**SEPA** 

Annotated Bibliography for Water Quality Management

6<sup>TH</sup> Edition



#### LINITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: June 12, 1979

SUBJECT: Annotated Bibliography for Water Quality Management

FROM: Merna Hurd, Director-Werna Hend
Water Planning Division

To: All Regional Water Division Directors Information Memorandum: INFO 79-85

ATTN: All Regional 208 Coordinators

The enclosed Bibliography is prepared by EPA to assist those agencies engaged in water quality management planning. As before, references cited have been selected for their applicability to 208 planning and for their availability.

The entries are divided into five categories: Basic Information Materials on Water Quality Management; Exhibits-Films-Training Programs; Water Planning Division Publications; NTIS Publications; and Other Publications. Each reference is followed by a short abstract, and whenever necessary by ordering number or information. Instructions for using the Government Printing Office and the National Technical Information Services, as well as ordering forms for EPA's North Carolina Warehouse are included on the last two pages.

Questions, comments or suggestions regarding this edition should be addressed to Operations Branch, Water Planning Division, WH-554, Washington, D.C. 20460, telephone 202-755-2117.

All State and Areawide Agencies All Intra-agency Staff Contacts All 208 Public Participation Coordinators Thomas Jorling Swep Davis

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<u>Big Cleanup, The</u> - What the Restoration of Our Nation's Waterways Could Mean for Parks and Recreation. National Recreation and Parks Association. February 1977. Available from EPA Regional Offices.

The NRPA devoted this issue to a discussion of PL 92-500. The discussion emphasizes the important benefits which can accrue to the public through combined efforts to attain clean water and more open space or recreation opportunities. Recommended for citizen education.

Common Environmental Terms: A Glossary. Gloria J. Studdard. U.S. EPA, November 1977. Available from EPA Public Information Center, Washington, D.C. 20460. 23 pages, 240 entries.

Glossary of common words and terms essential to the study, understanding and solution of environmental problems.

Environmental Comment. January 1976. Available from the Urban Land Institute, 1200 18th Street, N.W., Washington, D.C. 20036.

Contains eight articles offering varying perspectives on the State and areawide WQM program, ranging from that of a Congress staff member to that of a local planner. Provides an excellent introduction to the program, its goals and its methodologies. Suitable for public information.

<u>First Things First: A Strategy Against Water Pollution</u>. U.S. EPA. September 1974. Copies available from the EPA Public Information Center, Washington, D.C. 20460, and GPO (551-507).

Booklet explaining the major elements of the strategy used by EPA and the States in their attack on water pollution, the problems faced and what is being done about them. Suitable for public information.

Recreational Benefits of Water Quality Improvement, The: Analysis of Day Trips in an Urban Setting. Clark S. Binkley and W. Michael Haneman, February 1977. EPA 600/5-77-003. NTIS PB 257-719.

Report explores demand models, new to recreational analysis, which are based on site characteristics and individual preferences to estimate benefit measures by consumer's surplus. The empirical findings of this study are based on a structured survey of 467 representative households in the Boston SMSA. Focus was specifically day trips to a system of Boston area beaches, but considerable additional data on willingness-to-pay, substitution between general recreation behavior was developed as well. The reader will find an extensive review of the post-war literature on recreation economics and water quality benefits.

"Spend the next two minutes reading this leaflet and perhaps you'll want to spend a few hours getting involved." U.S. EPA, November 1976. Availabe from EPA Public Information Office, Washington, D.C. 20460.

A brief non-technical flyer aimed at motivating citizens to take part in making decisions about how to clean up the water. Emphasizes the effect which water clean up might have on citizen lifestyle, and the need for the public to get involved in the decision-making process to insure that all viewpoints are heard. 2 pages.

Setting the Course for Clean Water. The National Wildlife Federation, November 1977. Available from the National Wildlife Federation's Education Division, 1412 16th Street, N.W., Washington, D.C. 20036. (To be revised by Fall 1979).

A handbook designed to enable citizens to participate effectively in 208 programs. All aspects of 208 are covered including requirements, sources of pollution, citizen's role, and alternative programs to control water pollution problems.

Tools and Rules...Federal Environmental Protection Program. The Association of New Jersey Environmental Commissions, October 1978. Available from EPA Forms & Publications Center, Mail Drop 41, Research Triangle Park, NC 27711.

A manual which outlines major Federal environmental statutes including the Clean Water Act, the Safe Drinking Water Act, the Clean Air Act, the Resource Conservation and Recovery act, the Insecticide, Fungicide, and Rodenticide Act, the Noise Control Act, and the Toxic Substances Control Act. The implication of Federal legislation on States and localities is addressed in a chart at the end.

Towards Clean Water: A Citizen's Guide to Action. The Conservation Foundation, Fall 1976. Available from the Conservation Foundation, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036.

Examines the FWPCA through regulations, guidance, and court decisions. Focuses on the key points at which decisions are made and provides guidance to citizen leaders on means of assuring the most environmentally sound implementation of this law. Examines legislative proposals that will affect implementation of the law.

Water Quality Management Directory. Third Edition. U.S. EPA, March 1979. Available from EPA Regional Offices.

Includes the State and local water quality managment agencies, EPA Regional project officers, and key State, Regional Office and Head-quarters contacts. Maps of each State are provided showing the boundaries of the local agencies' jurisdictions. Grant information is provided in appendices.

## EXHIBITS - FILMS - TRAINING PROGRAMS

## HOW TO BORROW FILMS

EPA films are reserved in the order requests are received. To avoid disappointment, requests should be made at least three weeks in advance of the intended showing date.

Where acceptable, alternative titles should be given and, if the showing date is flexible, it is helpful to include alternative showing dates at least one week apart. Request letters should indicate the number of showings, the size and type of audience, and how long the film will be needed.

A confirmation of film reservation will be sent to you indicating the title and the date reserved.

Please include your name address and zip code on your film request. Send request to the designated distributor:

Film Comm 208 S. LaSalle Street Chicago, Illinois 60604 312-263-0497 RHR Filmedia, Inc.
48 w. 48th Street
New York, New York 10036
212-541-9692
(All RHR films may be ordered through
Film Comm)

Modern Talking Pictures File 1687 Elmhurst Road Elk Grove Village, Illinois 60007 312-593-3250

All films are free...borrowers pay only return shipping (fourth class book rate).

All films are 16mm, sound, and color--unless otherwise noted.

# A Small Victory

A 28-minute film documentary. Traces the citizen action inspired by the water quality condition of Lake Winnisquam in New Hampshire which ultimately lead to the initiation of the Winnipesaukee River Basin Project. Available for viewing from: 1) Lakes Region Planning Commission, ATTN: Rick Saunders, Main Street, Meredith, NH 03253; 2) EPA Region I or 3) New Hampshire Water Supply and Pollution Control Commission, 105 Loudon Road, Concord, NH 03301.

## Nonpoint Sources Slide Series

This six-part slide show series provides an introduction to the serious problem of nonpoint source pollution. The series includes an overview of the Federal Water Pollution Control Act Amendments and then in separate presentations, the problems are discussed and the possible solutions are covered for each of these nonpoint source areas: agriculture, mining, silviculture, and construction. The sixth slide presentation discussed the legal and management aspects of 208. Each slide presentation has audio tape cassettes and is approximately 45 minutes long. Available on loan with supplemental fact sheets from EPA Regional Offices.

#### Urban Stormwater Runoff

A slide show which discusses urban stormwater pollution on a national scale and management techniques for abating pollution. Designed for general, non-technical audiences. Twelve and a half minutes, 76 slides, 1 audio tape cassette. Available for 2-week loan from all EPA Regional Offices or the Implementation Branch at Headquarters. Contact: Dennis Athayde, 245-3154.

## Is Your Drinking Water Safe?

A 30-minute film which provides vital information about the Safe Drinking Water Law, facts about the Nation's drinking water and problems many suppliers will have in meeting the new standards. Available on free loan from: Modern Talking Pictures.

## Can We Fish Again?

a 14-minute film on toxic substances. Available for viewing from EPA Region V in Chicago. Prints are \$105.00.

## The Gifts

Documentary film about the American landscape depicting the environmental degradation that has occured over the last two centuries. The scene moves through 18 States showing dismal pictures of poisoned fish, garbage filled waterways, dead, oil-coated birds and air turning into smog. Narrated by Lorne Greene from a script by Robert McBride with original music by Skitch Henderson, this is an inspiring introduction to environmental problems, ideal for classroom and citizen action groups use. EPA-produced 26-minute film. Available from Modern Talking Pictures.

# In Order to Change

Produced in Chicago, this film tells of a community group that won environmental safeguards. 90-minute film produced by the University of Illinois. Available from Film Comm.

#### A Man and A River

The man is Thomas Hart Benton, a great citizen of America, painter, author, conservationist and raconteur. The River is the Buffalo, a clear-running waterway that winds through the Ozark Hills in north-western Arkansas. A Man and A River is a fervent call to preserve beauty by a man who perceives beauty. 14-minute film produced by EPA. Available from Modern Talking Pictures.

## Meecology

A unique learning experience for elementary school children.

Meecology(just add ecology to me), shows how any child can relate to his environment in an ecologically sensitive way. Young children from rural, urban, suburban and iner city surroundings are seen actively involved in preserving nature, conserving energy, and avoiding waste. The children on film "speak out" to children, inviting them to find the right thing to do in a meecology situation. A catchy, original tune and creative film technique make this an entertaining, educations viewing experience for elementary school children. 26-minute film produced by McDonalds Corp. Available from Modern Talking Pictures.

## A Question of Values

This film illuminates an intense public debate in a small Maine town torn by conflict between environmental preservation and economic development. A New York oil company wants to build a modern refinery in Maine, and crude oil would be provided by giant 200,000 ton tankers which would move through approaches to Penobscot Bay. Huge oil spills could wipe out lobstering, fishing and the tourist-based economy of the area. But, there is high unemployment in the area, and the refinery would bring jobs and attract satellite industries. The Maine people involved have taken sides because they know their future could be at stake. Available from RHR.

## The First Pollution

A new film about water pollution problems, what they are, who produces them, what's being done about it, and what will happen in the future. The film visits the Potomac, the Kanawha, the Tittabawassee, the Houston Ship Channel and other streams. It takes the viewer into the combined sewers of St. Paul, to the advance waste treatment plant at Lake Tahoe, to Dow's chemical recycling plant, and Armco Steel's industrial recovery system. New concepts such as the "living filter", oxygen aeration and sewage reclamation are shown. 26-minute film produced by Stuart Findley. Available from RHR.

#### Fresh Water from Waste Water

Discussion of water reclamation and the possibilities of waste water reuse even for drinking water. Technical explanation of tertiary treatment at the South Tahoe Public Utility District on Lake Tahoe. 16-minute film produced by EPA. Available from Film Comm.

## The Great Cleanup

A new film about a commonly cherished possession, the Great Lakes, the largest collective body of fresh water in the world and one of the hardest hit by severe pollution. The film carefully examines the major damage to the Great Lakes and the combined efforts which have resulted in an unprecedented, multi-million dollar cleanup effort. 54-minute film produced by EPA. Available from Modern Talking Pictures.

## Stormwater Pollution Control

Stormwater runoff is a major pollution problem. EPA is spending \$85 million on more than 120 research and dvelopment projects aimed at solving it. When it rains, filth by the ton is suddenly washed into sewage systems which can't handle the load—the heavily polluted water bypasses treatment and pours into the waterways in a concentrated slug which can poison fish and constitute a health hazard. This film show some of the ways in which various cities are coping stormwater runoff. 26-minute film produced by EPA. Available from Film Comm.

## Clearwater

Available in film or videotape, this 15 minute piece describes runoff problems associated with agriculture and best management practices. The film is designed as a motivational tool, and as an introduction to the opportunities of the Rural Clean Water Program. Available by July 1979 from the EPA Regional Offices.

# The Alternative is Conservation

Through case studies on water conservation from all parts of the country, this film or videotape is designed to encourage discussion of water supply and wastewater disposal problems. Different types of available water saving devices and alternative waste treatment technologies are shown. The film is effective for a wide variety of workshops, public television, and classroom situations. A fact sheet will accompany the film explaining more fully its technical aspects. Available from EPA, Barbara Yeaman, Facility Requirements Division (WH-595), (202)755-8054; or from Lyle Brecht, Urban Scientific and Educational Research, Inc., 126 Oxford Road, Cambridge, Massachusetts 02140, (617)864-8437.

# Planning for Floods

A 28-minute film produced by the Environmental Denfense Fund concentrating on floods on the Mississippi River and the historic flood at Rapid City. South Dakota, the film drastically demonstrates the tragedies that can result from total reliance on dams, channelization, levees, and other structural measures for protection. Needed reforms in Federal flood control policy are presented including flood plain zoning and insurance. Available for the cost of insurance and mailing from the Environmental Defense Fund or Film Inc., at any of the film centers nearest you.

600 Grant Avenue, Ridgefield, NJ 07657
324 Delaware Avenue, Oakmont, PA 15139
5797 New Peachtree Road, Atlanta, GA 30340
512 Burlington Avenue, La Grange, Illinois 60525
8615 Directors Row, Dallas, TX 75247
410 Great Road, Littleton, MA 01460
915 NW 19th Avenue, Portland, OR 97209
25358 Cypress Avenue, Hayward, California 94544
2221 S. Olive Street, Los Angeles, CA 90007
6420 W. Lake Street, Minneapolis, MN 55426

#### WPD PUBLICATIONS\*

Relationship of Level B Planning and Water Quality Management Planning. U.S. EPA, November 1976. PDS No. 0004939. Also available from EPA Regional Offices.

Section 208 of the Federal Water Pollution Control Act Amendments of 1972 requires the preparation of a "Level B Plan under the Water Resources Planning Act for all basins in the U.S." The study describes how the Level B study process has actually worked, and how the outputs of an actual Level B plan may relate to the water quality planning activities under the Act and vice versa. The study includes analysis of two actual Level B planning processes, in terms of their relationship with water quality management planning.

<u>Federal Programs Impacting Regional Water Quality Management</u>. Prepared for the Miami Regional Planning Commission. January 1976. Available from EPA Regional Offices.

The following information is listed for 20 Federal programs which impact water quality management: program title, authority, objectives, extent of participation, eligibility requirements, funding status, and relation to areawide planning and management.

Compilation of Federal, State and Local Laws Controlling Nonpoint

Pollutants: An Analysis of the Law Affecting Agriculture, Construction,

Mining and Silviculture Activity. U.S. EPA Report No. 440/9-75-011.

PDS No. 0002347. Also available from EPA Regional Offices.

Investigates legal means of controlling water pollution from nonpoint sources in agriculture, silviculture, construction and mining. Analyzes selected legislation at the Federal, State and local levels, through existing statutory practices and procedures.

Federal Guidelines, Operation and Maintenance of Wastewater Treatment Facilities. U.S. EPA, August 1974. Available from EPA Regional Offices.

The guidelines are intended to assist in assuring that all aspects related to wastewater treatment plant operation and maintenance are appropriately considered by those responsible for complying with grant requirements, specific effluent permit criteria, and related water quality standards. They provide information on the key elements that should be included in any plan of operation for a wastewater treatment facility. Source documents offering more detailed information are referenced throughout.

\*All publications available from EPA Forms & Publication Center, Mail Drop 41, Research Triangle Park, NC 27711, unless otherwise specified. Forms are provided for ordering in the back of this book.

<u>Guidance for Sewer System Evaluation</u>. U.S. EPA, 1974. Available from EPA Regional Offices.

Intended to provide engineers, municipalities, and regulatory agencies with guidance on sewer system evaluation to determine presence of excessive infiltration/inflow. Includes discussion of physical surveys, rainfall simulation, preparatory cleaning, internal inspection and survey reports.

<u>Silvicultural Chemicals and Protection of Water Quality</u>. U.S. EPA, Region X. Available from EPA Regional Offices.

Describes present practices and guides in the development of management practices on the minimization or prevention of nonpoint source pollution. Describes the scope of chemical usage, the effects of these practices and their alternatives, offers a summary of guidelines for use of chemicals in forests. Reviews the toxicological properties of major forestry chemicals. Glossary of technical terms included. 209 pages.

Nonpoint Source Control Guidance, Construction Activities. U.S. EPA, December 1976. PDS No. 0003400. Also available from EPA Regional Offices.

Designed to provide State and areawide 208 agencies, the Federal agencies, and other concerned groups and individuals with information which will assist them in carrying out their water quality planning and implementation responsibilities. The basic guidance information included is principally technical in nature and presented in three main chapters: identification and assessment of procedures needed for selection of controls; descriptions of individual and systems of BMP's, with a method for determining their effectiveness; and several methods for predicting potential pollution problems from future construction activities.

Methods to Control Fine-Grained Sediments Resulting from Construction Activity. EPA 440/9-76-026. PDS No. 0003400. Available from EPA Regional Offices.

This report was prepared to provide information and economical measures which can be used to contain or prevent the runoff of fine-grained sediments from construction sites. Methods for the control of fine-grained sediments can be grouped into four general categories. The first consists of standard erosion control techniques which are used in construction sites and which tend to reduce the production of fine-grained sediments in the site. The second category or line of defense involves the use of adequate sediment control measures. Use of post-depositioned (post-sediment pond) devices and techniques comprises the third fine-grained control line of defense. The final aspect of the control technology is the removal and disposal of the fine-grained sediment from detention ponds and post-depositioned devices.

Inactive and Abandoned Underground Mines: Water Pollution Prevention and Control. June 1975. EPA 440/9-75-007. PDS No. 0001375.

Provides information on the chemistry and geographic extent of mine drainage pollution in the U.S. from inactive and abandoned underground mines; underground mining methods and the characterization of mine drainage control techniques.

Criteria for Developing Pollution Abatement Programs for Inactive and Abandoned Mine Sites. EPA No. 440/9-75-008. PDS No. 0001450.

Gives guidance to States conducting or anticipating the establishment of abandoned mine land pollution abatement ordinances, and reclamation programs. Gives organizational, financial and legal considerations for the program, and technical and background approaches and reclamation programs.

Guidance for Facilities Planning. U.S. EPA, Washington, D.C., May 1975. Available from EPA Regional Offices.

Assist 208 agencies in the preparation of grant applications and refinement of work plans, and aids States in their review of areawide grant applications. Divided into three parts: grant application requirements, outline of work plan, and refinement of work plan.

EPA Publications on Urban Stormwater Runoff: Ordering Information. Available from EPA Region IV. June 1976.

Listing of publications, without abstracts. Approximately 22 entries. Includes NTIS and GPO numbers and prices.

Land Use Information for Water Quality Management Planning. U.S. EPA, August 1976. PDS No. 0003528. Available from EPA Regional Offices.

This report tells water quality management planners what kinds of land use information is likely to be available and useful to them in their work at identifying impact of land use activities on water quality and at seeking planning and management strategies to solve water quality problems. It is organized around the sources and types of information available and points up the first steps in data collection: people to see, maps and reports to get, things to look for. It is not a manual or methods and techniques for analyzing the relationship between water quality and land use. A great deal of work already has been done in that area and is continuing to be produced. This is designed to complement that work.

Environmental Assessment of Water Quality Management Plans. U.S. EPA, January 1977. PDS No. 0003471.

The preparation of an environmental assessment for a water quality management plan is a requirement under Section 208 of the Federal Water Pollution Control Act Amendments of 1972. This handbook is designed to assist managers and staff of planning agencies in assessing the natural and man-made environmental impacts of alternative water quality management plan elements. The intent of this guidance is to emphasize the interrelated nature of assessment in judging alternatives as they are developed. While this handbook is still in draft form, it contains a great deal of information which will be useful to State and areawide agencies.

Nonpoint Source Control Guidance Hydrologic Modifications. U.S. EPA. PDS No. 0003580.

The basic guidance information included in this nonpoint source control document is principally technical in nature and presented in four main chapters. They include information on the identification and assessment of existing hydrologic modification nonpoint source problems; analysis and procedures needed for selection of controls, descriptions of individual and systems of BMP's; important considerations for predicting potential pollution problems from future hydrologic modifications activities; and final plan format.

Water Quality Impacts of Land Disturbing Activities - Evaluation and Development of Institutional Systems for Environmental Management.
U.S. EPA, July 1976. Available from EPA Regional Offices.

This publication presents a systematic approach to the identification of optimal control authorities and programs for land disturbing activities. It is intended for use by both State and areawide 208 agencies as a possible approach to evaluating implementation alternatives. While recommendations are specific to the State of Nevada, the process may have applicability in various programs and media.

National Water Quality Inventory. 1976 Report to Congress. June 1977. EPA 440/9-76-024. PDS No. 0003788.

Submitted to Congress as required by Section 305(b) of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500).

<u>Urban Land.</u> July/August 1977. "The Developer's Role in 208," Urban Land Institute. Available from the EPA Regional Offices.

Two articles in this issue of <u>Urban Land</u> deal with 208. One documents how 208 plans currently being prepared will affect the development industry. The other describes the interrelationships of Section 208 to Sections 303, 402, and 201.

Guide 1 -- Effective Public Meetings
Guide 2 -- Working Effectively with Advisory Committees. PDS 6040
Guide 3 -- Effective Use of Media
May 1977.

These guides give planners and other 208 agency staff useful, in-depth information about running effective public meetings, making the best of advisory committees, and using sound media techniques. Each is organized to provide basic practical tips, as well as guidance for organizing a public participation program over the long term. These guides are meant to be used as reference materials with a full range of suggestions to fit many specific local situation.

Where Do We Go From Here? The Challenge of WQM for Elected Officials. July 1977. Available from Office of Public Awareness, A-107, Washington, D.C. 20460.

The major focus of the pamphlet is on the role elected officials can play in preventing and controlling pollution problems, especially those related to land use and nonpoint sources. A major intent of the report is to increase local officials interest in and understanding of the water quality management program and local governments' role in the program specifically, and in pollution abatement generally. 9 pages.

The Public Benefits of Cleaned Water, Emerging Greenway Opportunities. August 1977. Available from the EPA Regional Offices and/or the Public Information Center, PM-215, Washington, D.C. 20460.

This publication highlights opportunities for greenway development and protection. It encourages careful management in the use of waterfront land, early planning for public access and enjoyment of cleaned rivers, streams and harbors, and efforts to ensure that these bodies of waters are not repolluted by new, indiscriminate development attracted to their shores.

<u>Community Guide</u>. 1977. "Getting in the Swim: How Citizens Can Influence Water Quality Planning." League of Women Voters Education Fund. Available from the EPA Regional Offices.

A six page guide for citizens and community groups who wish to become involved in Section 208 planning and implementation.

<u>It's Time, Speak Up</u>. Available from EPA Regional Offices and the Public Information Center, PM-215, Washington, D.C. 20460.

An 8-page brochure describing the general nature of the 208 program. The 208 process is broken down into 5 basic steps. Each is described and at each step suggestions are given as to how citizens can get involved.

#### GPO PUBLICATIONS

Evaluation of Water Quality Models: A Management Guide for Planners. EPA 600/5-76-004. U.S. EPA, July 1976. Available from GPO. Price \$2.50.

Report is designed as a handbook specifically oriented to water quality and water resources planners and managers. It presents basic information on water quality modeling, including procedures for: model evaluation, model selection, integration of modeling with planning activities, and contracting modeling projects.

Information regarding the applicability and availability of other specific water quality models is available from: Harry Torno, Office of Research and Development (RD-682), U.S. EPA, Washington, D.C. 20460. 202/426-0810.

Municipal Sewage Treatment: A Comparison of Alternatives. Council on Environmental Quality and U.S. EPA, Washington, D.C. Available from GPO. Price: \$4.85.

Provides a single document which can be utilized on a comparative basis, to develop preliminary selections of appropriate wastewater treatment schemes for a municipality. The format of the text allows the reader to compare various treatment strategies on an energy, environmental or economic basis and to develop cost figures which may better reflect a particular local situation.

Summary Appraisals for the Nation's Ground Water Resources -- (by drainage basins). U.S. Department of the Interior, Geological Survey Professional Papers 813-A thru H. Available from GPO. Variously priced.

Provides a comprehensive summary of each Region's ground water resources--characteristics of quantity, quality, problems indigenous to each Region, planning for resource management, and other approaches uniquely important to each Region.

Methods of Quickly Vegetating Soils of Low Productivity, Construction Activities. EPA No. 440/9-75-008. U.S. EPA, Washington, D.C. July 1975. Available from GPO. Stock No. 055-001-010-43-5. Price: \$6.40.

Documents prepared for use by planners, engineers, and resource managers who need to provide for the rapid establishment of a protective vegetative cover on construction sites bare soils.

#### NTIS PUBLICATIONS

<u>Public Involvement in the Corps of Engineers Planning Process.</u>

James R. Hanchey. U.S. Army Engineer Institute for Water Resources.

NTIS AD A017 946.

The approach to public involvement program development here assumes that planning should consist of sequential stages with definable decision points, and that explicit consideration of public viewpoints must be undertaken before decisions are made. Contains specific "how to" information on obtaining citizen input, disseminating information, budgeting for public involvement and evaluating its effectiveness. 44 pages.

<u>Public Participation in Water Resources Planning: An Evaluation</u> of the Programs of 15 Corps of Engineers Districts. James F. Ragan, U.S. Army Engineer Institute for Water Resources. NTIS AD A019 966.

This report examines the public involvement programs of fifteen Army Corps of Engineers field offices. First, the programs are described, and two are used as detailed case studies. The bulk of the report divides planning into five basic stages, gives guidance as to what could be done to involve the public at each state, and finally describes what is being done by the Corps. An interesting last chapter describes the constraints on effective public participation both from the bureaucratic system, and from citizens themselves.

Water Resources Decision Making on the Basis of the Public Interest. Report No. IWR Contract Report 75-1. U.S. Army Engineer Institute for Water Resources. NTIS AD A010 402. Price: \$4.25.

The concept of water resources decision making in the public interest is both fundamental and elusive. This report discusses alternative perspectives that have been suggested for defining the public interest and provides an overview of the decision making involved in a typical water resources planning study. It then examines various approaches to determining the public interest in pre-authorization planning and decision making.

Design Criteria for Mechanical, Electric, Fluid Systems and Component Reliability. U.S. EPA. Available from NTIS PB 227-5584.

Amplifies and supplements the Federal guidelines for design, operation, and maintenance of wastewater treatment facilities with regard to establishing minimum standards of reliability for mechanical, electric and fluid systems and components. Stresses component back-up to attain system reliability.

Structuring Communications Programs for Public Participation in Water Resources Planning. Utah State University, Department of Civil and Environmental Engineering, and the United States Army Engineer Institute for Water Resources, May 1975. NTIS AD A012 208.

The report describes the Corps of Engineers' planning and defines the information generated during the planning activities. The planning process is related to various communication models and an approach to development of public participation is suggested. Various techniques and methods for communication with the public are presented. The report concludes with several examples of public participation programs and the relation of these programs to environmental impact assessment and water quality management.

Communication for Urban Water Resources Management—A Review and Annotated Bibliography. R.M. Males and T.J. Cooke, W.E. Gates and Associates Inc., February 1974. NTIS PB 233-332.

The review is intended as a source-book for professionals interested in utilizing the findings of communications research on the design and conduct of public involvement programs for urban water resources. A basic presentation of the fundamental findings of communications theory, in the areas of basic communications processes, mass communications/persuasions, small group processes and face to face communications is included.

The Role of Citizen Advisory Groups in Water Resources Planning. Madge Ertel, University of Massachusetts at Amherst, Water Resources Research Center, July 1975. NTIS PB 240-877.

This report is a result of systematic, case study observation of the citizen advisory groups operating in conjunction with three observation recognizance level planning studies of the New England River Basins Commission. Citizen Advisory groups can serve as one component of a public participation program, and can provide a valuable link to other strategies included in the program. The report includes a set of practical guidelines for the use of planning agencies seeking to maximize the effectiveness of citizen advisory groups.

Evaluation of Cost-Effectiveness of Nonstructural Pollution Controls: A Manual for Water Quality Management Planning. CONSAD Research Corp., April 30, 1976. NTIS No. PB 260-513.

Develops and illustrates a procedure for estimating the cost of nonstructural pollution controls for use in evaluating the cost-effectiveness of implementing such controls. The procedure provides consistency in the evaluation of structural and nonstructural pollution controls, and permits systematic comparison of the control applications. 70 pages

Cost-Effectiveness Analysis of Municipal Wastewater Reuse. U.S. EPA, April 1976. NTIS No.

A description of procedures to assist local governmental agencies in properly assessing the cost-effectiveness of alternative wastewater reuse systems. Contains two case studies and a complete bibliography of current information regarding the economics and practice of wastewater reuse.

Problems and Approaches to Areawide Water Quality Management. Vols. I-IV. U.S. EPA and School of Public and Environmental Affairs, Indiana University, 1973. NTIS PB 239-808.

This report deals with the issues of the adequate authority of designated waste treatment management agencies to perform as required by Section 208(c)(2) and related sections of the Act. "Adequate authority" includes both the legal authority and the management capability of the agencies. The report is based on a legal analysis of the laws of the fifty States and of Federal legislation, and on a survey of existing waste treatment management agencies. The study consists of a main report, an executive summary and two separately bound appendices: Appendix A--Suggested Representative or Model legislation, and Appendix B--State Reports.

Modeling Nonpoint Pollution From the Land Surface. EPA No. 600/3-76-083. U.S. EPA, July 1976. Available from NTIS PB 257-189.

Report describes the development and initial testing of a mathematical model for continuously simulating pollutant contributions to stream channels for nonpoint sources. The NPS model is composed of subprograms to represent the hydrologic response of a watershed, including snow accumulation, generation, and washoff from the land surface.

Development of Residuals Management Strategies -- Executive Summary. U.S. EPA. NTIS PB 251-011/AS.

Study of the development of strategies for managing residuals. Contains step-by-step guidelines for identifying alternative residuals management strategies and then evaluting and selecting a strategy. Presents a residuals generation and discharge model which identifies different methods for complying with recent Federal legislation that requires a specified level of environmental quality and identifies many points in the residuals generation and discharge process at which physical methods can be introduced or changes made, to reduce or alleviate the effect of discharging residuals into the environment.

Residual Waste Best Management Practices: A Water Planner's Guide to Land Disposal. RFP No. WA-76-R045. Available from NTIS PB 251-031/AS.

This document describes residual wastes from nine most frequently encountered sources and relates management of these wastes to exhaustive enumeration of BMP's. This provides the potential user -- planners, engineers, lawyers, elected officials and other -- with a reference for carrying out their residual waste management responsibilities under areawide or State water quality management planning programs and other regional/local activities.

Sludge Processing, Transportation and Disposal/Resource Recovery: A Planning Perspective. EPA No. 440/9-76-022. U.S. EPA, December 1975. NTIS PB 251-013/AS.

Reports on the methodology for use by planners in the evaluations of alternatives for the ultimate disposal of residual wastes generated by municipal wastewater treatment plants. The methodology considers technical, economic, social, and institutional factors pertinent to a thorough review of alternatives.

An application of this methodology is presented in <u>Demonstration of A Planning Perspective for Waste Water Sludge Disposition Ohio/Kentucky/Indiana</u>, EPA 440/9-76-001-B, NTIS PB 250-684/AS, <u>Demonstration of a Planning Perspective for Waste Water Sludge Disposition --Knoxville/Knox County</u>, EPA 440/9-76-001-A, NTIS PB 250-936/AS.

Resource Recovery Information for Municipal Officials. Two volumes combined. EPA No. 440/9-76-018. Vol. I - February 1976, Vol. II -- August 1976. NTIS No.

Presents an overview of administrative, institutional, and technical solutions for recovering useful elements such as aluminum, paper and energy from municipal solid wastes. Vol. I, Section A is concerned with central processing facilities. It deals with policy issues, financing, procurement, and contracts and includes a nationwide survey of resource recovery activities. Section B of Volume I provides a cursory review of source separation. Vol. II is a continuation of Section A, dealing with market and products, accounting format, and technologies.

Implementing A BMP for Residuals, The Waste Exchange. EPA No. 440/9-76-019. Alan K. Vitberg and Christopher H. Porter. June 1976. Available from NTIS PB 258-068/AS.

This document characterizes waste exchange systems which will help local jurisdictions and industry to deal with industrial wastes and residuals through resource conservation and utilization. It is intended to demonstrate a residual BMP; namely, that one industry's waste has the potential to be another industry's feedstock.

Contributions of Urban Roadway Usage to Water Pollution. EPA No. 600/2-75-004. U.S. EPA, March 1975. Available from NTIS PB 245-854/5BE.

Study of contributions of motor vehicle usage to urban roadway loading factors. Specific roadway study sites within the nonindustrial Washington, D.C. area were collected so as to provide minimal interference from non-traffic related land use activities and thus isolate, as much as possible, the traffic related dispositions.

Practice in Detention of Stormwater Runoff. Herbert G. Poertner, American Public Works Association, 1974. NTIS PB 234-554.

On-site detention of runoff was investigated as an alternative to other methods of urban stormwater runoff management. It was found that this method, which involves collecting excess runoff before it enters the main drainage system, can often be applied as an effective and economical means of reducing peak runoff, slow rates to lessen or eliminate problems of flooding, pollution, soil erosion, and siltation.

<u>Urban Stormwater Management and Technology: An Assessment.</u> EPA No. 670/2-74-040. U.S. EPA, National Research Center, 1974. Available from GPO and NTIS PB 240-687/AS.

The results of a comprehensive investigation and assessment of promising, completed and ongoing urban stormwater projects which are representatives of the state-of-the-art in abatement theory and technology. Presented in a textbook format, provides a compendium of project information on management and technology alternatives within a project framework of problem identification, evaluation procedures and program assessment and selection.

Water Quality Management Planning for Urban Runoff. EPA No. 440/9-75-004. U.S. EPA. December 1974. Available from NTIS PB 241-689/AS.

Provides technical assistance to State and local water quality management planners to enable them to quantify within reasonable limits the urban nonpoint water pollution problem in a local planning area without extensive data generation, and to make a preliminary evaluation of cost-effective abatement and control practices. Prescribes procedures for several levels of input, each requiring more self-generated data, with increasingly sophisticated results.

Water Resources Protection Measures in Land Development: A Handbook. U.S. Department of Interior, 1974. Available from NTIS PB 236-049.

Description of measures that can become an integrated part of urban development to lessen problems that would otherwise adversely affect water resources. Measures are presented in groups and related

directly to the problems of runoff, erosion, sedimentation, flooding, runoff pollution and increased sewage effluent discharge. Each group is preceded by a flow chart that relates individual measures to each other and can aid in the selection of alternative techniques that follow a logical sequence.

Proceedings: Urban Stormwater Management Seminars. WPD No. 03-76-04. U.S. EPA, January 1976. Available from NTIS PB 260-889. Price: Paper copy \$12.75; Microfiche \$3.00.

These proceedings are intended to give the reader a general overview of the urban stormwater problem. It is directed towad: a characterization of the problem, discussion on the viewpoint of the modeling. Section 2 covers alternative techniques of stormwater management. Issues concerning implementation are addressed in the last section and include financial, legal, and institutional problems. This document does not purport to contain all answers to the reader's specific stormwater problems, but will provide guidance through the formal presentations, questions, responses, and bibliographies that it contains.

Preventive Approaches to Stormwater Management. EPA No. 440/9-77-001. U.S. EPA, January 1977. Available from NTIS PB 268-546.

This manual is designed to introduce the nature of the stormwater problems to concerned officials and suggests preventive approaches, including a discussion of the legal, financial, and institutional issues which must be addressed if these preventive approaches suggested in this manual are intended to help State and local officials in refining and implementing BMP's.

Methodology for the Study of Urban Storm Generated Pollution Control. EPA No. 600/2-76-145. U.S. EPA, August 1976. Available from NTIS.

Report contains recommendations for standard procedures to be followed in the conduct of projects dealing with pollution assessment and abatement of stormwater generated discharges.

Development and Application of a Simplified Stormwater Management Model. EPA No. 600/2-76-218. U.S. EPA, August 1976. Available from NTIS.

Report describes a simplified stormwater management model developed to provide an inexpensive, flexible tool for planning and preliminary sizing of stormwater facilities. The model successfully introduces time and probably into stormwater analysis, promotes total system consciousness on the part of the user, and assists in establishing size-effectiveness relationships for facilities.

Wastewater Flow Measurement in Sewers Using Ultrasound. EPA No. 600/2-76-243. U.S. EPA, November 1976. Available from NTIS.

Report covers the demonstration and evaluation of new techniques for measurement of sewage volume flow utilizing ultrasonic measurement of depth and velocity. The technique, requiring no costly construction for installation, is usable for open channel or partially full pipe measurements.

Research Status on Effects of Land Application of Animal Wastes. EPA No. 110/2-75-010. U.S EPA. Available from NTIS PB 243-472/8BE.

Report primarily reviews research results. However, in one chapter it outlines a procedue for estimations of the effects of animal wastes on crop utilization nutrients.

Control of Water Pollution from Cropland, Volume II - An Overview. EPA No. 600/2-75-026b and/or ARS-H-5-2, prepared jointly by USDA Agricultural Research Service and U.S. EPA. Available from GPO and NTIS.

This report, a comparison to Vol. I (a manual for guideline development), provides documentation for the general guidance on control practices provided in Vol. I.

<u>Use of Climatic Data in Estimating Storage Days for Soils Treatment Systems</u>. EPA No. 600/2-76-250. U.S. EPA, November 1976. Available from NTIS PB

Report describes results of an evaluation of 20 to 25 years of daily climatological data at selected stations in cold and wet regions of the U.S. to identify the number of days each year that the soil would be frozen or saturated and could not accept wastes.

Logging Roads and Protection of Water Quality. EPA No. 910/9-75-007. U.S. EPA, Seattle, Washington, March 1975. Available from NTIS PB 243 703/6BE.

This report, issued under Section 304(e), provides general information on the nature of silviculture pollution control problems and on control methods. General predictive techniques and criteria and management programs are included.

Groundwater Pollution in the South Central States. M.R. Scalf, J.W. Keely, C.J. LaFevers. EPA No. R-2,73-268. June 1973. Available from NTIS PB 222-178 and GPO.

The area comprises Arkansas, Louisiana, New Mexico, Oklahoma and Texas. Mineralization by natural causes is the most influential quality factor. Large quantities of saline groundwater are present with several natural saline springs. Oilfield activities are the

principal man-made cause mostly with disposal of oilfield brines and imperfectly completed or plugged oil and gas wells and test holes. Overpumping fresh groundwater causes salt water intrusion inland and along the Gulf Coast. Research and other needs are specified.

Monitoring Groundwater Quality: Methods and Costs. Lorne G. Everett, Kenneth D. Schmidt, Richard M. Tinlin and David K. Todd. General Electric Company, May 1976. GE 75TMP-69, EPA No. 600/4-76-023. Available from NTIS PB 257-113/9WP.

The report describes various groundwater monitoring methods and provides a generalized cost breakdown of all the major economic factors for each method. All possible groundwater related measuring techniques applicable at the land suface, topsoil, vadose zone and zone of saturation are presented. Each monitoring method is described, referenced and illustrated. Estimates of itemized capital and operational costs are presented. The material is presented for in-depth reference purposes without recommendation for least-cost techniques, a least-cost mix of ground water monitoring approaches, or an optimal information system. 152 pages

A Guide to the Selection of Cost-Effective Wastewater Treatment. July 1975. MDC-II. Available from NTIS PB 244-417/AS.

The data provided is a guide for planners, engineers, and decision-makers at all levels of government.

Performance Controls for Sensitive Lands: A Practical Guide for Local Administrators. EPA No. 600/5-75-005. U.S. EPA, March 1975. Available from NTIS PB 245-177/LBE.

Intended as a handbook for use by local planning officials in planning for and regulating use of streams and creeks, wetlands, woodlands, hillsides, and ground water and aquifer recharge areas. Discusses ecology and value of sensitive areas, and recommends regulatory programs. Includes appendices on obtaining technical assistance.

Ecosystem Impacts of Urbanization: Assessment Methodology. EPA No. 600/3-76-072. July 1976. NTIS No.

A methodology is developed to use space-time analysis and ecosystems modeling to assess the secondary impacts of wastewater treatment facilities (i.e., urbanization) on the ecosystem. The existing state of the ecosystem is described with emphasis on the dynamic, periodic trend, and gradient processes. Ecosystem models are used to project

each facility alternative and its consequences. Ecosystem models are described and the literature on impacts is reviewed. A case study of urbanization at Lake George, NY emphasizes the usefulness of the components of ecosystem models by linking units from several studies with a new model (LAND).

Restoring the Willamette River: Costs and Impacts of Water Quality Control. E. Scott Huff, Peter C. Klingeman, Herbert H. Stoevener, and Howard F. Horton. Oregon State University, Corvallis, Water Resources Research Institute, September 1976. EPA No. 600/5-76-005. Available from NTIS PB 259-907/4WP.

The means by which the water quality of the Willamette River has been upgraded over the past four decades are documented. Two strategies -- nonpoint source wastewater treatment and flow augmentation from a network of Federal reservoirs -- have been responsible for this improvement in water quality.

Our Natural Resources: What Is Our Water Worth. 1975-1978. Water Quality Management Planning Program, North Central Texas Council of Governments. Available from NTIS PB 256-976/2WP.

What Is Our Water Worth presents the adopted work plan for the North Central Texas Council of Governments in areawide water quality management planning pursuant to requirements of Section 208 of the Federal Water Pollution Control Act Amendments of 1972. The document describes the continuing planning process to date, the anticipated content of the annual plans, detailed NCTCOG staff work activities, each anticipated consultant contract, and the resources being devoted to the program. Integration of functional planning efforts at NCTCOG is being addressed primarily through the formulation and adoption of a Preferred Regional Development Policy.

Land Application of Sewage Effluents and Sludges: Selected Abstracts. EPA No. 660/2-74-042. U.S. EPA National Environmental Research Center, Corvallis, Oregon, 1974. Available from NTIS PB 235-386.

Combines selected abstracts from previous publications and updates sources abstracted into the year 1973. The 568 abstracts selected for inclusion are arranged in chronological groupings and are identified as to emphasis on effluent or sludge.

Secondary Impacts of Transportation and Wastewater Investments: Review and Bibliography. EPA No. 600/5-75-002. U.S. EPA, January 1975. Available from NTIS PB 246-085/5BE.

A review of over 50 major studies and 300 relevant reports related to secondary environmental impacts on various forms of public investments, e.g., land based transportation and wastewater collection systems.

Ground Water Contamination in the Northwest States. Fritz van der Leeden, Lawrence A. Cerrillo, and David W. Miller. U.S. EPA, Corvallis, Oregon, May 1975. EPA No 660/3-75-018. Available from NTIS PB 242-860/AS.

Evaluates ground water contamination problems in the six Northwestern States. Natural and man-made groundwater problems are identified and assessed. Research and control needs are identified.

Ground Water Contamination in the Northeast States. D.W. Miller, F.A. DeLuca and T.L. Tessier. EPA No. 660/2-74-056. Available from GPO. Stock No. EP1.23/2:660/2-74-056. Also available from NTIS PB 235-702/AS.

Evaluates ground water contamination problems in the 11 Northeast States. Natural and man-made ground water problems are identified and assessed. Research and control needs are identified.

Secondary Impact of Transportation and Wastewater Investments: Research Results. EPA No. 600/5-75-013. U.S. EPA, July 1975. Available from NTIS PB 246-085/5BE.

The second report of a two-part research study. This report presents the ressults of original research on the extent to which secondary development can be attributed to highways and wastewater treatment and collection, and the conditions under which causal relations appear to exist.

Water Pollution Economics, Volume II. 1975-July 1976. (A bibliography with abstracts). Edward J. Lehmann. Available from NTIS PS-76-0666/8WP.

This updated bibliography contains 86 abstracts, 51 of which are new entries to the previous edition.

<u>Selected Irrigation Return Flow Quality Abstracts</u>. Gaylord V. Skogerboe, Wynn R. Walker, Stephen W. Smith. EPA No. 600/2-76-019. November 1974. Available from NTIS PB 235-385/2.

Abstracts derived for 100 sources of material published during calendar year 1974. Includes technological and institutional articles pertinent to action programs regarding the control of water quality degradation resulting from irrigated agriculture.

Solid Waste Management - Available Information Materials. U.S. EPA, Office of Solid Waste Management Programs, November 1975. Available from NTIS PB 234-931/4.

Booklet lists publications, films, exhibits, information kits, training programs, OSWMP and NTIS publications and reports. Indexes by subject, title and author.

The Potential Contribution of Fertilizers to Water Pollution: Lowell A. Douglas. Rutgers, June 1976. Available from NTIS PB 259-609/6WP.

Field studies were undertaken to determine the magnitude of leaching of fertilizer NO3, NH4, and PO4. The common fertilizer efficiency measure of N in crop/N applied in fertilizer N that may be used as an indication of the amount of fertilizer N that will be leached. Studies of nutrients in streams were undertaken to related land use to NO3, NH4 and PO4 concentrations in surface waters. Sewage treatment plants and illegal drains were major sources of all three ions. This study was designed to find out if the agronomic operations commonly used on New Jersey farms produced nitrate and phosphate levels in water that are compatible with the standards that have been established for these ions. 96 pages

Proceedings of the Third Federal Inter-Agency Sedimentation Conference, 1976. Prepared by the Sedimentation Committee of the Water Resources Council. Available from NTIS PB 245/100.

Contains sections on sediment yield and sources, erosion and sediment control, physical and chemical properties of sediment, sediment transport and deposition, channel adjustments, coastal zone sedimentation, and instrumentation.

Impact of Construction Activities in Wetlands of the United States. Rezneat M. Darnell, Willis E. Pequegant, Bela M. James, Fred J. Benson, and Richard A. Defenbaugh. EPA No. 600/3-76-045. April 1976. Available from NTIS PB 256-674/3WP.

This publication presents the primary types of construction activity which severely impact wetland environments of the United States: the type of physical and chemical modification shown to induce a derived set of biological effects; the most environmentally damaging effects of construction activities in wetland areas; major construction-related impacts derived from altered water temperature, pH, nutrient levels, oxygen, carbon dioxide, hydrogen sulfide, and certain pollutants such as heavy metals, radioactive isotopes and pesticides.

Conservation Districts and 208 Water Quality Management. National Association of Conservation Districts and EPA, June 1977. Available from NTIS PB 274-411.

Highlights potential conservation district involvement in the preparation and implementation of State and areawide water quality management plans developed pursuant to Section 208 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500). It is keyed to the 16 required water quality management planning elements specified in EPA regulations. The document is directed primarily

to water quality planners, conservation districts, and State soil conservation agencies (boards, commissions, committees, councils or equivalent). Those Federal and State agencies with whom conservation districts have cooperative working arrangements, as well as various public interest groups may also find the material of interest.

Characterization and Treatment or Urban Land Runoff. EPA No. 670/2-74-096. December 1974. Available from NTIS PB 240-987/8BE.

Urban land runoff from a 1.67 square-mile urban watershed in Durham, North Carolina, was characterized with respect to annual pollutant yield. Regression equations were developed to relate pollutant strength to hydrograph characteristics. Urban land runoff was found to be a significant source of pollution when compared to the raw municipal waste generated with the study area. On an annual basis, the urban runoff suspended solids yield was 20 times that contained in raw municipal wastes for the same area. Downstream water quality was judged to be controlled by urban land runoff 20% of the time. In urban drainage basins, investments in upgrading secondary municipal waste treatment plants with concomitant steps to moderate the adverse effects of urban land runoff are questionable in view of the apparent relative impact of urban land runoff on receiving water quality.

Institutional Assessment of the Implementation of the Planning Requirements of the Water Pollution Control Act Amendments of 1972. National Commission on Water Quality, August 1975. Available from NTIS PB 244-907/LK.

The planning sections of the FWPCA Amendments of 1972 are examined along with their administration by the U.S. EPA and the States. The authors believe the planning is not yet fulfilling its role of ordering and integrating the big parts of the law, the National Pollutant Discharge Elimination System and the municipal facilities construction program. An important reason is the constraint of time and need for the Federal and State agencies to implement these programs quickly.

Residual Waste: Model State Legislation. EPA No. 440/9-76-004. March 1976. Available from NTIS PB 251-031/AS.

The focal point of this handbook is a model statute entitled "A State Residual Waste Management and Resource Recovery Act." The statutory scheme is structured to support the implementation of areawide planning. The approach taken toward the use of areawide planning is an integrated one. The suggested legislative model addresses all phases of the disposal of residual wastes on land or in subsurface excavations.

Development of Residuals Management Strategies -- A Report. January 1976. Available from NTIS PB 251-012/1BE.

The purpose of the report is to provide a comprehensive and systematic approach for developing and evaluating strategies for residuals management. It is based on the concept that wastes (materials and energy residuals) which adversely affect the environment are generated as a result of all human activity.

Urban Stormwater Runoff: Determination of Volumes and Flow Rates. February 1976. EPA No. 600/2-76-116. Available from NTIS PB 253-410/5BE.

An investigation is made to (a) develop a method of depth-duration frequency analysis for precipitation events having short return period (high frequency) for urban stormwater runoff management and control purposes; (b) develop a new high accuracy urban stormwater determination method which when verified can be used for projects requiring high accuracy detailed runoff results and can also be used as the calibration scale for the less accurate urban runoff prediction methods; and (c) compare and evaluate selected urban stormwater runoff prediction methods.

Costs of Wastewater Treatment by Land Application. June 1975. Available from NTIS PB 257-439/OBE.

Cost information for two stages of planning is presented for alternative land application systems: (1) preliminary cost screening and (2) detailed cost categories include land, preapplication treatment, transmission, storage, land application and recovery of renovated water.

Handbook for Sewer System Evaluation and Rehabilitation. U.S. EPA, December 1975. Available from NTIS PB 257-457/2BE.

The handbook contains chapters on methodology for conducting infiltration/inflow analysis; methodology for conducting sewer system evaluation survey; information on current state-of-the-art techniques for sewer rehabilitation; and costs associated with conducting sewer system evaluation survey and rehabilitation in compliance with the Federal Water Pollution Control Act Amendments of 1972.

A Compilation of Papers Presented at the 208 Areawide Water Quality

Management Workshop. April-May 1976. National Association of Regional
Councils. Available from NTIS PB 254-663.

The papers provide an introduction and overview of the institutional aspects of the water quality management program required by Section 208 of the Federal Water Pollution Control Act Amendments.

#### OTHER PUBLICATIONS

A Practical Guide for 208 Areawide Water Quality Management. November 1976. Available upon request from the National Association of Regional Councils, 1700 K Street, N.W., Washington, D.C. 20006 or EPA Regional Offices.

This practical guide is the first of several to provide technical assistance to local agencies with responsibility in the area of water quality management. The report summarizes most of the information gained at three technical assistance workshops held by NARC. Topics include guidelines for supplementation, regulatory procedures, financing methods, community involvement and environmental programs integration.

Listening to Metropolis: An Evaluation of the New York Region's CHOICES FOR '76 Mass Media Town Meetings and a Handbook on Public Participation in Regional Planning. William B. Shore, Regional Plan Association, New York, New York. Available upon request from the U.S. Department of Housing and Urban Development. December 1974.

CHOICES FOR '76 was a mass media town meeting series in which all New York Urban Region's television stations presented five one-hour programs on planning issues: some 60,000 households watched each show, 26,500 persons submited a ballot on the issues after each town meeting, more than 20,000 persons took part in at least one discussion group after watching the film, and about 100,000 background books were distributed. This book evaluated a road map for those considering such a project with how-to-do-it advice.

1971 Suggested State Legislation (1971); 1972 Suggested State Legislation (1972); 1973 Suggested State Legislation (1973); 1974 Suggested State Legislation (1974); 1975 Suggested State Legislation (1975); 1976 Suggested State Legislation (1975); 1976 Suggested State Legislation (1977). Council of State Governments. Available from Order Department, Iron Works Parkway, Lexington, Kentucky 40511. \$5.00 for each volume dated before 1975 and \$6.50 for those dated thereafter.

Includes suggested legislation that would be relevant for implementing 208 plans.

Waste Load Allocations in River Basin Plans. Available from State agencies concerned with Section 303 (Water Pollution Control Board).

River basin plans required under Section 303 of the Act contain waste load allocations for segments of streams designated water quality limited. These allocations would, of course, be useful in defining industrial treatment levels.

Process Design Manual for Sludge Treatment and Disposal. EPA No. 635-41-74-006. October 1974. Available upon request from the U.S. EPA Office of Technology Transfer, CM#2, RD/677, Washington, D.C. 20460.

Presents a contemporary review of sludge processing technology and the specific procedures to be considered, modified, and applied to meet unique conditions. Emphasizes operational considerations and interrelationships of the various sludge treatment processes to be considered before selecting the optimum design. Also presents case histories of existing wastewater treatment plants to illustrate the various unit processes and results.

Manure Harvesting Practices: Effects on Waste Characteristics and Runoff. R.W. Hansen, J.M. Harper, M.W. Stone, G.M. Ward and R.A. Kidd. Colorado State University, Fort Collins, Colorado. December 1976. EPA No. 600/2-76-292. Available from U.S. EPA, Robert S. Kerr Environmental Research Lab, Ada Oklahoma 74820.

To develop a basis for better manure harvesting management practices a combined field and laboratory study was conducted.

The effect of management practices on manure qualities and runoff pollution potential were compared on three feedlot pens with fully surfaced, partially surfaced and unsurfaced conditions.

<u>Urban Stormwater Management Research and Planning Projects for FY 1975 and FY 1976.</u> U.S. EPA, Washington, D.C. 20460, January 1977.

Information contained in this report is concerned with urban storm-water management. Well over two hundred projects were reviewed and those selected to be included within this report were chosen because of their contribution to the planning process for urban stormwater management. Five areas within the planning process are identified and projects are categorized appropriately. Also includes a list of bibliographies where information on the projects done prior to FY 75 is available.

Stormwater Management Model: Level 1 - Preliminary Screening Procedure. EPA No. 600/2-76-275. Available from the Office of Research & Development, U.S. EPA, Washington, D.C. 20460.

This document contains the procedures which allows the user to estimate the quantity and quality of urban runoff in the combined, storm, and unsewered portions of each urban area in his jurisdiction. This procedure covers storage and treatment, and does not include evaluating non-structural source controls. It will be useful in those areas with combined sewers and areas that will have to treat their stormwater to meet water quality goals.

<u>Erosion and Sediment Yield Methods</u>. Report on the Pacific Southwest Interagency Committee, 1974. Available from USDA-SCS, Portland, Oregon.

The summaries of 12 methods together with bibliography of related papers should provide sufficient background information to allow an individual to use the method that seems most suited to a particular watershed problem.

Water Pollution Caused by Inactive Ore and Mineral Mines - A National Assessment. Harry W. Martin and William R. Mills, Jr., December 1976. Toups Corp., 1010 N. Main Street, Santa Ana, California 92711. EPA No. 600/2-76-298. Available from U.S. EPA Industrial Environmental Research Laboratory, Cincinnati, Ohio 45268.

The report identifies the scope and magnitude of water pollution from inactive ore and mineral cites. Descriptions of the mineral industry are presented, including a summary of economic geology, production methods, historic mineral production methods, and historical mineral production. The mechanisms of formation, transportation, and removal of pollutants are detailed. State-by-State summaries of mine related pollution are presented. An assessment of current water pollution abatement procedures used for inactive mines is given and research and development programs for necessary improvements are recommended.

Methods for Separation of Sediment from Stormwater at Construction Sites. J.F. Ripken, J.M. Killen, J.S. Gulliver, January 1977. EPA No. 600/2-77-033. Available from Municipal Environmental Research Lab, U.S. EPA Office of Research & Development, Cincinnati, Ohio 45268.

Large construction sites, when exposed to rainfall, yield runoff which may transport an objectionable load of mineral solids from the site. This report discusses the nature and amount of solids which may be employed to remove the transported solids from the effluent water. The principal focus is on the use and characteristics of modern, available, commercial equipment for the secondary treatment process necessary to remove fine mineral solid suspensions. Specific recommendations are made for equipment selections and for additional studies to more clearly characterize these selections for construction site use.

Private Property and the Public Interest: The Brandywine Experience.

Anne L. Strong, John Hopkins University Press, Baltimore, Maryland 21218.
1975.

Documentary case study analyzes why a watershed program failed to receive public and political support; shows how accepted methods of participation were thwarted by a persistent interest group. 206 pages, illustrated.

The Uses of Values: Public Participation in the Planning Process. James L. Creighton, Synergy Consultation Services, 14125 Douglass Lane, Saratoga, California 95070

If the purposes of public participation are to ensure that the full range of values held by the public be incorporated in the planning process, not just those values normally accepted by agencies, then it will be necessary to learn to recognize and deal with emotional value-laden contributions of the public, not just the factual information with which the planner is more comfortable. The techniques of developing alternatives based on all major values positions held by the public ensures that the planner is not an advocate for some groups, and an adversary of others. It is also a clear communication to the public that the agency is responsive and accountable to all publics.

Citizen Involvement in OCPC 208 Planning - A Progress Report. Old Colony Planning Council, April 1976. Available from OCPC, 232 Main Street, Brockton, Massachusetts 02401.

This detailed progress report discusses the OCPC public participation program to date. Fifteen mechanisms used by OCPC to get the public involved are explained, including citizen committees, discussions with town/city officials, technical assistance to town governments, involvement of local schools, visits to problem areas with local citizens and others. Obstacles to 208 public participation, significant local issues and areawide problems, as well as staff response to them are analyzed. Finally, the OCPC 208 public participation program is evaluated against its stated objectives.

Soil Erosion and Sedimentation Guidelines for Forestry. Pennsylvania
Department of Environmental Resources, Cambria County Conservation Service.
Available from the Department of Environmental Resources, Room 114,
Evangelical Press Building, Harrisburg, Pennsylvania 17120.

Prepared to assist logging operations compliance with Rules and Regulations adopted under the Pennsylvania Clean Stream Law for the control of accelerated soil erosion and sedimentation.

Effects of Log Handling and Storage on Water Quality. Gerald S. Schuytema and Robert D. Shankland. September 1976. EPA No. 600/2-76-262. Available from U.S. EPA Office of Research & Development, Industrial Environmental Research Lab, Cincinnati, Ohio 45268.

The biological and chemical effects of three types of log storage on water quaity were investigated. Three flow-through log ponds, two wet deck operations and five log rafting areas were studied. Both biological and chemical aspects of stream quality can be adversely affected by flow-through log ponds and runoff from wet decks. Severity of degradation varies widely with each situation. Runoff from wet decks has pollution characteristics equal to or greater than most of the waters from the flow-through log ponds studied.

A Guide to State Programs for the Reclamation of Surface Mined Areas Edgar A. Imhoff, Thomas O. Fritz and James R. LaFevers. U.S. Department of the Interior, Geological Survey. Free on application to Branch Distribution, U.S Geological Survey. 1200 South Eads Street, Arlington, Virginia 22202.

A primer of surface mining activities and related reclamation practices and problems. Contains a table designed for the notation and elaboration of information pertaining to the mined area reclamation programs and a listing of non-Federal governmental controls applicable to reclamation.

<u>Planning.</u> Julie Hetrick Schermer, 1974. Copies of this paper available upon request from Director of Publications, Parson, Brinckerhoff, Quade & Douglass, Inc., 1 Penn Plaza, 250 W. 34th Street, New York, New York 10001

Five techniques for greater community participation recently employed in major transportation planning projects are reviewed and assessed in this paper. They are equally applicable to waste treatment management planning and include "citizen committees", "randomly selected participation groups", "open door policy", "direct funding to community groups", and "planning balance sheet".

Assessment of Mathematical Models for Storm and Combined Sewer Management. Albin Brandstetter, August 1976. EPA No. 600/2-76-175a. Available from NTIS PB 259-597/3WP.

Mathematical models for the nonsteady simulation of urban runoff were evaluated to determine their suitability for the engineering assessment, planning design and control of storm and combined sewerage systems. The models were evaluated on the basis of information published by the model builders and model users. Several models were also tested by computer runs using both hypothetical and real catchment data. Most of the models evaluated included the nonsteady simulation of the rainfall-runoff process and flow routing in sewers.

Areawide Assessment Procedures Manual, Vols. I, II, III. EPA No. 600/9-76-014. July 1976. Available from U.S. EPA, Cincinnati, Ohio.

This manual summarizes and presents in condensed form a range of available procedures and methodologies that are available for identifying and estimating pollutant load generation and transport from major sources within water quality management planning areas. Although an annotated chapter is provided for the assessment of non-urban pollutant loads, the major emphasis of the manual is directed toward the assessment of problems and selection of alternatives in urban areas, with particular concern for stormwater related problems. Also included in the manual are methodologies for assessing the present and future water quality impacts from major sources, as well as summaries of structural and nonstructural control alternatives.

Assistance Available from USDA Agencies in Section 208 (PL 92-500 Planning). Developed by USDA Agencies in Florida. Available upon request from U.S. EPA Region IV, Atlanta or Bob Craig, SCS, Federal Building, P.O. Box 1208, Gainesvile, Florida 32601.

The report addresses specific requirements outlined in the regulation 40 CFR 130. The doucment should be of considerable help to those requiring expert assistance in agriculturally related nonpoint source pollution evaluation.

Land Availability, Crop Production, and Fertilizer Requirements in the U.S. October 1975. EPA No. 530/SW-166. Available upon request from U.S. EPA, Solid Waste Information, Cincinnati, Ohio 45268.

Contains information about the kinds and amounts of fertilizer used in the U.S.

Control of Water Pollution From Cropland -- A Manual for Guidelines

Development. Volume 1, EPA No. 600/2-75-062a. Available from the U.S.

EPA Office of Research & Development (RD-682), Washington, D.C. 20460.

This technical report was designed for use in the development of management guidelines for water quality management planning and should be used in conjunction with local expertise. The scope of the report is limited and is based on current understanding.

Direct Environmental Factors at Municipal Wastewater Treatment Works. Ernes Leffel. U.S. EPA. Available from MCD-20/6SA 8FFF, Centralized Mailing List Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

The purpose of this report is to provide the methodology and reference information to ensure that the design of wastewater treatment works provides for construction and operation compatible with the environment. Environmental factors considered in the report include odors, noise, aerosols, site planning, architecture, lighting, aesthetics, subsurface conditions, construction nuisances, and solid waste disposal and treatment during construction.

Land Development and Natural Environment: Estimating Impacts. Dale L. Keyes. The Urban Land Institute. Available from the Publications Office, The Urban Land Institute, 2100 M Street, N.W., Washington, D.C. 20037. Order No. 1350.

This report, one of a series, focuses on ways to estimate the impacts of residential, commercial and industrial development on the natural environment --primarily air quality, water quality and quantity, noise, wildlife, and vegetation. It also discusses potential hazards for land development from natural disasters.

The intent is to provide elected officials, educated lay persons, urban planners, and others concerned with the impacts of land development with basic information on the state-of-the-art. A complete discussion of each analytical technique is not included. Instead, a brief, simplified overview of basic scientific principles related to each specific impact is presented, followed by a discussion of impact measures and alternative data analysis procedures. References to original and additional reading are also given.

Measuring Impacts of Land Development: An Initial Approach. Phillip S. Schaenmen and Thomas Muller. Available from The Urban Land Institute, Publications Office, 2100 M Street, N.W., Washington, D.C. 20037. Order No. 86000.

This report is the first in a series on land use impact evaluation published by the Urban Land Institute and sponsored by the U.S. Department of Housing and Urban Development. A second report on fiscal impacts to the natural environment will be available in the near future. Other reports will follow on such topics as social impacts to the private economy. This report is an overview. It sets forth measures and procedures for assessing the impact of land developments on economic, environmental, aesthetic, public and private service, housing and social concerns. The report concentrates on ways to develop comprehensive data on the expected impacts of development.

Fiscal Impacts of Land Development: A Critique of Methods and Review of Issues. Thomas Muller. Available from The Urban Land Institute, 2100 M Street, N.W., Washington, D.C. 20037. Order No. 98000.

This report, second in a series, discusses in greater detail the state-of-the-art in calculating the fiscal impact of land developments for local governments. The applicability of various approaches is discussed and guidance is given to those sponsoring or reviewing work in the fiscal impact area. The author attempts to show the best of current practice while indicating some of the gaps or defects that require the special attention of analysts.

Manual for Preparation of Environmental Impact Statements for Wastewater Treatment Works, Facilities Plans, and 208 Areawide Waste Treatment Management Plans. U.S. EPA, 1974. Available upon request from U.S. EPA Office of Federal Activities (A-104), Washington, D.C. 20460.

Provides the framework for preparing environmental impact statements (EIS's) when required on wastewater treatment works, facilities plans, or 208 areawide waste management plans. Provides certain minimum standards or completeness and consistency in those EIS's prepared by EPA in the above category.

Model Facility Plan for a Small Community -- Supplement To: Guidance for Preparing a Facility Plan. September 1975. No. MCD-08. Available from the GSA Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

This model facility plan prepared in accordance with the <u>Guidance for Preparing a Facility Plan</u> illustrates an acceptable plan for a wastewater treatment project for a small community with elatively simple pollution problems. It complies with EPA facility planning regulations and examines alternatives for effective and environmentally sound waste treatment works. The problems addressed are typical of many small communities which do not have an infiltration/inflow problem; are located within effluent limitation segments; have few environmental constraints; and have no industries.

First Joint USA/USSR Symposium on Physical/Chemical Treatment from Municipal and Industrial Sources. November 1975. EPA No. 600/9-75-004. Available from the EPA Warehouse, Forms and Publications Center, Mail Drop 41, Research Triangle Park, N.C. 27711. Order No. PDS 3163 and include EPA number as well.

The sixteen papers that were presented at the symposium in November 1975, sponsored under the auspices of the Working Group on the Prevention of Water Pollution From Municipal and Industrial Sources, are presented here in English.

Alternative Waste Management Techniques for Best Practicable Waste Treatment. MDC-13. Available from GSA Centralized Mailing List Service, Building 41, Denver Federal Center, Denver, Colorado 80225.

This document is intended to provide information pursuant to Section 301(b)(2)(b) of the Federal Water Pollltion Control Act Amendments of 1972 on the best practicable waste treatment technology criteria which must be met by all municipal wastewater treatment plants by July 1, 1983.

Model Plan of Study, Supplement To: Guidance for Preparing a Facility Plan. MCD-24. Available from GSA Centralized Mailing Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

This document illustrates what should be contained in a plan of study (POS) submitted to EPA as a required part of an application for a Step 1 grant to develop a facility plan for a wastewater treatment project. This model POS presents the level of detail appropriate for a small or medium-sized community.

Guidance for Preparing a Facility Plan. May 1975. MCD-46. Available from GSA Centralized Mailing List Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

This document provides essential guidance to municipalities, consulting engineers and others on how to prepare a Step 1 facility plan -- one of the first major steps in the EPA construction grants program for wastewater treatment facilities. Discussed are methodologies for preparing the plan, Federal requirements and proper content and format.

All You Need to Know About U.S. Environmental Protection Agency Sewage Treatment Construction Grants. October 1976. MCD-47. Available from GSA Centralized Mailing List Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

This pamphlet indicates how local governments can get their fair share of the Federal funds to build sewage treatment facilities.

Building for Clean Water. MCD-48. Available from GSA Centralized Mailing List Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

This booklet details the highlights of today's construction grant program, describes how it works, what it accomplishes, and how it fits into the Nation's overall environmental control strategy.

Handbook of Procedures -- Construction Program for Municipal Wastewater Treatment Works. February 1976. MCD-03. Available from GSA Centralized Mailing List Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

Procedures employed by EPA personnel in reviewing construction grant plans and applications are set forth in detail. Major requirements of the program are discussed.

How to Obtain Federal Grants to Build Municipal Wastewater Treatment Works. May 1976. MCD-04. Available from GSA Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, Colorado 80225

A concise description of basic objectives and requirements of the EPA construction grants programs.

<u>Evaluation of Land Application Systems</u>. April 1976, MCD-07. Available from the GSA Centralized Mailing List Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

This bulletin provides information and program guidance to EPA Regional Offices for analyzing and evaluating municipal applications for Federal grants for the construction of publicly-owned treatment works using land-application methods. It also provides information and assistance to other Federal agencies, to interstate organizations, to State water pollution control agencies, to the wastewater industry and to consultants and designers of land-application methods.

Economic Incentives for Land Use Control. Frederick H. Rueter and Phillip Kushner. February 1977. EPA No. 600/5-77-001. Available from the U.S. EPA Office of Air, Land and Water Use, RD/682, 401 M Street, SW, Washington, D.C. 20460.

This report performs a theoretical economic analysis of the incentives embodied within a variety of existing and proposed land use control technquies and then employs this analytical framework to examine the social desirability of supplementing or replacing the existing body of land use control mechanisms with any of several innovative policies for the regulation of the use of land.

Cost-Effective Comparison of Land Application and Advanced Wastewater Treatment. November 1975. EPA No. 430/9-75-016. MCD-17. Available from GSA Centralized Mailing List Services, Building 41, Denver, Federal Center, Denver, Colorado 80225

The objectives of this report are to illustrate the sensitivity of land application system costs to variations in major design factors and to compare these costs with those for conventional advanced wastewater treatment systems.

Urban Runoff Pollution Control Technology Overview. September 1976. Richard Field, Anthony Tafuri and Hugh Masters. Available from the U.S. EPA Office of Research & Development, Municipal Environmental Research Laboratory, Cincinnati, Ohio 45268.

Over the past decade, much research effort has been expended and a large amount of data has been generated, primarily through the actions and support of the EPA's Storm and Combined Sewer Research and Development Program. As presented here, the products of the Program will be divided into the following areas: problem definition, user assistance tools (instrumentation, computers), land management, collection system control, storage, treatment, sludge and solids, integrated systems, and technical assistance and technology transfer.

Model State Water Monitoring Program. National Water Monitoring Panel, June 1975. EPA No. 440/9-74-022. Available from the EPA Monitoring and Data Support Division (WH-553).

Developed by a panel of Federal and State professionals actively engaged in managing and operating monitoring programs. It is presented to others in monitoring and the field of water pollution control in order to:

- -- provide some basis to the States for building and operating water monitoring programs;
- -- illustrate the various typs of monitoring activities, their costs and their uses; and
- -- suggest to EPA Regions and States how they can best use monitoring resources in carrying out their responsibilities in pollution control and abatement.

Federal Guidelines: State and Local Pretreatment Programs. 3 Volumes. EPA No. 430/9-76-017a, b, c. January 1977. U.S. EPA. Available from GSA Centalized Mailing List Services, Building 41, Denver Federal Center, Denver, Colorado 80225.

These guidelines were developed by EPA in accordance with Section 304(f) of the Federal Water Pollution Control Act Amendments of 1972 for the purpose of assisting States and municipalities in carrying out programs under Section 402 including NPDES permit requirements.

Residential Storm Water Management: Objectives, Principles and Design Considerations. Urban Land Institute, American Society of Civil Engineers and the National Association of Homebuilders, 1975. Available from the Urban Land Institute, 1200 18th Street, N.W., Washington, D.C. 20036.

This report evolved from an assessment of current practices to a guide toward a more creative and thoughtful approach to storm water runoff management. While not rejecting past practice, it clearly identifies and articulates a new underlying philosphy and approach which diverges significantly from the past.

Cleaning Up Europe's Waters: Economics, Management and Policies. Ralph M. Johnson and Gardner M. Brown, Jr. New York: Praeger. 1976.

The authors examine the implementation of comprehensive water quality management concepts in Europe, specifically in France, the Netherlands, West Germany, Hungary, Sweden and England. The experience of regional water quality management in several of these countries is evaluated.

Ecological Modeling in a Resource Management Framework. Clifford S. Russel, ed. Available from the John Hopkins University Press, Baltimore Maryland 21218. RfF Working Paper. 1975.

A group of papers analyzing progress in the field of ecological modeling with specific regional water quality management applications.

Environmental Improvement Through Economic Incentives. Frederick Anderson, Allen V. Kneese, Serge Taylor, Phillip Reed, and Russell Stevenson. Baltimore: John Hopkins University Press, 1978.

Addresses the economic, technical, legal and political aspects of monetary charges as a means of achieving environmental improvement. The contents include: An Economic Rationale for Charges, a Survey of Charge Applications, Structuring a Charge System—the Monitoring Problem, the Law of Charges, and the Politics of Charges.

The Governance of Common Property Resources. Edwin T. Haefele, ed., Baltimore: John Hopkins University Press, 1975.

Contributors explore the decision-making processes that surround environmental issues and attempt to provide realistic models for making policy decisions.

Environmental Quality Management/An Application to the Lower Delaware Valley. Walter O. Spofford, Jr., Clifford S. Russell and Robert A. Kelly. RfF Research Paper R-1, 1977. Available from the John Hopkins University Press. Baltimore, Maryland 21218.

A detailed presentation of a pioneering effort in quantitative analysis of regional residuals-environmental quality management. Four points distinguish this report: 1) it is one of the very few quantitive analyses of integrated residuals management with a management orientation; 2) it represents an innovative effort to explore the problems of incorporating a nonlinear aquatic ecosystem model explicitly within the framework of an optimization analysis for management decisions; 3) the research has already had substantial influence on both research and management decisions in various parts of the world; and 4) the research represents the importance and usefulness of, and payoffs from, interaction between management plans for particular regions. The research was completed between 1972 and 1975.

<u>Incentives for Managing the Environment</u>. Blair T. Bower, Charles N. Ehler and Allen V. Kneese. In <u>Environmental Science & Technology</u>, Vol. II, No. 3, March 1977. pp. 250-254.

A brief, systematic description of the role of incentives in environmental quality management strategies are developed.

Integrated Residuals Management: A Regional Environmental Quality Management Model. Walter O. Spofford, Jr. In Models for Environmental Pollution Control (Rolf A. Deininger, Editor), 1976. Available from Resources for the Future, 1755 Massachusetts Avenue, N.W., Washington, D.C. 20036, as reprint No. 130.

A brief description of the RfF Lower Delaware Valley regional residuals management model.

A Linear Programming Model of Residuals Management for Integrated Iron and Steel Production. Clifford S. Russell and William J. Vaughan. <u>Journal Environmental Economics and Management</u>. Vol. 1, 1974, pp. 17-42. Available from Resources for the Future, 1755 Massachusetts Avenue, N.W., Washington, D.C. 20036, as reprint No. 114.

The paper briefly describes a linear model designed to allow the exploration of questions surrounding the management of the environmental impacts of the integrated iron and steel facilities. In

particular, the model can show how plant discharges, with such variables as product mix, steel-furnace type, casting technology, and the scrap-ore price ratio. In addition, the costs implied by placing restrictions on discharges of specific residuals (e.g., BOD, oil, suspended solids, particulates) may be estimated or response to proposed effluent charges may be predicted. Models of this type can play a significant role as components of larger regional analyses.

Regional Residuals-Environmental Quality Management Modeling. Blair T. Bower, ed. RfF Research Paper R-7. Baltimore: John Hopkins University Press, 1976.

The proceedings of a joint WHO-RFF conference held in Rotterdam in 1974 on modeling for regional residuals-environmental quality management (RREOM) from the standpoint of generating information needed for management decisions. Papers outline the basic concepts of RREQM and present case studies, applying the concepts, in the Lower Delaware Valley, the Upper Colorado River Basin, Ljubljana (Yugoslavia), and Ostrava (Czechoslovakia).

"Regional Residuals-Environmental Quality Management Models: Applications to EPA's Regional Management Programs." Walter O. Spofford and Charles N. Ehler. In Environmental Modeling and Simulation (Wayne R. Ott, Editor). Washington, U.S. EPA, 1976. pp. 407-413

The use of quantitative, comprehensive regional environmental quality model—the RfF Lower Delaware Valley model—in the context of EPA's regional programs, such as 208 and Air Quality Maintenance, is examined. The generation of data on the interrelationships of the three forms of pollutants—gaseous, solid and liquid—and the three environmental media—air, land, and water—as well as the associated management costs of alternative strategies are highlighted.

"Residuals-Environmental Quality Management: The Role of Regional Modeling." Blair T. Bower and Samuel P. Mauch. <u>Journal of Environmental Management</u>. No. 4, 1976. pp 275-292. Available from Resources for the Future, 1755 Massachusetts Avenue, N.W., Washington, D.C. 20036, as reprint No. 132.

The paper describes planning and analysis as but one of five links in a chain composing the total Regional Environmental Quality Management process of problem perception, analysis, legislation/regulation, implementation/enforcement/monitoring and feedback. Criteria for the design of regional REQM modeling efforts are developed with emphasis on the sensitivity of the data and submodels used, relative to the strategies developed.

Steel Production: Processes, Products and Residuals. Clifford S. Russell and William J. Vaughn. Baltimore: John Hopkins University Press. 1976.

Addresses the problems of determining the implications of different environmental standards and public policies by investigating their effect on industrial costs and resource use within a linear-programming framework. Models of this type can play a significant role as components of larger regional analyses.

"Studies of Residuals Management in Industry." Blair T. Bower. <u>Economic.</u> Analysis of Environmental Problems. (Edwin S. Mills, Editor). New York: Columbia University Press, 1975. pp 275-324.

The basic concepts of RfF's approach to analyzing the industrial response to water quality regulations, and other forms of incentive are presented. An overview of studies of the beet sugar, pulp and paper, petroleum refining, steel, steel scrap, and coal-electric energy industries is given. The utility of these models in connection with analyses of regional environmental quality management (like 208) is discussed.

Water Quality Assessment - A Screening Method for Nondesignated 208 Areas. EPA 600/9-77-023. August 1977. Available from U.S. EPA Environmental Research Laboratory, Athens, Georgia 30605.

This manual presents a methodology for the preliminary screening of surface water quality applicable for use by nondesignated 208 planning agencies. The major emphasis is on procedures and methodologies for the assessment on nonurban pollutant loads and their impacts of receiving waters. The analyses are designed to be performed with, at most, the assistance of a desk top calculator and with a minimal amount of data input.

Evaluation of Land Application Systems. Technical Bulletin, EPA 430/9-75-001. U.S. EPA, March 1975. Available from Environmental Research Center, Cincinnati, Ohio.

Procedures are set forth to assist EPA personnel in evaluating treatment systems that employ land application of municipal wastewater. In addition, information is provided which may be of value to State, local and other Federal agencies. Consists of an Evaluation Checklist, parallel background information and is divided into three major parts dealing with: (1) facilities plans; (2) design plans and specifications; (3) operation and maintenance manuals.

Effluent Guidelines and Development Documents. U.S. EPA. Available from Effluent Guidelines Division (WH-552), U.S. EPA.

The Effluent Guidelines Division of the Office of Water and Waste Management, EPA, has published effluent guidelines for existing industrial sources, and standards of performance and pretreatment

for new industrial sources. Effluent limitation guidelines and standards have been published for each of a number of different industrial categories. In addition, for each industrial category development documents have been published which contain supportive data and rationales for the development of the applicable effluent limitation guidelines and performance standard.

Loading Functions for Assessment of Water Pollution From Nonpoint Sources. U.S. EPA Office of Air, Land and Water Use. EPA 600/2-76-151. May 1976.

Analyzes the development of nonpoint pollution loading functions for significant sources and pollutants. Presents loading functions together with methodologies for their use, provides data, references to other data, and suggests approaches for generations of data when available data is inadequate. 445 pages.

Water Cleanup and the Land: Securing Full Value on the Public's Investment in Water Pollution Control. U.S. EPA Office of Land Use Cooridnation (A-101)

To dramatize the land-use impacts of the Federal clean water programs and the recreational opportunities now unfolding as a result of a conference entitled "Water Cleanup and the Land: Securing Full Value on the Public's Investment in Water Pollution Control" held in Boston, November 1975. The conference was sponsored by the U.S. EPA, in cooperation with the U.S. Department of the Interior and the Conservation Foundation of Washington, D.C. Out of the conference came a number of recommendations for action, which are summarized in this booklet.

Conservation Districts and Nonpoint Pollution Control. October 1975.

National Association of Conservation Districts. Available from NACD
Service Department, P.O. Box 855, League City, Texas 77573.

The role of conservation districts in 208 planning and implementation is examined. Suggestions are given as to how Conservation Districts might become more involved.

Erosion and Sediment Control Handbook. EPA No. 440/3-78-003. May 1978. Available from Director, California Department of Conservation, Sacramento, California 95814.

### APPENDICES

# MAY 1978 208 DATA SEPA CLEARING DATA SEPA CLEARING

## **Director Announces Clearinghouse**

By Merna Hurd Director, Water Planning Division

Local 208 agencies are now experiencing many of the same types of obstacles to plan completion and implementation. The solutions found by one agency may frequently aid another.

208 Data Clearinghouse lets you know what other local agencies have experienced. Their technical reports may contain solutions applicable to your local problems.

208 Data Clearinghouse contains abstracts of technical documents issued by local 208 agencies. The abstracts also tell you where to obtain a copy of a report you desire.

When you produce a Water Quality Management technical report from which other agencies may benefit, please send a copy of its bibliography and a short indication of its contents to:

Kim Smith
208 Data Clearinghouse
U.S. Environmental Protection Agency
401 M Street, S.W., (WH-554)
Washington, D.C. 20460

Your contributions may save other agencies much time and frustration.

Yours Sincerely,

M/ma /furd

### 1. AGRICULTURAL NONPOINT SOURCES

- 1.1.1. "Agricultural BMP Report," Baltimore Regional Planning Council.
- 1.1.2. "Summary of 1976 Agricultural Inventory," Northeastern Illinois
  Flavning Commission, June, 1977.
- 1.1.3. "Agricultural Pollution Sources,"
  Greater Egypt Regional Planning
  and Development Commission, March,
  1978, 36 pages.
- 1.1.4. "Agriculture Land Use," Blue Ribbons of the Big Sky County Areawide Planning Organization.
- 1.1.5. "Agriculture Study," Blue Ribbons of the Big Sky County Areawide Planning Organization.
- 1.1.6. "Compilation of Information Pertaining to Pollutants in Runoff from Agricultural Land," Southeastern Council of Governments, October, 1977, 99 pages, \$3.00.
- 1.1.7. "Farm Water Quality Management Manual," Snohomish County Planning Department, September, 1977, 57 pages.

### **-TOPICS**

Water Planning Division Director
Announces the 208 Data Clearinghouse.

Outline of Reports on:

- 1. Agricultural Nonpoint Sources;
- Institutional Assessment;
- Inventory.and Sampling;
- 4. Land Use;
- 5. Lakes.

How to Use the 208 Data Clearinghouse.

- 1.1.8. "A Method for Assessing Rural Non-Point Sources and It's Application in Control and Management," Ohio-Kentucky-Indiana Regional Council of Governments, September, 1975, 66 pages. Topics include: estimates of the quantity and quality of rural runoff; computations of runoff, surface erosion, sediment yield, nutrient and organic matter loadings as well as sediment nutrient and organic matter concentrations.
- 1.1.9. "Preliminary Assessment of WQ and Rural Nonpoint Source Pollution in Rear Creek Basin, Jackson County. Oregon, April, 1977," Rogue Valley Council of Governments, April, 1977, 180 pages.
- 1.1.10. "Preventive and Corrective
  Measures for Controlling Agricultural Pollution," Northeastern
  Illinois Planning Commission,
  September, 1977.
- 1.1.11. "Rural Sewage," Greater Egypt Regional Planning and Development Commission, April, 1978, 36 pages.
- 1.1.12. "State of the Art of Water Pollution Control: Rural Stormwater Runoff," Southeast Wisconsin Regional Planning Council, December, 1976. 50 pages.
- 1.1.13 "Technical Appendix: AroostookPrestile Areawide Water Quality
  Plan," Northern Maine Regional
  Planning Commission, July, 1977,
  98 pages. Topics include: The
  historical trends of land use;
  soil erosion; cropland erosion
  and its effects on fisheries;
  pesticides; agricultural chemicals;
  and timber harvesting best management practices.
- 1.1.14 "Test Watershed Monitoring and Sampling Program," Fox Valley Water Quality Planning Agency, February, 1978, 300 pages. Topics include: Study of two rural nonfarm, two agricultural, and five urban test watersheds.

1.1.15 "Water Quality and Rural Nonpoint Source Pollution," Rogue Valley Council of governments, July, 1977, 180 pages.

### 2. INSTITUTIONAL ASSESSMENT

- 1.2.1. "208 Management Options: Alternative Institutional Frameworks for Water Quality Management,"
  Northeastern Illinois Planning Commission, May, 1977.
- 1.2.2. "Alternative Institutional Plans,"
  East Central Michigan Planning
  and Development Region, October,
  1977, 165 pages.
- 1.2.3. "Analysis of Industrial Waste Treatment Plants," Northeastern Illinois Planning Commission, February, 1978.
- 1.2.4. "Background Information for Selection of a Management System,"

  Northeastern Illinois Planning
  Commission, October, 1976.
- 1.2.5. "Description of Local Government Programs," Baltimore Regional Planning Council.
- 1.2.6. "Existing Water Quality Management System," South East Council of Governments, March, 1977, 100 pages, \$5.00.
- 1.2.7. "Institutional Analysis," Snohomish County Planning Department, November, 1977, 329 pages.
- 1.2.8. "An Institutional Framework for Water Quality Management in Northeastern Illinois," Northeastern Illinois Planning Commission, October, 1977.
- 1.2.9. "Institutional System Inventory,"

  East Central Michigan Planning and
  Development Region, April, 1977,

  171 pages.
- 1.2.10. "Institutional System/Water Quality," East Central Michigan Planning and Development Region, June, 1977, 94 pages.

- 1.2.11. "Legal-Institutional Arrangements for Areawide Waste Treatment Management Planning," Southern Kennebec Valley Regional Planning Commission, March, 1976.
- 1.2.12. "Management Alternatives Including Institutional Arrangements, Financial Alternatives, and Required Authority," Coastal Bend Council of Governments, September, 1977, 160 pages.
- 1.2.13. "Management of Public Wastewater Treatment Plants," Indiana Heartland Coordinating Commission, November, 1976, 74 pages.
- 1.2.14. "The Relationship Between 201 Facilities Planning and the 208 Areawide Wastewater Treatment Program," Ohio-Kentucky-Indiana Regional Council of Governments, September, 1975.
- 1.2.15. "Special Report #2," Snohomish County Planning Department, May, 1977, 25 pages.
- 1.2.16. "Technical Memorandum: Water Quality Districts," Baltimore Regional Planning Council.
- 1.2.17. "Water Supply and Conveyance Facilities," East Central Michigan Planning and Development Region, March, 1977, 61 pages.

### 3. INVENTORY AND SAMPLING

- 1.3.1. "Areas, Places, and Boundaries,"
  West Michigan Shoreline Regional
  Development Commission, September,
  1977, 52 pages
- 1.3.2. "Assessment of Groundwater Quality," West Michigan Shoreline Regional Development Commission, December, 1977, 139 pages.
- 1.3.3. "Assessment of Hydrological and Ambient Quality of Region's Major Streams," Ohio-Kentucky-Indiana Regional Council of Governments, October, 1975.

- 1.3.4. "Biological Survey of the Des Plains River," Northeastern Illinois Planning Commission, September, 1976.
- 1.3.5. "Environmental Assessment,"
  Greater Egypt Regional Planning
  and Development Commission, April,
  1978. Topics Include: Strategy
  of the national plan; construction
  needs.
- 1.3.6. "Environmental Impact Assessment," Snohomish County Planning Department, November, 1977, 117 pages.
- 1.3.7. "Estimate of Wasteloads and Flows,"
  West Michigan Shoreline Regional
  Development Commission, August,
  1977, 98 pages.
- 1.3.8. "Existing Water Quality Data and Standards,"Southeastern Council of Governments, May, 1977, 258 pages, \$10.00.
- 1.3.9. "Identification of Existing Water Quality Problem Areas," Coastal Bend Council of Governments, January, 1977, 55 pages.
- 1.3.10. "Illinois EPA Water Quality Sampling Stations in Northeastern Illinois," Northeastern Illinois Planning Commission, November, 1976.
- 1.3.11. "Inventory and Analysis of Available Point Source Information,"
  Southeastern Council of Governments, February, 1977, 108 pages, \$5.00.
- 1.3.12. "Inventory and Data Collection,"
  Ohio-Kentucky-Indiana Regional
  Council of Governments, September, 1975.
- 1.3.13. "Inventory and Available Point Source Information," Southeastern Council of Governments, May, 1977, 63 pages, \$3.00.
- 1.3.14. "Inventory of Conditions Affecting Nonpoint Source Pollution,"
  Chariton Valley Regional Services Agency.
- 1.3.15. "Inventory of Methods and Nonpoint Conditions in the Chariton Valley," Chariton Valley Regional Services Agency.

- 1.3.16. "Land Use Inventory by Drainage Area," Ohio-Kentucky-Indiana Regional Council of Governments, August, 1975.
- 1.3.17. "Monitoring and Sampling of Nonpoint Sources, and Development of Water Quality Surveillance Plan," Southeastern Council of Governments, November, 1977, 32 pages, \$1.00.
- 1.3.18. "Point Sources," Greater Egypt
  Regional Planning and Development Commission, March, 1978.
  Topics include: Compilation of
  impacts of point sources in the
  planning area.
- 1.3.19. "Report to Indiana Stream Pollution Control Board Water Quality Task Force," February, 1978, 52 pages. Topics include: Classification of streams.
- 1.3.20. "Selected Illinois EPA Water Quality Data," Northeastern Illinois Planning Commission, March, 1977.
- 1.3.21. "Soico-Economic Inventory and Projections," East Central Michigan Planning and Development Region, February, 1977, 246 pages.
- 1.3.22. "Stream Reach Inventory," Blue Ribbons of the Big Sky Country Areawide Planning Organization
- 1.3.23. "Test Watershed Monitoring and Sampling Program," Fox Valley Water Quality Planning Agency, February, 1978, 300 pages.
  Topics include: Study of 2 rural nonfarm; 2 agricultural and 5 urban test watersheds.
- 1.3.24. "Water Clarity Investigation,"
  Fox Valley Water Quality Planning
  Agency, April, 1977, 30 pages.
  Topics include: Results of
  public participation.
- 1.3.25. "The Water Quality of Bear Creek and the Middle Rogue River Basin," Rogue Valley Council of Governments, September, 1976, 125 pages. Topics include: Water Quality assessment and monitoring.

- 1.3.26. "1976 Water Quality Data of Bear Creek Basin, Medford, Oregon," Rogue Valley Council of Governments, January, 1977, 180 pages.
- 1.3.27. "Water Quality Investigation in Rendt Lake and Cedar Lake," Greater Egypt Regional Planning and Development Commission, March, 1978, 180 pages.
- 1.3.28. "Water Quality Modelling Program," Indiana Heartland Coordinating Commission, June, 1976, 43 pages. Topics include: Sampling.
- 1.3.29. "Water Quality Report," Indiana Heartland Coordinating Commission, July, 1977, 197 pages. Topics include: Modeling and Sampling.
- 1.3.30. "Water Quality Sampling,"
  Snohomish County Planning Department, November, 1977, 171 pages.
- 1.3.31. "Water Quality Sampling and Analysis in the 208 Program,"
  Northeastern Illinois Planning Commission, January, 1977.

### 4. LAND USE

- 1.4.1. "Agricultural Land Use," Blue Ribbons of the Big Sky Country Areawide Planning Organization.
- 1.4.2. "The Effects of Land Use Practices on Trout Populations in Rocky Creek, Montana," Blue Ribbons of the Big Sky Country Areawide Planning Organization.
- 1.4.3. "Estimates of Land Cover and Use,"
  West Michigan Shoreline Regional
  Development Commission, April,
  1977, 69 pages.
- 1.4.4. "Existing and Projected Population, Land Use and Employment," Coastal Bend Council of Governments, November, 1976, 67 pages.

- 1.4.5. "Future Land Use Plan, Chariton Valley Region, Iowa," Chariton Valley Regional Services Agency.
- 1.4.6. "Lakeshed Study Areas Detailed Studies of Land Use - Water Quality Relationships in the Southern Kennebec Region," Southern Kennebec Valley Regional Planning Commission, April, 1977.
- 1.4.7. "Land Capabilities," Blue Ribbons of the Big Sky Country Areawide Planning Organization.
- 1.4.8. "Land Capability, Chariton Valley Region," Chariton Valley Regional Services Agency.
- 1.4.9. "Land Use Evaluation Areas,"
  Southern Kennebec Valley Regional
  Planning Commission, February,
  1976.
- 1.4.10. "Iand Use Inventory by Drainage Area," Ohio-Kentucky-Indiana Regional Council of Governments, August, 1975.
- 1.4.11. "Land Use Regulatory Control System," Baltimore Regional Planning Council.
- 1.4.12. "Land Use Report," Greater Egypt Regional Planning and Development Commission, April, 1978.
- 1.4.13. "Land Use Trends and Projections," Southern Kennebec Valley Regional Planning Commission, March, 1976.
- 1.4.14. "Nonpoint Source Pollution from Land Use Activities," Northeastern Illinois Planning Commission, August, 1977.
- 1.4.15. "Preliminary Land Use Constraints," Southern Kennebec Valley Regional Planning Commission, June, 1976.
- 1.4.16. "Recommended Land-Use Plan,"
  Chariton Valley Regional Services
  Agency.
- 1.4.17. "Special Interim Report," Snohomish County Planning Department, May, 1977, 25 pages. Topics include: Population and employment, land use, waste load projections.

- 1.4.18. "Technical Appendix: Aroostook-Prostile Water Quality Plan," Northern Maine Regional Planning Commission, July, 1977, 98 pages. Topics: Historical Tend of Land Use.
- 1.4.19. "Water Quality Land Use Relationships," Northeastern Illinois Planning Commission, May 1976.

### 5. LAKES

- 1.5.1. "Future Lake and Stream Quality to 1998," West Michigan Shore-line Regional Development Commission, July, 1977, 194 pages.
- 1.5.2. "Hebgen Lake Studies," Blue Ribbons of the Big Sky Country Areawide Planning, Organization,
- 1.5.3. "Lake Michigan Water Quality Trends and Monitoring Programs," Northeastern Illinois Planning Commission, December, 1976.
- 1.5.4. "Lakeshed Study Areas," Southern Kennebec Valley Regional Planning Commission, April, 1977.
- 1.5.5. "Nonpoint Sources of Pollution to Lakes," Southern Kennebec Valley Regional Planning Commission, April, 1977.
- 1.5.6. "Phosphorus Release from Sediments," Fox Valley Water Quality Planning Agency, December, 1977, 30 pages, Topics include: Analysis of core samples of bottom sediments to discover phosphorus release.
- 1.5.7. "Public Health Studies in Winnebego Pool Lakes," Fox Valley Water Quality Planning Agency, December, 1978, 60 pages. Topics include: Septic Tanks.
- 1.5.8. "Technical Supplement to Lake and Stream Quality Study," West Michigan Shoreline Regional Development Commission, September, 1977, 138 pages.

- 1.5.9. "Trophic Status of Lake Winnebego Pool," Fox Valley Water Quality Planning Agency, June, 1978, 50 pages.
- 1.5.10. "Trophic Study of Lower Green Bay," Fox Valley Water Quality Planning Agency, June, 1978, 50 pages.
- 1.5.11. "Water Quality Investigation in Rendt Lake and Cedar Lake," Greater Egypt Regional Planning and Development Commission, March, 1978, 180 pages.
- 1.5.12. "Water Quality Problems of Inand Lakes," Northeastern Illinois Planning Commission, August, 1976.

### HOW TO USE THE 208 DATA CLEARINGHOUSE

Use the 208 Data Clearinghouse to access WQM information already available. It's far less expensive and time consuming than generating the information yourself.

It's simple. Write or telephone the agency that authored the report you want. They will inform you of any costs associated with sending the report to you.

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# 208 Data Clearinghouse

Thanks to all of the agencies and regional offices who have submitted abstracts for this edition of the "208 Data Clearinghouse," for only your help and cooperation can make information sharing possible.

If you find an abstract of interest, please contact the agency listed. You can make arrangements with them to acquire the document.

This is also a reminder to all those who have not yet responded to the phone requests for abstracts to please send them to:

208 Data Clearinghouse EPA Water Planning Division (WH-554) 401 M Street, S.W. Washington, D.C. 20460

### Included this month:

VII. Capitalization/Financing VIII. General Nonpoint Sources

IX. Groundwater

X. Legal

XI. Modeling

XII. Sedimentation and Erosion

XIII. Sewers

XIV. Socio-Economic Impact

XV. Urban Runoff

XVI. Draft and Final Plans

### VII. CAPITALIZATION/FINANCING

- 2.7.1. "Alternative Financial Subarea Plans," First Tennessee-Virginia Development District, June, 1977, 20 pages.
- 2.7.2. "Analysis of Initial Financial Alternatives," First Tennessee-Virginia Development District, June, 1977, 15 pages.
- 2.7.3. "Analysis of Tax/Cost Impact of Alternative Areawide and Subarea Management and Financial Structure," First Tennessee-Virginia Development District, January, 1978, 39 pages.
- 2.7.4. "Application of the Call-Three Model to the Lower Fox River to Simulate Wasteload Allocations," Fox Valley WQ Planning Agency, February, 1977, 300 pages.
- 2.7.5. "Assessment of Institutional and Financial Arrangements for WQ Management," Baltimore Regional Planning Council.
- 2./.6. "Concepts for User Charge and Industrial Cost Recovery System,"
  Indian Nations COG, April, 1978.
- 2.7.7. "Cost Effectiveness Evaluations of Point and Nonpoint Source Control Needs," East Central Florida Regional Planning Council.

- 2.7.8. "Cost and Effectiveness of Non-Structural Management Practices for Reduction of Pollution from Nonpoint Sources," S. Alabama RPC, May, 1977.
- 2.7.9. "Cost and Financial Analysis/Strategy," Erie and Niagara Counties RPB, February, 1978 227 pages.
- 2.7.10. "Cost Functions for Wastewater Management Options," Indian Nations COG, January, 1978.
- 2.7.11. "Costs for Applying Recommended Management Practices on Agricultural Land," Southeast Michigan Council of Governments, April, 1978, 55 pages.
- 2.7.12. "Detailed Discussion of Cost Comparisons Memorandum," Washington COG, March. 1978.
- 2.7.13. "Documentation of Cost Estimating Procedures for Physical Wastewater Management Alternatives," Indian Nations COG, March, 1978
- 2.7.14. "Energy Impacts of Wastewater Treatment in Metropolitan Washington," Washington COG, February, 1978.
- 2.7.15. "An Evaluation of the Distribution of Costs and Benefits in Areawide Waste Treatment Management," Southern Maine Regional Planning Commission, December, 1975.
- 2.7.16. "Existing Financial Structures for Wastewater Treatment," First Tennessee-Virginia Development District, December, 1976, 53 pgs.
- 2.7.17. "Financial Analysis," Indian Nations COG, April, 1978.
- 2.7.18. "Financial Aspects of Water Quality Management," Indiana Heartland Coordinating Commission, August 26, 1977, 54 pages.
- 2.7.19. "Financial Impact of Expenditures for Improved Wastewater Treatment on Major Dischargers on the Lower Fox River," Fox Valley WQ Plng.

- 2.7.20. "Financial & Management Practices In Selected Sewer Systems of Southwest Florida," S.W. Florida RPC, April, 1977.
- 2.7.21. "Financial Requirements of Management Agencies, User Charges and Industrial Cost Recovery," S. Alabama RPC, December, 1976.
- 2.7.22. "Financial Strategies for Areawide Water Resources Management in the Metropolitan Washington Area," Washington COG, December, 1977.
- 2.7.23. "Financial Wastewater Treatment in Cherry Valley and Leicester Center," Central Mass. RPC, Feb.
- 2.7.24. "Financing Wastewater Treatment in the Oxford-Rochdale Sewer District," Central Mass. RPC, December, 1976.
- 2.7.25. "Fiscal Alternatives for Wastewater Management," Southeastern Regional Planning and Economic Development Commission, March, 1977, 17 pages.
- 2.7.26. "Governmental Assistance for Financing Pollution Control Systems and 208 Management," Boston MAPC, January, 1977.
- 2.7.27. "Identification and Description of Existing Regulatory Authority in the State of Delaware Relating to Water Quality Control and Fiscal Management," Coastal Sussex Water Quality Program, December, 1977.
- 2.7.28. "Identifying Constraints and Deficiencies in Existing Management and Fiscal Programs," Coastal Sussex Water Quality Program, August, 1977.
- 2.7.29. "Industrial Cost Recovery in New Castle County, Delaware," New Castle County 208, June. 1977.

- 2.7.30. "Initial Financial Alternatives," First Tennessee-Virginia Development District, January, 1977, 21 pages.
- 2.7.31. "Inventory of Existing Water Quality Management and Fiscal Program," Coastal Sussex Water Quality Program, July, 1977.
- 2.7.32. "Legal, Institutional, Financial Arrangements," Berkshire County RPC, November, 1976.
- 2.7.33. "Management Alternatives Including Institutional Arrangements, Financial Alternatives and Required Authority," Coastal Bend COG, September, 1977, 160 pages.
- 2.7.34. "Management Subplans," Lower Rio Grand Valley Regional Development Commission.
- 2.7.35. "Methodology to Assess the Impact of Increased Wastewater Treatment Charges on Households," Indiana Heartland Coordinating Commission, January 17, 1978, 24 pages.
- 2.7.36. "Nonsewered Areas Wastewater Disposal Systems," Southern Kennebec Valley RPC, January, 1977, 155 pages.
- 2.7.37. "Plan Needs and Scheduling of Capital Sources," Greater Egypt Regional Planning and Development Commission, April, 1978.
- 2.7.38. "Projected Costs of Recommended Improvements to Wastewater Systems for Incorporated Municipalities," SECOG, May, 1977, 7 pages.
- 2.7.39. "Recommended Financial Structure," First Tennessee-Virginia Development District, April, 1978, 13 pages.
- 2.7.40. "Report on Financial Analysis of County Wastewater Collection Systems," New Castle County 208, December, 1975.
- 2.7.41. "Review of Existing Financial and Regulatory Arrangements," Mississippi-Arkansas-Tennessee COG

- Memphis Delta Developmental District, February, 1977.
- 2.7.42. "Section 7 Federal Funding for Water Quality Management," Regional Planning Council.
- 2.7.43. "Small Areas Forecast: Policies,
  Forecasts, and Evaluation."
  Southeast Michigan Council of
  Government, March, 1978, 182
  pages.
- 2.7.44. "The S.W. Florida Economy. A Survey of the Region," S.W. Florida RPC.
- 2.7.45. "Summary Cost Estimates," Indian Nations COG, February, 1978.
- 2.7.46. "Summary of Most Cost-Effective Wastewater Management Alternatives," Indian Nations COG, March, 1978.
- 2.7.47. "Technical Handbook: User Charge and Industrial Cost Recovery Requirements," Baltimore Regional Planning Council.
- 2.7.48. "Technical Subplan," Lower Rio Grande Valley Regional Development Commission.
- 2.7.49. "User Charge Handbook," Indiana Heartland Coordinating Commission, February 15, 1977, 9 pages.
- 2.7.50. "User Charge and Industrial Cost Recovery Information," East Central Florida Regional Planning Council.
- 2.7.51. "User Charge/Industrial Cost Recovery - A Case Study," New Castle County 208, August, 1977.
- 2.7.52. "User Charge and Industrial Cost Recovery Systems, Phase II Fiscal Analysis - Interim Report," New Castle County 208, June, 1976.
- 2.7.53. "Wastewater Treatment Processes and Cost Estimating Date," Northeastern Illinois Planning Commission, April, 1977.
- 2.7.54. "Water Treatment Costs," Southern Maine Regional Planning Commission, June, 1976.

2.7.55. "Working Paper III: Preliminary Draft - Fiscal Analysis Background," New Castle County 208, February, 1975.

### VIII. GENERAL NONPOINT SOURCES

- 2.8.1. "Areawide Planning Advisory Committee Briefing - Pittsfield," Berkshire County RPC, May, 1976.
- 2.8.2. "Assessment of Non-point Source Pollution for the INCOG 208 Study Area," Indian Nations COG, February, 1978.
- 2.8.3. "Best Management Practices for Non-point Sources," S. Alabama RPC, July, 1977.
- 2.8.4. "Best Management Practices for Non-Point Source Pollution Reduction in Waters of Summit, Wasatch and Utah Counties," July, 1976.
- 2.8.5. "Best Management Practices for Non-Point Source Water Pollution in Utah," Mountainland Association of Governments, April, 1977.
- 2.8.6. "Compendium: Non-Point Source Control Measures," Phoenix Urban Study, February, 1977.
- 2.3.7. "Control of Water Pollution From Non-point Sources," Lakes Region Planning Commission, August, 1977.
- 2.8.8. "Critical Non-Point Source Pollution Areas," Central Mass. RPC, February, 1977.
- 2.8.9. "Cropland Sedimentation in Southeast Michigan: Methodology for Identifying Potential Problem Areas," Southeast Michigan Council of COG Governments, March, 1978, 72 pages.
- 2.8.10. "Current Agricultural Practices
  Inventory and Review Non-Metro
  Area (Working Paper)," Maricopa
  Association of Governments 208
  Program, October, 1977.

- 2.8.11. "Definition of Subwatershed Monitoring Program," First Tennessee-Virginia Development District,
  September, 1977, 22 pages.
- 2.8.12. "Evaluation of Continuous Non-Point Sources in the Planning Area," New Castle County 208, December, 1975.
- 2.8.13. "Field Data on Non-point, Urban Stormwater, Comprehensive and Routine Sampling Runs," S. Alabama RPC, January, 1977.
- 2.8.14. "Identification, Evaluation and Control of Non-point Source Pollution: A State-of-the-Art Literature Review," Mountainland Association of Governments, September, 1975.
- 2.8.15. "Initial Quantification of Non-Point Sources for Berkshire 208 Study," Berkshire County RPC, February, 1976.
- 2.8.16. "Inventory and Analysis of Study Area Data on StormwaterRunoff," First Tennessee-Virginia Development District, April, 1977, 24 pages.
- 2.8.17. "Inventory of Point and Non-point discharges in Summit, Wasatch and Utah Counties in the State of Utah," Mountainland Association of Governments, February, 1976.
- 2.8.18. "Inventory of Storm Sewer Systems,"
  First Tennessee-Virginia Development District, September, 1977, 18
  pages.
- 2.8.19. "Literature Review and Analysis of Techniques for Identification and Evaluation of Non-point Sources of Pollutants," Greater Portland COG Council of Governments, January, 1978.
- 2.8.20. "Measures to Control Non-point Source Pollution," Central Mass. RPC, March, 1977. •

- 2.8.21. "Methodology for Ranking of Nonpoint Pollution Sources," Southeastern Regional Planning and Economic Development Commission, March, 1977, 32 pages.
- 2.8.22. "Monitoring Non-point Source Pollution in Coastal Sussex County," Coastal Sussex Water Quality Program, November, 1977.
- 2.8.23. "Monitoring of Selected Subwatersheds," First Tennessee-Virginia Development District, November, 1977. 30 pages.
- 2.8.24. "Non-point Estimation Analysis for Critical Urban Areas," Central Mass. RPC, February, 1977.
- 2.8.25. "Non-point Pollution from Land Disposal Sites," S. Alabama RPC, July, 1977.
- 2.8.26. "Non-point Pollution/Water Quality Analysis," Mississippi-Arkansas-Tennessee COG Memphis Delta Developmental District, March, 1977.
- 2.8.27. "Non-point Source Assessment, Draft Summary Rt. #6," S. Alabama RPC, September, 1977.
- 2.8.28. "Non-point Sources," Berkshire County RPC, November, 1976.
- 2.8.29. "Non-point Sources," S. Alabama RPC, July, 1977.
- 2.8.30. "Non-point Sources--By Type, Location and Quantity," Central Mass. RPC, March, 1977.
- 2.8.31. "Non-point Sources Report," Lower Rio Grande Valley Development Commission.
- 2.8.32. "Non-point Source Control Plan for the INCOG 208 Study Area with Appendix," Indian Nations COG, February, 1978.
- 2.8.33. "Non-point Source Control Technologies and Cost Effectiveness,"
  Androscoggin Valley RPC.
- 2.8.34. "Non-point Source Pollution,"
  Southern Kennebec Valley Regional
  Planning Commission, March, 1976.

- 2.8.35. "Non-point Source Pollution Potential and Control Measures," Phoenix Urban Study, November, 1977.
- 2.8.36. "Non-point Sources Water Quality Study," Southern Maine Regional Planning Commission, June, 1977.
- 2.8.37. "Non-point Sources Working Paper,"
  Brevard County Planning and Zoning
  Department, February, 1978, 153
  pages.
- 2.8.38. "An Overview of Non-point Source Pollution in the Ten Town 208 Area," Androscoggin Valley RPC.
- 2.8.39. "Preliminary Report of Potential Nonpoint Sources in the Lakes Region," Lakes Region Planning Commission, April, 1976.
- 2.8.40. "Preliminary Suggested Strategy for Controlling Non-point Source pollution," Central Mass. RPC, April, 1977.
- 2.8.41. "Relationships Between Non-point Conditions and Water Quality,"
  Chariton Valley Regional Services Agency.
- 2.8.42. "Restoration and Maintenance of High Quality Water," Greater Egypt Regional Planning and Development Commission, February, 1978, 80 pages.
- 2.8.43. "Results of Routine Run, Theodore Non-point Sampling and Fairhope Landfill Sampling," S. Alabama RPC, October, 1976.
- 2.8.44. "Section 208 Areawide Nonpoint Source Emissions Analysis," Central Mass. RPC, September, 1976.
- 2.8.45. "Section 208 Nonpoint Source Emissions Analysis," Central Mass. RPC, August, 1977.
- 2.8.46. "Southwest Virginia 208 Plan," Lenowisco Planning District Commission.

- 2.8.47. "Subbasin Pollution Loading
  Assessments and Non-point Pollution Reduction Potentials for
  Summit, Wasatch and Utah Counties,"
  Mountainland Association of
  Governments, July, 1976.
- 2.8.49. "Summary of Non-point Sources," Fox Valley WQ Planning Agency, February, 1978.
- 2.8.50. "208 Report Vol. IV Non-point Abatement Sub-plan for Mahoning and Trumbull Counties," Eastgate Development and Transportation Agency.
- 2.8.51. "Water Quality Data: Non-point Sources," Central Mass. RPC, November, 1977.

### IX. GROUNDWATER

- 2.9.1. "Analysis of the Impact of Septic Systems on the Surface of Groundwater in Acton, Mass.," Boston MAPC, June, 1977.
- 2.9.2. "Assessment of Groundwater Quality in the Mountainland Association of Governments Area," Mountainland Association of Governments, July, 1976.
- 2.9.3. "Atkinson Groundwater Report," Southern Rockingham Regional Planning District Commission," May, 1976, 6 pages.
- 2.9.4. "Deep-Water Sediments and Springs of Utah Lake," Mountainland Association of Governments, January, 1976.
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# 208 Data Clearinghouse

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XVIII. Conservation
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XX. Hydrologic Modification

XXI. Industry
XXII. Landfills
XXIII. Point Sources

XXIV. Public Participation

XXV. Septic Systems

XXVI. Standards

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