



GROUNDWATER MANAGEMENT DISTRICTS ASSOCIATION

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Northwest Kansas Groundwater
Management District #4
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NEBRASKA WELCOMES DELEGATES TO GROUNDWATER MANAGEMENT ASSOCIATION MEETING

HILTON HOTEL, LINCOLN, NEBRASKA DECEMBER 6, 7 AND 8, 1977

It is indeed a pleasure on behalf of Nebraska to welcome the delegates and their families to the annual Association meeting. We feel the program offers an excellent assortment of current topics, and should be of interest to everyone.

Special plaudets go to the many people in the organization who have participated in planning the annual meeting; including, Mrs. Deon Axthelm (Ladies' Program), Lee Orton, Executive Director of the Nebraska Association of Resources Districts and Pat Patitz, Executive Director of Nebraska Water Resources Association.

Frank Dragoun, Nebraska Director

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SOUTH PLATTE NATURAL RESOURCES DISTRICT, NEBRASKA

The South Platte NRD sponsored an irrigation scheduling demonstration program this year in a highly irrigated, but small area in western Nebraska. A U.S.G.S. groundwater study in the area in 1957 described a serious seasonal decline, and at that time the study indicated the maximum irrigation development had been reached. Many more irrigated acres had been added in the past 20 years.

Top priorities of the program were to:

1. demonstrate methods of water conservation to irrigators;
2. provide proof that scheduling devices were applicable to soils and cropping systems in this area;
3. establish a data base for future groundwater management decisions; and
4. indicate skills necessary for management agency personnel to carry out extensive water management programs.

Flowmeters, soil moisture blocks and rain gauges were purchased and installed on cooperating landowners' fields totaling about 560 acres. These fields varied in size from 12 acres of gravity irrigated corn to a 270 acre center pivot system on corn.

Moisture blocks and flowmeter readings were taken once a week. Recommendations were made using the past week's crop water use data, and sent to the irrigators. Unfortunately, it had not been established that the irrigator was to keep records on the rain gauges, and two gauges had to be abandoned because of being in range of center pivot systems.

Groundwater conservation has become a top priority in this District.

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PHOTOVOLTAIC CELLS EXHIBIT FEATURED AT CONFERENCE

Conference attendees will be able to view how photovoltaic cells operate, and will observe the technique used to produce electric current directly from sunlight. This system is currently in operation at the University of Nebraska Experiment Station at Mead.

ASSOCIATION RESOLUTIONS COMMITTEE REPORT

Gordon Thompson, Chairman of the Resolutions Committee, received only two resolutions for consideration at the December meeting.

1. Power Plant Consumptive Use of Ground and Surface Water: to promote the efficient use of water and more specifically that the federal EPA thermal pollution standards be revised to recognize that standards applied to the humid eastern states do not fit the western and midwestern irrigation states and that power plant design minimize water consumption and consider alternate power sources potentially available which includes maximum development of hydro power.

2. Water Policies (re National Water Policy review): to adopt water policies that enhance development of water storage and groundwater recharge projects; recognize the financial disaster during drought were it not for storage projects; continue cost-sharing policies on water projects; consolidate and streamline Federal agencies; and fully fund the High Plains Study.

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SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT LOOKS AT GROUNDWATER

The Southwest Florida Water Management District has 'keyed' efforts toward two major groundwater concerns - supply and quality.

The regional observation and monitoring program is being developed to provide the District with a thorough knowledge of its groundwater resources. In the past, water problems were primarily local in nature. Today, the District feels however, the means to effective management lies in a regional understanding of the problems.

A district-wide network of 122 inland monitor wells and 24 coastal sites, with two to four wells each, will provide the hydrologic data collection needed to accomplish this program. The network will make it possible to map aquifers and confining layers and measure their hydrologic characteristics. Along the coast, the network will measure the extent of salt water intrusion and monitor changes in the salt water-freshwater interface. Selected well sites will be equipped to also provide certain atmospheric information with the means to measure temperature, humidity, barometric pressure and rainfall, all of which affect groundwater levels.

The District is plagued with contamination via hundreds of abandoned wells drilled long ago. Several hundred of these wells have been located in one county alone. The wells have casings now rusted away, allowing the upward movement of contaminated water. Contaminated water is discovered to have moved to aquifers of higher quality of water and even to the surface.

Plugging the well is generally the most effective method but can be expensive. The District recently completed a test program in which 26 wells were plugged, at an average cost per well of \$2,840. District personnel are searching for a more economic method of solving the problem.

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HARRIS-GALVESTON COASTAL SUBSIDENCE DISTRICT, TEXAS

The District has been studying uses of groundwater in the Harris and Galveston Counties for 1976 and 1977. Public supply (customers of cities and water districts), industry, and irrigation account for the three major classes of groundwater usage. The 1976 figures indicated usage as: Public - 56%; Industrial - 31%; and Irrigation - 13%. The 1977 figures were: Public - 67%; Industrial - 21% and Irrigation - 12%.

The irrigation category, consisting primarily of water used for rice farming, decreased between the two years but maintained about the same relative percentage of total groundwater permitted. As the rice area continues to feel the effect of urban development, less acreage and water, is needed for the production of rice.

The changes in percentage of Industrial use relate to the trend in total water needs being reduced by conservation which also decreases the amount of sewage effluent. Another major factor is the development of the Coastal Industrial Water Authority system which is delivering surface water from the Trinity River.

Support Groundwater Conservation so that Groundwater can Continue to Support YOU!