

F I N A L R E P O R T

PRESERVING ADEQUATE WATER SUPPLIES STUDY COMMITTEE

January 1990

AUTHORIZATION AND APPOINTMENT

The Preserving Adequate Water Supplies Study Committee was established by the Legislative Council and directed to study current and future water supply needs of both rural and urban areas, develop short-range and long-range plans to guarantee a safe, adequate water supply, and promote water conservation and efficient uses of water. The Study Committee was granted three meeting days. The meetings were held on September 8, October 12, and October 31.

The members of the Study Committee were:

Senator Donald E. Gettings, Co-chairperson
Representative David Osterberg, Co-chairperson
Senator Leonard L. Boswell
Senator H. Kay Hedge
Senator Jack W. Hester
Senator Berl E. Priebe
Representative Bradley C. Banks
Representative Daniel P. Fogarty
Representative Glen Jesse
Representative Vic Stueland

COMMITTEE PROCEEDINGS

At its first meeting on September 8, the Study Committee heard testimony from several professionals as to the current status of water supplies in Iowa, the effects of recent drought conditions, and the plans and prospects for future water supplies.

Dr. Don Koch, State Geologist, presented testimony relating to current groundwater sources and general geological information about Iowa's water resources. He noted that 62 percent of the state's population is supported by groundwater resources and that the demand on water use will increase by approximately five percent per year for the next twenty years.

Dr. Elwynn Taylor, State Climatologist, presented testimony concerning normal precipitation and the recharge of aquifers from precipitation. He noted that 85 percent of normal precipitation yields no recharge to an aquifer and that the aquifers in the state

received very little, if any, recharge from precipitation during the last two years. He outlined temperature and climatic trends since the early 1800's in Iowa and predicted that the years 1988 to 1993 will be years of precipitation shortages. Dr. Taylor noted that subsoils normally contain ten to eleven inches of water in Iowa, but that subsoil moisture has dropped to two inches recently. He added that the subsoil moisture must return to normal levels before the aquifers can begin recharging.

Mr. Mark Dickey, Section Supervisor, Bureau of Housing and Community Development, Department of Economic Development, outlined the role of the Department in assisting Iowa communities obtain funding for water supplies. He stated that the Department has awarded \$10,000,000 to communities to establish water supply systems. He added that the Department has also focused on drought assistance by providing more than \$7,000,000 in 1989, and plans to provide an additional \$3,000,000 to \$5,000,000 in 1990.

Mr. James Gulliford, Director, Division of Soil Conservation, Department of Agriculture and Land Stewardship, described the research and demonstration projects focusing upon sinkholes, agricultural drainage areas, and farm management practices. He also stated that 75 percent of the \$4,800,000 of projected Resource Enhancement and Protection (REAP) funds will be used to support water quality protection practices including land conversion practices, traditional erosion control practices, and closure of agricultural drainage wells.

Mr. Robert Haug and Ms. Mary Ann DeVries, Iowa Association of Municipal Utilities, presented testimony outlining plans for coping with future water shortages and implementing water conservation practices within communities.

Mr. L. D. McMullen, Manager, Des Moines Water Works, described the Des Moines facility as a regional system serving approximately 300,000 population. He stated that the use of water in the Des Moines system has increased, but there is more than adequate water to meet the demand. He stated that water quality is the main concern of the Des Moines system. He also expressed support for the regionalization of water supplies for those areas particularly that do not have adequate supplies.

At its second meeting on October 12, the Study Committee met in Lenox and Afton, Iowa. At the Lenox meeting, Mr. Dorman Otte, representing the Farmers Home Administration, distributed materials and described the federal assistance which is provided to rural water systems.

Mr. David Ferris, Lenox Municipal Light and Water Systems, described the actions taken by the Lenox utility board and consumers to overcome the drought and water shortages resulting from the drought. He described the Lenox water rate structure as

basically a straight line rate which promotes water conservation but retains a relatively low price for the water for ordinary residential customers.

Mr. Tom Rexsteiner, manager of an egg processing plant in Lenox, explained the practices and problem-solving techniques utilized to overcome the water shortages for the plant. He stated the plant uses 40,000 gallons per day and to overcome the shortages, water had to be hauled by truck and water conservation measures were taken relating to the plant operation with the approval of the United States Department of Agriculture.

Mr. Kenneth Owen, President, Rathbun Regional Water Association, Inc., presented the Study Committee with history and current operation of the Association. He stated the Association has 10,063 hookups eligible for water service and that the water is derived from the Lake Rathbun treatment facility. During his remarks, Mr. Owen made two recommendations for legislative action. He recommended that the legislation requiring rural water districts to meet city standards in the two-mile area adjacent to city boundaries which are subject to city zoning be repealed and chapters 357 and 357A of the Iowa Code be reviewed and updated to provide more administrative flexibility.

Mr. Darrell McAllister, Chief, Surface and Groundwater Protection Division, Department of Natural Resources, presented the Study Committee with statistics and other information relating to groundwater and surface water sources. He also discussed requirements relating to the permitting of irrigation systems and urged that the Study Committee continue to support the policy that water is public wealth.

Mr. Lee Faris, Iowa Cattlemen's Association, expressed the Association's longstanding advocacy of the conversion of fragile cropland to pasture as an ideal method of promoting soil and water conservation. He also noted that the recent drought conditions have focused the need to preserve water resources and that water impoundment structures should be given higher priority as a method of accomplishing water conservation.

Mr. Robert Moore, Manager, Lamoni Municipal Utilities, described the water conservation methods used during the summer to meet the drought conditions and pointed out the severe limitations which water shortages will have on economic development if solutions are not found to the chronic shortages in Southern and Southwest Iowa.

At the meeting in Afton, local city officials, community leaders, and other interested citizens described the history and present status of the Three Mile Lake project which is designed to meet the needs of the citizens of Adams, Taylor, Ringgold, Decatur, Clarke, and Union counties for water supply, recreation, and related uses. The speakers included Mr. Malcom Amos, Mr. Gene

Gunsolley, Mr. Earl Hanthorn, Mr. Bob Brown, Mr. Erwin O. Aust, Mr. Dr. Boone, and Mr. Dennis Hilger. The speakers emphasized the multiagency and multilevel of governments which are committed to the new reservoir of approximately 870 acres. All of the funding except for approximately \$721,000 has been obtained.

At its final meeting on October 31, the Study Committee received testimony from Professor Gregory Carmichael, University of Iowa, relating to global warming trends and their effect on agriculture and Iowa's water supply. Professor Carmichael stated that the rapid increase in the discharge of carbon dioxide, methane, and other greenhouse gases is causing a global warming trend and the warming trend will significantly impact Iowa's agricultural production in the next fifty to seventy-five years. He noted that carbon dioxide and other greenhouse gases occurring in nature have gradually warmed the earth's atmosphere by fifty degrees Fahrenheit to provide an environment existing today, but current trends are increasing the rate of warming too rapidly to expect many species of plants and animals to survive. Concerning Iowa's environment, he stated that the average temperature will increase two to six degrees Fahrenheit in the next fifty to seventy-five years, soil moisture will reduce by fifty percent, and the current crop production will not be maintained without substantial irrigation.

RECOMMENDATIONS

The Preserving Adequate Water Supplies Study Committee makes the following recommendations to the Legislative Council and the General Assembly:

1. Establish a Global Change Trust Fund consisting of \$10,000,000 annually appropriated from the Iowa Plan Fund or the state General Fund to the following agencies and for the following purposes:

a. To Iowa State University of Science and Technology for biotechnology research relating to sustainable agriculture, including methane reduction and nitrogen management.

b. To the University of Iowa for investigating global change.

c. To the University of Northern Iowa to assist businesses in environmental economic development.

d. To the Department of Agriculture and Land Stewardship to support soil conservation practices and the protection of lakes from siltation.

e. To the Department of Economic Development to finance the construction of water supplies.

f. To the Department of Economic Development to support the production and marketing of ethanol.

g. To the Department of Natural Resources to encourage and support regional planning for sharing and conserving water resources to meet domestic, agricultural, and commercial needs; to require planning for the development of lakes, subject to the implementation of soil conservation practices to eliminate siltation, where there is a potential for water shortages, to ensure potential economic expansion; and to provide for lake dredging where economically feasible and where soil conservation practices are implemented to ensure that siltation does not reoccur.

2. Appropriate an additional amount of not to exceed \$700,000 to the Southern Iowa Rural Water Association for the completion of Three Mile Lake, Union County.

3. Develop a water efficiency and conservation program which uses a water rate structure to encourage water conservation and which targets for its goal a ten percent reduction in per capita domestic use by 1992 and a twenty percent reduction in per capita domestic use by 1994.

4. Reexamine recently enacted legislation which broadens jurisdictions of cities to require rural water systems to build water distribution facilities within the two-mile limits of a city to meet city standards.

5. Review chapters 357 and 357A of the Code of Iowa with the purpose of modernizing the provisions relating to rural water districts.

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