	Use
75-35-4	1,1-Dichloroethylene	7	Vinylidene chloride (VC)	making of "saran", adhesives, synthetic fibers
71-55-6	1,1,1-Trichloroethane	200	Methyl chloroform	metal degreasing, pesticides
79-00-5	1,1,2-Trichloroethane	5	Vinyl trichloride	solvent for fats, waxes, alkaloids, resins
107-06-2	1,2-Dichloroethane	5	Ethylene dichloride, EDC	solvent, fumigant, Pb antiknock in gas
78-87-5	1,2-Dichloropropane	5	Propylene dichloride	solvent, Pb antiknock, metal degreasing
120-82-1	1,2,4-Trichlorobenzene	9	Trichlorobenzene	termite control
71-43-2	Benzene	5	Benzol	component of gas, degreaser, solvent
56-23-5	Carbon tetrachloride	5	Tetrachloromethane	refrigerant, fumigant, solvent, extinguishers
156-59-2	cis-1,2-Dichloroethylene	70	Acetylene dichloride, Dioform	solvent, retarding fermentation
75-09-2	Dichloromethane	5	Methylene chloride	paint remover, solvent/degreasing, aerosol
100-41-4	Ethylbenzene	700	phenylethane	resin solvent, intermediate in mfg. of styrene
108-90-7	Monochlorobenzene	100	Chlorobenzene, phenyl chloride	solvent, heat transfer, phenol
95-50-1	o-Dichlorobenzene	600	1,2-dichlorobenzene	solvent, pesticide
106-46-7	para-Dichlorobenzene	75	Paracide, PDB	insecticidal fumigant, moth repellent
100-42-5	Styrene	100	Polysytrene	packaging, insulator (foam)
127-18-4	Tetrachloroethylene	5	PCE, tetrachloroethene	dry cleaning, solvent, heat transfer
108-88-3	Toluene	1000	methyl benzene, phenyl methane	gas add've, solvent, mfg. chemcials/explosives
156-60-5	trans-1,2-Dichloroethylene	100	Acetylene dichloride, Dioform	solvent, retarding fermentation
79-01-6	Trichloroethylene	5	TCE, trilene, trichloroethene	degreasing, solvent, dry cleaning, fumigant
75-01-4	Vinyl chloride	2	Chloroethylene	plastics industry, refrigerant
1330-20-7	Xylenes (total)	10000	Dimethylbenzene	used in gas, solvents, pesticides

CAS #	REGULATED ORGANICS SOCs	MCL ug/L	Trade name, synonym, etc.	Use
1746-01-6	2,3,7,8-TCDD	3E-05	Dioxin	contam. in 2,4,5-T, defoliant

CAS #	REGULATED ORGANICS SOCs	MCL ug/L	Trade name, synonym, etc.	Use
94-75-7	2,4-D	70	Hedonal, Trinoxol	herbicide
93-72-1	2,4,5-TP	50	2,4,5-Trichlorophenoxyacetic acid	herbicide, defoliant, plant hormone
15972-60-8	Alachlor	2	Lasso, Alanex, metachlor	herbicide for corn, beans, soybeans, peanuts
1912-24-9	Atrazine	3	AAtrex, Primatol A, Bicep	herbicide for corn, sorghum, other crops
50-32-8	Benzo(a)pyrene	0.2	Polynuclear aromatic hydrocarbon	product of incomplete combustion
1563-66-2	Carbofuran	40	Furadan	insecticide, nematicide, miticide for crops
57-74-9	Chlordane	2	Velsicol 1068, Belt, Chlor Kill	insecticide, fumigant (termites)
75-99-0	Dalapon	200	Dowpon, Radapon, Basafapon	herbicide for grasses, cattails, rushes
96-12-8	Dibromochloropropane	0.2	DBCP, 1,2-Dibromo-3-chloropropane	nematocide, soil fumigant, pesticide
88-85-7	Dinoseb	7	DNBP, Basanite, Caldon	herbicide, insecticide, miticide, fungicide
85-00-7	Diquat	20	Dextrone, Actor, Reglone	herbicide/potato vines, seed crops, sugar cane
103-23-1	Di(ethylhexyl)adipate	500	DEHA, Adipates	plasticizer - syn. rubber, food pkg, cosmetics
117-81-7	Di(ethylhexyl)phthalate	4	DEHP, Phthalates	plasticizer for PVC resins
145-73-3	Endothall	100	Aquathol, Hydout	herbicide/sugar beets, turf, hops, alfalfa, clover
72-20-8	Endrin	2	Hexadrin	insecticide
106-93-4	Ethylene dibromide	0.05	EDB	fumigant, insecticide, solvent, antiknock for gas
1071-53-6	Glyphosate	70	Roundup, Rodeo, Kleenup, Shackle	non-selective broad-spectrum herbicide
76-44-8	Heptachlor	0.4	Velsicol-104, Drinox	termite control
1024-57-3	Heptachlor epoxide	0.2	(unknown)	degradation/oxidation product of heptachlor
118-74-1	Hexachlorobenzene	1	Perchlorobenzene	waste - CL2 reactions, wood preserv., fungicide
77-47-4	Hexachlorocyclopentadiene	50	HEX, Perchlorocyclopentadiene	pesiticides, flame retardant, fungicide
58-89-9	Lindane	0.2	gamma hexachlor, Lindafor	insecticide for tobacco, fruit/nut trees, vegetables
72-43-5	Methoxychlor	40	Methoxy-DDT, Marlate	insecticide for trees, gardens, cattle, farm buildings
23135-22-0	Oxamyl	200	Vydate, Thioxamyl	insecticide/nematocide for crops, fruits, vegetables
87-86-5	Pentachlorophenol	200	PCP, Penta	wood preserv for fungus/termite/beetle, molluscicide
1918-02-1	Picloram	500	Tordon, Pinene	herbicide for weeds/woody plants, brush control
1336-36-3	Polychlorinated biphenyl's	0.5	PCB's, Aroclor	in electrical transformers & capacitors
122-34-9	Simazine	1	Primatol S, Princep, Simanex	herbicide for grasses/weeds in many crops
8001-35-2	Toxaphene	3	Chlorinated camphene	insecticide

CAS #	ORGANCS REGULATED BY TREATMENT TECHNIQUE-NO MCL SOCs	Trade name, synonym, etc.	Use
79-06-1	Acrylamide	Propenamide	flocculant for WTPs
106-89-8	Epichlorohydrin	Chloromethyloxirane	flocculant for WTPs, epoxy & phenoxy resins

CAS #	UNREGULATED ORGANICS SOCs	Trade name, synonym, etc.	Use
(Unk)	3-Hydroxycarbofuran	(No data)	(No data)
116-06-3	Aldicarb	Temik	insecticide/nematocide on sorghum, beets, soybeans
1646-87-4	Aldicarb sulfone	(unknown)	systemic insecticide, nematocide
1646-87-3	Aldicarb sulfoxide	(unknown)	pesticide, nematocide
309-00-2	Aldrin	Aldrex, Aldrite, Altox	controls soil insects/termites (use cancelled in U.S.)
23814-66-9	Butachlor	Lambast, CP 53619, Aimchlor	controls weeds in rice
63-25-2	Carbaryl	Sevin, NAC	insecticide for crops, rangeland, trees, turf
1989-00-9	Dicamba	Banvel D, Mediben, Mondak	broadleaf herbicide
60-57-1	Dieldrin	HOED	insecticide (use cancelled in U.S.)
16752-77-5	Methomyl	Lannate, Nudrin	insecticide for vegetables, soybeans, fruits
51218-45-2	Metolachlor	Dual	herbicide for corn, soybeans, sorghum, potatoes
21087-64-9	Metribuzin	Lexone, Sencor	herbicide for grasses/broadleafs in crops
1918-16-7	Propachlor	Prolex, Ramrod, Bexton	controls grasses/broadleafs on many soil types

CAS #	UNREGULATED ORGANICS VOCs	Trade name, synonym, etc.	Use
75-34-3	1,1-Dichloroethane	Ethylidene chloride	extraction solvent, fumigant
563-58-6	1,1-Dichloropropene	(No data)	(No data)
630-20-6	1,1,1,2-Tetrachloroethane	TetraClethane	solvent, weed killer, paint remover, degreaser
79-34-5	1,1,2,2-Tetrachloroethane	Cellon, acetylene&tetraClethane	solvent, pesticide, weed killer, degreaser
87-61-6	1,2,3-Trichlorobenzene	(unknown)	insecticide for termites, organic intermediate
96-18-4	1,2,3-Trichloropropane	(unknown)	solvent, degreaser, paint & varnish remover
95-63-6	1,2,4-Trimethylbenzene	Pseudocumene	dyes, resins, perfumes, sterilizing catgut
142-28-9	1,3-Dichloropropane	(No data)	(No data)
542-75-6	1,3-Dichloropropene	1,3-Dichloropropylene, Telone	soil fumigant, organic synthesis
108-67-8	1,3,5-Trimethylbenzene	Mesitylene	UV oxidation stabilizer for plastic

CAS #	UNREGULATED ORGANICS VOCs	Trade name, synonym, etc.	Use
590-20-7	2,2-Dichloropropane	(No data)	(No data)
108-86-11	Bromobenzene	Phenyl bromide	solvent, lube oil additive
74-97-5	Bromochloromethane	Methylene chlorobromide	fire extinguishers, organic synthesis
75-27-4	Bromodichloromethane	THM	(No data)
75-25-2	Bromoform	THM, Tribromomethane	geological assaying, solvent, med.(sedative)
74-96-4	Bromomethane	Ethyl bromide, Rotox	fumigant, wool degreaser, extraction solvent
128-48-1	Chlorodibromomethane	THM, dibromochloromethane	(No data)
75-00-3	Chloroethane	Ethyl chloride	refrigerant, solvent, anesthetic
67-66-3	Chloroform	THM, Trichloromethane	solvent, fumigant, pesticide
74-87-3	Chloromethane	Methyl chloride	refrigerant, herbicide, topical anesthetic
74-95-3	Dibromomethane	Methylene bromide	solvent, organic synthesis
75-71-8	Dichlorodifluoromethane	Freon-12, Halon	air-conditioner refrigerant, aerosol propellant
75-69-4	Fluorotrichloromethane	Trichlorofluoromethane, Freon-11	solvent, refrigerant, ext'shers, aerosol prop.
87-68-3	Hexachlorobutadiene	(unknown)	solvent, transformer & hydraulic fluid
98-82-2	Isopropylbenzene	Cumene, (1-Methylethyl)benzene	mfg. of phenol, acetone, solvent
541-73-1	m-Dichlorobenzene	1,3-dichlorobenzene	fumigant, pesticide
91-20-3	Naphthalene	tar camphor	moth repellent, fungicide, cutting fluid
104-51-8	n-Butylbenzene	1-Phenylbutane	organic synthesis of pesticides
103-65-1	n-Propylbenzene	1-Phenylpropane	textile dyeing, solvent for celluose acetate
95-49-8	o-Chlorotoluene	1-Chloro-2-methylbenzene	solvent, dyestuff intermediate
106-43-4	p-Chlorotoluene	1-Chloro-4-methylbenzene	solvent, dyestuff intermediate
25155-15-1	p-Isopropyltoluene	Cymene, Dolcymene	solvents, metal polishing
135-98-8	Sec-butylbenzene	(1-Methylpropyl)benzene	solvent, organic synthesis, plasticizer
98-06-6	Tert-butylbenzene	(1,1-Dimethylethyl)benzene	org. synthesis, polymer solvent, polymer linking

REGULATED INORGANICS	MCL (ug/l)		MCL (mg/l)
Antimony	6	Nitrate	10
Arsenic	50	Nitrite	1
Barium	2000	Nitrate + Nitrite	10
Beryllium	4	Fluoride	4

REGULATED INORGANICS	MCL (ug/l)	
Cadmium	5	
Chromium	100	Sulfate is an unregulated inorganic
Cyanide	200	
Mercury	2	
Nickel	100	
Selenium	50	
Thallium	2	
Asbestos	7 million fibers per liter	

OTHER PARAMETERS	MCL or Action Level
Gross Alpha Activity	15 pCi/l
Radium 226 + Radium 228	5 pCi/l
Trihalomethanes	100 ug/l
Turbidity	95% of all turbidity measurements <= 0.5 NTU w/ no levels > 5 NTU
Lead	90% of tap samples to have 15 ug/l or less of lead
Copper	90% of tap samples to have 1.3 mg/l or less of copper
Total Coliform	Systems w/ 39 or fewer samples per month-If more than one sample is positive, the system is out of compliance. Systems w/ 40 or more samples per month-If more than 5% of the samples are positive, the system is out of compliance.
Fecal Coliform	Any repeat sample positive for fecal coliform OR any routine sample positive for fecal coliform that is followed by a positive repeat sample.
Giardia lambia	Regulated by treatment technique by Surface Water Treatment Rule
Viruses	Regulated by treatment technique by Surface Water Treatment Rule
Legionella	Regulated by treatment technique by Surface Water Treatment Rule
Heterotrophic Bacteria	Regulated by treatment technique by Surface Water Treatment Rule
Cryptosporidium	Proposed Enhanced Surface Water Treatment Rule

Appendix T

Susceptibility Analysis
Regulatory Compliance Credit and Risk Factor Values (Intrinsic)

Regulatory Compliance Credit	Unknown	0
	Not Permitted/No Compliance	0
	Permitted, but Substantially in Non-compliance	5
	Permitted and in Substantial Compliance	15

Risk Factor Category	Risk Factor	Characteristics or Range	Credit Amount or Risk Factor Value
Intrinsic Risk Factors	Depth to Water Table or Aquifer Top at Public Water Supply Source	Surface Water Source	10
		< 50 feet	10
		50-100 feet	8
		101-200 feet	4
		>200 feet	2
	Water Source/Aquifer Type at the Public Water Supply Source	Unknown	NA
		Surface Water Source	20
		Ground Water Under The Direct Influence of Surface Water	20
		Unconfined Aquifer	20
		Confined Aquifer	1
	Aquifer Characteristics (For PWSS Wells in Confined Aquifers Only)	Unknown	NA
		Karst	10
		Fractured	10
		Insignificant Fractures	1
	Distance of PWSS Well to Recharge Areas (For PWSS Wells in Confined Aquifers Only)	Unknown	NA
		< 5 miles	8
		5 – 10 miles	6
		10 – 25 miles	4
		> 25 miles	1
	Shortest Distance of PWSS Well/Intake to the Perennial Surface Water Body Nearest the Potential Contaminant Source	Surface Water Source	10
		< 500 feet	10
		500 feet – 0.25 mile	7
		0.26 – 1 mile	4
		> 1 mile	1
	Flood Plain Conditions Around PWSS Well or Intake	Unknown	NA
		Within 100 Year FEMA Flood Plain	8
		Outside of 100 year FEMA Flood Plain	4
		No Special Flood Hazard Area	0
	Existing Concentrations of Similar Categories of Contaminants Present > 0.5 times the MCL at PWSS Well or Intake (Either naturally occurring or from a release)?	Unknown	NA
		Yes	10
		No	1

Susceptibility Analysis
Regulatory Compliance Credit and Risk Factor Values (Induced)

Risk Factor Category	Risk Factor	Characteristics or Range	Credit Amount or Risk Factor Value
Induced Risk Factors	Hydraulic Distance of Potential Contaminant Source to Public Water Supply Intake	Nonpoint Source	10
		< 0.25 mile	10
		0.25 – 1 mile	7
		1 – 10 miles	5
		11 – 25 miles	3
		> 25 miles	1
		If Ground Water	NA
	Distance of Potential Contaminant Source to Public Water Supply Wells	Nonpoint Source	10
		< 500 feet	10
		500 feet – 0.25 mile	7
		0.26 – 1 mile	4
		> 1 mile	1
		Not Applicable (If Surface Water Only)	NA
	Distance of Potential Contaminant Source to Recharge Areas (For PWSS Wells in Confined Aquifers Only)	Nonpoint Source	10
		< 500 feet	10
		500 feet – 0.25 mile	7
		0.26 – 1 mile	4
		> 1 mile	1
		If Surface Water Only	NA
	Shortest Distance of Potential Contaminant Source to Nearest Down- or Cross-slope Perennial Surface Water Body	< 25 feet	10
		25 – 100 feet	7
		100 – 200 feet	4
		> 200 feet	1
	PWSS Well or Intake/System Construction Meet Current Standards?	Unknown	NA
		No	10
		Meets Some Standards	4
		Yes	1
	PWSS Well or Intake Conditions	Unknown	NA
		Poor	10
		Fair	5
		Good	1
	Known Open Release Case Attributed to the Potential Contaminant Source?	Unknown	NA
		Yes	10
		No	1
	Volume of Contaminants Stored or Capacity at the Potential Contaminant Source (Where SARA Title III minimum reporting limits exist or apply)	Unknown	NA
		For Non-Extremely Hazardous Substances (EHS):	
		Aggregate Total Non- EHS > 1,000,000 lbs	10
		Aggregate Total Non-EHS 1,000,000 - 100,000 lbs	7
		Aggregate Total Non-EHS 99,999 - 10,000 lbs	4
		Each Non-EHS < 10,000 lbs (Less than SARA Title III minimum reporting limits)	1
		No Non-EHS at Facility	0
		For Extremely Hazardous Substances (EHS):	
		Aggregate Total EHS >10,000 lbs	10
		Aggregate Total EHS 10,000 – 1,000 lbs	8
		Aggregate Total EHS 999 – 100 lbs	6
		Aggregate Total EHS <100 lbs	4
		Each EHS Quantity Less than SARA Title III minimum reporting limits	1
		No EHS at Facility	0

Susceptibility Analysis
Regulatory Compliance Credit and Risk Factor Values (Induced)

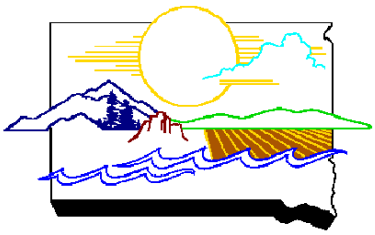
Risk Factor Category	Risk Factor	Characteristics or Range	Credit Amount or Risk Factor Value
Induced Risk Factors	Volume of Contaminants Stored or Capacity at the Potential Contaminant Source (If Landfill)	Landfill capacity unknown	NA
		Type I Landfill (capacity >150,000 tons/year)	8
		Type IIA Landfill (capacity between 25,000 and 150,000 tons/year)	6
		Type IIB Landfill (capacity between 5,000 and 24,999 tons/year)	4
		Type III Landfill (capacity between 500 and 4,999 tons/year)	2
		Type IV Landfill (capacity < 500 tons/year)	1
	Volume of Contaminants Stored or Capacity at the Potential Contaminant Source (If Wastewater Treatment Facility)	Wastewater treatment capacity unknown	NA
		Wastewater treatment capacity considered major (> 1 MGD or > 10,000 population served) Waste Pond Treatment System	8
		Wastewater treatment capacity considered major (> 1 MGD or > 10,000 population served) Mechanical Plant System	5
		Wastewater treatment capacity considered minor (< 1 MGD or < 10,000 population served) Waste Pond Treatment System	4
		Wastewater treatment capacity considered minor (< 1 MGD or < 10,000 population served) Mechanical Plant System	2
	Volume of Contaminants Stored or Capacity at the Potential Contaminant Source (If Animal Feedlot)	Feedlot capacity unknown	NA
		Feedlot capacity > 1,000 animal units	10
		Feedlot capacity < 1,000 but >500 animal units	8
		Feedlot capacity < 500 but >100 animal units	5
		Feedlot capacity < 100 animal units	2
	Volume of Contaminants – Nonpoint Source Percentage of Source Water Area (Communities)	Unknown	NA
		Community > 75%	8
		Community 50% - 75%	6
		Community 25% - 49%	4
		Community < 25%	1
	Volume of Contaminants – Nonpoint Source Percentage of Source Water Area (If Transportation Route)	Unknown	NA
		Highways and Railways > 15% of Delineated Area	4
		Highways and Railways 10% - 15% of Delineated Area	3
		Highways and Railways 5% - 9% of Delineated Area	2
		Highways and Railways < 5% of Delineated Area	1
	Volume of Contaminants – Nonpoint Source Percentage of Source Water Area (If Pastureland/ Rangeland/ Grassland)	Unknown	NA
		Rangeland > 75%	6
		Rangeland 50% - 75%	4
		Rangeland 25% - 49%	2
		Rangeland < 30%	1
	Volume of Contaminants – Nonpoint Source Percentage of Source Water Area (If Cropland)	Unknown	NA
		Cropland >75%	10
		Cropland 50% - 75%	7
		Cropland 25% - 49%	5
		Cropland < 25%	3
	Physical Pollution Prevention Barriers in Place?	Unknown	NA
		No	20
		Some Measures in Place	10
		Yes	1

Susceptibility Analysis
Regulatory Compliance Credit and Risk Factor Values (Induced)

Risk Factor Category	Risk Factor	Characteristics or Range	Credit Amount or Risk Factor Value
Induced Risk Factors	Potential Source Category or Land Use **(Agricultural)**	Animal burial areas	6
		Animal Feedlots and Manure Storage Areas	8
		Agricultural Drainage Wells	8
		Chemical application areas - Cropland	8
		Chemical storage areas	10
		CRP Land	1
		Forestland	3
		Grassland/Rangeland	3
		Irrigation areas	8
		Manure Application Area - Cropland	8
		Tiled Cropland	10
		Uncultivated Cropland	4
	Potential Source Category or Land Use **(Commercial)**	Airports	8
		Automobile repair shops	10
		Boat yards	2
		Construction areas	4
		Car washes	3
		Cemeteries	2
		Dry Cleaning Establishments	10
		Educational institutions	4
		Furniture and Wood Strippers/Finishers	6
		Gas stations	10
		Golf courses	6
		Jewelry and metal plating	6
		Laundromats	4
		Material transport terminals	8
		Major Highways	4
		Medical institutions	4
		Paint shops	8
		Photography establishments	4
		Printing establishments	6
		Railroad tracks	4
		Railroad yards and maintenance facilities	6
		Research laboratories	4
		Road deicing operations	6
		Road maintenance depots	6
		Scrap and junkyards	2
		Storage tanks and pipes	10
		Stormwater drains and retention basins	4
	Potential Source Category or Land Use **(Industrial)**	Asphalt plants	4
		Automobile service station disposal wells	8
		Chemical manufacture, warehousing and distribution facilities	10
		Detonation sites	6
		Electrical and electronic products and manufacturing	10
		Electroplaters and metal fabricators	10
		Foundaries	4
		Industrial process water disposal wells and lagoons	10
		Mining (surface and underground) and mine drainage and waste piles	10
		Oil and gas disposal wells	8

Susceptibility Analysis
Regulatory Compliance Credit and Risk Factor Values (Induced)

Risk Factor Category	Risk Factor	Characteristics or Range	Credit Amount or Risk Factor Value
Induced Risk Factors	Potential Source Category or Land Use **Cont. (Industrial)**	Petroleum product production, storage and distribution centers	10
		Pipelines	10
		Radioactive disposal sites	10
		Septage lagoons, cesspools, and sludge disposal areas	10
		Storage tanks and pipes	10
		Wastewater disposal wells	8
		Operating and abandoned (but not plugged) oil, gas, injection, and exploration wells	8
		Wood preserving facilities	6
	Potential Source Category or Land Use **(Residential)**	Residential with Individual Wastewater (Septic and Cesspool) Systems	8
		Residential with Community Wastewater System	4
	Potential Source Category or Land Use **(Waste Management)**	Fire training facilities	10
		Hazardous waste management units (landfills, land treatment areas, surface impoundments, waste piles, incinerators, and treatment tanks)	10
		Municipal incinerators	10
		Municipal landfills	8
		Municipal wastewater treatment facilities	10
		Open burning sites	10
		Recycling and waste reduction facilities	4



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