

WATER RESOURCES RESEARCH INSTITUTE OF THE UNIVERSITY OF NORTH CAROLINA

CONTENTS

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EDITORIAL

PRESIDENT'S WATER POLICY

Neil S. Grigg

The President's water policy released on June 6 contains no surprises. The policy review has been controversial, and there has been considerable input on the part of the states and other interest groups.

With the Congressional sidetracking of the President's energy initiative months ago, we wonder whether anything substantive will result from this new policy initiative. Some parts will be implemented immediately, such as the required additional review by the Water Resources Council of Water Projects. Other parts, which require legislative proposals, may be delayed.

One of the most promising aspects of the new water policy is its provision of additional funds to states for water resources planning. The proposal is to increase from \$3 million to \$25 million annually the funding of state water planning under a matching grant program to be

administered by the Water Resources Council. Currently the funds available to each state have been inadequate to develop good water planning programs. In spite of this, North Carolina deserves great credit for its efforts to produce the very useful water resources "framework study" developed by the Water Planning Branch of the Division of Environmental Management.

Another Presidential proposal is to provide \$25 million annually in matching grant assistance to states to implement water conservation technical assistance programs. This would also be administered by the Water Resources Council. We are not so sure about the President's proposal to create a task force of federal, state, county, city, and other local officials which could "continue to address water-related problems." This sounds like a proposal to send the problems back to the bull pen. With over 100,000 different state and local water undertakings and innumerable federal bureaus and offices involved in water management, one wonders whether any meaningful agreement could be forthcoming from such a task force.

We would like to see state and local government take a stronger hand in water management in each state. This will require developing greater expertise locally for water management and making sure that adequate funds are available for planning and implementation of state water management programs.

If the President's proposal for greatly increased water planning funds is successful, this could represent a good opportunity for North Carolina to implement an improved basin-by-basin water planning procedure. The small effort now possible through Water Resources Council funds could be stepped up to develop a comprehensive approach to the determination of water yields and the allocation of water to competing uses. By involving local decision makers in allocation plans, much of the conflict and legal problems involved in questions such as interbasin transfer could be resolved.

EDITORIAL

CONSOLIDATION OF WATER MANAGEMENT?

Neil S. Grigg

The Council for International Urban Liaison, headquartered in Washington, D.C., has just reported on the consolidation of local government in Europe. According to their newsletter, *Urban Innovation Abroad*, (April 1978), there is a decided trend in western Europe to reduce the number of local governments and to consolidate functions in the name of governmental efficiency and to deal with the many complex technical problems that face local government today.

Although the U.S. faces similar problems, there is no tendency to reduce its some 80,000 local governments anywhere in sight. In fact, there has been a recent increase in the number of special districts, which now total about 26,000. This number grew by more than 2,000 over the past five years. Most of the growth was in environment, fire, and community development districts.

We have reported before in *News* on the consolidation of water functions in England and Wales. The Water Act of 1973 consolidated all water management functions into ten regional water authorities there. Although there are still some questions to be worked out regarding the relative territories of the water authorities and local governments, this consolidation reflects the general European attitude toward consolidation of local government functions.

We would not suggest drastic consolidation of local government functions in North Carolina. This is a political question with many ramifications and has been debated for a long time. It might make sense, however, to anticipate the economies of scale which could be gained by consolidating certain regional water functions and by implementing greater state initiatives such as river basin authorities.

Where will the leadership come from? Carl Stewart, Speaker of the House, has recently proposed a statewide water authority. This approach might make sense if it were organized in a manner leading to fiscal responsibility and to full consideration of the needs of local government and rural residents. If the authority also included wastewater management functions and flood control duties, and if it could be organized so that citizens living in individual river basins made their own decisions on water allocations and on expenditures, we could go a long way toward improving the efficiency of water management. Some local governments might desire to turn over their water management duties to the statewide water authority to save the headache of daily problems. If the authority was organized so that it could assume these duties, consolidation could occur.

EDITORIAL

SELL NEW YORK'S WATER WORKS?

Neil S. Grigg

The *Wall Street Journal* of June 6 contained an editorial by Brian Cooper and Phillip Dearborn which proposes that New York could ease its fiscal dilemma by selling the Water Works. The idea is that New York owns a considerable asset in its municipal water supply utility, and that by selling these assets to an independent regional water authority, the capital value built up over the years could be realized.

The net value of the water system, calculated as the difference between the gross market value and the current debt, is approximately \$644 million. The City could receive \$1.275 billion in cash as soon as bonds could be sold. Since the water utility is relatively healthy, the bonds should have little difficulty in the market, and this cash infusion to the City could go a long way toward easing financial burdens.

There would be further advantages to the water utility itself. These would include the provision of a means to immediately undertake major improvements to the water system and the creation of the proper administrative climate to establish universal metering. Only about 23% of New York's water taps are currently metered.

The interesting feature of this *Wall Street Journal* editorial, prepared by experts in public finance, is that they have identified clear advantages to the divestiture on the part of the City of the water system. What they do not say is that it has been the good management of the water utility over the years that has built up this favorable financial position. Ultimately, it may be the water system that bails New York out of its fiscal dilemma.

We are not sure whether this information points to a net advantage of consolidating water management through regional water authorities or not. It certainly represents an interesting glimpse into the relative fiscal health of different parts of New York City government.

EDITORIAL

WELL DONE, JACK SMITH!

Neil S. Grigg

We regret the departure of H. A. "Jack" Smith as Deputy Secretary of Natural Resources and Community Development. Jack provided good leadership and held a position of trust and respect in the Department. His service on behalf of water planning was especially appreciated at a time when federal funding was not adequate. It is ironic that Congress may increase this funding some ten-fold soon after Jack leaves the program.

We wish Jack Smith the best in the future and hope that he will continue to lend his expertise to State government in water and land resources management.

LETTERS TO THE EDITOR

I have read with interest your article on "Water and Energy in North Carolina" in the June issue of the *Water Resources News*. I feel that this article is an excellent one and quite informative.

However, on the middle of page 12 is a misleading statement. This sentence reads -- "tidal power and wave generated energy may become a reality when cost-effective technology is developed."

I do not have specific information on wave power potential off our coast but I understand that the mean wave height is much too low to generate significant amounts of power.

I do know that the difference in elevation between high and low tides is much too small to make tidal power feasible in North Carolina. As an example, imagine a storage basin 60 miles long, 1 mile wide

(continued on page 4)

and 2-1/2 feet deep. Assume that this basin is full of water at time of high tide. Assume that all of this water passes through a turbine in a 6 hour period. Use a mean working height of 2 feet. The average power produced will be about 30,000 kw. This may seem to be quite a lot of power but you would need 120 of these basins (total length of 7,800 miles) to produce the same output of the nuclear plant CP&L is building south of here. Hence I cannot feel that it is even conceivable to develop cost-effective technology for tidal power in North Carolina.

Sincerely,

J. S. Doolittle
Professor Emeritus

In reply to Alfred Brafford, Town Supervisor of Hope Mills, N.C., who wrote a letter to WRII concerning his perception of opponents of Jordan Reservoir, I wish to state the following:

Flooding is already controlled (and is best controlled) by the present operation of the fully constructed Jordan Dam as an effective dry dam.

When heavy rains above the Reservoir threaten downstream users, the gates are closed and the users are protected. A full reservoir, on the other hand, has little value for flood control.

An assured, stable water supply below the Jordan Dam must be of sufficient chemical purity that it does not confer threats of cancer and birth defects along with the benefits of industrial and drinking water. While upstream industries and municipalities are attempting to comply with effluent standards set by EPA, many are behind schedule and have asked for extension of time to meet safe levels of many dangerous chemicals.

If safe water quality is a misplaced priority then most of the public health laws share the problem.

Sincerely,

David H. Martin, President
Conservation Council of North Carolina

SESSION ON CHANNELIZATION RESEARCH AUGUST 10

Results of several completed research projects and a report on some new ones will be part of the program on the effects of stream channelization and nutrient cycling in floodplain swamps. The program is to be held on August 10 at the Ramada Inn on U.S. Highway 1, south of Raleigh near Apex, beginning at 8:30 a.m. For a list of the projects and program participants, see page 8 of the July *News*.

Please call Mrs. McClung, 737-2815, to indicate that you plan to attend.

HEARINGS ON WATER QUALITY STANDARDS

Three public hearings are being held by the North Carolina Department of Natural Resources and Community Development on behalf of the Environmental Management Commission (EMC) concerning the revision of the North Carolina Water Quality Standards.

Hearings were held in Asheville July 25, in Raleigh July 20, and the final one is to be held at the

Lenoir Community College, Kinston, North Carolina, on August 2, 1978, at 7:00 p.m.

The Division of Environmental Management has conducted a detailed review of the North Carolina Water Quality Standards and has revised those standards to incorporate the latest technological and scientific information and State and federal water quality goals.

Many of the proposed revisions are administrative in nature; however, there are a number of substantive changes, the most important of which, if adopted, would (1) specify certain restraints on water quality degradation within the mixing zone, (2) specify standards for certain toxic substances, (3) specify a standard for chlorophyll *a* as a basis for nutrient control, (4) expand and clarify the Antidegradation Statement, and (5) expand and clarify the best usage of Class "B" and "C" waters. These three public hearings have been scheduled in order to provide the public an opportunity to comment on the proposed revisions. Any information regarding the social and environmental benefits of the proposed revisions and the anticipated cost of attaining the proposed standards is especially solicited.

Additional information concerning these hearings or copies of the proposals may be obtained by writing or calling Mr. R. Paul Wilms, Water Quality Management Planning Branch, Division of Environmental Management, P. O. Box 27687, Raleigh, North Carolina 27611. Phone: 919/733-2864.

SUBCOMMITTEE LOOKS AT RETURN ON POLLUTION INVESTMENTS

facilities is a wise investment of federal anti-pollution funds.

A House Subcommittee held hearings during July on the extent to which money spent for "advanced" wastewater treatment

Congressman Harold T. (Bizz) Johnson, Chairman of the House Committee on Public Works and Transportation, said the hearings initiate a new phase in oversight of the \$40 billion National Clean Water Program.

"The nation has been spending big money on water pollution since 1972," Johnson declared, "but there is disturbing evidence that a lot of the effort may not be cost effective. We need to know which programs to emphasize to get more stream cleanup for every dollar spent."

The hearings were held by the Subcommittee on Investigations and Review, chaired by Congressman Bo Ginn (D-Ga.), who identified several program areas.

"Number one is the whole area of advanced wastewater treatment, where huge sums of money can be spent, and large quantities of energy consumed, for a relatively small increment of pollution removal," Ginn observed.

The Environmental Protection Agency lists national needs totaling \$21 billion for advanced treatment facilities, which is the next level beyond secondary treatment.

"A second question is whether newly built plants of all description are being operated correctly," Ginn declared. "Studies made over the past 10 years show that 40 to 50 percent of all plants are discharging wastes in excess of their design specifications, and in many cases violating their discharge permits.

"Is our whole cleanup program being undercut by day-to-day operational deficiencies?" he asked.

Witnesses included the Comptroller General, U.S. General Accounting Office, and the Administrator, U.S. Environmental Protection Agency.

EPA AWARDS NEW CONTRACT FOR RURAL WATER SURVEY

EPA is funding a new rural water survey involving an in-depth questioning of residents in 2,600 rural households in 400 counties to obtain an assessment of rural drinking water as required under the Safe Drinking Water Act. The survey will be conducted by TransCentury Corporation, Washington, D.C., under contract from EPA.

The purpose of the survey is to characterize rural water supplies in terms of quality, quantity, availability, and affordability, and to relate demographic data, soci-cultural traits, and the physical environment to the nature of rural water supplies.

A report on a previous survey by the National Demonstration Water Project of rural water supplies was submitted to Congress in July. That survey concentrated on the economically depressed and indicates that rural America has some serious water problems. The report concludes that the typical rural resident with an inadequate water supply is a non-farm resident in a town of less than 1,000 and having a low income.

EPA PUBLISHES NUTRIENT RUN-OFF STUDY

Loss of plant nutrients from agricultural lands during rains or when snow melts is described in a report published recently by the U.S. Environmental Protection Agency's Environmental Research Laboratory in Athens, Georgia. The report, *Nitrate and Phosphorus Runoff Losses from Small Watersheds in Great Lakes Basin*, was written by B. G. Ellis, A. E. Erickson, and A. R. Wolcott of Michigan State University, East Lansing, Michigan. Project officer for the study, which was performed under an EPA contract, was William R. Payne of the Athens Laboratory's Environmental Systems Branch.

Modern agricultural practices emphasize the use of fertilizers to meet the Nation's food production needs. Sound management practices require an evaluation of the fate of fertilizers and the development of agricultural practices that permit optimum production with minimum loss of nutrients to waterways. The analytical data in this report, developed from studies of two watersheds in the Great Lakes Basin, provide insight into the movement of nitrogen and phosphorus from soils and can be used in developing and testing mathematical models for nutrient transport in field situations.

The report (EPA-600/3-78-028) is available from the Environmental Research Laboratory, USEPA, College Station Road, Athens, GA 30605.

.....EPA Environmental News

THE PERENNIAL SEPTIC TANK PROBLEM

North Carolina statutes provide that any single- or multiple-family residence, place of business, or place of public assembly shall provide a sanitary system of sewage disposal consisting of an approved privy, an approved septic tank system, or connection to a public or community sewerage system. They also provide that such systems with 3,000-gallons-or-less design capacity whose effluent is not discharged to surface waters shall be approved under rules and regulations promulgated by the health agency. All other systems with more than 3,000-gallons design capacity, as well as systems with 3,000-gallons-or-less design capacity the effluent from which is discharged to the surface waters, shall be approved under rules and regulations promulgated by the Environmental Management Commission.

In order to eliminate confusion regarding the jurisdictions of the two agencies and to strengthen regulation of small sewage disposal systems, the Secretaries of Natural and Economic Resources and Human Resources signed a memorandum of agreement in 1974 that single sanitary sewage disposal systems with a design capacity in excess of 3,000 gallons would be under the jurisdiction of the Environmental Management Commission. Types of facilities cited ranged from individual homes to mobile home parks and condominiums. Local health departments were assigned jurisdiction over smaller installations.

According to a discussion of the July 13 meeting of the Environmental Management Commission, the agreement is not being interpreted as intended, resulting in groundwater pollution and real or threatened contamination of shellfish-growing areas. Commission members had assumed the agreement applied to complexes, not sub-units thereof. An entire condominium, for example, would come under EMC jurisdiction if the total discharge exceeded 3,000 gallons. In practice, however, it apparently isn't working that way. A large motel with a total sewage discharge of 12,000 gallons per day might be treated as 12 installations of 1,000 gallons each, resulting in high concentrations of septic tanks with an overload of soil absorption and resulting pollution. Local health departments have maintained jurisdiction in such cases with no opportunity for EMC action. The problem was said not be restricted to the coast and to have statewide implications. Thus, an interagency agreement aimed at controlling pollution may well have resulted in the opposite effect.

The Environmental Management Commission adopted a motion asking: (1) the staff to study the memo-

randum of agreement and make recommendations for amendment, and (2) the Assistant Attorneys General assigned to the two agencies to get together and "clarify the agreement's interpretation and meaning."

SOUTHEAST CONFERENCE ON WATER CONSERVATION

The eight southeastern states, ranging from Virginia through Mississippi, are sponsoring an invitational Conference on Water Conservation and Alternative Water Supplies in Atlanta on November 8 and 9, 1978. This is a second of a series of working conferences dealing with regional problems. The first, held at Blacksburg, Virginia, on April 19 and 20, 1978, was devoted to Legal and Administrative Systems for Water Allocation and Management.

The objectives of the November Conference are:

- To describe present and near-term conflicts between available water supplies and competing in-stream and withdrawal demands in the Southeast.
- To examine alternative sources of water supply including interbasin transfer, better use of groundwater, reallocation of impounding waters, and reclamation of runoff and wastewater for compatible reuse.
- To consider opportunities for extension of existing supplies through more efficient use by cities, industry, and agriculture.
- To recommend courses of remedial actions to assure adequate supplies of water to meet future needs in the Southeast.

The program will commence with state-by-state assessment of water shortages. Prepared papers will cover water deficit planning, better utilization of groundwater, interbasin transfer, reallocation of impounded waters, wastewater and runoff reclamation, and more efficient use (conservation) by cities, industry, and agriculture. It will conclude with general discussion and summarization of actions recommended to the individual states.

Participants include state agency officials, representatives of federal agencies, selected city officials, and water resources research institute staffs.

POLICIES FOR CONTROLLING AGRICULTURAL NONPOINT SOURCES EVALUATED

Policies for controlling water pollution originating from nonpoint agricultural sources are evaluated in a report

published recently by the U.S. Environmental Protection Agency's Environmental Research Laboratory in Athens, Georgia. The report includes an investigation of the total economic impact of control policies at the regional level and on individual farms and their effects on long-term soil productivity in the corn belt.

Six policy options were selected for detailed analysis in the study. They were an educational program, a tax credit for erosion control practices, a 50 percent subsidy for terracing and similar land modifications, a requirement that a conservation plan be developed, a requirement that a conservation plan be implemented, and a requirement that greenbelts be developed where needed.

The report, *Alternative Policies for Controlling Nonpoint Agricultural Sources of Water Pollution*, was written by Dr. W. D. Seitz and nine other researchers at the University of Illinois at Urbana-Champaign. Project officers for the study, which was performed under EPA contract, were Dr. George W. Bailey and Mr. Thomas E. Waddell of the Athens Laboratory.

The report (EPA-600/5-78-005) is available from the Environmental Research Laboratory, USEPA, College Station Road, Athens, Georgia 30605.

.....EPA Environmental News

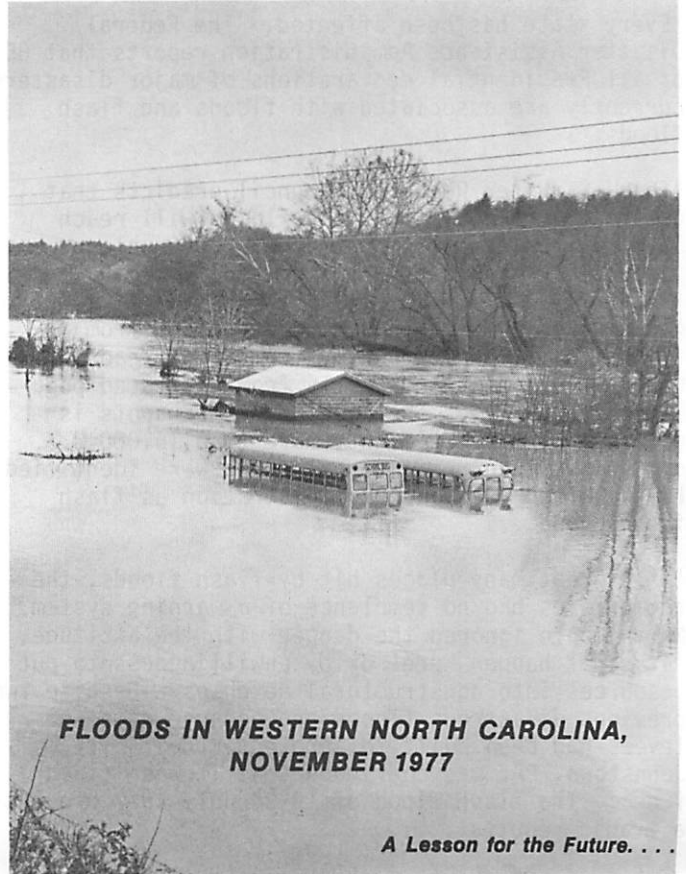
NEW INSTITUTE PUBLICATIONS

Floods in Western North Carolina, November 1977.

This report was written to document many of the facts relating to the western North Carolina flood of November 5-6, 1977. Its purpose is also to identify existing local, State, and federal programs designed to help alleviate or reduce the effects of such catastrophic floods and to stimulate additional thought and action by all levels of government to prevent flood damages in the future. Much of the affected area experienced flooding which has an annual probability of occurrence of one percent or less. This is sometimes called the 100-year flood. The region was declared a "disaster area" by State and federal officials.

The overall purpose of the report is to inform citizens about the flood and to encourage the use of flood-plain management, flood-proofing techniques, flood insurance, and flood-protection works to help prevent damage in the future.

The publication was prepared by James M. Stewart, Water Resources Research Institute; Ralph C. Heath,



FLOODS IN WESTERN NORTH CAROLINA, NOVEMBER 1977

A Lesson for the Future. . . .

U.S. Geological Survey; and John N. Morris, North Carolina Department of Natural Resources and Community Development.

Copies of the report may be obtained from the Water Resources Research Institute, 124 Riddick Building, North Carolina State University, Raleigh, NC 27650.

NEW RESEARCH SPECIAL AVAILABLE

Continuing its series of abbreviated summary reports (6 pages or less) on special research topics, the Institute announces the following report issued this month: *Water Quality in North Carolina Coastal Plain Streams and Effects of Channelization* by E. J. Kuenzler, P. Mulholland, L. A. Ruley, and R. P. Sniffen, University of North Carolina at Chapel Hill.

FLASH FLOODS BRING CONCERN

The American Meteorological Society has issued a Statement of Concern that "Flash floods now rank as the major killer and destroyer among weather-related disasters in the United States. Since 1968 the average annual death toll from flash floods has risen to about 200--more than double the rate of the 1960's and more than triple the rate of the 1940's. Property damage is now running at about a billion dollars a year.

"Every state has been affected. The Federal Disaster Assistance Administration reports that 85% of all Presidential declarations of major disasters currently are associated with floods and flash floods.

"The U.S. Water Resources Council predicts that damage from floods and flash floods will reach \$3.5 billion annually by the year 2000 unless flood plain management is improved.

"The increase in deaths and destruction from flash floods results partly from the spread of urban development and partly from increased population mobility...The list of danger spots is growing. By latest count, more than 15,000 U.S. communities and recreational areas were identified by the Flood Insurance Administration as flash flood prone...."

"In a great many places hit by flash floods, the communities had no semblance of a warning system. Many people ignored the danger with the attitude, 'it can't happen here' or by unwillingness to put resources into nonstructural defenses. Despite two previous disastrous floods and because dams and levees had been built to 'protect' their city, Johnstown, PA, was convinced that it was 'flood free'. The flash flood of 19-20 July 1977 brought a tragic rebuttal...."

Actions recommended by the AMS include steps to:

- increase regulation of the use of areas subject to flash flooding;
- certify and monitor the safety of dams;
- improve information on frequency of maximum precipitation and associated runoff for design and planning;
- institute a governmental review of all parts of the problem in order to clearly define the role of each federal, state, and local agency in getting timely information to the public and in encouraging community and individual responses to warnings;
- provide for concerted action by the appropriate governmental agencies at all levels to provide the leadership and resources needed to reduce the tragic losses of lives and property from the nation's number one natural disaster--the flash flood.

See *Bulletin of the American Meteorological Society*, 59, no. 5, May 1978.

.....National Hazards Observer

WATERSHED PROJECT DESIGNED TO PROTECT WATER SUPPLY FOR GRAHAM AND MEBANE

Watershed in Alamance and Orange Counties has been

Under a special Resource Conservation and Development (RC&D) Project measure, the Back Creek Reservoir

selected for a special program to provide watershed treatment for the purpose of protecting municipal water supplies. The project, prepared by the Alamance and Orange Soil & Water Conservation Districts, is designed to reduce serious sedimentation and erosion problems in the watershed. Areas to receive treatment include eroding roadsides and cropland, over-grazed pastures, and areas with poor silviculture practices. Land treatment will receive special emphasis in the program. Cost sharing of 75 percent will be provided to cooperators for installing critical area treatment measures. To participate in the program, a conservation plan must be developed for each cooperator. USDA has approved this watershed as one of ten conservation projects in the nation for special funding under the Agricultural Conservation Program (ACP).

HURRICANE AWARENESS WEEK AUG. 14-20

The Marine Resources Centers, located on Roanoke Island, Bogue Bank, and Fort Fisher, will be sponsoring a special hurricane awareness program during the week of August 14-20. Emphasis during the week will include a public education program about hurricanes and how they affect people and property. The program is sponsored by the University of North Carolina Sea Grant College Program and the North Carolina Marine Resources Centers. For more information on Hurricane Awareness Week, contact any of the three centers, or call 919/726-0123.

URBAN WATER CONSERVATION

Achieving Urban Water Conservation - A Handbook is a new OWRT-sponsored publication prepared by the Colorado Water Resources Research Institute. Among the several conservation options detailed is a review of home recycle systems. Water quality standards and designs are presented. Dual distribution systems are highlighted with cost comparisons.

The handbook recommends that every utility implement metering, building code modifications, public education programs, and review other efforts such as pricing and recycle systems for their application. The 210-page Completion Report (Number 80) is available for \$6.00 from: Norman A. Evans, Director, Colorado Water Resources Research Institute, Environmental Resources Center, Colorado State University, Fort Collins, Colorado 80523. Phone: 303/491-5373.

GEORGIA LEGISLATURE ENACTS PLUMBING CON- SERVATION MEASURE

water-conserving plumbing fixtures be used in any

The General Assembly of Georgia passed an act this year which would require that

new construction. The Georgia measure is intended to encourage the use of certain plumbing facilities which reduce the rate of water use. Major provisions include (1) use of tank-type water closets that use 3.5 gallons or less of water per flush and (2) shower head or faucets having no more than an average of 3.5 gallons of water per minute at sixty pounds per square inch of pressure. Provisions apply for any construction after July 1, 1980.

levels were slightly above long-term averages in most of the State.

.....U.S. Geological Survey

NEW INSTITUTE DIRECTOR IN SOUTH CAROLINA

Paul B. Zielinski has been named Director of Clemson University's Water Resources Research Institute, a joint

federal-state program with an annual budget of about \$300,000.

Zielinski, 45, is Associate Professor of Civil Engineering at Clemson and Associate Director of the South Carolina Sea Grant Program. He became the Institute Director July 1.

A native of Wisconsin, Zielinski received his B.S. degree in civil engineering from Marquette University in 1956 and his M.S. and Ph.D. degrees from the University of Wisconsin.

Support for the Clemson Institute comes from the Office of Water Research and Technology, U.S. Department of the Interior, and the S.C. Water Resources Commission.

OPPORTUNITIES FOR VOLUNTEER WORK OVERSEAS

The International Voluntary Services Corporation solicits water engineers to volunteer for work in developing countries.

A recent story in the AWWA, *Willing Water*, reports that current opportunities exist in Bangladesh and the Sudan. Water engineers are in especially short supply and can serve very usefully on water projects in these and other countries. If anyone is interested, he may obtain further information from the Recruitment Coordinator, International Voluntary Services Corporation, 1717 Massachusetts Avenue, N.W., No. 605, Washington, DC 20036.

WATER RESOURCES CONDITIONS IN NORTH CAROLINA

As compared to long-term records for June, stream flow during the month was normal in the mountains

and Piedmont and about three-fourths of normal in the Coastal Plain region. Rainfall was also below normal in most areas. Minor urban flooding occurred in Charlotte on June 22 as a result of 5 to 6 inches of rainfall from an intense local storm. Groundwater levels rose in the Coastal Plain and eastern Piedmont regions and declined elsewhere. Except for heavily pumped areas,

POSITIONS AVAILABLE

Associate Planner within the Office of Comprehensive Planning, Fairfax, Virginia. Candidates should have several years' experience in water resources/aquatic ecology. The incumbent in this position will be responsible for identifying issues relating to storm water runoff and recommending policy direction to control and reduce degradation of stream water quality. Tasks may include evaluation of alternatives for storm water control, including the preparation and evaluation of Best Management Practices (BMP's); preparation of environmental analyses of water quality for the comprehensive plan and preparation of environmental impact statements for both private and public projects. For details write Fairfax County Office of Personnel, 10409 Main Street, Fairfax, VA 22030. Phone: 703/691-2591.

Instructor in Hydrometeorology - The incumbent (at duty station Lagos, Nigeria) will be one of a team of internationally recruited specialists participating in the establishment of the Meteorological Training and Research Institute. Candidates must have a university degree in civil engineering or geophysics with subsequent specialization in hydrometeorology or hydrology or equivalent qualifications. Applications should be submitted on UN or WMO Personal History Forms and sent to: The Secretary-General, World Meteorological Organization, Case Postale No. 5, CH-1211 GENEVE 20, Switzerland.

Expert in operational hydrology - The expert will be stationed in N'Djamena, Chad, and will work under the general guidance of the Programme Coordinator. Candidates should have a university degree in mathematics, physics, or civil engineering with specialization in hydrology, and should have a wide experience of field work, hydrological instruments and data processing. A very good knowledge of French is required. Applications should be submitted as above to the Secretary-General at the address above.

Water Quality Engineer - This person may be expected to teach graduate and undergraduate courses dealing with water supply and waste water treatment and to initiate related research. This individual will also teach undergraduate courses in hydrology and hydraulics. Qualifications include a Ph.D. in civil, chemical, or environmental engineering. Contact P. W. Purdom, Director, Environmental Studies Institute, Drexel University, Philadelphia, PA 19104. Telephone: 215/895-2265.

CONFERENCES,
SYMPOSIA, AND
WORKSHOPS

Water Distribution System - Analysis and Design - A one-week course providing in-depth training in water distribution system design and performance. Program should be of interest also to engineers in industry where concerned with pipe-flow networks. The workshop will be held August 7-11, 1978, at the University of Wisconsin in Madison. For further information, contact Program Director John T. Quigley, Department of Engineering, University of Wisconsin-Extension, 432 North Lake Street, Madison, WI 53706. Telephone: 608/262-2061 for information or 608/262-1299 to enroll.

National Conference on Lake Restoration - This conference, sponsored by the U.S. Environmental Protection Agency's Office of Water Planning and Standards, is designed to enhance the effectiveness of EPA's Clean Lakes Program by providing a forum for exchanging the most current information and experience in the field of lake restoration. The types of information needed to prepare comprehensive lake restoration plans will be covered. The conference

will be held August 22-24, 1978, at the Sheraton-Ritz Hotel, Minneapolis, Minnesota. For further information or to register, contact the Conference Coordination Office, Battelle, 505 King Avenue, Columbus, OH 43201, or call 614/424-5532.

International Symposium on Urban Storm Water Management - The symposium is the fifth annual on the subject of Urban Storm Water Management held annually at the University of Kentucky. The conference is organized to serve the purpose of gathering current information from various institutions, including universities, government agencies, and practicing engineering groups, and disseminating this information for the advancement of knowledge concerning these subjects and for implementation by field engineering applications. The symposium will be held July 24-27, 1978, in Lexington, Kentucky. For further information contact Mrs. Elizabeth Haden, Office of Continuing Education, College of Engineering, University of Kentucky, Lexington, KY 40506. Telephone: 606/258-4881.

NEW PUBLICATIONS RECEIVED BY THE INSTITUTE

(Residents of North Carolina may borrow these from the Institute for a two-week period. Where individual copies are desired, readers are encouraged to request copies from the organization issuing the publication. The addresses are provided by the *News* for this purpose).

Water Resources Planning

- "Flood Management for Small Urban Streams," (Jn. of the Water Resources Planning and Management Div.), 11/77, by W. Whipple, WRRRI, Rutgers U., New Brunswick, NJ 08901. (02J)
- "Financing and Cost Sharing Municipal Water Supply Systems," 6/77, by R. M. North, Institute of Natural Resources, The U. of GA, Athens, GA 30601. (06C)
- "Effects of Small Watershed Development on Land Values," 5/78, by James Kasal, USDA, Washington, DC 20250. (06B)
- "Urban Stormwater Management and Technology: An Assessment," 5/74, by R. Field, avail. from National Environmental Research Center, Office of Research and Development, USEPA, Cincinnati, OH 45268. (02J)
- "Swift Creek Watershed, Final Environmental Impact Statement," 6/78, avail. from USSCS, P.O. Box 27307, Raleigh, NC 27611. (06G)
- "Urban Growth in Water Resources Planning," (#100), 4/78, by S. A. Dendrou, *et al.*, Purdue U., WRRRC, West Lafayette, IN 47906. (06A)
- "A Cross-Sectional Investigation of the Determinants of Urban Residential Water Demand in the United States, 1960 and 1970," 5/78, by H. S. Foster, Jr., *et al.*, WRI, TX A&M U., College Station, TX 77840. (03D)
- "Evaluation of Urban Water Management Policies in the Denver Metropolitan Area," 6/73, by W. R. Walker, *et al.*, WRRRI, CSU, Ft. Collins, CO 80521. (06B)
- "1975 National Assessment of Water and Related Land Resources," Vols. I, II, & III, 12/77, by SEBIAC, 402 New Walton Building, Atlanta, GA 30303. (NWA)
- "Achieving Urban Water Conservation - A Handbook," 9/77, by J. E. Flack, *et al.*, CO WRRRI, CSU, Ft. Collins, CO 80521.
- "Planning for Water Reuse," 1978, by D. D. Baumann, *et al.*, avail. from Maaroufa Press, 610 N. Fairbanks Ct., Chicago, IL 60611. (HB)

Water Quality Management

- "An Evaluation of the Application of a Dual-Functional Filter to Dewatering Neutralized Acid-Mine-Water Sludge," (#10), 4/78, by J. D. Henry, *et al.*, WRI, WV U. Morgantown, WV 26506. (05E)
- "Feasibility of Using Bacterial Strains (Mutagenesis) to Test for Environmental Carcinogens," (EPA-600/3-78-042), 4/78, by J. E. Evans, avail. from NTIS, Springfield, VA 22161. (EPA-ERS)
- "Model Studies of the Portugese and Bucana Rivers Channelization Puerto Rico," 5/78, by N. R. Oswalt, Hydraulics Lab., US Army Engineer Waterways Experiment Station, P.O. Box 631, Vicksburg, MS 39180. (08A)
- "Comprehensive Erosion and Sediment Control Program for Job Superintendents and Inspectors," 3/76, by H. L. Porter, Jr., NACD, 1025 Vermont Ave., N.W., Washington, DC 20005. (02J)
- "Erosion and Sediment Control Programs, Six Case Studies," by SCAMP, NACD, P.O. Box 855, League City, TX 77573. (02J)
- "Comprehensive Erosion and Sediment Control Training Program for Engineers, Architects and Planners," 3/76, by H. L. Porter, Jr., NACD, 1025 Vermont Ave., N.W., Washington, DC 20005. (02J)
- "Insecticide Persistence in Natural Seawater as Affected by Salinity, Temperature, and Sterility," (EPA-600/3-78-044), 4/78, by W. W. Walker, avail. from NTIS, Springfield, VA 22161. (EPA-ERS)
- "Mixing Effects Due to Boating Activities in Shallow Lakes," 6/78, by Y. A. Yousef, *et al.*, Civil Engr. & Env. Sci. Dept., Env. Systems Engr. Institute, FL Technological U., Orlando, FL 32802. (02H)
- "Organic Carbon and Deoxygenation in the Pamlico River Estuary," 1/78, by W. A. Burke, Dept. of Biology, ECU, Greenville, NC 27834. (Master's Thesis)
- "Urban Water Runoff & Water Quality Control," 12/76, by J. T. Wildrick, *et al.*, VA WRRRC, 617 N. Main St., Blacksburg, VA 24061. (02J)
- "Runoff Pollution from Multiple Family Housing," 12/77, by W. Whipple, *et al.*, WRRRI, Rutgers U., New Brunswick, NJ 08901. (05B)
- "Streamside Management Zone Statutes and Ordinances - Criteria and Institutional Arrangements Serving Water Quality Objectives on State and Private Forest Lands," 3/78, by USDA, Forest Service, USEPA, avail. from USGPO, Washington, DC 20402. (04D)
- "The Impact of Urban Stormwater on the Water Quality Standards of a Regulated Reservoir," 3/78, by F. C. Larson, WRRRC, U. of TN, Knoxville, TN 37916. (02H)
- "Water Quality Management Decisions in Colorado," 6/72, by S. T. Nichols, *et al.*, WRRRI, CSU, Ft. Collins, CO 80521. (05G)

Water Quantity Management

- "Drainage Manual," 1978," avail. from USGPO, Washington, DC 20402. (HB)
- "Effects of Storm Frequency on Pollution from Urban Runoff," 12/77, by W. Whipple, Jr., *et al.*, Rutgers U., New Brunswick, NJ 08901. (05B)

Miscellaneous

- "A Selected Annotated Bibliography on the Analysis of Water Resource Systems - A Bibliography," (OWRT/WRSIC 78-201), (Vol. 8), 5/78, Ed. by D. P. Loucks, avail. from WRSIC, Washington, DC 20240. (06A)
- "Worldwide Directory of National Earth-Science Agencies," (Circular 771), by W. E. Bergquist, *et al.*, avail. from Branch of Distribution, USGS, 1200 S. Eads St., Arlington, VA 22202. (USGS)
- "EPA Publications Bibliography - Quarterly Abstract Bulletin," (NTISUB/D/042-01), 1-3/78, avail. from NTIS, Springfield, VA 22161. (EPA)
- "Research Highlights 1977," (EPA-600/9-77-044), 12/77, Office of Research & Development, USEPA, Washington, DC 20460. (EPA)

SPECIAL

STATE RESPONSE TO THE NEW FEDERALISM IN THE ENVIRONMENT

*by James B. Coulter
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Editor's Note: This paper was delivered by James B. Coulter, Maryland Secretary of Natural Resources, to the Southern Environmental Resources Conference, Jackson, Mississippi, June 1, 1978. It is an especially appropriate message during this period of evolving state-federal water management arrangements.

Because the environment is so important, it deserves the very best. With that thought in mind, it is timely to take a critical look at what State and Federal governments are doing. Are they moving, and if so, are they moving together?

One shouldn't complain about lack of motion. There is plenty of movement. Measured in terms of laws, rules, regulations, court cases, expenditures, and the expanding bureaucracy, both branches of government are moving fast. Fast action is good. But in the end, it's not how fast you are going, it's where you are going that counts.

How you arrive, and what happens when you get there are of some importance also. Both State and Federal agencies are traveling fast. But where are they going? Are they traveling together? Of utmost importance, will they know that they have arrived when they reach their destination? Will government be content when the world is clean enough? Or will it bully its way along trying to make a clean world cleaner and cleaner despite an ever increasing penalty to human liberty.

I have always thought that a distinct form of hell would be to be in heaven and not know it.

Speaking of hell, I am reminded of a story that is being told in Washington these days. In a spirit of cooperation, the Corps of Engineers met with the Environmental Protection Agency to negotiate a memorandum of understanding. Both Federal agencies conduct major environmental programs and both of them want to eliminate inefficiencies caused by duplication of effort. Considering the fact that neither agency wants to relinquish any of its authority whatsoever, a surprising amount of progress was made. The details are still to be worked out, but major agreement was reached along these lines.

Because of its long history of successful achievements starting with the fortifications at Valley Forge and moving into modern times with an unbroken string of accomplishments, including the construction of the Panama Canal, and further, because of the strategic distribution and make-up of its work force, the Corps of Engineers will inherit the earth and take charge of all of the works thereon.

Because of the saintly role bestowed on it by Congress, and, because of its God-like obsession with regulations and enforcement, the Environmental Protection Agency will provide spiritual guidance and pass judgement from its position in heaven.

According to the story, the States are relegated to the remaining part of the universe. To provide guidance and to give the states some choice, there will be two roads to hell. One will be marked Route 404 in keeping with a fitting section by that number in the Federal Water Pollution Control Act. The other road will be marked Route 309 as a reminder of a devilish little section with that number in the Clean Air Act.

Of course that story is just in fun. Neither the Corps nor the EPA wants to send the states to hell. But to get to the point, there is a lot of hell down here where the states are and, quite understandably, none of the Federal agencies seem very anxious to join us.

In the old federalism, the federal agencies passed paternalistic judgements highlighting the imperfections in the states' efforts to improve the environment and the states caught the consequences. If the new federalism is going to be any different, the states have to learn the new rules and make the federal agencies play a responsible game.

That won't be easy because the states speak with at least fifty different voices and, even if the states could get their act together and speak with one voice, they would have to talk to a dozen or more.

separate federal agencies. The federal government is in itself a loosely knit federation of competing agencies. Another difficulty to be overcome is the tendency of the states to get distracted by aggravating side issues. As a result, major movements affecting vital interests sometimes go unnoticed.

For instance, long-time environmental workers are aggravated by claims that the environmental movement started with Earth Day in April of 1970. Old-time sanitary engineers and scientists along with a host of other professions, have a proud history of environmental work predating Earth Day by more than a hundred years. The United States Public Health Service claims to be the oldest uniformed service in the nation, predating both the Army and the Navy. The Public Health Service marshalled a Federal-State environmental campaign against communicable diseases that has to be the outstanding success story of the past century.

Environmental regulation of water, sewage and general sanitation played a dominant role in stamping out diseases such as typhoid and malaria. Before they were checked by environmental programs, those diseases periodically decimated the human population. The victory over communicable diseases made most other advancements in the welfare of human beings possible.

It might be argued that without the success of a hundred year environmental effort, Earth Day, 1970, would not have been. Thus, environmental workers had reason to be angry with lawyers and political scientists who contend that the world discovered its environment in the late sixties and early seventies. But anger distracts us and causes us to miss a vital point.

A strong case in support of the lawyers and political scientists is to be found in the excellent review of "Federal Environmental Law," compiled by the Environmental Law Institute. The very first footnote of the introduction calls attention to the fact that the Association of American Law Schools has carried a listing for "Environmental Law" only since 1970. The first paragraph of the introduction to the 1600-page review starts with the sentence:

"Had the writing of this book been considered ten years ago, or even as late as 1969, it would have been difficult to discern a body of federal law meriting separate analysis and study as 'Environmental Law.'"

This, then, is the vital point that aggravation must not obscure; there is a new body of environmental law governing the ancient practice of environmental engineering. The recognition of the need for and the drive toward the perfection of technology for the control of the environment is very, very old, dating back to the Old Testament days of Moses and beyond. However, the political science of environmental regulation now developing in the United States is very, very new, which leads to the paradox that those who best understand the technology needed to control the environment tend to have the least understanding of the new system for environmental regulation in the United States.

To understand environmental regulation at the state level, one must understand recent changes in Federal Law. To understand recent changes in Federal Law is to understand nothing less than a major revolution now in progress. A shift from State to Federal control of the environment has advanced to a point of no return. Congress, Federal Courts, and Federal agencies have acted together to force a fundamental change in government.

It is fallacious to assume that the states are primarily responsible for pollution control, even though many federal laws contain words to that effect. For instance, in its very first section, the Water Pollution Control Act avows that it is the policy of Congress to protect the primary responsibilities of the States. There follow approximately 124 pages of detail requiring the Environmental Protection Agency to control water pollution throughout the nation. States must conform. What Congress must conform. What Congress seems to give in one paragraph, it taketh away in the 124 pages that follow.

The shift in the power to govern moved into its final phase with the advent of the 70's. The first Federal Water Pollution Control Acts starting in the late 40's were weak and ineffectual. During the 50's, President Eisenhower vetoed a Water Pollution Control Act with the rationale that pollution control was a peculiarly local responsibility. In overriding the President's veto, Congress signalled awakening federal intentions.

By the early 60's, grants for construction of sewage treatment plants gained general acceptance; comprehensive river basin programs were authorized, stream-flow regulation for quality control was the hit of the season; and, federal enforcement actions on interstate rivers were "jawboning" their way into prominence. The Bureau of the Budget was adamant in its refusal to let the Public Health Service question industries to gain knowledge of industrial waste discharges.

The late 60's brought changes in the federal law that set the nation on a frenzied burst of activity aimed at the establishment of water quality standards which included plans of compliance. Comprehensive river basin programs began to drop from favor. Anti-dam forces adopted the battle cry, "Dilution is Not the Solution to Pollution," and discredited streamflow regulation for quality control. The nation became obsessed with the notion that algae posed a great threat to water quality. Catch words like "Eutrophication," "Overenrichment," and "green-slime," helped to sell the need for costly catch word concepts like "Advanced Waste Treatment," "Chemical-Physical Processes" and "Tertiary Treatment."

Also in the late 60's, the Bureau of the Budget impounded much of the money appropriated by Congress for sewage treatment plant construction, an action that prompted environmentally oriented citizen-action groups to unite with state pollution control agencies in a "Crusade for Clean Water."

Once formed, the Citizens' Alliance focused its energy on two other irritations. One was industrial waste discharge and the other was the barely completed water quality standards. Industrial waste was especially irritating because a sympathetic White House persisted in protecting industries from disclosing what was flowing from discharge pipes into the waters of the nation. With respect to water quality standards, citizens began to understand what the professionals had been telling them all along - by its fundamental immutable nature, a standard is a tradeoff. A standard imputes a cost-benefit ratio. A standard of required cleanliness is at the same time a standard of permissible dirtiness. By itself, a standard intended to reduce pollution becomes a level of approval for the discharge of pollutants.

One other development of the late 60's had a profound effect on Congress. It was discovered that the 1899 Refuse Act was a more powerful water pollution control law than the Water Pollution Control Act itself. Because, with the backing of the Courts, the 1899 Act could be used to force industries to obtain permits and disclose what was flowing out of their discharge pipes. The Corps of Engineers, as administrators of the 1899 Act rather than the Environmental Protection Agency, became the primary federal water pollution control agency.

Thus, with the advent of the 70's given the "Earth Day" enthusiasm that prevailed, the stage was set for profound changes in the Water Pollution Control Act. Those changes came in the form of the 1972 Amendments and they forever altered the relationship between State and Federal Government, at least as related to water pollution control. Not to be outdone by an 1899 vintage Act of Congress, the 1972 Congress took charge of the permit concept and with a few exceptions, outlawed the discharge of any pollutant unless in compliance with the standards and permit sections of the new amendments.

Prior to the 1972 Amendments the direct jurisdiction of the Federal government was limited to navigable interstate waters. The world will never know, because Congress itself didn't seem to know what it intended, when it extended federal jurisdiction to include all of "the waters of the United States." As a practical matter these six years later, the intent of Congress in this regard is a matter of academic curiosity. EPA gave the definition the broadest possible interpretation under the Commerce Clause of the Constitution, and courts backed that interpretation.

As a result, the Federal law applies to all of the United States. The Federal government no longer controls only interstate navigable waters, leaving the control of pollution of intrastate waters to the states. Instead all of the nation is covered by one law, the Federal law based on the Commerce Clause. Because the states are forbidden from passing laws that conflict with federal laws dealing with commerce, like it or not, the waters of the United States are governed by one system--the Federal system.

The 1972 Amendments to the Federal Water Pollution Control Act revolutionized the relationship between State and Federal agencies. States have a role to play, but the role is defined by and confined within the Federal system.

Because of the revolutionized relationship between state and federal government and the widespread disregard on both sides for the implications of the new Federal-State arrangement, a great deal of confusion and turmoil has developed.

Water pollution control was the forerunner of many environmental laws following the same general pattern. The Environmental Law Institute's analysis described the effect of some 19 pieces of legislation ranging from air quality control to noise control. While not displacing state responsibilities, these laws place federal agents in at least concurrent charge of many everyday activities once thought to be the sole province of local government.

Environmental regulation at the state level might be more comprehensible if the federal laws represented outright preemption. In that event, State governments would be forced to vacate the field. That might have the desirable effect of giving the citizen a "one problem-one government" set-up. But it

would have all of the devastating effects of making state and local governments powerless while a central government became all powerful.

Thankfully, Congress did not preempt the field. There are a few notable exceptions such as sewage discharges from pleasure craft, health effects of nuclear power plants and automobile exhausts, where Congress has made preemption complete.

But in most environmental laws, Congress has given Federal agencies authorities that are equal to but hardly ever subservient to authority of the state without actually preempting the field. Failing to recognize this new arrangement by taking a "Feds Go Home" stance, states have made a federal job that is difficult at best, even more difficult. On the other hand, the new laws have brought federal agents stumbling into the affairs of county courthouses without any awareness of what they are getting into. At times, these clumsy intrusions have created situations that would be comic if it weren't for the serious consequences on citizens caught up in the events.

Federal agencies cannot continue to meddle in the affairs of local government on a sporadic pick-and-choose basis. Neither can the states expect Federal agencies to ignore the law and retreat to the pre-1972 line. The Federal agencies cannot limit themselves to interstate matters, leaving internal affairs to state and local governments. The new Federalism has to be based on an intricate network of shared functional responsibilities as opposed to the old, outmoded arrangement that was based on a simple division of the territory.

In some functions, the Federal government will take the lead and the states will assist. In other functions the states will lead and the Federal government will support. Throughout all the functions, Federal law will govern policy and procedures. State law will flush out the requirements where needed to meet individual needs. But in no case will state law be allowed to contradict or to interfere with Federal programs.

It would be wrong to conclude that the state is the primary level of government responsible for environmental control. Likewise, it would be wrong to conclude that the State does not have a number of primary responsibilities within the Federal-State system of environmental regulation.

At this time, Federal administrators are no more aware of the forces of change than are their counterparts in State government. Thus, it is no wonder that lines of responsibility are poorly drawn and change frequently. More often than not, accommodations are made on the basis of the strengths and weaknesses of the personalities involved rather than on the basis of a well understood modus operandi. The final division of labor between Federal and State may be some years in the offing. But this line-up of some of the major functions seems most likely.

PLANNING: State and regional governments will dominate plan preparation but the Federal government will dictate what, where, when, and how, and have the final say on approval.

STANDARDS: States will adopt standards, but with the consent of the Federal government where the power to approve or disapprove will reside.

PERMITS: States will issue most permits in accordance with Federal guidelines.

MONITORING: States will monitor permit conditions and maintain surveillance over the environment. The Federal government will make major field investigations that are problem oriented and it will make major studies of unique environmental systems of national concern.

ENFORCEMENT: The bulk of enforcement actions will be at the State level and the actions will be taken under provisions of State law. The Federal government will engage in "sabre rattling" and "jawboning," but actual federal prosecution will be reserved for major problems.

FINANCING: The Federal government is calling the tune and it will be required to pay for the music. States will show more and more resistance to appropriating State funds to hassle people and pay for complex, costly programs that are devised and mandated by the national Congress.

SERVICE: States can be expected to create public works departments and other forms of direct service agencies. These agencies will operate statewide. In some instances they will provide utility services on a wholesale basis to towns, industries, and unincorporated neighborhoods. Examples of these kinds of organizations can be found in Maryland's Power Plant Siting Program, Coastal Facilities aspects of Coastal Zone Management, and the Maryland Environmental Service. The MES operates sewerage works, water supply systems, and solid refuse reclamation and disposal projects throughout the State. Statewide utility organizations will be subject to both State and Federal environmental regulation.

SUMMARY:

In summary, those who best understand the technology needed to control the environment are the ones that don't understand the new system for regulating the environment. They may know how they think the system should work, and most of them know how it did work. What they don't understand is that Congress, Federal Courts, and Federal agencies have forced a fundamental shift from State to Federal government in a way that revolutionizes environmental control.

The shift does not displace or eliminate state responsibilities and authorities. It does place countless federal employees in position to exercise concurrent superior jurisdiction over common, everyday activities. It is still generally believed that these everyday activities are the prime responsibility of state and local government. That, however, is not the case. The shift that has put the Federal presence in the county courthouse is irreversible, at least for the long-term future. Therefore, individual citizens and local governments must learn to cope under a system of dual Federal-State jurisdiction in which the powers of veto are exercised by uncoordinated agencies of a remote centralized federal government.

Because the revolutionized relationship between Federal and State government is in the formative stage, and because of the widespread disregard for the implications of the new Federal-State arrangement, there is a great deal of confusion. States have made the federal job more difficult. But, federal agents have been guilty of needless meddling into matters of local choice at the courthouse level, often at the insistence of dissident groups who had lost their case at the ballot box. This type of clumsy intrusion creates serious consequences for law-abiding citizens caught in the middle.

Congress has rejected the traditional jurisdictional split based along interstate versus intrastate lines. In its place, it has created a system of joint Federal-State jurisdiction covering every part of the nation. The new Federalism is a complicated and contentious system that pits ballot-box conscious local officials against cause-oriented federal officials who are constrained only by the Federal courts. To make the system of joint jurisdiction work satisfactorily, lines of responsibility must be clearly defined for both Federal and State agencies and strong discipline has to be exerted to make individual bureaucrats abide by the rules.

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