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ENVIRONMENTAL PROTECTION AGENCY

WATER PLANNING DIVISION

ANNOTATED BIBLIOGRAPHY FOR WATER QUALITY MANAGEMENT

THIRD EDITION

OCTOBER, 1976

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Bibliography for Water Quality Management

DATE: 28 OCT 1976

FROM: Walter Kosinski for Mark A. Pisano, Director
Water Planning Division

TO: All Regional Water Division Directors

Information Memorandum: INFO- 25

The Bibliography is prepared by EPA to assist those agencies engaged in water quality management planning. This third edition has been restructured for easier use by reducing the number of headings. As before, references cited have been selected for their applicability to 208 planning and for their availability.

Each reference is followed by a short abstract, and whenever possible, by detailed price and ordering information. Instructions for using the Government Printing Office and the National Technical Information Service are included on the last page.

Questions, comments, or suggestions regarding this edition should be addressed to the "208 Library", Program Management Branch, Water Planning Division (WH-554), U.S. EPA, Washington, D.C. 20460, telephone (202)755-6993.

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EPA Form 1320-6 (Rev. 6-72)

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I. General Information for the Public - Handouts

First Things First: A Strategy Against Water Pollution. U.S. EPA. Wash. D.C. Sept '74. GPO (stock no. 551-507) or single copies available from U.S. EPA Office of Public Affairs (A-107) Wash. D.C. 20460.

A 16 page booklet explaining the major elements of the strategy used by the U.S. Environmental Protection Agency and the States in their attack on water pollution, the problems faced and what is being done about them. Suitable for public information.

Environmental Comment, January '76, available from the Urban Land Institute, 1200 18th St. N.W., Washington, D.C. 20036, $.50.

Contains eight articles offering varying perspectives on the Areawide Waste Treatment Management Program, ranging from that of a Congressional staff member, to that of the local planner. Provides an excellant introduction to the program, its goals and its methods. Suitable for public information.

Common Environmental Terms: A Glossary, compiled by Gloria J. Studdard, U.S. EPA, Nov. 1974, available from EPA Office of Public Affairs, Wash. D.C. 20460

Glossary of common words and terms essential to the study, understanding and solution of environmental problems. 23 pages, 250 entries.

"Non-point pollution: An EPA view of areawide water quality management," Journal of Soil and Water Conservation, Mark Pisano, May-June, 1976. Available from: Water Quality Management Information Center, Wash. D.C. 20460.

Provides an introduction to the concept of non-point pollution by describing its characteristics and discussing its importance relative to point pollution. Considers the mechanisms with which Section 208 will deal with non-point pollution. Written in lay terms. 6 pages.

"Spend the next two minutes reading this leaflet and you won't have to spend the next few years wondering what happened to raise your taxes." U.S. EPA. November 1976, Available from EPA Office of Public Affairs.

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

Sanitary Landfill Facts, Thomas Sarg and H. Lanier Hickman, Jr., 1970. Wash. D.C. 20402, Available from GPO, Wash. D.C. $1.00. GPO 1714-00010

Provides general information on the planning, design, operation, and public health aspects of sanitary landfill. Diagrams area, trench, and ramp methods. 30 pages.

II. General Information Studies For The Public

Federalism and Clean Waters, The 1972 Water Pollution Control Act. Harvey Lieber. D.C. Heath and Company. 1975. Available from Lexington Books/ 125 Spring Street/Lexington, Massachusetts 02173. $18.50.

Uses the concept of federalism as a framework in which to examine the Water Pollution Control Act and study its inter-governmental implications. Examines the legislative background and history of the Act. Deals with implementation and draws conclusions concerning federal-state and executive-legislative relations. Evaluation of 5 state programs geared toward answering the questions: Was the assumption of greater federal responsibliity justified by state inaction, and will the new legislation achieve the desired ends? 304 pages.

Towards Cleaner Water: A Citizen's Guide To Action, The Conservation Foundation, Fall, 1976. Copies are available from The Conservation Foundation/1717 Massachusetts Ave. N.W./ Washington, D.C. 20036. $7.00, Bulk rates available.

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.

Design with Nature. Ian McHarg. Garden City: Natural History Press, 1969. Published for the American Museum of Natural History. The City, NY 11530. P.C. $8.50.

Demonstrates by using concrete examples how man's new knowledge of ecology can be applied to actual environments, both natural ones such as seashores, lakes, rivers, and swamps and those that man has created such as large cities. Emphasis is placed on the concept of design with nature and showing how man can impose design but "use to the fullest, the potentialities and with them, necessarily, the restrictive conditions - that nature offers."

Urban Land Use Planning. F. Stuart Chapin, Jr. Urbana, Illinois: University of Illinois Press, '65. P.C. $10.00.

Focuses primarily on theory and methods with special attention given to the techniques required in making analysis of land use, in measuring trends, and in estimating present and future requirements for uses of land. Aspects concerned with the legal basis of planning, its legislative controls and its administrative organization are specifically excluded from detailed treatment.

Promoting Environmental Quality Through Urban Planning and Controls. Report No. 600/5-73-015. U.S. EPA. Socioeconomic Environmental Studies Series, Feb '74. NTIS PB-227-090/8. $11.50.

Focuses on the changing awareness and current practices in promoting environmental quality through urban planning and controls in local and metropolitan planning agencies. Includes a review of planning practices in the 1960's related to environmental quality, and a detailed examination of numerous planning approaches and controls considered to be promising for future environmental quality enhancement.

Stream Quality Preservation Through Planned Urban Development. U.S. EPA Report No. EPA R5-73-019. Socioeconomic Environmental Studies Series, Wash. D.C. May '73. GPO, $2.60. NTIS PB 222-177.

The effects of a land use plan to restrict urban development in areas critical to the water resource system are identified through empirical studies. For example: relationships are established between amount, density, type and location of urban development, on the one hand, and stream water quality and stream channel enlargement on the other.

The Quiet Revolution in Land Use Control. U.S. Council on Environmental Quality. Fred Bosselman and David Callies. Wash. D.C. GPO, stock no. 4111-0006, $2.75.

A report on the innovative land use laws of several States. The report examines in detail several different Statewide regulatory systems, several systems where "critical areas" only are regulated and several systems focusing on key types of land development. The examinations are based primarily on a review of the key statutes, regulations and decisions and on interviews with administering officials and other groups. Key issues that run through all systems are synthesized.

"Coordination of Environment and Development: Three Case Studies from Abroad." Environmental Comment, March '76, available from the Urban Land Institute, 1200 18th Street, N.W., Washington, D.C. 20036. $.50/copy.

Reports and analysis of the planning and implementation methodologies used by regional planning organizations in France, Germany, and Australia.

Private Property and the Public Interest; The Brandywine Experience. Anne L. Strong, John Hopkins University Press, Baltimore, MD. 21218, 1975, $12.00

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

National Profile of Section 208 Areawide Management Planning Agencies. U.S. EPA. July, 1975. Available from EPA Regional offices.

A general compilation of information on 208 agencies and their activities including these topics: agency profiles, environmental aspects, land use aspects, management/institutional aspects, public participation, budget, timing and financial problems, designation and grant application, coordination, and evaluation and guidance. 69 pages.

III. 208 Planning Process: Guidance/Regulations on Plan Preparation

Revised Grant Application and Work Plan Handbook for Section 208 Areawide Water Quality Management, U.S. EPA, December '75. Availiable upon request from EPA Regional Offices

Provides details on the preparation of areawide planning workplans, and examples of workplan elements to assist locally designated planning agencies in preparing 208 workplans. Divided into three parts: Grant Application Requirements, Outline of Workplan, and Refinement of Workplan. 53 pages.

Draft Guidelines for State and Areawide WQM Program Development, U.S. EPA, February '76, Available upon request from EPA Regional Offices.

Intended to assist WQM planning agencies in carrying out their water quality management responsiblilties within designated and nondesignated areas. It applies also to other agencies - local, State, and Federal--that may be involved in the planning process for those areas or in the plan review procedures.

Guidelines for Areawide Waste Treatment Management, U.S. EPA, August '75, Available upon request from the EPA Regional Offices

Intended to assist 208 planning agencies in carrying out their areawide waste treatment management planning responsibilities within designated areas. It applies to other agencies - local, State, and Federal -- that may be involved in the planning process for those areas or in the plan review procedures.

Federal Register:

"Part 130 - Policies and Procedures for the State Continuing Planning Process", Vol. 40 No. 230, November 28, 1975.

These regulations describe the necessary elements of a State's continuing planning process, and therefore provides policies and procedures for review, revisions and approval of a State's continuing planning process. Also provided is a mechanism for satisfaction of the Statewide responsibilities of other sections of the Act.

"Part 131 - Preparation of State Water Quality Management Plans", Vol. 40 No. 230, November 28, 1975.

These amended regulations describe the requirements for preparation of water quality management plans and the procedures governing plan adoption, submission, revision, and EPA approval.

Federal Register (con't)

"Part 35 - Procedures for Providing Grants to State and Designated Areawide Planning Agencies". Vol. 40 No. 230. November 28, 1975.

These regulations concern the allocation of funds, requirements for a financially self-sustaining planning process, and establishment of a state management role in areawide planning.

Federal Register, Vol. 40 No. 230, November 28, 1976 supercedes the following:

"Policies and Procedures for the State Continuing Process". (40 CFR Part 130). Federal Register, Vol. 40, No. 137, July 16, 1975.

"Preparation of State Water Quality Management Plans (Proposed Rules)". 40 CFR Part 131). Federal Register, Vol. 40, No. 137, July 16, 1975.

"Preparation of Water Quality Management Plans". (40 CFR Part 131) Federal Register, Vol. 39, No. 107, June 3, 1974.

State Continuing Planning Process Handbook. U.S. EPA, December, 1975. Available from EPA Regional Offices.

Assists in the states' revision of the Continuing Planning Process. Provides an explanation of the revised regulations, summarizes the requirements and gives an example of a hypothetical state submission for each of the sixteen parts of the CPP. 81 pages.

Revised Area and Agency Designation Handbook for Section 208 Areawide Water Quality Management Planning. U.S. EPA, November 1975. Available from EPA Regional Offices.

Discusses the procedure and criteria for designation of eligible areas and agencies to conduct 208 areawide planning. The factors it explicates include population, industrial activity, water quality factors, local government intent, and public participation. 30 pages.

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

Assists 208 agencies in the preparation of grant applications and the 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. 53 pages.

Cost Analysis Handbook for Section 208 Areawide Waste Treatment Management Planning Federal Assistance Applications. U.S. EPA, May 1975, Available from EPA Regional Offices.

Describes the review process required to assess the grantee's systems for financial management and accounting, and his/her planned system for contracting for services, required in support of completing the planning grant. 51 pages.

Interim Output Evaluation Handbook for Section 208 Areawide Waste Treatment Management Planning. U.S. EPA, Wash. D.C., 1975, Available upon request from EPA Regional Offices.

Deals with interim outputs expected within the first 9 months of the two-year WQM areawide waste treatment management planning program, namely: service area delineation, population and land use projections, flow and waste load projections, and waste load allocation revisions.

Simplified Mathematical Modeling of Water Quality, (with addendum). U.S. EPA, Wash. D.C. March '71. Available from: Program Assistance Branch, (WH-554) U.S. EPA, Wash. D.C. 20460.

A general, simplified methodology for the application of mathematical models to the analysis of water quality. The parameters modeled include certain dissolved oxygen in streams and estuaries. The modeling efforts have been incorporated into various tables, nomographs and figures, and along with some technical data, may be used to estimate treatment levels to meet specific water quality standards.

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 Wash. D.C. 20460. 202-426-0810.

IV. Public Participation: Guidance and Studies

Public Participation Handbook for Water Quality Management. U.S. EPA. June 1976, Available from EPA Regional Offices.

Explains the 1972 Water Pollution Control Act Amendments which pertain to public participation, identifies phases of the planning process, and discusses state level public participation. Half of the booklet is a "model program design" which details methods for obtaining citizen input. 77 pages.

Public Involvment in the Corps of Engineers Planning Process. 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.

Citizen Involvement in OCPC 208 Planning - A Progress Report. Old Colony Planning Council, April 1976, Available from: OCPC, 232 Main Street/ Brockton, Mass. 02401 or the Water Quality Management Information Center.

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.

Public Participation in Water Resources Planning: An Evaluation of the Programs of 15 Corps of Engineers Districts, James F. Ragan, U.S. Army Engineer Institute for Water Resources, Kingman Building, Fort Belvoir, Virginia 22060 (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 stage, 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.

Analysis of New Techniques for Public Involvement in Water Planning. Water Resources Bulletin, Vol. 11, No. 2 page 329. April 1975. Back issues available at $4.00 per copy from Dana Rhoads, American Water Resources Association, St. Anthony Falls Hydraulic Lab, Mississippi River at 3rd Ave. S.E., Minneapolis, Minnesota 55414.

Several techniques that have potential for overcoming some of the limitations of standard public involvement techniques have recently been developed. This paper describes several of these new techniques and analyzes each of them in terms of their potential utility in water resources planning.

Citizen Participation Strategies, "Journal of the American Institute of Planners". Edmund M. Burke. Wash. D.C. September 1968. Reprints of journals are available from Kraus Thompson Organization Ltd., Route 100, Millwood, N.Y. 10546, $3.75 per copy. State month and year of journal desired.

Suggests that many of the problems planners and others have had in involving the public in decision making can be resolved by recognizing and adopting a strategy of participation specifically designed to fit the role and resources of a particular organization. Five types of strategies are identified: Education-therapy, behavioral change, staff supplement, cooperation, and community power.

Public Participation in Water Resources Planning. University of Michigan, Ann Arbor. 1971. NTIS PB 204-245.

Reviews public participation activities and procedures which have been utilized in connection with governmental planning studies, especially water resources planning studies. Discusses identification of public, function and objectives, mechanisms for securing involvement, and timing. Also presents a model for a participatory planning process.

Selected Techniques for Soliciting Community Participation in Transportation Planning. Julie Hetrick Schermer. New York, N.Y. 1974. Copies of this paper available upon request from Mr. William Reed, Director of Publications, Parson, Brinckerhoff, Quade & Douglas, Inc. 1 Penn Plaza, 250 W. 34th St., New York, NY 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".

"Identification of Publics in Water Resources Planning", Journal of the Water Resources Planning and Management Division, Gene E. Willeke, Vol. 102, #WRI, April 1976, pp. 137-150.

This paper focuses on the identification of publics throughout the water quality management process. Some categories of publics are suggested, techniques for uncovering others are described, and the importance of reaching all groups is stressed.

The Role of Citizen Advisory Groups in Water Resources Planning, Publication No. 43. Madge Ertel, Water Resources Research Center, University of Massachusetts at Amherst, July 1974. Available at $3.00 per copy from Water Resources Research Center, Univ. of Mass., A211 Graduate Research Center, Amherst, Mass. 01002.

Report is the result of case study observation of the citizen advisory groups operating in conjunction with three planning studies. Describes the ways in which these groups have dealt with problems and to generalize from their experience for the benefit of other citizen adivsory groups and planning agencies. Concludes with a set of practical "guidelines" derived from this research, for the use of planning agencies seeking to maximize the effectiveness of citizen advisory groups.

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, Fort Belvoir, Va. Feb 1975. NTIS, AD/A 010 402. $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 preauthorization planning and decision making.

Private Property and the Public Interest; The Brandywine Experience, See Section II: Studies

V. 208 Plan Implementation

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

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

Financial Arrangements Handbook for Water Quality Management, (forthcoming) U.S. EPA. For Information on availability write to Water Quality Management Information Center.

The handbook discusses financial issues in Section 208 planning and implementation, and suggests alternative approaches for dealing with these issues. The handbook contains chapters on inventory of financial conditions, structure and evaluation of alternatives, and developing a program for plan implementation.

Evaluation of the Cost - Effectiveness of Nonstructural Pollution Controls: A Manual for Water Quality Management Planning, CONSAD Research Corp., Pittsburg, PA 15206, April 30, 1976. Limited quantity available from U.S. EPA/Water Quality Management Information Center. NTIS No. not assigned as yet. 70 pages.

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.

Management Agencies Handbook for Section 208 Areawide Waste Treatment Management, U.S. EPA, September 1975. Available from EPA Regional Offices.

Provides examples of possible water quality management programs that might apply in hypothetical areas. The examples are intended to show the way the management structure can carry out a 208 management program. 37 pages.

Alternative Growth Management Techniques - Draft, Prepared for New Castle County, Delaware. Available from EPA Regional Offices.

Records case studies of areas in which the provision of services is used as a growth management technique. Includes programs and policies which have been tailored to support officially adopted growth management objectives.

VI. Legal/Institutional Program Elements

Program Guidance Memorandum AM-1. U.S. EPA, Water Planning Division. Wash. D.C. March 1975. Available upon request from EPA Regional Offices.

Transmits policy statement issued March 11, 1975 by the Assistant for Water and Hazardous Materials on the subject of the relationship between 201 facilities planning and 208 areawide planning.

"Agreement for Implementation of Section 304(j) of the Federal Water Pollution Control Act Amendments of 1972". Federal Register, Vol. 38 No. 225, Nov 25, 1973.

Agreement between EPA and Departments of Interior, Agriculture and Army on setting up 208 advisory committees with representation of signatory agencies.

"Joint Agreement for Interagency Coordination of Areawide Waste Treatment Management Planning Assistance to State and Local Governments between EPA and the Department of the Army". Federal Register. Vol. 40 No. 11, Jan. 16, 1975.

Agreement between EPA and Department of the Army which established coordination between the Corps of Engineers Urban Studies Program and 208 Program.

Federal Programs Impacting Regional Water Quality Management - Draft. 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.

A Manual of Laws, Regulations, and Institutions for Control of Ground Water Pollution. Report No. EPA 440/9-76-006, U.S. EPA, June 1976, Available from Water Quality Management Information Center.

Extensive non-technical look at ground water resources and their sources of pollution. Discusses existing regulatory activity, suggests starting points for state statutes, presents guidelines for the development of regulations and their manpower requirements.

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 Wash. D.C. 20460, Sept, 1975 EPA 440/9-75-011. Available from EPA Regional Offices.

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

Problems and Approaches to Areawide Water Quality Management,
See Section VII: Point Sources

WPCF Manual of Practice No. 3, Regulation of Sewer Use,
See Section VII: Point Sources

A Manual of Laws, Regulations, and Institutions for Control of Ground Water Pollution,
See Section VI: Legal/Institutional Program Elements

Residual Waste: Model State Legislation
See Section VIII B: Residual Waste Management

VII. Point Sources

Draft - Pretreatment Guidance Manual for State and Areawide (208) Water Quality Management Planning Agencies. Vol 1., US EPA, April 1976, EPA Water Planning Division, Wash. DC. Limited quantity available from Water Quality Management Information Center.

Comprehensive working review and analysis of pretreatment issue, from Federal, State, and local viewpoint. Description of management elements, surveys, monitoring programs, sewer use ordinances, enforcement mechanisms, legal and financial considerations. Technical review of pollutants which can interfere with or pass through treatment plants. Case studies of actual pretreatment programs.

Federal Guidelines, Pretreatment of Pollutants Introduced in Publicly Owned Treatment Works. US EPA. Wash. DC, Oct 1973. Available upon request from EPA Regional Offices.

Guidelines established to assist municipalities, States, and Federal agencies in developing requirements for the pretreatment of wastewaters which are discharged to publicly owned treatment works. Also explains relationship between pretreatment and effluent limitations for publicly owned treatment works.

Improved Procedures for Municipal Regulation of Industrial Discharges to Public Sewers (forth coming). No report no. assigned. Draft available from U.S. EPA, Water Quality Management Information Center, (WH/554), Wash. DC 20460

Reviews the current status of local government control of industrial wastes discharged into publicly owned treatment works and finds them ineffective as a means of controlling large scale industrial activities. The report suggests an effective and economical regulatory scheme for complying with the federal pretreatment and effluent standards and the requirements imposed on federally-financed treatment works. The approach involves a contractual agreement between an industry and a public entity for treatment of the industry's wastewater.

Design Criteria for Mechanical, Electric, Fluid Systems and Component Reliabliity. U.S. EPA. Wash. DC NTIS PB-227-558/4.

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 backup to attain system reliability.

Effluent Guidelines and Development Documents. U.S. EPA. Wash. DC Available from Ms. Frances Dessele, Effluent Guidelenes Division (WH/552) U.S. EPA/Wash. DC 20460

The Effluent Guidelines Division of the Office of Water and Hazardous Materials, EPA, has published effluent limitation guidelines for existing industrial sources and standards of performance and pre-treatment standards 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, developemnt documents have been published which contain supportive data and rationales for the development of the applicable effluent limitation guideline and performance standard. While all of the effluent limitation guidelines and development documents are too numerous to be referenced here, information pertaining to specific industrial categories can be obtained from Ms. Frances Desselle.

Federal Guidelines, Operation and Maintenance of Wastewater Treatment Facililities. U.S. EPA. Wash. DC, Aug 1974, Available upon request from EPA Regional Offices.

These 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.

Guidance for Sewer System Evaluation. U.S. EPA Wash. DC 1974, Available upon request from EPA Regional Offices.

Intended to provide engineers, municipalities, 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.

Waste Load Allocations in River Basin Plans. Available only from State agencies concerned with Sec. 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.

Cost-Effective Analysis of Municipal Wastewater Reuse. U.S. EPA, Wash. DC. April 76, Available from U.S. EPA/Water Quality Managment Information Center. No EPA or NTIS number assigned yet.

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. Vol. I-IV U.S. EPA. School of Public and Environmental Affairs, Indiana University, Wash. D.C. 1973. NTIS PB-239-808. $25.00.

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, Appendix B-State Reports.

WPCF Manual of Practice No. 3 Regulation of Sewer Use. Water Pollution Control Federation. Wash. DC 1968. Available from Water Pollution Control Federation, 3900 Wisconsin Avenue, Wash. DC 20016, price $2.00

The manual presents the case for legally constituted guidelines to regulate the use of public sewer systems. It does so through presentation of a model sewer use ordinance and detailed discussion of its component parts.

VIII. Non-Point Sources Management

NONPOINT SOURCES MANAGEMENT GENERAL

Methods for Identifying and Evaluating the Nature and Extent of Nonpoint Sources of Pollutants, Report No. EPA 430-9-73-014. U.S. EPA. Wash. DC 1973. GPO, $2.45.

This report issued under Section 304(e) provides general information on the identification and assessment of nonpoint sources. Particular attention is paid to agriculture, silviculture, mining, and construction.

Report on State Sediment Control Institutes Program, Report No. EPA 440/9-75-001. U.S. EPA. Wash. DC. April 1975. GPO Stock No. 582-421-246.

This report reviews the results of 40 State sediment control institutes sponsored by EPA, through a grant to the National Association of Conservation Districts. The status of laws in the states is covered and a model State law for sediment control is included.

Loading Functions for Assessment of Water Pollution From Nonpoint Sources. U.S. EPA, Ofc. of Air, Land, and Water Use. Wash. DC 20460, 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 page volume.

Design of Cost-Effective Water Quality Surveillance Systems, Report No. EPA 600/5-74-004. U.S. EPA. Wash. DC Jan 1974. GPO, $4.50.

Presents the development and successful demonstration of quantitative methods for the design of river basin water quality surveillance systems for pollution abatement. The methods provide a systematic approach to the consideration of expected stream conditions, system characteristics, equipment performance, and cost in the selection of a preferred system design from among a number of candidates. Methods are computerized and programs are detailed in the report.

RESIDUAL WASTE MANAGEMENT

Development of Residuals Management Strategies. Wash. DC Available from U.S. EPA, Water Planning Division. (WH/554), Wash. DC 20460. NTIS PB 251011/AS. Paper Copy $4.00, Microfiche $2.25.

Study of the development of strategies for managing residuals. Contains step by step guidelines for identifying alternate residuals management strategies and then evaluating 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.

Evaluation of Land Application Systems, Technical Bulletin, EPA Report No. EPA 520/9-75-001. U.S. EPA. Wash. DC, March 1975.

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, and (3) operation and maintenance manuals.

Municipal Sewage Treatment: A Comparison of Alternatives. Council on Environmental Quality and U.S. EPA. Wash. DC. February 1974. GPO.

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.

Process Design Manual for Sludge Treatment and Disposal, Report No. EPA 625-41-74-006. U.S. EPA. Wash. DC. October 1974. Available upon request from U.S. EPA Office of Technology Transfer, CM#2 Rm 1014, RD 677. Wash. DC 20460.

Presents a contemporary review of sludge processsing 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.

Wastewater Treatment and Reuse By Land Applicability, Vol. I, Report No. EPA 660/2-73-006a. Vol. II 660/2-73-006b. U.S. EPA. Wash. DC. August 1973. GPO Vol. 1 - $1.10, Vol. II - $2.40.

Report of a nationwide study of current knowledge and techniques of land application of municipal treatment plant effluents and industrial wastewaters. Information and data were gathered on the many factors involved in system design and operation for the three major land application approaches: irrigation, overland flow, and infiltration-percolation. In addition, evaluations were made of environmental effects, public health considerations, and costs--areas in which limited data are available.

Residual Waste Best Management Practices: A Water Planner's Guide to Land Disposal. Report No. RFP NO WA-76-R045. Available from Water Quality Management Information Center. Wash. DC 20460.

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 users-planners, engineers, lawyers, elected officials and others, 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. Report No. EPA 440/9-76-022. U.S. EPA, Dec. 1975. Available from Water Quality Management Information Center NTIS PB 251013/AS.

Reports on the methodology for use by planners in the evaluation 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 Demonstration of a Planning Perspective for Waste Water Sludge Disposition, Ohio/Kentucky,Indiana (EPA 440/9-76-001-B, NTIS PB 250684/AS $7.50) and Demonstration of a Planning Perspective for Waste Water Sludge Disposition - Knoxville/Knox County (EPA 440/9-76-001-A NTIS PB 250936/AS $7.50)

Suggested Residual Waste State Legislation (Forthcoming) U.S. EPA Wash. D.C. Will be available from EPA Regional Offices

Addresses the legal/legislative/institutional consideration of residuals management. Deals with laws that control the disposal of waste and that encourage resource conservation and treats all of the common aspects of regulation, such as permits, inspections, and variances. Also deals with a variety of special considerations which impact upon the effectiveness of comprehensive area-wide planning.

Resource Recovery Information for Municipal Officials, 2 Vols. Report No. EPA 440/9-76-018. Vol. I-Feb 1976, Vol. II-Aug 1976. NTIS No. forthcoming. Available from Water Quality Managment Information Center, Wash. DC 20460.

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, 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, Report No. EPA 440/9-76-019. Alan K. Vitberg and Christopher H. Porter. June 1976, Available from EPA Regional Offices.

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 residuals BMP's; namely, that one industry's waste has the potential to be another industry's feedstock.

Land Application of Sewage Effluents and Sludges: Selected Abstracts.
See Section X: Bibliographies

Residual Waste Management Research and Planning Projects.
See Section X: Bibliographies

URBAN STORMWATER MANAGEMENT PROGRAM

Comparative Analysis of Urban Stormwater Models. U.S. EPA. Nov 1974. Available upon request from U.S. EPA, Planning Assistance and Policy Branch (WH/554), Wash. DC 20460

Eighteen mathematical models for the nonsteady simulation of runoff in urban storm and combined sewerage systems were reviewed in a study sponsored by EPA. Most of the models evaluated include the nonsteady simulation of the rainfall runoff process and flow routing in sewers. A few also include the simulation of wastewater quality, options for dimensioning sewerage system components, and features for realtime control of overflows during rainstorms.

Contributors of Urban Roadway Usage to Water Pollution, Report No. EPA 600/2-75-004. U.S. EPA. Wash. DC. March 1975. NTIS PB 245-854/5BE. P.C. $10.00, M.F. $2.25.

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

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.

Urban Stormwater Management Research and Planning Projects for FY 1975 and FY 1976, Information Package. U.S. EPA. Wash. DC. March 1975 Available upon request from U.S. EPA, Program Assistance Branch (WH/554) Wash. DC 20460.

Information contained in this reprot is concerned with urban stormwater management. Well over one 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 projects done prior to FY 75 is available.

Urban Stormwater Management and Technology: An Assessment, Report No. EPA 670/2-74-040. U.S. EPA. National Environmental Research Center, Cincinnati, 1974. GPO, NTIS PB 240-687/AS $11.50.

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. Report No. EPA 440/9-75-004. U.S. EPA, Wash. DC, December 1974. NTIS PB 241-689/AS. $7.50.

Provides technical assistance to state and local water quality management planners to enable them to quantify within reasonable limits the urban non-point 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. Dept. of Interior, Office of Water Resources. Wash. DC, 1974. 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.

Stormwater Quality Summary - Preliminary Draft. Prepared for New Castle County, Delaware. November, 1975. Available from EPA Regional Offices.

The first of the two reports contained here- the "stormwater quality summary"- identifies five sources of urban stormwater pollution and characterizes them in simple, non-technical terms. 43 pages. The second report concerns techniques for stormwater management- measures for abatement, control, and treatment are presented. 109 pages.

EPA Publications on Urban Stormwater Runoff: Ordering Information. See Section X: Bibliographies

AGRICULTURAL SOURCE MANAGEMENT

Evaluation of Salinity Created by Irrigation Return Flows, Report No. EPA 430/9-74-006. U.S. EPA. Wash. DC, 1974. GPO, $1.65.

Report provides general descriptions of the problems, major problems areas, and remedial and control measures.

Methods and Practices for Controlling Water Pollution from Agricultural Nonpoint Sources, Report No. EPA 430/9-73-015. U.S. EPA. Wash. DC, 1973. GPO, $1.10.

Issued under Section 304(e), report provides general description of various measures that may be used to control agricultural runoff. It is strongly directed at erosion and sediment control, but nutrients, pesticides, and animal wastes are covered.

Research Status on Effects of Land Application of Animal Wastes, Report No. EPA 660/2-75-010. U.S. EPA. Wash. DC. NTIS PB 243- 472/8BE. P.C. $5.25, M.F. $2.25.

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

Study of Current and Proposed Practices in Animal Waste Management, Report No. EPA 430/9-74-003. U.S. EPA. Wash. DC, Jan 1974. GPO, $4.70.

Report briefly discusses various methods of disposal and/or utilization of animal wastes. The report contains 362 pages of annotated bibliography.

SILVICULTURAL SOURCE MANAGEMENT

Silvicultural Chemicals and Protection of Water Quality - Draft, U.S. EPA Region X. Anticipated date of availability: January 1977 at 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.

Forest Harvest Residue Treatmemt, Reforestation & Protection of Water Quality, EPA Report No. 910/9-76-020, U.S. EPA Region X, Seattle, Wash. April 1973. Available from Water Quality Managment Information Center, Wash. DC and EPA Region X/1200 Sixth Avenue, Seattle, Wash. 98101.

Summarizes research, currently applied prediction, prevention and control techniques, and criteria for the prevention or minimization of water pollution from forest practices, especially those which effect sediment, soil nutrient and water temperatures.

Logging Roads and Protection of Water Quality, Report No,. EPA 910/9-75 007. U.S. EPA. Seattle, Washington, March 1975. NTIS PB 243 703/6BE, P.C. $9.25, M.F. $2.25.

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 for management programs are included.

Processes, Procedures, and Methods to Control Pollution Resulting from Silvicultural Activities, EPA report No. 430/0-73-010, U.S. EPA. October 1973. Available from Water Quality Management Information Center.

Discusses basic silvicultural practices in the United States, the nature and control of silvicultural pollution, the control of non-point sources, predictive methodology for non-point source pollution control, and criteria for pollution control management systems. 91 pages.

MINING SOURCE MANAGEMENT

Processes, Procedures and Methods to Control Pollution from Mining Activities, Report No. EPA 430/9-73-011. U.S. EPA. Wash. DC 1973. GPO, $3.40.

Report provides general information on controls for surface and underground mines, and treatment methods. Some cost information is included.

Inactive & Abandoned Underground Mines: Water Pollution Prevention and Control, June 1975, EPA Report No. 440/9-75-007. Available from Water Quality Management Center.

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. U.S. EPA, Office of Water and Hazardous Materials, August 1975. Available from Water Quality Management Information Center, Wash. DC 20460.

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 to reclamation programs.

A Guide to State Programs for the Reclamation of Surface Mined Areas, Edgar A. Imhoff, Thomas O. Friz, and James R. La Fevers. U.S. Dept. of the Interior, Geological Survey. Free on application to Branch of Distribution/US Geological Survey/ 1200 South Eads St./ Arlington, Va 22202.

A primer on 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.

Land Utilization and Reclamation in the Mining Industry, 1930-71, James Paone, John L. Morning, and Leo Giorgetti. U.S. Dept. of the Interior, Bureau of Mines. GPO Stock No. 2404-01601. $1.50.

After reporting briefly on the characteristics of surface mining, the Bureau's land utilization survey records information on land used and reclaimed from each mine and mill in operation in 1971. Information is recorded on a state-wide basis. 61 pages.

CONSTRUCTION SOURCE MANAGEMENT

Comparative Costs of Erosion and Sediment Control, Construction Activities, Report No. EPA 430/973-016. U.S. EPA. Wash. DC 1973. GPO, $2.20.

Cost information on erosion and sediment control measures has been assembled in this report, evaluated, and documented for more than 24 methods in current and widespread use in the United States.

Control of Erosion and Sediment Deposition from Construction of Highways and Land Development. U.S. EPA. Wash. DC September 1971, GPO, $.60.

Discusses the causes and effects of excess sediment runoff, measures for control, costs, and administration.

Methods of Quickly Vegetating Soils of Low Productivity, Construction Activities, Report No. EPA 440/9-75-008. U.S. EPA. Wash. DC July 1975 GPO, Stock No. 210-810/11 1-3.

Document 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.

Processes, Procedures, and Methods to Control Pollution Resulting from All Construction Activity, Report No. EPA 430/9-73-007. U.S. EPA. Wash. DC, 1973. GPO, $2.30.

Issued according to requirements of Section 304(e) of P.L. 92-500. Report provides information of a general nature regarding measures to controlling or preventing erosion and sediment runoff, stormwater, and pollutants other than sediments.

HYDROGRAPHIC MODIFICATION MANAGEMENT

The Control of Pollution from Hydrographic Modifications, Report No. EPA 430/9-73-017. U.S. EPA. Wash. DC, 1973. GPO, $1.95.

This report issued under Section 304(e) provides information and guidance for use in identification and evaluation of non-point sources of pollutants, and processes, procedures and control methods when pollution results from changes in the movement flow or circulation of any navigable waters or ground waters.

GROUNDWATER POLLUTION MANAGEMENT

Groundwater Pollution from Subsurface Excavations, Report No. EPA 430/9-73-012. U.S. EPA. Wash. DC, 1973. GPO, $2.25.

Report issued under Section 304(e), provides information on identification and evaluation, and on control methods. Injection wells, lagoons, septic systems, land fills, pipe leakage, etc. are generally covered. Administrators Decisions Statement No. 5 is included.

Identification and Control of Pollution from Salt Water Intrusion. U.S. EPA. Wash. DC, 1973. NTIS PB 227-229/2.

Report issued under Section 304(e), provides general information on identification and assessment; and on control methods. Coastal and inland waters are covered.

Subsurface Pollution Problems in the United States, Report No. TS-00-72-02. U.S. EPA. Wash. DC, May 1972. GPO Stock No. 514-148/60.

Report provides very general information on types of subsurface problems experienced in the United States.

Subsurface Water Pollution, A Selected Annotated Bibliography. Part I- "Subsurface Waste Injection"; Part II - "Saline Water Intrusion"; Part III - "Percolation from Subsurface Sources". U.S. EPA. Wash. DC, March 1972. NTIS, Part I: PB 211-340; Part II: PB 211-341; Part III: PB 211-342.

A selective bibligraphy produced from the computerized data base of the OWRR Water Resources Scientific Information Center. Represents published research in water resources as abstracted and indexed in the semi-monthly journal, Selected Water Resource Abstracts. Represents a search of a 33,980 - item data base, covering SWRA from October 1968 through December 1971.

Report to Congress - Waste Disposal Practices and Their Effects on Ground Water: Draft. U.S. EPA Office of Water Supply, April 22, 1976. Available from Bill Thompson (WH/550) 401 M St. SW/Wash. DC 20460.

Describes the use and occurrence of the groundwater resource along with the mechanisms of contamination. Discusses the major waste disposal practices including an explanation of the waste disposal practice, listing of potential contaminants, estimation of the extent of groundwater contamination on a national basis, reviews the present prevention technology and explores typical institutional controls available to state agencies. 511 pages.

A Manual of Laws, Regulations, and Institutions for Control of Groundwater Pollution,
See Section VI: Legal/Institutional Program Elements

Subsurface Water Pollution, A Selective Annotated Bibliography, 3 parts
See Section X: Bibliographies

IX. Environmental Assessment

Ecosystem Impacts of Urbanization: Assessment Methodology. U.S. EPA Report No. EPA 600/3-76-072. Wash. DC, July 1976. NTIS No. not assigned yet.

A methodology is developed to use space-time analysis and ecosystem 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, N.Y. emphasizes the usefulness of the components of ecosystem models by linking units from several studies with a new model (LAND).

Direct Environmental Factors at Municipal Wastewater Treatment Works. Ernest Leffel. U.S. EPA, Wash. DC. 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, solid disposal, and treatement during construction.

Land Development and Natural Environment: Estimating Impacts. Dale L. Keyes. Wash. DC: The Urban Institute. Available from Publication Office The Urban Institute, 2100 M Street, NW, Washingon, D.C. 20037 Order No. 13500, List price $4.95.

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, and 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 orginal sources and additional reading are also given.

Measuring Impacts of Land Development: An Initial Approach. Phillip S. Schaenmen and Thomas Muller. Washington, DC: The Urban Institute. Available from Publications Office, The Urban Institute, 2100 M Street, NW, Washington DC 20037, Order No. 86000. List price $2.95.

This report is the first in a series on land use impact evaluation published by The Urban 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 and 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. Washington, DC: The Urban Institute. Available from: Publications Office, The Urban Institute, 2100 M St. NW, Washington, DC 20037. Order No. 98000. List price $2.95.

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 parctice while indicating some of the gaps or defects that require the special attention of analysts.

A Review of Environmental Impact Assessment Methodologies, Report No. EPA 600/5-74-002. U.S. EPA. Wash. DC, April 1974. GPO $.70, NTIS PB 236-609/AS.

Seventeen methodologies applicable to preparation of environmental impact statements are reviewed to identify their strengths, weaknesses, and potential range of use. Specific criteria are suggested for evaluating the adequacy of an impact assessment methodology.

An Approach to Evaluated Environmental Social and Economic Factors in Water Resources Planning. Water Resources Bulletin Vol. 8 No. 4 page 724. Aug. 1972, Back issues available at $4.00 per copy from Dana Rhoads, Amercian Water Resources Association, St. Anthony Falls, Hydraulic Lab, Mississippi River at 3rd Ave. SE, Minneapolis, Minn. 55414.

Briefly discusses present methods of project evaluation and then describes an approach adapted from highway planning literature for evaluating both monetary and nonmonetary variables and presenting them to decision makers at all levels. Social and environmental consequences are analyzed using a graphical description method. Includes a case example.

Manual for Preparation of Environmental Imapct Statements for Wastewater Treatment Works, Facilities Plans, and 208 Areawide Waste Treatment Management Plans. U.S. EPA. Wash. DC, 1974. Available upon request from U.S. EPA, Office of Federal Activities (A-104), Wash. 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 of completeness and consistency in those EIS's prepared by EPA in the above categories.

Performance Controls for Sensitive Lands: A Practical Guide for Local Administrators, Report No., EPA 600/5-75-005. U.S. EPA. Wash. DC, March 1975. NTIS PB 245 177/LBE. P.C. $12.50, M.F. $2.25.

Intended as 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.

Secondary Impacts of Transportation and Wastewater Investments: Research Results, Report No. EPA 600/5-75-013. U.S. EPA. Wash. DC, July 1975. NTIS PB 246 085/5BE. P.C. $7.75, M.F. $2.25.

The second report of a 2 part research study. This report presents the results 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.

Bibliography for Environmental Assessment and Impact Evaluation of Areawide Quality Management

See Section X: Bibliographies

Secondary Impacts of Transportation and Wastewater Investments: Review and Bibliography

See Section X: Bibliographies

X. Bibliographies

Environmental Management Research Publications and Active Projects, U.S. EPA, Wash. DC 20460. Available from Office of Research and Development. U.S. EPA. Wash. DC 20460

Lists active and planned projects on problem assessment, implementation methods, institutional, arrangements, evaluation, and enforcement. No abstracts. 9 pages.

Subsurface Water Pollution A Selective Annotated Bibliography. Part I Subsurface Waste Injection, NTIS PB 211 340, Part II Saline Water Intrusion, NTIS PB 211 341, Part III Percolation from Surface Sources, NTIS PB 211 342, U.S. EPA Office of Water Programs, March 1972, Wash. D.C. 20460 Available from NTIS, Springfield, VA 22151. $3.00 paper, $.95 Microfiche.

Research in water resources, as abstracted and indexed in semimonthly journal (SWRA). Represents search of a 33,980 item data base, covering SWRA from Oct 1968 to Dec 1971.

EPA Publications on Urban Stormwater Runoff: Ordering Information, EPA Region IV, June 1976. Available from U.S. EPA/Water Quality Management Information Center.

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

Bibliography for Environmental Assessment and Impact Evaluation of Areawide Water Quality Management. U.S. EPA. Wash. D.C., Nov 1975. Available upon request from U.S. EPA, Water Quality Management Information Center (WH/554), Wash. D.C. 20460.

A bibliography of references dealing with environmental assessment and impact evaluation. Emphasis is placed on those relating to environmental assessment and impact evaluation of areawide water quality management.

Secondary Impacts of Transportation and Wastewater Investments: Review and Bibliography. Report No. EPA 600/5-75-002. U.S. EPA, Wash. D.C., Jan 1975. NTIS PB 246 085/5BE. P.C. $7.75, M.F. $2.25.

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.

Bibliography for Small and Individual Systems, Available from U.S. EPA, Water Quality Management Information Center.

Approximately 85 entries, without abstracts, on small and individual sewage systems.

Energy-Efficient Planning: An Annotated Bibliography, Efraim Gil Report No. 315, Planning Advisory Service. 1976. 1313 East 60th St., Chicago, Ill 60637.

Annotated bibliography of existing planning practice aimed at energy conservation. Sections on: zoning, subdivision control, land use, policy and transportation planning, energy-efficient housing design, site plan review, and regional planning.

Selected Irrigation Return Flow Quality Abstracts, 1974. Gaylord V. Skogerboe, Wynn R. Walker, Stephen W. Smith, Report No. EPA 600/2-76-019. Nov 1974, NTIS PB 235 385/2. P.C. $10.50, M.F. $2.25.

Abstacts derived from 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. 228 pages.

Solid Waste Management - Available Information Materials, U.S. EPA Information Staff, Office of Solid Waste Management Programs, Nov 1975. 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.

Bibliography of Research, Development and Demonstration Grant, Contract, and In-house Project Reports. Storm and Combined Sewer Section, Municipal Environmental Research Laboratory-Cincinnati, U.S. EPA, Edison, NJ 08817, June 1976. Available from Water Quality Management Information Center.

Listing without abstracts, includes index, prices and NTIS, GPO and Publishers No. Approximately 200 entries on combined sewer discharges, storm sewer discharges, non-sewered runoff.

Land Application of Sewage Effluents and Sludges: Selected Abstracts, Report No. EPA 660/2-74-042. U.S. EPA. National Environmental Research Center, Corvallis, Oregon, 1974, GPO, $2.80, NTIS PB 235-386 $8.50.

Combines selected abstracts from previous publications and updates the 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.

Residual Waste Management Research and Planning Project. Report No. EPA 440/9-76-003. Available from Water Quality Management Information Center. NTIS PB 250 954/AS. P.C. $10.00, Microfiche $2.25.

Contains selected abstracts of projects underway, and publications on the subject of residual wastes and their impact on ground and surface waters. Provides information regarding project or publication identification, a brief summary, status of the projects, point of contact, and acquistion details.

XI. Selected 208 Outputs

Citizen Involvement in OCPC 208 Planning - A Progress Report, Old Colony Planning Council
See Section IV: Public Participation

Stormwater Quality Summary - Preliminary Draft, New Castle County, Delaware
See Section VIII C: Urban Stormwater Management

Alternative Growth Management Techniques - Draft, New Castle County, Delaware
See Section V: 208 Plan Implementation

Federal Programs Impacting Regional Water Quality - Draft, Miami Regional Planning Commission
See Section VI: Legal/Institutional Program Elements

All of the above are available from the Water Quality Management Information Center, WH/554, Wash., D.C. 20460.

INSTRUCTIONS FOR ORDERING PUBLICATIONS

National Technical Information Service (NTIS)

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

The National Technical Information Service has available for sale, both paper and microfiche copies of many EPA technical reports. Some reports are, however, available only in microfiche. Information on availability and prices is given only by mail and can be obtained by writing to the NTIS and giving them the following information:

1. Title of the report
2. NTIS accession number (usually in the form: PB-000-000).
3. EPA Report No. (If known, usually in the form: EPA 000/0-00-000).
4. Number of copies required.
5. Paper copies or microfiche.

NTIS will respond by mail with a price quote and availability statement. Publications can then be ordered by mail with payment enclosed.

U.S. Government Printing Office (GPO)

Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

The Government Printing Office has available for sale, paper copies of many EPA and other agency publicationa. Information on the availability and price of publications can be obtained by calling the Publications Information/Order Desk at GPO in Washington, D.C. The desk can be reached at area code 202, 783-3238. The following information will be needed.

1. Title of the report.
2. EPA Report No. (usually in the form: EPA 000/0-00-000).
3. GPO Stock No. (if known).

The Information/Order Desk can then check the availability and quote the price. If the publication is available a check for the amount, payable to the Superintendent of Documents, can be mailed with the order to GPO. Publications will be mailed upon receipt of the payment. If ordering in the Washington, D.C. area, publications can be picked up in person at GPO. When calling for information and price ask the clerk to assign a pick-up-number. The publications can then be picked up in person at GPO.

Water Quality Management Information Center

Librarian
EPA
Water Planning Division, WH/554
401 M St., S.W.
Washington, D.C. 20604

The W.Q.M. Information Center has limited stocks of specific technical and general water quality planning and management related (Section 208) publications available free upon request.

The following information is needed:

1. Title of the report.
2. EPA Report Number, if available.
3. Number of copies required.

State and Areawide Agencies should continue to contact their EPA Regional Offices for publications before sending requests to the Water Quality Management Information Center in Washington, D.C. The information listed above shoud be included in requests to the Regional Offices.

WH-554
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