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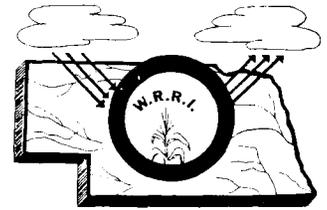
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WATER RESOURCES NEWS

NEBRASKA WATER RESOURCES RESEARCH INSTITUTE
212 AGRICULTURAL ENGINEERING BUILDING

THE UNIVERSITY OF NEBRASKA
LINCOLN, NEBRASKA 68503



Volume 2 Number 3

March 1970

NWRRI ANNOUNCES APPROVAL OF MATCHING GRANT PROPOSALS

The NWRRI is pleased to announce that three Matching Grant Proposals have been approved by the Office of Water Resources Research for inclusion in the F.Y. 1971 research program of the Institute. Project titles and principal investigators are:

- (1) "Influence of Fertilizer Practices on Water and the Quality of the Environment," by Professor Robert A. Olson, Department of Agronomy, University of Nebraska.
- (2) "Conjunctive Use of Ground and Surface Waters," by Dr. Richard S. Harnsberger, Professor of Law, University of Nebraska.
- (3) "Ecological Impact of Surface Water Impoundments in the Great Plains Area," by Dr. C. Michael Cowan, Assistant Professor of Biology, Nebraska Wesleyan University; Dr. Marvin A. Bichel, Associate Professor of Biology, Nebraska Wesleyan University; and Dr. Glen E. Dappen, Assistant Professor of Biology, Nebraska Wesleyan University.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 - LANDMARK ACHIEVEMENT

The passage of the National Environmental Policy Act of 1969 was applauded by Sen. Henry M. Jackson, Chairman of the Senate Interior and Insular Affairs Committee. Jackson claimed that its passage was one of the most important initiatives ever undertaken by the Congress, as well as a landmark achievement. This bill will set national environmental policy, and will also establish a Council on Environmental Quality to advise the President. Jackson wants to see that qualified women and younger Americans will be considered as nominees to the Council.

CHAIRMAN OF ENVIRONMENTAL QUALITY COUNCIL NAMED BY NIXON

Under Secretary of the Interior, Russell E. Train, has been named by President Nixon as Chairman of the new Council on Environmental Quality. Robert Cahn and Gordon J.F. MacDonald were also appointed as members. The Council is set up to advise the President on environmental policies.

"RIVER SYSTEM ENGINEERING" -- SUMMER SHORT COURSE

The University of Nebraska, Department of Civil Engineering and the Omaha District, Corps of Engineers are sponsoring a Summer Short Course at the University of Nebraska, August 16 to 28, 1970. The title of the program is, "River System Engineering." The staff will consist of James C. Brice, Professor of Geology, Washington University, St. Louis; James M. Malkowski, Director, Fontenelle Forest, Omaha; Ralph R. Marlette, Associate Professor of Civil Engineering, University of Nebraska; Howard E. Christian, Chief, Channel Stabilization Section; and Warren J. Mellema, Hydraulic Engineer.

Week I

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00	Geomorphology	Geomorphology	Field Trip #1	River Training	River Training
9:20	Ecology	Ecology	Bus to Blair	Sed. Transport	River Management
10:40	Sediment Transport	Sediment Transport	Boat via <u>Sgt. Floyd</u> to Platts-	River Models	River Models
13:30	Landscape Evaluation Exercise	Introduction to River Workshop & Orientation for Field Trip.	mouth, Return by Bus to Linc.	River Regime Study River Workshop	12:30--Trip to River Laboratory at Mead.
Eve:	Movie, "River for a River"	----	----	Movie, "Flow in Alluvial Channels"	----

Week II

MONDAY	TUESDAY	TIME	WEDNESDAY	THURSDAY	FRIDAY
Field Trip #2:	Field Trip #2:	8:00	River Training	Geomorphology	Program Eval.
Bus to Niobrara & Gavins Point	Boat to Sioux City, Dinner at Marina, Return to Lincoln by Bus.	9:20	Ecology	River Models	Presentation & Critique of
Dam, Dinner & Overnight near Yankton, S. Dak.		10:40	River Management	River Management	River Regulation Workshop Projects.
		13:30	River Workshop	River Workshop	
		eve:	Movie, "Delta Plan-Phase I"	'Upper Mo. River - A Proposed Scenic River.'	

PLAN TO ELIMINATE THERMAL POLLUTION -- RESULT IN NAVIGATION CHANNELS?

The Battelle Memorial Institute at its Pacific Northwest Laboratory has revealed a proposal to eliminate thermal pollution caused by power stations by creating additional navigation channels. This concept could possibly create a system of large long-distance canals to serve as elongated cooling ponds for dissipating condenser heat from large power plants and other industry users. It is possible that such a plan, could provide "a central power spine system" for redirecting population growth.

EXECUTIVE DIRECTOR APPOINTED TO WATER RESOURCES COUNCIL

The appointment of W. Don Maughan as Executive Director of the Water Resources Council, was announced by Interior Secretary Hickel on March 8. Maughan was formerly with the California Department of Water Resources.

Also serving on the Council are the Secretaries of Interior; Agriculture; Health, Education, and Welfare; Army; and Transportation and the Chairman of the Federal Power Commission. Established in 1965, the Water Resources Council has provided effective Federal leadership and coordination of Federal water planning.

ECOLOGIC ASPECTS OF WEATHER MODIFICATION

University of Michigan scientists say that weather modification will take a long time to affect plants and animals one way or another. It is suggested, however, that a close watch should be kept on the happenings when manmade weather changes occur. "Ecological Effects of Weather Modification: A Problem Analysis," may be obtained from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151, at \$2 per copy.

ASH COMMISSION REPORTS ON CIVIL WORKS FUNCTIONS OF THE CORPS

There have been reports that the President's Council on Executive Organization, headed by Roy L. Ash, will recommend that the Army Corps of Engineers' civil works functions be transferred to the Department of the Interior. The plan would need the agreement of Congress, however, and it has long opposed any change in the Corps' duties.

HAIL SUPPRESSION, NEXT MAJOR THRUST
OF THE WEATHER MODIFICATION RESEARCH PROGRAM

A National Hail Experiment staff is being assembled at the National Center for Atmospheric Research, and full-scale summer operations are expected to begin in 1972. Hail suppression is the next major thrust of the weather modification research program, according to Dr. Albert P. Crary of NSF.

USDA TO FIGHT WATER AND SOIL POLLUTION FROM ANIMAL WASTES

An admendment to the Great Plains Act has strengthened the Agriculture Department's hand in helping farmers do a bigger and better job of fighting water and soil pollution caused by animal wastes. USDA is now authorized to take a direct part in researching, as well as observing how farmers work to prevent animal wastes from fouling the nation's water resources. The new law will permit the agency to share in up to 50 percent of the cost of the control works.

MAJOR CLEAN-UP PROPOSALS MADE BY NIXON

President Nixon included water pollution control in his first legislative message to Congress for 1970. He recommended \$4 billion in grants to states and municipalities for five years for building waste treatment plants. A fund of \$6 billion would be developed by cities and states by selling bonds. This fund would be used for matching purposes. Other topics discussed by the President were: (1) Amendment of Federal-state water quality standards to impose "precise effluent requirements on all industrial and municipal sources"; (2) Violation of effluent requirements would be considered sufficient cause for court action; (3) The Secretary of the Interior would be allowed to proceed more swiftly in his enforcement actions and be given new legal weapons including subpoena and discovery power; (4) Failure to meet water quality standards or implementation schedules would be made subject to court-imposed fines of up to \$10,000 per day; (5) The Interior Secretary would be authorized to seek immediate injunctive relief in certain emergency situations; (6) Municipalities receiving Federal assistance in constructing plants would be required to impose "reasonable users' fees" on industrial users to meet the costs of treating industrial wastes; and (7) Agricultural wastes. The President also proposed that the Federal pollution control program be extended to include all navigable waters, both inter- and intra-state, all interstate ground waters, and the U.S. portion of boundary waters.

NSF TO REDIRECT ITS EFFORTS

The National Science Foundation is changing its emphasis in order to respond to the new national concerns for environmental quality and social relevance. Two major categories will be supported by NSF. First, it will continue and expand support of basic research in all of the fundamental disciplines. Second, it will reserve a modest but significant portion of its funds for projects directed to societal problems.

Among the specific items that will reflect the new directions for NSF are: (1) increased support for the social sciences, including a significant involvement in the new program, Interdisciplinary Research Relevant to Problems of Our Society; (2) re-orientation of institutional support to more strongly recognize the need for problem-oriented research; (3) initiation of lead agency responsibilities for the International Decade of Ocean Exploration, which includes both fundamental research on the natural state of the ocean and technological aspects of utilization of the marine environment; (4) commencement of lead agency responsibilities for the Arctic Research Program, including a major ecological study of the tundra; (5) increased support for student-initiated, student-managed, and student-conducted research projects; and (6) development of curricula for highly trained "technologists" at all levels from two-year colleges through masters and other intermediate degrees short of the doctorate.

USGS TO LEAD RESEARCH IN UNDERGROUND WASTE DISPOSAL

The U.S.G.S. has been directed by the Secretary of the Interior to take the lead in a research program to evaluate the effects of underground waste disposal on the nation's subsurface environment. Particular attention will be placed on ground-water supplies.

F.W.P.C.A. ADJUSTING POLICY TO REDUCE POLLUTED WATERWAYS

The Federal Water Pollution Control Administration has announced its realignment to make it more effective in cleaning up the nation's polluted waterways. An Associate Commissioner, Executive Assistant to the Commissioner, and Scientific and Technical Advisor to the Commissioner, are three new positions being created.

BIBLIOGRAPHY ON HYDROLOGY AND SEDIMENTATION

Copies of a publication entitled "Annotated Bibliography on Hydrology and Sedimentation, 1963-1965, United States and Canada," are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 at a price of \$4.50. The publication is the latest in a series of annotated bibliographies prepared by the Committee on Hydrology and Sedimentation of the Water Resources Council.

AWRA TO SPONSOR NATIONAL SYMPOSIUM ON HYDROBIOLOGY

A national symposium, entitled "Bioresources of Shallow Water Environments" is being sponsored by the American Water Resources Association. The session will be held in Miami Beach, Florida from June 24 through 27, 1970. James C. Warman of Auburn University is the general chairman for the symposium. Topics to be considered include: (1) Harvesting the Hydrosphere; (2) Conservation and Development of Bioresources; (3) Freshwater Bioresources; (4) Marine Bioresources; (5) New Methodology in Hydrobiological Investigation; and (6) Remote Sensing of Bioresources.

RESEARCH REVIEW

Project Title: "Water Quality Practices in Midland Meat Packing Plants"

Principal Investigators: Dr. Loyd R. Fisher & Dr. Maurice Baker

Dates: July 1965 to June 1969

This study of the waste treatment operations of Nebraska meat packers indicated that 60 percent of the packing plants sampled were providing at least primary treatment to waste waters before discharge. All of the plants which had been built within the last 10 years were treating wastes. Four of the plants gave more than minimal primary treatment to wastes. Three of these used lagoons and the fourth used a centrifugal separator. Reuse of water was not a general practice except that cooling water was reused in significant amounts.

Estimated waste treatment costs ranged from one cent to three cents per hundred weight of processed carcass. Total water costs including supply and treatment costs varied from slightly over one cent to slightly less than seven cents per hundred weight of processed carcass. In no case were the estimated costs of water supply and treatment in excess of two percent of the total operating costs. These findings indicate that given an available water supply, the cost of water supply and treatment will have little impact on the decision of a packer to locate or not locate in a particular area.

The lowest cost lagoon appeared to be doing the best job of treating the wastes. One possible explanation for the low cost may be economies of size as the plant with the lowest water treatment costs also slaughtered the most livestock. Other factors such as land costs, source of water and handling of waste water prior to entering the lagoon affected costs.

NEW PUBLICATIONS RECEIVED BY THE INSTITUTE

- 1) "A Water Monitoring System for Pesticides in North Carolina, by T.J. Sheets, M.D. Jackson and L.D. Phelps, University of North Carolina, January 1970.
- 2) "Pollution Abatement by More Effective Lignin Utilization: Grafting to Lignin and Lignin-Containing Pulps," by R.B. Phillips, A.J. Kobayashi, W. Brown and V.T. Stannett, University of North Carolina, January 1970.
- 3) "Proceedings Workshop on Water and Sewer Charges as Related to Water Use and Waste Control," Quail Roost Conference Center, University of North Carolina, October 1969.
- 4) "Solution Geochemistry of the Water of Limestone Terrains," by J. Thrailkill, University of Kentucky, 1970.
- 5) "Removal of Selected Contaminants from Water by Sorption of Coal," by P.H. King, F.R. McNeice and P.S. Warren, Virginia Polytechnic Institute, November 1969.
- 6) "Feasibility Study of Electrical Geophysical Methods in the Determination of Subsurface Hydrogeologic Environments in the Piedmont Area of South Carolina," by T.L. Drake, Clemson University, July 1969.
- 7) "Interaction of Pesticide Pollutants and Aquatic Food-Chain Organisms," by J.K. Reed, Clemson University, November 1969.
- 8) "Hydrogeology of the Rio Grande Valley and Adjacent Intermontane Areas of Southern New Mexico," by W.E. King, J.W. Hawley A.M. Taylor and R.P. Wilson, New Mexico State University, June 1969.
- 9) "Design and Cost of Liquid-Waste Disposal Systems," by C.D. Haynes and D.M. rubbs, University of Alabama, December 1969.
- 10) "Determination and Prediction of Water Use and Dry Matter Production for Bromegrass Under Varying Levels of Soil Moisture Stress," by W.F. Fisher, M.S. thesis, University of Nebraska, January 1970.
- 11) "Water Quality and Value of Homesites on the Rockaway River, N.J.," by J. Beyer, Rutgers State University, December 1969.
- 12) "Effects of Thermal and Other Forms of Pollution on Some Anadronous Fishes," by M.E. Chittenden, Jr. and J.R. Westman, Rutgers State University, January 1970.
- 13) "Research Report, 1967-1969," University of New South Wales, Australia, November 1969.

NEWSLETTER ITEMS

Newsletter items and inquiries should be sent to: Dr. Warren Viessman, Jr., Director, N.W.R.R.I., 212 Agricultural Engineering Building, East Campus, Lincoln, Nebraska 68503.