EASTERN ARKANSAS REGION COMPREHENSIVE STUDY

After five years, a project which could help solve water resources problems in fourteen Arkansas counties is winding down. This study has been done by the Arkansas Soil & Water Conservation Commission, Soil Conservation Service (USDA), U. S. Army Corps of Engineers and several local water districts. Funding would be 65% Federal and 35% from each irrigation district.

Farmers who use well water for irrigation have recorded a decrease in water levels for the last several years, according to a spokesman from the Arkansas Soil and Water Conservation Commission. With the water table dropping, it is to be noted that there is more water being used than is being replenished (by rain). There will be a critical shortage if it is not replenished. Practicability of building on-the-farm reservoir systems linked to river tributaries has been studied.

With a main water canal system in each district with small spurs going off into different communities, it would then be possible for the farmer to get water from that tributary. Each district would be responsible for upkeep and maintenance of their own canal.

MANAGEMENT PRACTICES FOR THE USDA HYDROLOGIC UNIT PROJECT-MUDDY FORK

The Arkansas Water Resources Research Center (AWRRC) will administer a contract for monitoring water quality associated with implementation of Best Management Practices for the USDA Hydrologic Unit Project-Muddy Fork. The total funding will be $1.1M, 60% from EPA and 40% provided by Arkansas Soil and Water Conservation Commission. The Best Management Practice portion of the project is sponsored by the U. S. Department of Agriculture. Soil Conservation Service will be assisting in implementation of Best Management Practices, the Agricultural Stabilization Conservation Service will provide cost sharing funds and the Cooperative Extension Service will participate in education and public awareness.
BEAVER LAKE WATER QUALITY DEMONSTRATION PROJECT

An amount not to exceed $78,000.00 from the Water Development Fund has been approved by the Arkansas Soil & Water Conservation Commission to meet cash requirements of the local sponsor share of the Water Quality Demonstration Project, Beaver Lake, Arkansas. The project is a joint project with the U.S. Army Corps of Engineers.

NORTHWEST GROUND WATER MONITORING PROJECT

Also an amount not to exceed 43,000.00 from the Water Quality Development Fund was approved to continue the Northwest Ground Water Monitoring Project. This project will be a cooperative effort of the Arkansas Soil & Water Conservation Commission, U.S. Department of the Interior, Geological Survey and Conservation Districts.

NATO WORKSHOP AND NATIONAL WATER INFORMATION CLEARINGHOUSE WORKSHOP

Kenneth F. Steele, Director of Arkansas Water Resources Research Center and Professor of Geology, was one of the thirty-six participants invited from fifteen countries to attend a NATO Workshop on Nitrate: Exposure, Consequences and Control. Steele presented "Potential Nitrate Pollution of Ground Water in Limestone Terrain by Poultry Litter, Ozark Region, U.S.A.," co-authored with W. K. McCalister, a former Geology graduate student. The workshop was held September 9-14, 1990 in Lincoln, Nebraska.

Steele also participated in a regional workshop in Kansas City September 25, 1990 concerning establishment of a National Water Quality Clearinghouse. He was a member of the panel on "Identification of Users and Their Needs." The four regional workshops on the National Clearinghouse are sponsored by the Interstate Conference on Water Policy and the U.S. Geological Survey. The last two workshops are planned for the spring at Sacramento and San Antonio.

PROPOSED ARKANSAS GROUNDWATER PROTECTION AND MANAGEMENT ACT

A key recommendation contained in the Arkansas Water Plan as adopted in 1989 deals with the problem of ground water depletion and what needs to be done in coming years to correct that situation, at the same time meet our future water needs and protect our instream uses as we seek to develop excess surface water. Projected future water needs are approximately 12.9 million acre-feet. The principal reason for projected future increase is to supply increased agriculture demands.

Our current water use is about 5.3 million acre-feet, 80 per cent of that comes from ground water and about 93 per cent of that ground water use comes from the shallow alluvial aquifer throughout eastern Arkansas. About 80 per cent of our total water use is for agricultural purposes. Arkansas is ranked 7th nationally in terms of ground water use.
Significant progress has been made toward implementation of the State Water Plan recommendations. Surface and ground water rules and regulations were adopted in late 1989 which will provide for the implementation of authority of Arkansas Soil & Water Conservation Commission (AS&WCC) to grant a water right for use of excess surface water for non-riparian purposes.

The AS&WCC is working with the Arkansas Congressional Delegation to get federal incentives to encourage on-farm development of surface water. Major water legislation is needed to provide for management and protection of our ground water. A proposal has been prepared by AS&WCC for introduction to the January 1991 Arkansas Legislative Session.

STATES CAN ENACT LAWS TOUGHER THAN FEDERAL REGULATIONS

The U. S. Environmental Protection Agency (EPA) has upheld the right of North Carolina to enact environmental laws that are tougher than federal requirements. This ruling came in a case involving GSX Chemical Services, Inc., which had asked EPA to revoke North Carolina's authority to set standards in a hazardous cleanup waste program.

In 1987, the state legislature passed a law setting discharge standards so stringent they stopped GSX from operating a large regional treatment plant near Lumberton, N. C. The plant had been expected to discharge up to 500,000 gallons a day of treated wastewater into a municipal treatment system that empties into the Lumberton River, which is the source of drinking water for that city.

EPA said states have the right to regulate toxic waste treatment within their borders so long as their decisions are based on human health and environmental concerns and do not "unreasonably" restrict the movement of wastes within their borders.

PLAN EXPLORED TO PREVENT FLOODING

When heavy rains fell in downtown Hot Springs last May, a wall of water rushed down Central Avenue because it had nowhere else to go. Hot Springs Creek flows through a tunnel under Central Avenue and when it is full, the water goes to top of the street, resulting in extensive damage to businesses and hotels.

Part of a two year study by the U. S. Army Corps of Engineers resulted in a solution to dig the creek deeper and install a dam to slow flow of water. The U. S. Senate Appropriations Committee approved $275,000 to continue the study. The proposed system would cost about $3.5 million in federal and local money.
The United States Department of the Interior, Geological Survey prepares to launch full-scale national water quality assessment program

The USDOI,GS has launched a major effort to assess the quality of our nation's groundwater and surface water and provide a sound understanding of the natural and human factors that affect the quality of these resources.

This effort, called the National Water Quality Assessment Program was initiated as a pilot program in 1986. The purpose of the pilot was to develop, test and refine methods to be used for a full-scale program. Seven pilot projects representing a diversity of hydrologic environments and water-quality conditions were used to test and develop assessment concepts.

The National Academy of Sciences' Water Science and Technology Board reviewed the pilot program in 1989, recommended that the full-scale national water quality assessment be implemented. In late 1989, NAWQA was endorsed by our President, requesting implementation and requested that Congress appropriate $18 million to begin the full program. A fully implemented program will cost about $80 million per year.

The NAWQA Program consists of two major elements:

1. 60 "study-unit" investigations encompassing about 45% of conterminous U. S. land area and 60 to 70% of the nation's water use.

2. Regional and national syntheses of study-unit investigation results. Each study unit, consisting of a stream-aquifer system encompassing thousands to tens of thousands of square miles, will undergo assessment followed by five years of less intensive investigation.

Tentative plans call for twenty studies to be initiated in FY 91, provided funding is resolved, (Budget not yet firm at time of this writing). Preliminary plans call for the Arkansas District to be the center of the Ozarks Plateaus NAWQA study, which will also include Missouri, Oklahoma and Kansas. The Ozarks Plateaus NAWQA will involve close coordination of Federal, State, Uni-

USDA'S FY 91 BUDGET PROPOSES $207.2 MILLION FOR WATER QUALITY PROGRAM

The FY 91 budget for the U.S. Department of Agriculture (USDA) earmarks $207.2 million to continue and expand water quality programs funded in FY 90 at an estimated $155 million.

Major water quality programs to be funded in FY 91 are federal and university research programs at $77 million for FY 90, which would be a $13.5 million increase over the $63.5 million planned for FY 90. Research will be expanded to examine the potential agricultural contributions to nonpoint source pollution, to improve understanding of the transport and deposit of agricultural chemicals in soil and water, also to develop less costly groundwater sampling techniques.

Technology transfer would receive $74.2 million, a $27.9 million increase over the FY 90 estimate of $46.3 million. Extension and Soil Conservation Service programs will offer education and technical assistance to producers to adapt research findings to local conditions, of the technology transfer program, $12 million would go towards improving these capabilities of the field level.

In FY 91, data collection and analysis would receive $3.5 million, $1.5 million more than FY 90. Cost-share programs with producers installing improvements would be funded at $40.2 million, $7.4 million above FY 90's $32.8 million. Operational programs under the Animal and Plant Health Inspection Service would receive $12.3 million, $1.9 million above FY 90 appropriations.

NOTES OF INTEREST

WATER OF TEN SOUTHERN CITIES RATED

A recent issue of SOUTHPOINT magazine rates the drinking water from ten southern cities in an arguably subjective survey evaluating the chemical content and taste. In both categories, Memphis was rated the best with a product called "Exemplary." Miami was rated last in the chemical analysis category and Orlando at the bottom in taste test. Other cities tested included Dallas, Birmingham, New Orleans, Atlanta, Houston, Charlotte and Richmond. None of the cities exceeded standards of the National Primary Drinking Water Regulations, although Miami's water did show a temporary level of vinyl chloride. Those cities ranking low in the chemical evaluation test generally had traces,
but legal, levels of synthetic organic chemicals. Other factors contributing to low marks in the chemical category were lead, trihalomethanes and secondary contaminants such as iron and sodium.

Water quality changes due to rainfall, drought or chemical spills were factors that many of the cities had to deal with on a daily basis. Unchanging, however, was the complexity of the water standards that each city is having to treat and the difficulty in obtaining sources of clean water. Failure to do so can cause economic disaster.

GROUNDWATER EDUCATION MATERIALS AVAILABLE

The Freshwater Foundation has produced a set of "Educational Leaflets" for public education on a variety of groundwater topics. Ten of the sixteen leaflets are now available for a nominal cost. The eight-page leaflets will be sold as a master sheet for unlimited reproduction. For more information please contact the Freshwater Foundation, 2600 Shadywood Road, Box 90, Naveerre, MN 55392, (612) 471-8407. Leaflets currently available include:

1. How Contaminants Reach Groundwater
2. Sources and Extent of Groundwater Contamination
3. The Costs of Groundwater Contamination
5. Protecting Groundwater Quality by Managing Local Land Use
6. Key Policy Choices in Groundwater Quality Management
8. Liability Issues in Groundwater Quality Protection
10. Rural Groundwater Quality Management: Emerging Issues and Public Policies for the 1990's is a special issue of the Journal of Soil & Water Conservation produced with support from the GPEP project. It contains 35 feature articles and 17 commentaries. Single copies of the publication are available for $12.00 by contacting the Soil and Water Conservation Society, 7515 N. E. Ankeny Road, Ankeny, Iowa 50021, (515) 289-2331.

RED MEANS RECLAIMED

Reclaimed water is used to irrigate turf at parks and golf courses throughout Tucson, Arizona. To make sure no reclaimed water is connected with the potable water system, Tucson Water conducts routine tests in which red dye is introduced into the reclaimed water system's point of entry. Once the dye is spraying throughout the system, city staff checks restrooms, drinking fountains and other potable components for traces of red.

VIRGINIA COUNTY COMMITS ALL OF ITS AREA TO PROTECTION ZONE FOR CHESAPEAKE BAY

A rural coastal county has achieved a milestone in water quality protection in Virginia. Northumberland County, located in the Northern Neck of the state, has decided to include all of its land in a special zoning category to protect
the Chesapeake Bay.

The county is the first to designate Chesapeake Bay Preservation Areas in the state, according to natural resources for the State of Virginia. This step, which went into effect at the end of September, provides protection to the bay, its tidal wetlands, and adjacent non-tidal wetlands. It will also significantly change the way land is subdivided and developed in the county, where waterfront development has become a major industry.

Despite having only a limited planning department, the county became the first to complete the task and is a signal to others that timely and effective measures are necessary at the local level to stem the tide of pollution.

-ZEBRA MUSSEL WATCH IS ON-

What could be big trouble for Lake Michigan recently was reeled in by a fisherman on the seawall of Kenosha's new marine. The first confirmed sighting of a eurasian mussel, or zebra mussel, is hoped to be the last in Lake Michigan, the only one of the five Great Lakes which has not been colonized by the barnacle-like foreign mussels.

The half-inch clams - the only fresh water mollusks that attach to hard surfaces - adhere to almost anything, clogging water intakes with colonies numbering in the hundreds of thousands of mussels per square yard. Lake Erie has been particularly hard-hit by the clam invasion.

The Kenosha mussel was discovered on a small piece of wood snagged by a fishing lure, which could be big trouble for Lake Michigan in the future.

-TREES TO MONITOR AIR POLLUTION-

A collaborative team of researchers has tested a new way to monitor air quality on a regional, sub-regional and site specific basis. It involves the chemical analysis of pine tree needles. The use of coniferous trees has several advantages, not only can the same tree be sampled over many years, the tree can also be sampled for several age classes of needles to further assess the interannual variability.

The technique was first tested on Scotch pine from France, Germany, Switzerland, Poland, Denmark, Sweden and Norway. The needles were analyzed for DDT, pentachlorophenol, PCBs and lindane. The high wax content of coniferous needles, particularly that of pine, seems to facilitate the adsorption of these lipophilic contaminants. Depending on the species chosen, it should be possible in the northern temperate zone, to get up a sampling grid of appropriate density to characterize the global extent of these persistent contaminants.

-National Water Resources Institute Digest-
NOAA PLANS TWO MORE SUPERFUND LAWSUITS FOR NATURAL RESOURCE MARINE AREAS

Two lawsuits over natural resource damages in marine areas are planned by the National Oceanic Atmospheric Administration under an administration initiative was announced. NOAA's general counsel stated that lawsuits were planned because negotiations with parties potentially liable for damages failed to resolve its claims. The damages were caused by release of hazardous pollutants.

NOAA is the natural resource trustee for marine areas under the Comprehensive Environmental Response, Compensation and Liability Act as amended in 1988. When marine areas are damaged by hazardous pollutants, the reproductive capabilities of fish, shellfish and other marine life typically are harmed.

NOAA has negotiated with parties for damages involving pollution that has affected twenty-four marine areas. EPA, which has jurisdiction over recovery of abandoned hazardous waste sites on land under the superfund, was part of those negotiations. Whenever EPA broadly defines superfund sites to include marine areas, NOAA will be involved in negotiations with EPA and parties thought to be responsible, was stated by a spokesman.

"THIS COMMON INHERITANCE": THE UNITED KINGDOM'S ENVIRONMENTAL STRATEGY FOR THE 1990's

Proposals that amount to "a considerable contribution towards a cleaner and greener world" are set out in the British Government's White Paper: "This Common Inheritance," outlines the United Kingdom's environmental strategy for the 1990's. It maps out the main areas of environmental concern and measures planned to be adopted by the British Government in dealing with them, along with remainder of Europe, and the world at large. More than 350 actions and proposals are contained in the White Paper, underlining our responsibility to care for our planet and hand it over in a healthy condition to future generations.

While the entire cost of this strategy is not yet fully known, substantial sums have already been committed in vital areas. A total of six billion pounds sterling has been allocated in investment programs by the electricity industry to tackle acid rain.

A further twenty-eight billion pounds is being spent on a program to improve water quality to the year 2000. By this time it is also aimed to have completely phased out the use of stone-depleting gases. A new system of integrated pollution control, the most modern in Europe, will be developed. Special attention will be given to secure compliance with air and water quality standards and tougher measures are sought to reduce unnecessary noise.

The Government aims to establish stricter measures for waste disposal and plans to commission further research into medical aspects of radiation arising from nuclear power and radioactive waste.
MEETINGS, SYMPOSIUMS, CALL FOR PAPERS, ETC.


APRIL 14–16, 1991  CALL FOR PAPERS — Abstracts of no more than 500 words should be submitted by November 29, 1990 to: Elizabeth B. Crumbley, VA Water Resources Research Center, VPI and State University, 617 No Main Street, Blacksburg, VA 24060–3397. Virginia Water Resources Conference, presented by Virginia Water Resources Research Center and Virginia Lakes Association at Richmond.

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