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WATER RESOURCES NEWS

NEBRASKA WATER RESOURCES RESEARCH INSTITUTE
212 AGRICULTURAL ENGINEERING BUILDING

THE UNIVERSITY OF NEBRASKA
LINCOLN, NEBRASKA 68503

Volume 5 Number 4 April 1973

FROM THE DESK OF THE DIRECTOR . . .

NEBRASKA AND THE NATIONAL WATER COMMISSION REPORT

The National Water Commission grew out of controversy over water resource development in the Colorado River Basin. Because fundamental questions about future policy were raised, the Bureau of the Budget (now OMB) recommended an intensive review of water resource development problems and opportunities. This was consummated by the National Water Commission Act of 1968 which created a Commission to assess present and anticipated national water resource problems, consider economic and social impacts of water resource development and advise on specific water resource matters referred to it by the President and Water Resources Council. The draft report of the National Water Commission was published in November 1972.

Nebraskans must recognize the implications of the Commission report and prepare alternatives for development under a changing national philosophy. There is no reason why Nebraska cannot continue to develop its water resources, but careful planning, more efficient management, modernization of regulatory institutions, expanded research, and a better understanding of the relationship of water use practices to the environment must complement such actions.

Nebraska has been forward-looking in the use and development of its water resources but new approaches to problem solving and a state-wide cooperative effort to guarantee the integrity of these will be needed. Recommendations of the Commission report can serve as useful guidelines. If Nebraska is prudent and understands the implications of its decisions, it will be difficult for anyone to challenge them.

Every effort must be made to assure that future development of Nebraska's water resources is based on hard facts. It is unlikely that Commission projections of irrigated acreages in the year 2000 will be realized, but if Nebraska's waters are to be wisely exploited, it will be necessary to focus more sharply on questions of efficiency, management and environmental quality. Nebraska will have to develop a game plan to permit reasoned water resources development within a changing national policy framework.

REGIONAL

SUMMER INSTITUTES ANNOUNCED AT THE UNIVERSITY OF NEBRASKA

Two one-week Summer Institutes for practicing professionals and academicians have been announced for the summer of 1973 at the University of Nebraska. The first Institute will be held from July 16-20 and will be entitled "Planning and Management of Urban-Metropolitan Water Systems." Topics to be discussed include urban hydrology, quantity and quality modeling, water supply, waste disposal, regional management of urban and industrial wastes, recycling and reuse and land disposal techniques. In addition, discussions on use of optimization techniques as tools for urban water planning and management will be included.

The second Institute will be held from July 23-27 and is entitled "Multiple Objective Water Resources Planning Techniques." Included in this Institute will be discussions of topics such as goals related to water resources, impact of water resources activities on quality of life aspects, the nature of ecologic systems, dynamic considerations in environmental assessments, techniques for determining environmental impact and the multiple objective planning process.

Further information on these Institutes may be obtained by writing Dr. Warren Viessman, Jr., Director, Nebraska Water Resources Research Institute, 212 Agricultural Engineering Building, University of Nebraska, Lincoln, Nebraska 68503. Complete announcements are available, including course outlines and fees.

INTERDISCIPLINARY WATER RESOURCES SEMINAR

This year's Water Resources Seminar theme is "Regional Planning for Natural Resources with Special Emphasis on the Missouri River Basin." The seminar is held every Monday at 4:00 p.m. in Room 206 Ag. Engineering on the East Campus. All interested persons are welcome to attend.

The final seminar topic and speaker will be:

DATE	TOPIC	SPEAKER
May 7	Comprehensive Planning Models	J. Ernest Flack Dept. of Environmental & Civil Engr. University of Colorado

ADVISORY COMMITTEE CHAIRMAN ELECTED

Hal L. Schroeder has been elected chairman of the Water Resources Research Institute Advisory Committee at a meeting held March 30. Dayle Williamson was elected vice-chairman. They will both serve a term of two years. Mr. Schroeder is the General Manager of the Lower Platte South Natural Resources District and has served on the Advisory Committee since its inception in 1971. Dayle Williamson is Executive Secretary of the Nebraska Natural Resources Commission and was also one of the initial members of the Committee.

ANOTHER SEWAGE TREATMENT FUND DELAY ! ! !

James Higgins, State Environmental Control Director, told the Environmental Control Council that the $7.4 million allotted to Nebraska by the Administration may not be available until late summer--too late for the construction season.

Higgins said "This could work a real hardship on some communities which are badly in need of aid."

The Environmental Protection Agency is not a part of the allotment delay. Fund appropriation has been hindered by the Office of Management and Budget.

NATURAL RESOURCE DISTRICTS CALLED LANDMARK LEGISLATION

A Nebraska native, now a top Bureau of Reclamation official has hailed his home state's natural resource districts (NRD's) as "landmark legislation" which could vastly influence future reclamation development.

Warren Fairchild, former executive secretary of the Nebraska Soil and Water Conservation Commission, made the comment in a speech read in his absence at the 33rd annual meeting of the Republican Valley Conservation Association held April 6.

Now Assistant Commissioner of the Bureau, formerly of Jefferson County, Fairchild canceled a personal banquet appearance because of a foreign assignment. The remarks were delivered for him by Daniel McCarthy, the Bureau's chief of planning.

Suggesting the new NRD's are vehicles for revenue sharing, Fairchild said state and local water officials need to "be bold in their financial presentations." They will compete with a $6 billion backlog of proposals.

"The state development fund being considered in Nebraska has been a valuable tool in other states," he noted. "When water officials from Texas come to Washington and say they have half a billion dollars to cost share on water projects, we listen."

Fairchild also criticized the National Water Commission's recent water policy report for being inflexible. He proposed broadening it to give greater recognition to "social and environmental factors and regional and local goals."

For example, he cited one of its conclusions--that there is no longer a need for federally subsidized agricultural water development. He said the study was based only on one model study and failed to take several factors into account.

Noting that the Bureau now takes a "broader needs-oriented approach" to planning, he said he hopes some projects of marginal economic feasibility may be reconsidered. He specifically mentioned three projects in the Kansas River Basin: The Kanapolis and Little Blue feasibility reports and the Frenchman Valley appraisal.

"It is our plan to complete reanalysis on both the Little Blue and Kanopolis projects during fiscal 1974," he said.

Fairchild also announced a report, soon to be released, will declare the Oberlin unit economically unfeasible. The Kansas study is closely related to intermittent flooding and drought problems in the Sappa Creek Watershed.

Unless national policy changes so agricultural production might be stimulated, he continued, irrigation and other water projects will have difficulty getting funded.

NATIONAL

WATER RESOURCES COUNCIL DIRECTOR RESIGNS

Director of the Water Resources Council, W. Donald Maughan, resigned April 1 to return to California as a member of the State Water Resources Control Board.

Because no successor has been named, Deputy Director Reuben J. Johnson is Acting Director.

In his last appearance before the House Public Works Appropriations Subcommittee, Maughan was given praise from both the Democratic and Republican members of the panel for his work on the Council.

WETLANDS PRESERVATION POLICY

EPA Administrator Wm. D. Ruckelshaus said the Environmental Protection Agency will soon publish its policy regarding preservation of the nation's wetlands.

The new policy, to be published in the Federal Register, will include denial of federal grants for municipal waste treatment plants that might interfere with the existing wetland ecosystem except where no less damaging alternative is found to be feasible. The general policy will be to minimize any changes in the quantity or quality of natural water in wetlands and to protect such areas against dredging, filling, siltation, pesticides and other pollutants to the extent of EPA's current authority.

The new guidelines will also recommend a public hearing when projected actions threaten an adverse environmental impact on wetlands.

CONGRESS CRITICIZES BUREAU OF RECLAMATION

Congressional criticism is increasing over the Bureau of Reclamation's shift from emphasis on irrigation to providing water for municipal and industrial uses.

Representative Joe L. Evans, D-Tenn., Chairman of the Public Works Subcommittee, told Acting Reclamation Commissioner G. C. Stamm that the Reclamation Act of 1902 puts the emphasis on irrigation. If Burec wants to shift the emphasis to municipal and industrial water, it should request that Congress alter the law.

Last fall former Commissioner, Ellis L. Armstrong, said that meeting municipal and industrial water needs "now has the highest priority" in Burec programs.

WEST VIRGINIA DAM COLLAPSE STUDY

A report on the collapse of a coal waste dam in West Virginia that caused 118 deaths is now available to the public.

The dam, one of three built on the Middle Fork of Buffalo Creek, "was not in conformance with current practices of the civil engineering profession."

The U. S. Bureau of Mines says copies of the report, "Analysis of Coal Refuse Dam Failure, Middle Fork, Buffalo Creek, Saunders, West Virginia," in two volumes (Nos. PB 215142 and PB 215143) will soon be available in microfiche for 95 cents per volume from the National Technical Information Service, Springfield, Virginia, 22151. Bound volumes will be available for $6.75 for Volume I and $6.00 for Volume II.

DRINKING WATER STANDARDS

Congress has been urged to establish national drinking water standards, leaving the enforcement to the states rather than the federal government.

Under President Nixon's Safe Drinking Water Act of 1973, the Environmental Protection Agency's administrator would establish the primary drinking water standards as a federal responsibility. He could also recommend national secondary standards for optional adoption by state and local governments.

The Administration bill requires the supplier of drinking water to notify users, state agencies and EPA whenever water quality does not meet the standards. Deputy Administrator, Robert W. Fri, stated that "This provision, coupled with a citizen suit provision will, we believe, make enforcement actions by regulatory agencies largely unecessary." In the case of an imminent health hazard, EPA could bring immediate enforcement action.

A national survey conducted in 1970 and subsequent studies made in Kentucky, Ohio and Wyoming have shown that many drinking water systems are inadequate and that at least 8 million people are drinking water that is hazardous to their health.

EXPRO '73

Research priorities and fund allocations for research grants and contracts during FY 1973 are presented in the new Environmental Protection Agency publication--EXPRO '1973. It includes guidelines for the submission of proposals and gives names, addresses and telephone numbers of program element managers and directors with whom research interests should be discussed.

A copy of this report is available on loan from the Nebraska Water Resources Research Institute. (472-3307) Potential investigators should give this careful attention.

COMBINED SEWERS PROBLEM

Examiners for the General Accounting Office have concluded that sewers which carry both sewage and storm runoff are a major pollution problem and neither federal nor state pollution control agencies are doing much about it.

The principal reason for the lack of emphasis on this problem is the high cost of abating pollution by combined sewers.

GAO said that the HUD and Commerce Departments require municipalities to construct separate storm and sanitary sewers as a condition for federal financing. GAO said this is not always the best answer because storm water is seldom treated and can be a chief source of pollution.

Considerations for alternative solutions include storage of excess flows for later treatment, system control devices to re-route excess flows to use the maximum capacity of sewer systems, and treatment of combined sewer flows without storage.

A report entitled "Need to Control Discharges from Sewers Carrying Both Sewage and Storm Runoff" was based on studies in California, Connecticut, Illinois, Indiana, Massachusetts and Rhode Island.

EPA ISSUES NEW APPLICATION FORM FOR SUBMISSION OF GRANT PROGRAMS

The Environmental Protection Agency (EPA) has a new form for grant applications, EPA form 5700-12A (9-72). This form is to be used when applying for any EPA project grant program; e.g., research, development, demonstration, or training.

Application kits may be obtained from:

Grants Administration Division
Grants Information Branch
Environmental Protection Agency
Washington, D. C. 20460

EPA state and local assistance application kits are available at EPA regional offices. Additional information is available from the Nebraska Water Resources Research Institute, 472-3307.

SYMPOSIUM ON WASTEWATER EFFLUENT LIMITS

The University of Michigan announces a "Symposium on Wastewater Effluent Limits" to be held on the Campus in Ann Arbor, Michigan from July 18 through July 20, 1973. The Federal Water Pollution Control Act Amendments of 1972 include significant requirements in this area. The program is being designed to consider material of interest to water pollution scientists and administrators connected with both government and industry, water economists, and attorneys. The symposium is sponsored by the Environmental Engineering Division, American Society of Civil Engineers and the University of Michigan and is co-sponsored by the Water Pollution Control Federation, the Association of State and Interstate Water Pollution Control Administrators, the American Public Health Association, and the National Sanitation Foundation. For further information contact Professor John J. Gannon, School of Public Health, The University of Michigan, Ann Arbor, Michigan 48104.

RESEARCH REVIEW

TITLE: Disposal of Cattle Feedlot Runoff on Agricultural Land

PRINCIPAL INVESTIGATOR: Dr. Howard Wittmuss

Feedlots for finishing out livestock have undergone a rapid transition from 100 head farm-feedlot systems to commercial operations enclosing 25,000 to 50,000 animals within the space of a few acres.

The principal objective is to determine the maximum sustained level of cattle feedlot runoff which can be applied to cropped land without pollution of soil, surface water or groundwater.

Cattle feedlot runoff (effluent) available from a 1,800 head feedlot is being applied by sprinkler to corn planted in grass sod. The effluent is applied during the growing season at rates varying from 1/2 to 3 inches every two weeks for ten applications a year. All effluent will be contained on the land surface to prevent contamination of the runoff water. Water samples are being extracted from the seven-foot depth to determine quality of the percolate water contributed to the groundwater.

Effluent and percolate samples from each run are being analyzed for COD, electrical conductivity, pH, total nitrogen,

NH_4, NO_3, total phosphorus, sodium potassium, calcium, chloride and sulphate. Crop forage is being harvested annually to determine total dry matter production and nitrogen and phosphorus removal. Soil from the effluent application areas will be sampled to four-foot depth annually and analyzed chemically to determine any changes in soil characteristics.

PUBLICATIONS

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3. Economic Benefits from an Improvement in Water Quality, S. D. Reiling, K. C. Gibbs, H. H. Stoevener, for EPA, January 1973.

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5. Pilot Plant for Tertiary Treatment of Wastewater with Ozone, C. S. Wynn, B. S. Kirk, R. McNabney, for EPA, January 1973.

6. Chemical and Sediment Movement from Agricultural Land Into Lake Erie, G. O. Schwab, E. O. Mclean, U.S. Dept. of Interior, Water Resources Center, Ohio State Univ., 1972.

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8. Microstraining and Disinfection of Combined Sewer Over-Flows--Phase II, G. E. Glover, G. R. Herbert, for EPA January 1973.

9. Combined Sewer Overflow Study for the Hudson River Conference, A. I. Mytelka, L. P. Cagliostro, D. J. Deutsch, C. A. Haupt, for EPA, January 1973.

10. Pollution Loads in Percolate Water from Surface Spread Swine Wastes, H. L. Brodie, University of Maryland, Water Resources Research Center, October 1972.

11. An Investigation of Hydrological Aspects of Water Harvesting, O. Wilke, J. Runkles, C. Wendt, Texas Water Resources, Texas A&M University, September 1972.

12. Economic, Political, and Legal Aspects of Colorado Water Law, G. E. Radosevich, K. C. Nobe, R. L. Meek, J. E. Flack, Colorado State University, February 1973.

13. A Multistructured Population Forecasting Model, G. W. Reid, H. K. Bollinger, Oklahoma Economic Development Foundation, Inc., August 1969.

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17. Potamac River Basin Water Supply--An Interim Report, Northeastern United States Water Supply Study, U. S. Army Engineer District, Baltimore, North Atlantic Division, March 1973.

18. Techniques of Water-Resources Investigations of the United States Geological Survey, Low-Flow Investigations, H. C. Riggs, 1972.

19. Geothermal Water and Power Resource Explorations and Development for Idaho, C. R. Nichols, C. E. Brockway, D. C. Warnick, Water Resource Research Institute, Univ. of Idaho, December 1972.

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21. National Conference on Urban Water Research, Office of Water Resources Research, U.S. Dept. of Interior, March 17-19, 1970, Georgia Institute of Technology.

22. Water Resources Notes, Clark Judy, Natural Resources Institute, Ball State University, 1973.

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24. Water Resources Management in Delaware, F. Tannian, G. A. Loessner, W. Habacivch, Water Resources Center, University of Delaware, 1972.

25. A Technique for Evaluating Algal Growth Potential in Illinois Surface Waters, Wun-Cheng Wang, W. T. Sullivan, R. L. Evans, Illinois State Water-Survey, 1973.

26. Practical Considerations for Assessing the Waste Assimilative Capacity of Illinois Streams, T. A. Butts, V. Kothandaraman, R. L. Evans, Illinois State Water Survey, 1973.

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30. Water Resources Review for Streamflow and Groundwater Conditions, U.S. Dept. of the Interior, Geological Survey, February 1973.

31. Streamflow Data Usage in Wyoming, V. E. Smith, University of Wyoming, February 1973.

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33. Kraft Pulping Effluent Treatment and Refuse-State of the Art, W. G. Timpe, E. Lang, R. L. Miller, for EPA, February 1973.

34. Recommended Methods for Water-Data Acquisition, Preliminary Report of the Federal Interagency Work Group on Designation of Standards for Water Data Acquisition, Impaneled by the U.S. Dept. of the Interior, Geological Survey, Office of Water Data Coordination.

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36. Proceedings of a Seminar on Hydrologic Aspects of Project Planning, The Hydrologic Engineering Center, Army Corps of Engineers, March 7-9, 1972.

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INQUIRIES

Newsletter items and inquiries should be sent to Dr. Warren Viessman, Jr., Director, Nebraska Water Resources Research Institute, 212 Ag. Engineering Bldg., East Campus, Lincoln, Nebraska 68503 (402) 472-3307.