

Report for 2002SD8B: Information Transfer

There are no reported publications resulting from this project.

Report Follows:

Public Outreach

The continued severe drought in western South Dakota the past four years has demonstrated the importance of the services offered by the Water Resources Institute's Water Quality Laboratory. The inherent quality of surface waters in western South Dakota is commonly low, leading to chronic livestock production problems. However, drought has intensified this problem for livestock producers in these semi-arid rangelands. Many dugouts and ponds degraded to the point of causing cases of livestock illness and, in some instances, livestock deaths. Although water quality problems in western South Dakota are common, some isolated cases of livestock illness and deaths due to poor surface water quality occurred in eastern South Dakota in 2001 and continued in 2002 and 2003. The SD WRI made this issue a priority in its outreach/information transfer efforts by posting information for farmers and ranchers on this subject on the Institute's web page (<http://wri.sdstate.edu/drought.htm>). The SDSU Agricultural Communications Department also developed a press release and special web page dealing specifically with the drought. This web page referred producers who had questions about their water quality to the SD WRI web page. Numerous requests were received by SD WRI staff for assistance with identification of potentially toxic algae from surface waters due to dry conditions.

Public outreach takes many forms. One of the most recent at SD WRI is providing information over the Internet. A Web site for the SD WRI and Water Quality Lab has been established. The "Research Projects" section of the SD WRI Web site (<http://wri.sdstate.edu>) is continuing to be updated. The site allows the public to keep in touch with the activities of the Institute, gather information on specific water quality problems, learn about recent research results and links with other water resource related information available on the Web. An extensive library of information will eventually be developed on-line. Information regarding analytical services available at the SD WRI's Water Quality Laboratory and information that may be used to address drinking water problems has been redeveloped on-line.

The Water Resources Institute's Water Quality Laboratory provides important testing services to water users across the state. Water Resources Institute staff continues to provide interpretation of analysis and recommendations for use of water samples submitted for analysis. Information transfer to individuals with assistance to identify and solve water quality problems is an important component of the Institute's Information Transfer activities. Interpretation of analysis and recommendations for suitability of use is produced for water samples submitted for livestock suitability, irrigation, lawn and garden, household, farmstead, heat pump, rural runoff, and land application of waste.

SD WRI staff routinely respond to questions unrelated to laboratory analysis from the general public, other state agencies, livestock producers and County Extension Agents concerning water quality issues related to stream monitoring, surface water/ground water interactions, livestock poisoning by algae, lake protection and management, fish kills, soil-water compatibility, and irrigation drainage. WRI continues to provide soil and water compatibility recommendations for irrigation permits to the SD Division of Water Rights.

Agency Interaction

The SD WRI Information Transfer program includes interaction with local, state and federal agencies/entities in the discussion of water-related problems in South Dakota, and the development of the processes necessary to solve these problems. One example of this interaction to solve water quality problems is a program started by the Cooperative Extension Service to help livestock producers identify unsuitable water sources. The CES provides many of its Extension Educators with hand-held conductivity meters for use in the field. If samples are shown to be marginal by field testing, they are sent to the Water Quality Lab for further analysis.

Often, high sulfates limit the use of waters that have elevated conductivity. A Non-Point Source (NPS) Task Force exists in South Dakota to coordinate and fund research and information projects in this high priority area. Many of the information transfer efforts of the Institute are cooperative efforts with the other state-wide and regional entities that serve on the Task Force.

In 2001 the Institute co-sponsored the "Phosphorus, Manure & Water Quality Conference". Participating agencies included the South Dakota Department of Environment and Natural Resources, NRCS, South Dakota Lakes and Streams Association, South Dakota Agricultural Experiment Station, South Dakota Cooperative Extension Service, South Dakota Department of Agriculture, South Dakota Cattlemen's Association, SDSU Plant Science Department and Soil Testing Laboratory, and the South Dakota Farm Bureau. In 2002 these groups supported research efforts need to fill gaps in our knowledge of the relationships between soil test P and runoff P. This coordination and information sharing continued in 2003 as South Dakota moves toward the development of a P-index to address the issue of P buildup in the soil and its impact on water quality. A PhD student in the Atmospheric, Environmental and Water Resources Program at SDSU was hired in the fall of 2002 and is housed in the SD WRI office. This is the first time SD WRI has been able to support a PhD student in more than 20 years. The student's research project, titled "Establishing a Relationship between Soil Test Phosphorus and Runoff Phosphorus for South Dakota Soils Using Simulated Rainfall" will be the subject of the student's PhD dissertation upon completion of her degree program. This work will be important to the development of a P-index in South Dakota.

Several local and state agencies conduct cooperative research with SD WRI or contribute funding for research. Feedback to these agencies is often given in the form of presentations at state meetings, local zoning boards, and informational meetings for non point source and research projects.

Youth Education

Water Festivals were included in the NPS Task Force's Information and Education plan in 1992 with one Water Festival held in Spearfish, South Dakota. Water Festivals have since been held in seven sites including Spearfish, Rapid City, Pierre, Huron, Vermillion, Brookings and Sioux Falls. Since their inception, Water Festivals in South Dakota have impacted approximately 58,000 fourth grade students state wide, 12,500 of which have attended our own local festival, the Big Sioux Water Festival (BSWF). SD WRI staff members will continue to support and participate in Water Festivals throughout the state in coming years. SD WRI will continue other activities to support water quality education in local schools including classroom presentations and assisting local educators with field trips. WRI staff also participated in both the first and second annual Youth Sport Fishing Day held in Aberdeen, South Dakota held in June.