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MARCH SEMINAR PLANNED

The Nebraska Water Resources Research Institute (NWRRI) is planning a two-day Seminar, entitled "Water Resources Planning and Public Opinion", to be held March 8-9, 1971 at the Nebraska Center for Continuing Education. The fee for the program will be $35 per person.

The objective of this conference is to acquaint water resources planners, managers, developers, researchers, and educators with public opinion. The conference will deal with such basic questions as: What is public opinion? How can planners assess it? In what ways can the planner take advantage of existing opinion? How can public opinion be shifted in favor of the planners' innovation? The answers to these questions will help planners to obtain the advice of persons who will be affected by public planning, and the consent of those who must pay for it.

The Conference is designed for persons involved in water resources planning, research, management development, and education. Participants will include public works directors, officials from local municipalities and counties, irrigation district administrators, water resource consultants, educators and researchers as well as those whose job title includes the word "planner". Attendance will be limited to maximize opportunities for significant interchange between experts and participants.

Staff includes:
Dr. Norman R. Luttbeg, Associate Professor of Political Science, Florida State University
Dr. Donald F. Smith, Associate Professor of Sociology, Florida State University
Dr. David Allee, Associate Director, Water Resources Center, Cornell University
Dr. Nicholas Babchuk, Professor of Sociology, University of Nebraska
Mr. Hal Schroeder, Manager, Salt Valley Watershed, Lincoln, Nebraska
Dr. Loyd K. Fischer, Professor of Agricultural Economics, University of Nebraska
Dr. Carroll R. McKibbin, Professor of Political Science, University of Nebraska
Mr. Edgar A. Imhoff, Director, Water Resources Center, University of Maine

Excellent accommodations are available in the Nebraska Center where the conference will be held. All rooms are air-conditioned and hotel services are available.
Program for the Seminar follows:

March 8

9:30 Welcome and Introductions
10:00 "Public Opinion Primer" - What is public opinion? What public is relevant to water resources planning? How do they make up their mind? - Dr. Norman Luttbeg
12:00 Lunch
1:00 Panel I "Translating Theory Into Action"
   Panelists: Mr. Hal Schroeder - Water Resources Manager; Dr. Nicholas Babchuk - Sociologist; Dr. David J. Allee - Economist
3:00 Small Group Discussion I
   "Application to Specific Water Resource Problems"
   Groups organized around occupations of participants
4:30 Report by Group Leaders
7:00 Banquet and Address - Economic Research Within the P.L. 88-379 Program - Dr. H. Garland Hershey, Director, Office of Water Resources Research, Dept. of Interior

March 9

8:30 "Changing Public Opinion; Problems and Prospects"
   Dr. Donald F. Smith
10:20 Panel II "Translating Theory Into Action"
   Panelists: Dr. Loyd K. Fischer - Agricultural Economist; Dr. Carroll R. McKibbin - Political Scientist; Mr. Edgar A. Imhoff - Water Resources Planner
12:00 Lunch
1:00 Small Group Discussion II
   "Application to Specific Water Resource Problems"
2:30 Report by Group Leaders

GROUNDWATER SEMINAR

The annual Groundwater Seminar, conducted by the Conservation and Survey Division, University of Nebraska, will be held January 19, 20, 1971, at the Nebraska Center for Continuing Education, Lincoln, Nebraska.

The following topics will be presented: (1) Water, Nebraska's Heritage--the first of a series of four new films produced by the University of Nebraska on Nebraska's Water; (2) Water Supply, Availability and Use; (3) A Critical Look at Well Design, Construction, and Development; (4) Rural Water Supply and other Aid programs of the Farmers Home Administration; (5) Federal Water Quality Programs; (6) Water Quality and Manufactured Milk; (7) Pitless Adapters, Well Seals, and Sanitary Distribution Systems.

A "Ground Water Expert Workshop" will be presented by the Ground Water Resources Institute on Tuesday, January 19. The Workshop topics are as follows: (1) Introduction: Why becoming the water expert in your community makes business sense; (2) Working with Customers; (3) Working with Civic and Conservation Groups; (4) Working with School Groups; (5) Working with Newspapers and Radio-TV; (6) Conclusion

SUMMER SHORT COURSE PLANNED

The University of Nebraska, Department of Civil Engineering and the Omaha District, Corps of Engineers will sponsor a summer
short course this summer. The program, entitled "Rivers Systems-Planning & Environmental Aspects", will be held June 21-July 2, 1971 at the University of Nebraska. The fee for the program will be $300 per person, which includes all cost for the river field trips.

Planning concepts from engineering, ecology and geomorphology will be used by participants to prepare a preliminary plan for river regulation. Theory and recent developments in the fields of sediment transport, channel stabilization, movable bed models, and river management will be applied to a team solution of a river problem.

Following presentation of basic theory, two days will be spent in the field to study river problems downstream from the Lewis and Clark Reservoir. An inspection of the river will be made by boat of the meandering channels above Sioux City. This trip will give the participants "real" sightings of the river environment and an appreciation of the problems of planning river developments.

The course will conclude with work on large river models inspection of the navigation channel structures and development through the Omaha area, and a presentation and critique of the workshop projects.

Participants will include ecologists, engineers, geologists, planners, and other professionals engaged in the planning, design, and operation of river controls, reservoirs, and related hydraulic systems and teachers in these fields.

Several river authorities will augment the staff from the 1970 course and will include:

James C. Brice, Professor of Geology, Washington, University, St. Louis

James M. Malkowski, Director, Fontenelle Forest, Omaha
Corps of Engineers: Coordinator of Staff and Field Trips - Howard E. Christian, Chief, Channel Stabilization Section; Warren J. Mellema, Hydraulic Engineer.

For additional information, please write to:
Professor R. R. Marlette
Department of Civil Eng.
University of Nebraska
Lincoln, NE 68508

BOY SCOUT GUIDES

Anyone wanting a Boy Scout Leader's Guide, entitled "Water Pollution and Its Control" may do so by writing one of the following addresses:

Carl Chloupek
P. H. C. .
U.S. Department of the Interior
225 North Cotner Blvd.
Lincoln, NE 68505

Dr. Warren Viessman, Jr.
Director
Water Resources Institute
University of Nebraska
212 Ag. Engineering
Lincoln, NE 68503

Tawena S. Taylor
Information Specialist for Youth
U.S. Dept. of Interior
F.W.Q.A.
911 Walnut Street, Rm. 702
Kansas City, MO 64106

BENEFICIAL EFFECTS OF AIR POLLUTION ABATEMENT

Two Pittsburgh economists, Dr. Lester B. Lave and Eugene P. Seskin of the Carnegie-Mellon School of Industrial Administration, recently compiled statistics indicating that
if air pollution were cut by 50 percent in major cities: (a) deaths from lung cancer and in fact all lung disease would be cut by 25 percent; (b) a new-born baby would have an additional 3-5 years life expectancy; (c) death and disease from heart and blood vessel disorders might be cut by 10-15 percent; (d) all diseases and deaths would be reduced by 4-5 percent yearly, and the annual saving to the nation would be at least \$2 million.

"We can put it more simply," said Lave in an interview with the Washington Post. "For the average middle-class American family living in an urban area, abating air pollution is the single most important thing we could do to improve health. If we could reduce air pollution by 50 percent, it would save nearly as much in money and life as if we found a complete cure for cancer."

**ENGINEERING CRITERIA FOR ANIMAL WASTE TREATMENT LAGOONS IN NORTH CAROLINA**

Tentative guidelines for the design of animal waste treatment lagoons in North Carolina have recently been released by the State Department of Water & Air Resources. These guidelines are subject to revision and refinement based upon findings of research now in progress.

No lagoons will be approved for direct discharge of effluent into streams unless approved by the Department, designed by a registered engineer, and a State permit received prior to layout and construction.

Copies of the criteria can be requested from Mr. D. L. Coburn, Chief, Water Quality Division, N.C. Department of Water and Air Resources, P.O. Box 27048, Raleigh, N.C. 27611.

**DEPARTMENT OF THE INTERIOR ORGANIZATIONAL ALIGNMENTS AFFECTING O'NRR**

Pursuant to the Secretary of Interior's directive of November 25, 1970, O'NRR and O'SW now have been placed under the general supervision of Mr. James M. Smith, Assistant Secretary for Water and Power Development. In addition to O'NRR and O'SW, Assistant Secretary Smith has within his organizational purview the Bureau of Reclamation, the Bonneville, Southeastern, Southwestern, and Alaska Power Administrations, and the Defense Electric Power Administration. Mr. Smith's office also provides staff services to the Secretary of the Interior relating to the Secretary's responsibilities as Chairman of the Water Resources Council.

**PHOSPHATE DETERGENTS BANNED IN CHICAGO**

Chicago will be the first city in the United States to ban the sale of detergents containing phosphates. Effective June 30, 1972, no detergents containing phosphates may be sold within the City for any purpose. Less restrictive controls will apply during the interim period.

Among the detergent manufacturer Sears, Roebuck & Company (2% of
market) is now marketing a phosphate-free product. Procter and Gamble is planning the complete elimination of phosphates from laundry detergents within the next few years.

WATER RESOURCES LEGISLATION IN THE CONGRESS

Bills Introduced:

H.R. 19621 To create the Office of Water Disposal Research and Development in the Department of the Interior.

H.R. 19665 To amend the Small Business Act to encourage the development and utilization of new and improved methods of waste disposal and pollution control; to assist small business concerns to effect conversions required to meet Federal or State pollution control standards, and for other purposes.

H.R. 19721 To require Federal contractors to comply with air and water pollution control regulations.

H.R. 19763 To amend the Act of August 3, 1969 to protect the ecology of estuarine areas by regulating dumping of waste materials, to authorize the establishment of a system of marine sanctuaries, and for other purposes.

NSF FUNDS CURRICULUM PROJECT TO AID FIGHT AGAINST WATER POLLUTION

To aid the fight against water pollution, the National Science Foundation has funded a pioneering curriculum to train technicians to examine the complex physical, chemical, and biological factors encountered in estuary environments.

The grant, totaling $76,550, was made to Charles County Community College, La Plata, Maryland.

The college expects 25 students to enter the program in the fall of 1971. With the completion of the two-year program, students will be awarded an associate of arts degree in estuarine resource technology and will be competent to perform advanced level sampling and analyses.

The grant by NSF was awarded initially for a period of one year to fund curriculum development. The Foundation intends, however, to continue support of the project for two additional years, through the first graduating class. With the completion of the three-year pilot project, the estuarine resource technology program at Charles County Community College will be self-sustaining.

Students in the program will take such courses as water chemistry, wastewater treatment, ecology, hydrology, fisheries, limnology, and data processing. The inter-disciplinary project is under the direction of Professor Belva Jensen, chairman of the Department of Biology.

Charles County Community College reports that it is the only junior college in the country offering an associate arts degree in pollution abatement technology. It has laboratories, a treatment plant, and other training facilities located on campus. The estuarine technology project builds on the pollution abatement program.

Charles County Community College is located 34 miles south of
Columbia near the Potomac River. The county is surrounded by waterways on three sides.

**RUCKELSHAUS NAMED EPA HEAD**

William D. Ruckelshaus was recently nominated as Administrator of the Environmental Protection Agency (EPA). Mr. Ruckelshaus was Assistant Attorney General, Civil Division, Department of Justice.

EPA brings together in a single organization major federal pollution control programs now existing in four separate agencies and one interagency council.

Mr. Ruckelshaus indicated that he was withholding filling the new agency's key positions until after his formal confirmation.

**RECYCLED WASTEWATER USED AT LATEX PLANT**

A latex plant at Dalton, Ga., comes close to achieving what industrialists, regulatory officials, and politicians have increasingly urged--complete recycling of wastewater.

The plant normally circulates all its process, wash, and cooling wastewater through coagulation pits, where alum coagulates latex. Then the flow goes through a straw-filter system to a give-acre lagoon. The plant recirculates roughly 1 mgd through the lagoon.

The plant manager of Dow Chemical says that when the system was first installed 3 years ago, a constant small overflow was expected. However, overflow has occurred only during heavy rain, and this has provided adequate purge to eliminate the need for scheduled blow-down. In addition to providing recirculating waters, the pond serves as a fire emergency reservoir.

**RESEARCH REVIEW**

Project Title: Conjunctive Use of Ground and Surface Waters

Principal Investigator: Dr. Richard S. Warnscherger

Dates: July, 1970 to June 1972

More often than not, water resource development schemes have been categorized as to the primary nature of the source to be tapped, that is, surface water or ground water, with little thought given to the exceedingly important interrelationship existing between the two components. This has been unfortunate and such an artificial separation has been one of the primary reasons why we are faced today with many complex issues involving the legal right to the use of our subsurface waters. Fortunately, the opportunity to consider the conjunctive development of many regional surface and groundwaters still exists. As a result, a clear need for research into the functioning and management of joint systems is apparent. This study is designed to explore alternative methods for achieving a balance between ground and surface water use within an existing legal framework. When new legislation would appear needed to resolve difficulties, appropriate recommendations toward that end would also be devised.

The optimal development of many regional water resources can be obtained only if there is an effective
coordinated development of ground water and surface water supplies. Research such as that proposed herein is therefore of national significance.

NEW PUBLICATIONS RECEIVED BY INSTITUTE - DECEMBER

21. "Evaluation, By Test Drilling, Of Geophysical Methods Used for Ground-Water Development In the Piedmont Area, Alabama",


34. "Artificial Mixing of Stratified Fluids Formed by Salt and Heat in a Laboratory Reservoir", L. M. Prusch, Jr., Rutgers-The State University, September 1970.


42. "Inventory of Active Water Resources Research Projects in North Carolina", North Carolina State University, University of North Carolina, July 1, 1970.

SEMINAR MONDAY NIGHT

The University of Nebraska, Department of Civil Engineering, will sponsor a one-day ground water seminar in January. The program, entitled "Role of Ground Water in Nebraska's State Water Plan", will be held Monday, January 11, 1971 at 7:30 in Stout Hall, Room 205, University of Nebraska.

Gerald F. Briggs, Vice President-Chief Engineer, Johnson Division, UOP, of St. Paul, Minnesota will be the speaker. He received Honorary Doctor of Science from University of Nebraska in January 1970.

For further information contact: Ralph R. Marlette, 206 Stout Hall, Phone 472-2371.

PROGRAM FOR THE 1971 INTERDISCIPLINARY SEMINAR ON WATER RESOURCES

The Interdisciplinary Water Resources Seminar will again be offered during the 1971 Semester. The success of the past three
Seminars and current inquiries motivated this decision. The average attendance at past Seminars was 50 persons, an indication of the desirability of inter-departmental cooperation and the need for a Water Resources Seminar. The intent of this Seminar is to bring together upper classmen, graduate students, professional persons, faculty, and others interested in water topics.

The general theme will be the impact of various forms of water resources development on the ecosystem. General topics are outlined below.

To receive credit, students may enroll under their own departmental Seminar or special problems numbers. A short paper will be required.

The Seminar is scheduled to be held from 4:00 - 5:00 p.m. on Mondays in room 115 Ferguson Hall.

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PROGRAM FOR THE 1971 INTERDISCIPLINARY WATER RESOURCES SEMINAR
WATER RESOURCES DEVELOPMENT AND THE ECOSYSTEM
4:00 p.m. Mondays, 115 Ferguson Hall

Feb. 1 Ecology and Change
Feb. 8 Ecology and Water - Historic
Feb. 15 Impact of Climatic Change
Feb. 22 Geomorphology

March 1 Man's Impact on the Ecosystem Through Water Resources Dev.
March 8 Pollution - Agricultural
March 15 Pollution - Municipal and Industrial
March 22 Eutrophication and Man
March 29 Ecologic Implication of Lakes and Reservoirs

Dr. Patricia Rand, Asst. Professor of Botany
Dr. Dale Henning, Asst. Professor of Anthropology
Dr. Merlin Lawson, Asst. Professor of Geography
Mr. Vince Dreeszen
Director, Conservation & Survey Division

Dr. George Hanna, Chairman, Civil Engineering Dept.
Dr. Gary Hergenrader, Asst. Professor of Zoology & Physiology
Panel: Dr. Mark Hammer, Assoc. Professor of Civil Engineering
Mr. John Mayne, Bureau of Reclamation Representative of the Corps of Engineers
April 5  Irrigation Systems

April 19  Recreation

The following four weeks will include new films developed about Nebraska's water resources followed by discussion:

April 26  Water -- Nebraska's Heritage
May 3    Living with Nebraska's Water
May 10   Working with Nebraska's Water
May 17   Nebraska's Water -- Its Future

For further information contact:

Warren Viessman, Jr. – Extension 3307
Director, Nebraska Water Resources Research Institute

Donald Edwards – Extension 3181
Assistant Dean of Engineering

Don Axthelm – Extension 2824
Dept. of Agricultural Engineering

"NUTS & BOLTS 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.