

- Preface -

Lincoln County Water Management Plan

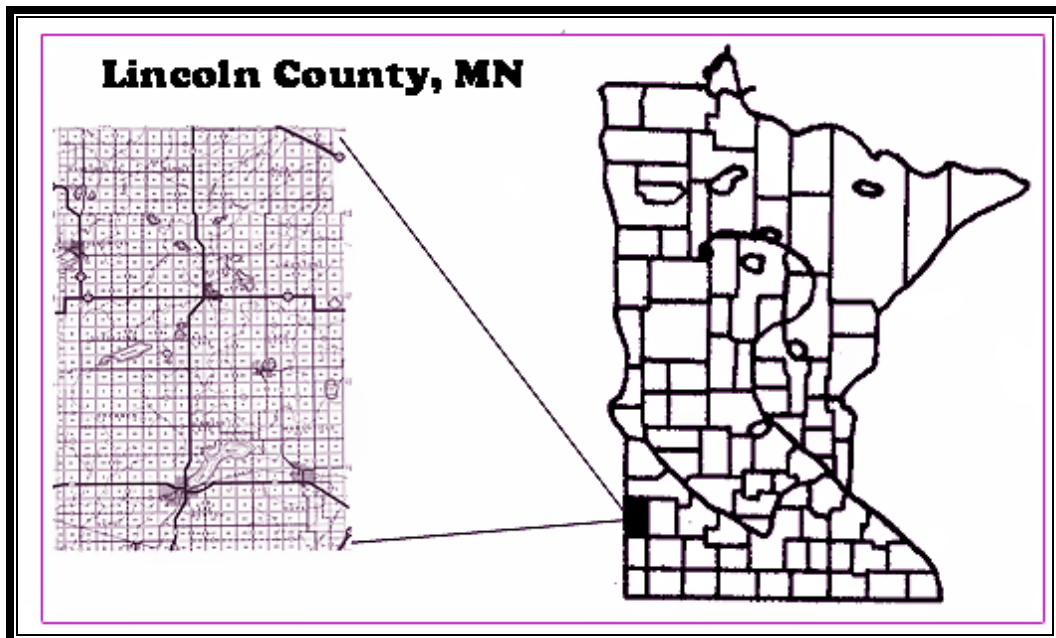
The Lincoln County Comprehensive Local Water Management Plan changed to the Lincoln County Water Management Plan. The change reflects priority setting and implementation, not planning.

The preface section contains the following information:

- Lincoln County Description;
- Plan Administration and Role of the Task Force; and
- Past Accomplishments

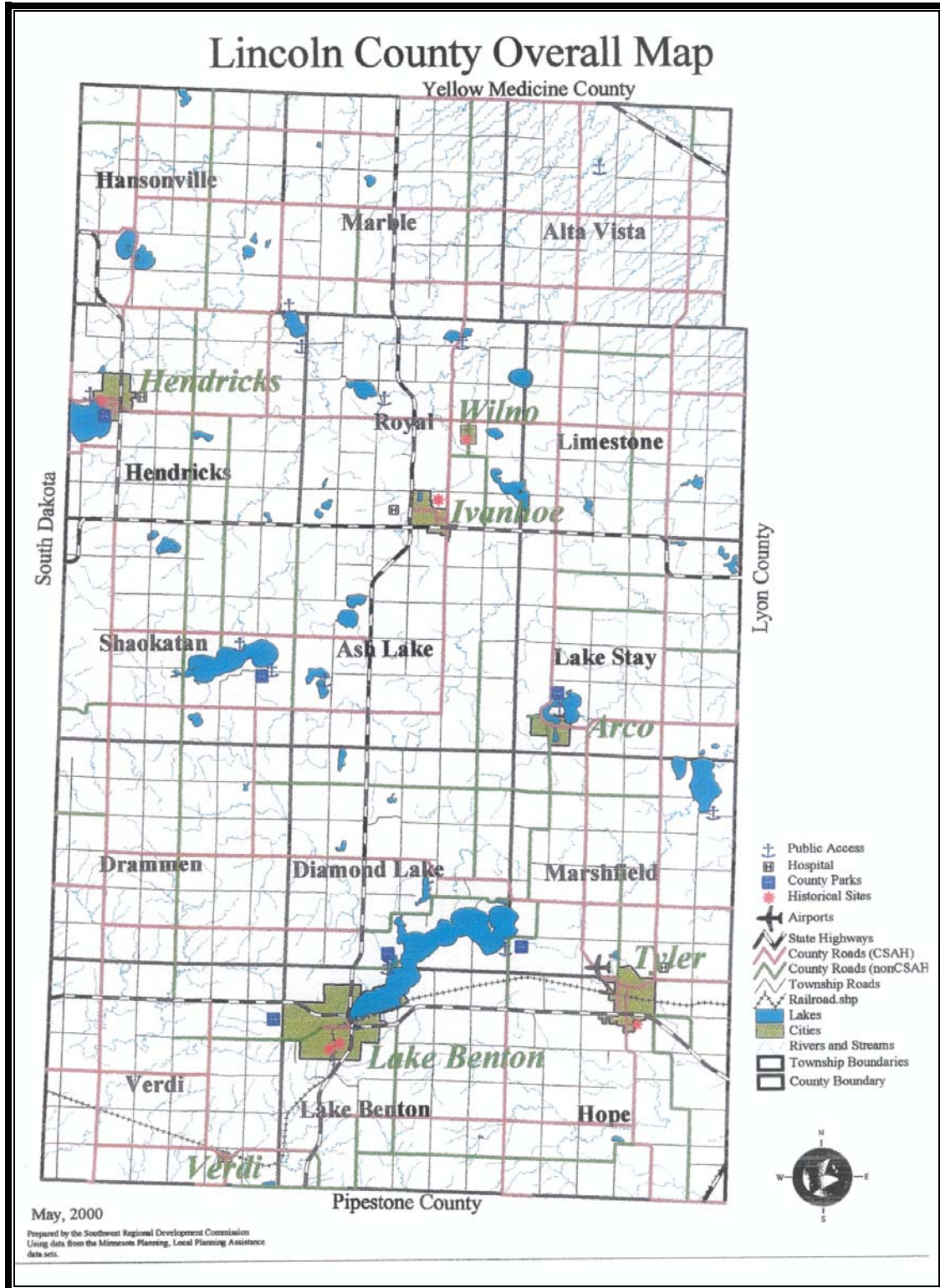
Lincoln County, Minnesota:

Lincoln County is located in southwestern Minnesota, bordering South Dakota on the west and lying about fifty miles north of the Iowa state line. Some of the highest land elevations in the state occur within Lincoln County along a ridge called the Coteau des Prairies. Elevations along the Coteau, which forms the drainage divide between the Missouri and Mississippi rivers, range between 1,900 and 2,000 feet above sea level. Lincoln County has mostly dark colored, nearly level to steep soils that developed in glacial materials. The original vegetation was tall and medium prairie grasses.



As a whole, the County is more rural and dependent on agriculture than most of the counties in the southwest part of the state, an area, which is itself heavily agricultural. Growing corn, soybeans and hay, dairy, cattle feeding and stock raising produce most of the income. Table 1 – Page 2 is an overall map of Lincoln County.

Table 1
2000 Lincoln County – Overall Map



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The total land area of the County is 540 square miles. Of this area, water makes up about ten square miles.

There are five incorporated cities in Lincoln County: Ivanhoe, Hendricks, Lake Benton, Tyler, and Arco; and two unincorporated communities: Verdi and Wilno. The cities of Ivanhoe, Tyler, Hendricks and Lake Benton have NPDES Wastewater Permits as required by MPCA. The City of Hendricks entered into a Stipulation Agreement in 1999 and a new Wastewater Facility will be upgraded starting in 2004 (see Assessment Section and Implementation Section for further information). The City of Ivanhoe has had Effluent Violations but are working on upgrading these problems. The unincorporated communities of Verdi and Wilno do not have a centralized collection/treatment system. Hendricks, Ivanhoe Tyler and Lake Benton have stabilization ponds and Arco has a community mound system. Discharge monitoring reports from each city are sent to MPCA on a monthly basis.

There are fifteen townships in Lincoln County: Alta Vista, Ash Lake, Diamond Lake, Drammen, Hansonville, Hendricks, Hope, Lake Benton, Lake Stay, Limestone, Marble, Marshfield, Royal, Shaokatan, and Verdi. The population within the entire County totals approximately 6,500.

Plan Administration and Role of the Task Force:

The Lincoln County Commissioners at the outset of the planning process appointed a twelve-member board known as the Task Force to advise the County Board on Plan content and serve as a link between the Board and the public. The Task Force in the past has met on a monthly basis. Currently, the Task Force meets approximately five times per year, depending on agenda items/budget.

The lead agency/persons responsible for the Water Plan include as Co-Water Plan Coordinators-Pauline Moen, Lincoln Soil and Water Conservation District and Terry Renken, Yellow Medicine River Watershed District. Pauline Moen, Lincoln Soil and Water Conservation District also serves as the Secretary for the Task Force. The Co-Plan Coordinators and Secretary are under the direction of the Lincoln County Water Management Task Force.

The Task Force is responsible for:

1. reviewing plan amendments and developing updates;
2. gathering information about new programs and legislative actions;
3. recommending changes to the Plan in response to new circumstances; and
4. monitoring plan implementation.

The Task Force will assume additional activities at the request of the County Board of Commissioners. The Task Force develops an annual work plan and budget along with annual reporting of the previous year's activities and expenditures.

Information has been gathered from numerous local, regional and state agencies, including the Departments of Natural Resources, Health, Agriculture, Pollution Control, Southwest Regional Development Commission, Lincoln Soil and Water Conservation

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District and Lincoln County and contiguous county offices; as well as plans from the Yellow Medicine River and the Lac qui Parle-Yellow Bank Watershed Districts and municipalities within the County. Through careful review and discussion of these materials, it has been determined that no apparent conflicts exist between this plan and those of other local units of government.

The information in this water plan update is pursuant to the Comprehensive Local Water Management Act-Minnesota Statutes, Chapter 103B.301 and M.R. 9300.

The County will update the overall Water Management Plan every ten years and review the Implementation Program every five years.

The County Commissioners at their June 5, 2001, regular Board meeting approved a Resolution Requesting an Extension of the Lincoln County Comprehensive Local Water Plan. The request was approved by the Minnesota Board of Water and Soil Resources at their June 27, 2001 regular Board meeting. A meeting was held with the Board of Water and Soil Resources committee and staff to review the Priority Scoping Document on January 8, 2004. The effective date for the Lincoln County Water Management Plan update is for 10-years; September, 2004 through August, 2014; with a 5-year Implementation Plan from September, 2004 through August, 2009. Following is the 2004 Task Force members and the agency they represent:

- James Nichols, County Commissioner, Chairperson
- D. Deane Sagmoe, County Commissioner, Vice Chairperson
- Pauline Moen, Lincoln SWCD, Co-Water Plan Coordinator/Secretary
- Terry Renken, Yellow Medicine River Watershed District, Co-Water Plan Coord.
- Daniel Christianson, Lincoln SWCD
- Donald Evers, Lincoln-Pipestone Rural Water
- David Karlstad, Lincoln Co. Assistant Highway Engineer
- Norm VanOverbeke, Lincoln County Civil Defense Director
- Robert Olsen, Lincoln County environmental Office
- Wayne Beck, Cities
- Merle Rost, Townships
- Richard Hauschild, citizen

The terms of the Task Force members have alternating four (4) year terms, excluding the County Commissioners, which serve on the Task Force when they are the Chairperson and Vice Chairperson. The other County Commissioners during 2004 include: David Norgaard, Larry Hansen and Curtis Blumeyer.

Accomplishments:

Since the last plan update, May 20, 1997 through December 31, 2003, the following are Lincoln County's accomplishments. Although not all of the funding came directly through the Lincoln County Comprehensive Local Water Plan, the items listed are under our Implementation/Action items as being priorities that were accomplished over the last six years:

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Goal 1: Increase the Economic and Recreation Opportunities by Improving the Water Quality and Quantity of Lincoln County's Lakes and Streams:

Objective 1: Compile information regarding surface water quality and quantity:

Monitoring and Data Collection

- ◆ Continue with our water quality monitoring program by collecting water samples on various lakes and streams throughout Lincoln County. Samples were collected on May 28, 1998, on six sites throughout Lincoln County.

Land and Water Treatment

- ◆ Helped pursue a Clean Water Partnership-Phase II-Implementation Phase Grant for the Yellow Medicine River Watershed and received notification in March 2001 that it was funded.

Objective 2: Protect surface water quality from contamination caused by point and non-point source pollution.

Education and Information

- ◆ The county continues to participate in the Minnesota River Basin Joint Powers Organization and meetings.

Monitoring and Data Collection

- ◆ Did extensive monitoring on Lake Shaokatan from the spring through fall of 2001.
- ◆ Intensive study on Lake Shaokatan (MPCA-Intensive Studies Lakes Program) was done during the summer of 1999 in which the following projects were done: in-lake monitoring; continue major inflow/outflow monitoring; re-establish gauging/monitoring sites on selected sub-watersheds to assess change in land use; provide an up-to-date characterization of land use in the watershed; and fish collection for Hg analysis.¹

Inventory and Mapping

- ◆ Completed a conservation tillage transect survey on 472 points during 1997, 1998, 1999 and 2000.

Objective 3: Reduce the volume of sedimentation and nutrients reaching County lakes, streams, rivers, and wetlands.

Education and Information

- ◆ Direct information about use of best management practices to land operators through our joint agency newsletter (1997 – current).
- ◆ Presented and provide options to landowners to reduce sediment and nutrients by implementing best management practices in the various watersheds in Lincoln County.
- ◆ Promote and encourage the use of Conservation Tillage Equipment on high residue acres through the Ag Best Management Practices Loan Program (1997 – current).

¹ Intensive Studies Lakes Program, Status and Trends – April 2000, Prepared by: Steve Heiskary and Jeff Jeremiason, Environmental Outcomes Division, MPCA.

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- ◆ Provided technical assistance to landowners on feedlot waste management systems as needed (1997 – current).
- ◆ Pursued and helped to obtain a Clean Water Partnership – Phase I Diagnostic Study for the Lac qui Parle-Yellow Bank Watershed and continue to help work on the plan (2001 – current).
- ◆ Provide funds for youth to attend various educational/environmental camps through the Cluster 11 4-H Youth Development Camp at Lake Shetek.
- ◆ Rent a booth at the Lincoln County Fair to display various projects that the Water Management Task Force does each year, making the general public aware of what we are and educate them on the various projects we are involved in.
- ◆ Provide funding for the Prairie Ecology Bus to set up one day at the Lincoln County Fair in 2000 and 2002.
- ◆ Inform the landowners/operators through the Joint Agency Newsletter of the various projects the Task Force is involved in, from Ag BMP Loan Program, to the programs we fund yearly, to the Water Plan Update.
- ◆ A task force member served on the Lake Benton Lake and Watershed Management Plan Committee to ensure the implementation items listed in that plan were completed (1997 – 2002).
- ◆ A task force member served on the Lake Hendricks Lake Watershed committee to ensure the implementation items listed in that plan were completed (1997 - current).
- ◆ Promote and encourage the development of grass buffer strips from 35 to 120 feet on each side of rivers, streams or lakes through CRP, CREP, or the Continuous CRP Program (1999 – current).

Land and Water Treatment

- ◆ Provided assistance to eighteen landowners with crop residue, integrated crop management and residue management in the Norwegian Creek Watershed through a Water Quality Incentive Program for \$95,000.00 from 1996 – 1998.
- ◆ Received funding for the County Ditch 11 project to implement best management practices to help prevent sediment from going into Lake Hendricks. Received the following MN River Basin Grant Funds: FY 98-\$60,000.00 used to implement 2 waterways, 13 water and sediment control basins; FY 2000-\$40,000.00 and supplemental funds of \$6,121.00 used to implement 15 water and sediment control basins; FY 2001-\$40,000.00 used to implement 14 water and sediment control basins.
- ◆ Implemented BMP's in the various watersheds. Funding sources include: (1997 – current)
 - Federal Programs-Environmental Quality Incentive Program (EQIP); ACP; WQIP, ECP:
 - ACP (1997) \$297,581.00
 - ECP-MW Flood (1997) \$ 97,178.00
 - ECP-MW Flood2 (1997) \$ 41,224.00
 - Interim EQIP (1997) \$132,000.00
 - 1997 EQIP \$ 43,000.00
 - 1998 EQIP-Norwegian Creek \$ 37,856.00

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- 1998 EQIP-Lake Hendricks \$ 41,225.00
- 1998 EQIP-Yellow Medicine \$110,375.00
- 1999 EQIP-Verdi Well Field \$ 85,595.00
- WQIP-Norwegian Creek \$ 95,000.00
- 2000 EQIP-Verdi Well Field \$ 85,595.00
- 2001 EQIP-Verdi Well Field \$ 63,500.00
- 2001 EQIP-Yellow Medicine-Entire Watershed \$ 90,000.00
- 2001 EQIP-Lac qui Parle-Entire Watershed \$ 90,500.00
- 2002 EQIP-Verdi Well Field \$129,107.00
- 2002 EQIP-Yellow Medicine Watershed \$368,400.00
- 2002 EQIP-Lac qui Parle Watershed \$ 83,550.00
- 2003 EQIP-County Wide \$280,115.11
- BWSR-Regular State Cost-Share:
 - 1997-\$14,479.00; 1998-\$14,479.00; 1999-14,479.00; 2000-\$20,062.00; 2001-\$20,062.00; 2002-20,062.00; 2003-\$21,863.00.
- BWSR-State Cost-Share Projects-Special, Feedlot, Rollover, etc. include:
 - 1998 State C-S Rollover-Lake Hendricks \$ 60,000.00
 - 2000 BWSR Special Project-Medary Creek \$ 14,602.00
 - 2000 Special MN River Basin-Lake Hendricks \$ 40,000.00
 - 2001 Special Project-Medary Creek \$ 8,877.00
 - 2001 Special MN River Basin-Lake Hendricks \$ 40,000.00
 - 2001 Feedlot Grant \$ 49,999.00
- Other funding includes:
 - 1999 MPCA-319 Funds – Yellow Med. River \$133,888.00
 - 1998 through 2002 DNR Wildlife Tree Plantings \$102,756.00
- Redwood River Cost-Share Dollars.
- Ag Best Management Practices Loan Program (once encumbered and are now revolving):
 - 1995 Ag BMP Loan Program \$275,837.46
 - 1996 Ag BMP Loan Program \$299,089.20
 - 1997 Ag BMP Loan Program \$126,869.44
 - 1998 Ag BMP Loan Program \$ 60,000.00
 - 1999 Ag BMP Loan Program \$ 70,000.00
 - 2000 Ag BMP Loan Program \$ 58,000.00
 - 2001 Ag BMP Loan Program \$ 50,000.00
- ◆ Provide a no-till drill to landowners through the Lincoln Soil and Water Conservation District to plant native grasses (1997 – current).
- ◆ Developed grass buffer strips from 35 to 120 feet on each side of rivers, streams or lakes. This has been accomplished through CRP, CREP, or the Continuous CRP Program (1999 – current).
- ◆ Provided funding for the repair of the following small dam structures throughout the County: Steffes Dam, Carlson Dam, Traen Dam, and Citterman Dam.

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- ◆ Provided a Conserving Use Acres Program in to set aside and/or plant small grain for summer construction. In 2002, eight landowners benefited from the program constructing 24 Water and Sediment Control Basin's and in 2003, six landowners benefited from the program constructing 10 Water and Sediment Control Basin's.
- ◆ Provided funding in 2001, to Robert Kallemeyn for help in cleaning out the old Guggisburg pit in which Kallemeyn now owns.
- ◆ Provided funding to the Arco Sportsmen Club for a Lincoln-Pipestone Rural Water hookup at Lake Stay in 2001.

Objective 4: Adopt a water quality ordinance to regulate installation and operation of individual sewage treatment systems (ISTS), business septic systems, and installation and operation of feedlots throughout the county.

Education and Information

- ◆ ISTS information distributed through the Joint Agency Newsletter.
- ◆ Provided Septic System Owners Guide for owners through a meeting put on by the University of MN Extension-Lincoln County concerning septic systems in 2002.

Regulation, Ordinances, and Planning

- ◆ Provided funding for a Facilities Plan for Wastewater Collection and Treatment Improvements for the Don-Ja-Lei Becah, Lake Benton Lake in August of 2000.

Objective 5: Preserve exiting wetlands and restore legally drained wetlands having potential for flood damage reduction, wildlife, recreational, and groundwater recharge benefits, where practical.

Education and Information

- ◆ Presented options to landowners on the CRP, Reinvest In Minnesota (RIM) and Conservation Reserve Enhancement Program (CREP) and enroll landowners into the programs. Develop conservation plans on Highly Erodible Land. (1997- current).
- ◆ Provide information to landowners/operators through the Joint Agency Newsletter.
- ◆ Promote and encourage the restoration of 25 acres of wetlands in Lincoln County through RIM and PWP each year.

Land and Water Treatment

- ◆ Worked with appropriate agencies to see priority wetland sites restored through CRP, CREP, etc.

Regulation, Ordinances, and Planning

- ◆ Administered the Wetland Conservation Act through the Lincoln SWCD office (1997 – current).

Goal 2: Insure Adequate Protection of our Groundwater Supplies and Safe Drinking Water Supplies for County Residents.

Objective 1: Protect ground water recharge areas in the County, giving special attention to the Lincoln-Pipestone Rural Water System (LPRW):

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Education and Information

- ◆ Assist with the development of the Wellhead Protection Plan for the Verdi Well Field for the Lincoln-Pipestone Rural Water System.

Land and Water Treatment

- ◆ Enhanced ground water protection by providing 75% cost-sharing on the sealing of the following abandoned wells: 1997-28; 1998-34; 1999-22; 2000-45; 2001-56; 2002-38; and in 2003-23; for a total of 246 wells sealed from 1997 to 2003.

Regulation, Ordinances, and Planning

- ◆ Defined the recharge area for Verdi Well Field Area for the LPRW system. This was done by working with the various state and local agencies.
- ◆ In 2002, hired a consultant (Mark Hansen) to write a grant for a Clean Water Partnership-Phase II for the Verdi Wellhead Protection Area and the Big Sioux Watershed.

Other funds

- ◆ Through a Water Plan Challenge Grant the Verdi Drinking Water Supply Management Area Project received \$34,240.00 for the components: Education and Information; Monitoring and Data Collection; Inventory and Mapping; Land and Water Treatment; and, Equipment and Supplies.

Objective 2: Increase the understanding of ground water quality trends in the County.

Monitoring and Data Collection

- ◆ Tested wells throughout Lincoln County for the following: Coliform Bacteria, Fecal Bacteria, Nitrate, Sulfate, Iron, Sodium and pH during the following years: 1993; 1994; 1995; 1998; 1999; and 2001. These results being used as a bench mark for ground water quality in Lincoln County.
- ◆ Provided funding in 2001 for additional Surface Water Testing for the Water Plan Challenge Grant for the Verdi Drinking Water Supply Management Area Project because funds fell short through the grant.

The success of the water plan is based on achievements of the goals, objectives and action items. The actions shown above list the accomplishments that have occurred with the water planning process. Water planning has brought a large amount of funds into Lincoln County. Limitations to the ability in achieving goals, objectives and actions would include lack of appropriate funding, and lack of staff time to accomplish certain goals.

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- First Version Accomplishments -

Since the adoption of the Lincoln County Comprehensive Local Water Plan in 1990, until May 20, 1997, the Task Force had the following accomplishments:

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## Education and Information

- Joint Agency Newsletter-Water Management Task Force news items
- Through the Lincoln SWCD established a series of radio Public Service Announcements relating to water planning
- Publicized news articles concerning the water planning activities in local newspapers
- Abandoned Well Sealing Demonstrations (1991)
- Purchase of chemical spill equipment (1992, 1993, and 1994)

## Monitoring and Data Collection

- Water Quality Monitoring Program (1991 - current)
- Water Quality Monitoring Program (1991 - current)
- Lake Shaokatan Project (1991 and 1993)
- Lake Hendricks Lake Project (1991 and 1993)
- Well Testing Program (1993 - current)
- Lake Benton Lake Study (1992 and 1994)

## Inventory and Mapping

### Land and Water Treatment

- Merv Anderson Downsizing Project (1993)
- Waste Pesticide Collection Program (1993)
- Limestone Downsizing Project (1995)
- Downsizing Project-Verdi Township-Sections 3 & 4 (1995)
- Ag Best Management Practices Loan Program (1996 - current)
- Abandoned Well Sealing Program-241 wells sealed from 1992 – 1996 (grants include):
  - 1992 Grant-Well Criteria Option-\$10,000;
  - 1993 Grant-County Criteria-\$15,000;
  - 1993 Grant-Well Criteria-\$10,000;
  - 1995-Grant-\$10,000; and
  - Base Grant Dollars used in 1993, 1994, 1995 and WCA Funds-1995 and 1996
- Dam Structure-Frensko Project (1993)

### Regulation, Ordinances, and Planning

- Update Shoreland Zoning Ordinance
- Local Response (Civil Defense) Plan (1991)