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CHIEF OF ENGINEERS SPEAKS ON SMALL RIVER BASIN PLANNING AT CHAPEL HILL CONFERENCE

Lieutenant General William F. Cassidy, Chief of Engineers, U. S. Army, keynoted the Seventeenth Southern Water Resources and Pollution Conference hosted by the Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, on April 16-18, 1968, with an address on "New Considerations in Small River Basin Planning."

Smaller river basins are coming more to the fore, he said, in large part because of three trends: "First, we are already well along with main-stream planning and construction on the great rivers and are shifting the focus of attention on smaller streams; Second, as the population grows and the countryside fills in, the smaller basins are acquiring water-related needs of increasing complexity and diversity; and Third, we are becoming more concerned about the problems arising from the interrelationships of small and large basins." Examples are needs that overlap watersheds and the hydrologic effects of tributaries on their parent streams.

General Cassidy said that we are now on the threshold of a new era in inter-agency coordination--coordination of a kind that could hardly be contemplated on a big-basin or continental basis. Another new development he cited is the exploration of alternative courses of development in each basin. In the past, Federal agencies justified their project proposals mostly on the basis of tangible, primary national benefits. Other types of benefits were also considered, but have never been readily measurable in monetary terms. In the past two or three years, he said, the intangible benefits have been getting much greater attention.

The upshot of these new considerations is that the Corps of Engineers is now working out a new methodology for carrying out its planning studies and presenting the results. This involves three planning objectives within each basin. These are: the traditional type of planning aimed at deriving national efficiency benefits; the consideration of regional development and benefits; and the preservation or enhancement of the natural environment. All three objectives will not always be involved in any one situation, nor will they always be compatible with each other. Cassidy said that different plan combinations are possible and some balance between them must be achieved. With the three aims before them the people of an area may evaluate and voice their views on the course of future water resource management in a way that has not before been possible. Even though the Corps must make a mission oriented recommendation to the Congress, the public will have something more than a take-it-or-leave-it proposition to act on.

General Cassidy referred to the study of the upper Licking River in Kentucky as an example of the regional-benefit concept in action. Part of the Appalachian Regional Development program, the study is aimed primarily at the objective of regional development. The plan consists of five elements: One is a multiple-purpose reservoir and another is a system of channel improvements. These would be provided by the Corps of Engineers. A third element is a system of three small flood-retardation structures on tributaries of the Licking, one of which would provide recreation. The fourth consists of an accelerated land treatment program. These latter two elements would be provided by the U. S. Department of Agriculture. The fifth element would consist of an intensive effort by the state and local entities to take advantage of the flood protection and other potentialities provided by the four federal elements. It would include industrial site preparation, access roads, community services, utility systems, and a program of industrial development incentives.

The evaluation of plan benefits involves "expansion benefits," as distinguished from the so-called traditional benefits to users of project goods and services. These include "redevelopment benefits" which are measured in terms of wages and salaries involved in the construction, operation, and maintenance of the projects themselves; and "development benefits" measured in terms of wage and other income flows generated by the areas economic development plan. In terms of the user benefits--the traditional criterion--the Licking River proposal has an index of performance of only 0.75. This index is similar to the conventional benefit-cost ratio. The index of performance for the improvement of the environment for regional economic development is based on still another ratio--the ratio of all regional gains to the cost of the water plan. In the light of this objective, Cassidy said, the proposed project shows a performance index of 42.4.

Because of their "enormous potentialities," the Corps of Engineers believes these concepts deserve the most exhaustive scrutiny by the entire national community, and particularly by economists and other academic disciplines involved in this field.

NORTH CAROLINA DEPARTMENT OF WATER AND AIR RESOURCES SEEKS ADDITIONAL FUNDS FOR POLLUTION CONTROL

In a statement before the Water Resources Committee of the Legislative Research Commission, under the chairmanship of Representative Nelson W. Taylor, on March 29 the Department of Water and Air Resources reviewed the expansion needs of the water and air pollution control programs. Additional funds amounting to $44,472 for FY 1969-70 and $45,414 for FY 1970-71 will be needed to bring the Water Pollution Control Division Staff up to the recommended minimum level. The Department also recommended appropriations of $6 million for each year of the biennium to meet the matching requirements for federal sewage treatment wo construction grants. The federal government is becoming more and more insistent on state participation in the sewage treatment works construction program under which substantial

incentives to local government are provided where the states share in the cost of projects. For example, the federal and local shares vary as follows with state participation:

Federal Share	Local Share	State Participation
30 percent	70 percent	No state grants
40 "	30 "	30 percent
50 "	25 "	25 " 1/
55 "	20 "	25 " 2/

1/ If project is in conformity with enforceable water quality standards.
2/ " " " " " " (1) and comprehensive metropolitan plan.

Mr. Earle C. Hubbard, Assistant Director of the Department, told the Committee that a growing number of North Carolina municipalities are experiencing extreme difficulty in financing needed waste treatment facilities. He underscored the importance of maintaining water of usable quality in North Carolina and the need for the state to provide funds with which to assist its municipalities in carrying out their responsibilities under this important program.

MASSIVE POLLUTION CONTROL PROGRAM APPROVED IN MARYLAND

Governor Agnew's $129 million water pollution control program was recently approved by the Maryland legislature. It includes: 1. $100 million in grants for sewage collection and treatment facilities and advance financing of projects eligible for federal grants for which funds are not available; 2. $25 million in loans to counties for sewage collection systems; and 3. $4 million to match federal grants for comprehensive water pollution control planning. The legislation was cited by Governor Agnew as the "single most important comprehensive program Maryland has embarked upon."

OKUN PROPOSES DUAL WATER SYSTEMS FOR CITIES OF TOMORROW

In an address before the National Meeting of the American Chemical Society in San Francisco on April 3, Dr. Daniel A. Okun, Professor of Sanitary Engineering and Head, Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, proposed a hierarch of water quality in new public water systems. Because so many of our water sources are already polluted, he said, water required for potable purposes--about 5 to 10 percent of community use--could be taken from uncontaminated sources and the remainder supplied from the polluted sources now being widely used. Dual systems would permit sound development of water resources, with reclaimed waste waters being used for non-potable purposes, and naturally pure waters being preserved for human consumption. The non-potable

supply, said Okun, might be of questionable chemical quality, might contain some viral contamination and might be aesthetically less desirable because of taste or odor, but it would be bacteriologically safe through conventional treatment including disinfection. In fact, the non-potable supply proposed for the dual system would be as good as now provided by many cities.

With the hierarchy of water quality proposed by Okun, new sets of standards would need to be developed: more exacting than current PHS Drinking Water Standards for the potable supplies and less stringent for the other supplies.

SENATE HEARINGS ON STRIP MINING

Sen. Henry M. Jackson (D.-Wash.), Chairman of the Committee on Interior and Insular Affairs, has announced Senate hearings on S. 3132--the Administration's proposed Surface Mining Reclamation Act of 1968--for April 30 and May 1. Hearings will be held in Room 3110 of the New Senate Office Building. In the bill the states will be given the first opportunity to provide suitable surface mining control programs. The federal government would share up to 50 percent of the states' cost of developing adequate plans, administering and enforcing them. Regulations would be imposed by the federal government only if the states failed to act.

STATE OF THE ART REPORT ON AQUATIC COMMUNITIES

Dr. Ruth Patrick, Chairman, Department of Limnology, Academy of Natural Sciences of Philadelphia, recently completed a state of the art report on aquatic communities for the Office of Water Resources Research, U. S. Department of the Interior. The paper sets forth in a general way what is known about the structure and functioning of aquatic ecosystems and how nutrients and energy are cycled through them. It also discusses knowledge as to the effects of various types of pollution on these ecosystems. Dr. Patrick sets forth those fields of research which need to be pursued in order to understand the structure and functioning of aquatic ecosystems, discusses the kinds of basic studies needed in order to understand the effects of various types of pollution or perturbation and their diagnosis, and suggests ways in which research in this important field should be implemented.

Questions which must be answered by future research, according to Dr. Patrick, include:

1. How is a natural diversified aquatic community established?
2. How are natural aquatic ecosystems structured and how do they function?
3. How is the structure and function of the aquatic community related to conditions in the drainage basins?
4. How does perturbation, including that due to man's activity, affect the functioning of the ecosystem, and how do such effects produced by man at first produce instability and later are assimilated or produce a new system?
5. How to construct mathematical models by which the effects of perturbation can be predicted?

POLLUTION CONTROL PROGRESS AT THE FEDERAL LEVEL

At the opening session of Senator Muskie's "oversight hearings" to discuss progress and direction of the Federal Water Pollution Control Administration activities, Secretary Udall referred to the state-federal water quality standards as the "most significant water pollution control task" of the past year. He viewed the standards as the "keynote to the massive cleanup program which lies ahead," and the framework for the other water pollution control activities of the Administration.

Air/Water Pollution Report quotes Udall as telling the Committee that the most significant policy problem last year arose over the "no degradation" issue which involved "rather strenuous disagreement" among his former key administrators. The degradation issue, he said, slowed down the standards approval process until he resolved it in February by requiring that all state standards include a provision to assure that present water quality will not be degraded. He plans to ask the ten states whose standards were approved last summer to adopt the anti-degradation language as needed to conform to the new requirement.

OPPOSITION TO NEW FWPCA FINANCING PLAN

One of the most controversial aspects of S. 3206--the "Water Quality Improvement Act of 1968"--has been the provision whereby interest on obligations for works constructed with financial assistance would no longer be exempt from federal income taxation. At the hearings which opened on April 10, strong opposition to this feature was expressed by the National League of Cities, National Association of Counties, and Governor Rockefeller of New York.

The new measure would authorize the Secretary of the Interior to make contracts with local public bodies and state and interstate agencies. The contracts would permit the federal government to make installment payments on both principal and interest to cover the federal share of waste treatment plan construction. Under this proposal, the payments would be made by the government in installments over a fixed period not to exceed 30 years.

Projects must serve either all of a standard metropolitan statistical area, as defined by the Bureau of the Budget, or an area of 125,000 people or more, or a portion of a standard metropolitan statistical area. The limitation is on the area served which may include several cities.

The Secretary must also be assured that a local public body having jurisdiction over the project has established a system of charges to amortize the cost of the project over its life together with the project's operating and maintenance costs.

Two conditions for grant and contract assistance have been tied to the proposal. They are: requirements that the state initiate an effective operator certification program by July 1, 1970, and that the state develop by July 1, 1969, an approvable statewide plan to improve the efficiency of treatment works built prior to July 1, 1968.

As part of the same legislative package, the Department also recommended indefinite continuation of the water pollution research and development program which is due to expire on June 30, 1969. It did so with no recommendations for any major changes in the program.

INSTITUTE SIGNS AGREEMENT WITH WATER RESOURCES SCIENTIFIC INFORMATION CENTER

In furtherance of the objectives of the Water Resources Scientific Information Center and related responsibilities of the Water Resources Research Institute to serve the water resources research community, an agreement has been signed with the Center under which the Institute has agreed to provide copies of project completion reports and other reports containing substantive, technical information with WRSIC abstracts and indexing terms. In exchange, the Center will provide the monthly bulletin Selected Water Resources Abstracts and the selective dissemination of information (SDI) announcements in individual card form containing citation, abstract, and index terms for selected documents. Announcement cards are distributed on the basis of a computer-performed match between index terms for the document and a user-group interest profile of not more than twenty terms from the Water Resources Thesaurus.

As the WRSIC data becomes exploitable by means of mechanized searches, access for fixed number and type of requested retrospective searches will be provided upon further agreement. Such services as may be developed include current awareness bulletins, topical bibliographies, state of the art reports, and microfilm or full-size copies of documents in the WRSIC data base.

Copies of the monthly bulletin Selected Water Resources Abstracts will be distributed by the Institute to the libraries of the four campuses of The University of North Carolina, Duke University, East Carolina University, the State of North Carolina Library, and the N. C. Department of Water and Air Resources. A limited number of additional copies can be obtained for distribution to other libraries servicing water resources interests. Requests for this service should be addressed to the Institute.

CONCERN OVER ECOLOGICAL PROBLEMS

A report of the Subcommittee on Science, Research, and Development of the House Committee on Science and Astronautics, on the International Biological Program concludes that "evidence of growing congressional concern over ecological problems is clearly at hand." "For the most part such evidence has shown itself in relation to seemingly isolated problems--pollution, food resources, wilderness, conservation and water use rather than with total ecosystems. But recognition of the fact that the Nation will eventually have to deal with the latter in order to handle the former is growing."

"One good example," the report cites, "is the introduction of H.R. 6698 by Chairman Daddario for the establishment of a Technology Assessment Board to aid the Congress in

determining how technology may best be used to help solve the Nation's major problems--as well as assist in avoiding the dangerous side effects of misapplied technology. Another example is the legislation to create a Council of Ecological Advisers.

The Committee emphasized that "ecological understanding is both an international and a national problem." Because of this fact, he said, "the federal government has a definite responsibility to support the International Biological Program."

COST SHARING WITH INDUSTRY

A recent report on "Cost Sharing with Industry" prepared by the Working Committee on Economic Incentives of the Federal Coordinating Committee on the Economic Impact of Pollution Abatement summarizes the Working Committee's evaluation of the advisability of further assistance for industry and possible alternative approaches for such assistance. The Chairman of the Committee is Dr. Jack W. Carlson, Council of Economic Advisers, Executive Office of the President. Committee recommendations are as follows:

1. The Secretary of Health, Education, and Welfare and the Secretary of the Interior should examine the goals and effectiveness of programs already available for controlling industrial pollution and recommend changes in their administration and content to make these programs more effective. Also the level of assistance already offered to industry should be highlighted--such as the 7% investment tax credit, technical assistance, personnel training, and R&D expenditures for lowering the cost of abatement.

2. The Federal Government should consider increasing its investment in research and development in the following areas:

   a. More economic methods of industrial pollution abatement.

   b. Evaluation of alternative institutional arrangements for implementation of pollution abatement programs.

   c. More effective devices for measuring waste load discharges and concentration levels.

   d. Measurement of damages caused by pollution.

   e. Better estimates of the cost and performance of alternative abatement measures within firms and within problem shed areas.

   f. Technical bottleneck areas such as desulphurization of coal and acid mine drainage.

3. Additional assistance in meeting required pollution abatement standards is recommended only in cases where cost of abatement imposes a demonstrable hardship on individual plants which were located prior to 1967--when the Clean Air Act was passed and water quality standards were required. Consideration should be given to the importance of hardship plants in each community. Current programs administered by the Economic Development Administration, Small Business Administration, Interior, and HEW could accommodate this recommendation.

4. Across-the-board cost-sharing in the form of tax writeoffs is not recommended because it distorts the tax structure, causes the total cost of pollution abatement to rise significantly, promotes excessive use of capital equipment and waste treatment facilities, and discourages selectivity in environmental quality management. Across-the-board use of grants and loans is similarly handicapped and, in addition, is subject to fluctuations in Congressional appropriations.

MAX N. EDWARDS ON WATER POLLUTION

In a speech before the National Pollution Control Exposition and Conference in Houston on April 4, Assistant Secretary of the Interior for Water Pollution Control Max N. Edwards concluded that:

"The strategy for effective pollution control has been set. Standards are going into effect. They will be enforced, and, if there are changes made in those standards, they are likely to become stronger, not weaker. Pollution control is here to stay. Effective waste management must become a permanent institution of American life--a standard consideration for cities and government and industry.

"Wastes are increasing, not decreasing. The law establishing the water quality standards program requires that water quality be enhanced. Standards are not meant to lock in present polluted conditions.

"More importantly, the American public continually demands cleaner waters, as perception of the pollution problem sharpens and the American standard of living rises."

SOCIOLOGY AND WATER RESOURCES

At the annual meeting of the Rural Sociological Society last August, participants in the natural resources section discussed the possibility of holding a workshop for sociologists dealing with water resources research. The sociologists present felt the purpose of the workshop should be to stimulate interest and thinking on the types of problems where the attention of sociologists could be helpful.

Dr. Wade H. Andrews, Professor of Sociology and Water Resources Research, Utah State University, took the initiative and proposed a workshop for April 18-19 on the campus in Logan. This has materialized and Dr. Selz C. Mayo, Head, Department of Sociology and Anthropology at NCSU, will attend on behalf of the Institute. It is hoped this will lead to the involvement of sociologists in water resources research in North Carolina.

INTERIOR SUBMITS SUGGESTED LEGISLATION TO CONTROL OIL POLLUTION

The Department of the Interior has submitted to Congress proposed legislation to help control pollution of the Nation's waters by oil spills and other hazardous substances. The President proposed the enactment of such legislation in his recent message to Congress, "To Renew A Nation."

The measure would carry out some of the major recommendations made in a detailed report, "Oil Pollution--A Report to the President," which was prepared jointly by the Department of the Interior and Department of Transportation at the request of the President. Other recommendations made in the report are already included in S. 2760 which the Senate passed in December, 1967.

The main provisions of the proposed legislation are as follows:

Prohibits the discharge of oil if it occurs from a shore facility or a ship operating within 12 miles from shore. The 3-mile territorial and 9-mile contiguous zones are thus both covered. This greatly expands the previous standard of liability, which was limited to "gross or willful negligence" and to the 3-mile limit.

Imposes upon the discharger of oil including ship and shore facility owners the responsibility for cleaning up the affected areas.

Empowers the Federal Government to clean up oil spills whenever the owner or operator fails to act, but requires the pollutor to reimburse the Government for the clean up costs. Prior law limited the owner's liability to the salvage value of the ship. The proposal will make them liable for the full costs of clean up.

Provides protection against large and dangerous discharges of pollutants other than oil by requiring those responsible to take whatever clean up or other action the Government considers necessary. If the pollutor fails to act, the Government will take the necessary steps, and hold the pollutor liable for the costs.

The report by the Department of the Interior and Department of Transportation pointed out to the President that the risks of oil contamination and other hazardous substances are as numerous and varied as the uses made of them. The report also said that wherever oil is used, stored, or moved, it is subject to mechanical failures compounded by human carelessness and mistakes.

Referring to the Torrey Canyon disaster, the report said: "Because sizable spills are not uncommon, and major spills are an ever-present danger, effective steps must be taken to reduce this Nation's vulnerability."

PUBLIC HEARING ON ROANOKE RIVER BASIN

The Wilmington District, Corps of Engineers, has scheduled a hearing to consider plans for multiple-purpose project development at the Schoolfield site of the Roanoke River Basin for flood protection, hydropower, water supply, water quality control, recreation, and fish and wildlife conservation. Consideration will be given to local flood protection measures to be included in the plan of development. The hearing will be held at:

Midtown Motor Hotel
Danville, Virginia
on
Thursday, 16 May 1968
7:30 p.m. (eastern daylight saving time)

VESSEL POLLUTION

The Senate Subcommittee on Air and Water Pollution was told by FWPCA Commissioner Joe G. Moore, Jr., at its April 2 hearing on S. 2525 that steps should be taken to eliminate the discharge of sewage, oils, litter, bilge waters, ballast water, wash water, and other polluting substances discharged by vessels. Moore said that there are about 46,000 documented commercial vessels; 65,000 non-documented commercial fishing vessels; 1,500 federal vessels; and 8,000,000 recreational watercraft using navigable waters of the United States. In addition, there are some 40,000 foreign ship entrances in these waters each year. The recreational watercraft are served by approximately 5,500 marinas with varying types of services.

Moore supported the provisions of S. 2525 which would authorize the Secretary of the Interior to establish standards for control of sewage from vessels, prescribe regulations governing discharges of ballast and bilge water from all commercial type vessels, and issue regulations controlling the discharge of litter, garbage, sludge and other wastes from vessels.

ROSS D. NETHERTON APPOINTED BOR DIRECTOR OF RESEARCH AND EDUCATION

The appointment of Ross D. Netherton as Chief of the Division of Research and Education in the Bureau of Outdoor Recreation has been announced.

A native of Chicago, Ill., Netherton has served since 1961 as Counsel for Legal Research with the Highway Research Board of the National Research Council. He was associated with the University of Wisconsin in a research capacity in 1960-61 and as Legislative Counsel with the American Automobile Association from 1951 to 1960. Prior to that time he was Assistant Professor of Law at Washington College of Law of the American University and at Kent College of Law in Chicago.

The Division of Research and Education is responsible for the Bureau's recreation research and education activities and serves as a focal point for Federal outdoor recreation research and for cooperation with universities and other educational agencies. The Division conducts, sponsors, and stimulates research in all aspects of outdoor recreation, and is responsible for maintaining an information retrieval system.

The new research head holds degrees from the Universities of Chicago, Michigan and Wisconsin. He has served as a member of many legal, conservation-oriented, and education conferences and has been contributor to numerous scientific, technical and professional publications.

FEDERAL GRANTS FOR WASTE TREATMENT IN NORTH CAROLINA

The following grants for the construction of municipal waste treatment works in North Carolina were announced by the Federal Water Pollution Control Administration last month:

Belmont	$370,710	(Total project cost $1,235,700) New 5.0 mgd secondary treatment plant and 3,680 feet of interceptor sewers.
Kinston	$640,000	(Total project cost $2,140,000) Secondary treatment facilities and interceptor sewers.

GROUP TO WORK FOR WETLANDS CONSERVATION

North Carolina sportsmen who are worried about the state's rapidly vanishing marshlands now have an organization through which to voice their concern. A group of hunters, fishermen, birdwatchers and other sportsmen met early this month to form Wetlands and Estuaries for Tomorrow, a wetlands conservation organization.

The wetlands group pledged itself to work closely with the North Carolina Wildlife Federation, the state Wildlife Resources Commission, the Department of Conservation and Development and other organizations to prevent further destruction or alteration of the state's wetlands.

Wetlands and Estuaries for Tomorrow selected as officers H. E. Harrison of Plymouth, President; Bruce Alexander of Greenville, Vice President; Tody Thorne of Washington, Secretary; and Grady Austin of Hatteras, Treasurer.

Wetlands President Harrison pointed out to the group, "In the past 15 years over one-fourth of the wetlands in this state have either been destroyed or altered significantly. If this destruction continues, we will have no wetlands left in a few more years. Something must be done and we are going to help do it."

Harrison added, "Most people do not realize just how valuable these marshes are to wildlife. Duck hunters know how important a marsh is to a duck, but do commercial fishermen realize that their catch depends on the marsh? Does the average seafood consumer know that he is really eating a big hunk of marsh when he bites into a piece of fresh fish or an oyster or clam? I doubt that one man in ten has any idea at all just how important these wetlands are. We must make them aware of this importance."

Harrison said, "We are dealing with a crucial issue and time is short. I think the name of our organization, Wetlands and Estuaries for Tomorrow, very clearly states our purpose. Pollution, drainage, unplanned development, pesticides, apathy--these are our enemies and they are formidable. We have a big job ahead."

Harrison asked that other sportsmen who are concerned about wetlands contact him in Plymouth to join the new group.

WATER RESOURCES LEGISLATION IN THE CONGRESS

Second Session - 90th Congress

Bills Introduced

S. 3126 To provide for the regulation of present and future surface and strip mining, for the conservation, aquisition, and reclamation of surface and strip mined areas.

S. 3132
H.R. 16132 To provide for the cooperation between the Secretary of the Interior and the States with respect to the future regulations of surface mining operations.

S. 3157 To establish the Potomac National River in the States of Maryland, Virginia, and West Virginia.

WATER RESOURCES LEGISLATION IN THE CONGRESS (cont.)

S. 3212
H.R. 15973
H.R. 16140
H.R. 16544
H.R. 16553
To declare and determine the policy of the Congress with respect to the primary authority of the several States to control, regulate and manage fish and wildlife within their territorial boundaries; to confirm to the several States such primary authority and responsibility with respect to the management, regulation and control of fish and wildlife on lands owned by the U. S.; to specify the exceptions thereto and to provide procedure under which Federal agencies may otherwise regulate the taking of fish and game on such lands.

H.R. 15979 To amend the Act of August 1, 1958, in order to prevent or minimize injury to fish and wildlife from use of pesticides.

H.R. 16017
H.R. 16139
To amend the Federal Power Act to facilitate the provision of reliable, abundant, and economical electric power supply by strengthening existing mechanisms for coordination of electric utility systems and encouraging the installation and use of the products of advancing technology with due regard for the proper conservation of scenic and other natural resources.

H.R. 16044 To amend the Federal Water Pollution Control Act to authorize certain grants for assisting in improved operation of waste treatment plants.

H.R. 16046 To amend the Public Health Service Act so as to help assure safe community water supplies.

S. 3201 To extend for one year the provisions on research and assistance for State and interstate planning for solid waste disposal.

S. 3206 To amend the Federal Water Pollution Control Act relating to the construction of waste treatment works and to the conduct of water pollution control research.

H.R. 16133 To amend the Federal Water Pollution Control Act relating to area acid and other mine water pollution control demonstrations.

S. 3228 To amend section 2 of the act of August 1, 1958, as amended, in order to prevent or minimize injury to fish and wildlife from the use of pesticides.

H.R. 16207 To amend the Federal Water Pollution Control Act, as amended, to control pollution from vessels within the navigable waters of the United States.

H.R. 16256 To establish a nationwide system of trails.

H.R. 16257 To amend the Federal Water Pollution Control Act in order to authorize comprehensive pilot programs in lake pollution prevention and control.

H.R. 16258 To amend the Internal Revenue Code of 1954 to allow an incentive tax credit for a part of the cost of constructing or otherwise providing facilities for the control of water or air pollution.

H.R. 16360 To amend the Marine Resources and Engineering Development Act of 1966 and the National Sea Grant College and Program Act of 1966 in order to provide financing for programs under such acts.

H.R. 16392 To authorize the Army Corps of Engineers to initiate a 3-year appraisal report of the national tidal and Great Lakes shoreline.

H.R. 16480 To provide for Federal assistance in the planning and installation of works and measures for the control and prevention of damages resulting from erosion of the roadbeds and rights-of-way of existing state, county, and other rural roads and highways and from erosion of the banks of rivers and streams.

WATER RESOURCES LEGISLATION IN THE CONGRESS (cont.)

Bills Passed - Senate

S. Con. Res. 67, expressing sense of the Congress in favor of expanded effort in weather predictions.

Bills Passed - House

H.R. 13781 To amend title II of the Marine Resources and Engineering Development Act of 1966.

H.R. 15979 To prevent or minimize injury to fish and wildlife from the use of pesticides.

NEW PUBLICATIONS RECEIVED BY THE INSTITUTE

Water Resources Planning

"Challenging Issues in Water Resources," Universities Council on Water Resources Conference Proceedings, July, 1967.

"Development of Water Resources in Appalachia," Ohio River Div., Box 1159, Cincinnati, Ohio. 45201
Appendix D - Cost
Appendix J - Tennessee Valley Authority
Appendix P - Agriculture, Forestry & Conservation
Appendix Q - History, Organization & Coordination

"Economic Impact on Southwester Wyoming of Recreationist Visiting Flaming Gorge Reservoir," R. C. Kite & W. D. Shutz, Res. Jn. 11, Aug., 1967, Ag. Exp. Sta., Univ. of Wyoming, Laramie.

"Potential for Aquiculture," T. A. Gaucher, Reprint from EB Div. report U413-68-016 to Conn. Research Commission entitled "Study of Means to Revitalize the Connecticut Fisheries Industry," General Dynamics Corp., Jan. 1968.

"South Carolina Laws and Programs Pertaining to Water and Related Land Resources," G. W. Dukes and J. M. Stepp, Water Resources Research Institute, Clemson Univ., Clemson, S. C., Feb., 1968.

"This Environment - Friend or Foe," Abel Wolman, Spec. Report No. 1, Water Resources Center, Univ. of Illinois, Jan., 1968.

"Water Research Programs - Aquatic Communities," State of the Art Report on Aquatic Communities, Ruth Patrick, prepared for Office of Water Resources Research, USDI, March 22, 1968.

"Water Resources Management in Maryland," Water Resources Study Committee, Univ. of Maryland, College Park, Md., Aug., 1967.

Water Quality Management

"A Compsite Tubular Assembly for Reverse Osmosis Desalination," Loeb, S., W.R.C. Desalin. Report No. 5, Univ. of California at Los Angeles, June, 1966.

"Biology of Water Pollution - A Collection of Selected Papers on Stream Pollution, Waste Water, and Water Treatment," Federal Water Pollution Control Administration, Dept. Interior, Div. of Technical Services, 5555 Ridge Avenue, Cincinnati, Ohio 45213.

PUBLICATIONS RECEIVED (cont.)

"Critical Review of the Oklahoma State Water Resources Quality Criteria," Bureau of Water Resources Research, Univ. of Oklahoma, Norman, Okla., April, 1967.

"Federal Grants for Clean Water," FWPCA, USDI, CWA-6, Jan., 1968.

"Increases in Maximum Stream Temperatures After Logging in Old-Growth Douglas-Fir Watersheds," Levno, A. & Rothacker, J., Pac. N. W. For. & Range Exp. Sta., Portland, Oregon, Oct. 1967.

"Manual of Septic-Tank Practice," PHS Publication No. 526, Revised 1967 (Supt. of Documents, U. S. Gov't. Printing Office, Wash., D. C. 20201, $0.35).

"Multicomponent Mass Transport in Aqueous and Membrane Systems," G. B. Wills, Bu. 11, Water Resources Research Center, V.P.I., Blacksburg, Va., Jan., 1968.

"Residues of Herbicides and Diesel Oil Carriers in Forest Waters: A Review," Tarrant, R. F. & Norris, L. A., Forestry Sciences Laboratory, Forest Service, Corvallis, Oregon.

"Sewer and Sewage Treatment Plant Construction Cost Index," Federal Water Pollution Control Administration, USDI (Formerly PHS Pub. No. 1132).

"The Heterotrophic Uptake of Dissolved Amino Acids by Bacteria in Natural Waters," Thesis for M. S. Degree, Department of Zoology, N. C. S. U. at Raleigh, 1967.

"Variation of the Heat Transfer with Length, Pressure, Flow Rate and Temperature Difference in an LTV Falling Film Evaporator," Kroll, J. E., W. R. C. Desalin. Report No. 6, Univ. of California at Los Angeles, Aug., 1966.

"Water Pollution Control 1969-1973, The Federal Costs," FWPCA, USDI., Jan., 1968.

"Water and Sewer Bond Sales in the United States," Jan. - Dec., 1966, FWPCA, USDI, (WP-16, Formerly PHS Pub., No. 965).

Water Quantity Management

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