



Association of
Environmental
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Professors

NEWSLETTER

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MAY 1983

PRESIDENT'S CORNER

When the well's dry, we know the worth of water.

Richard Saunders (Benjamin Franklin)

Poor Richard's Almanac

January 1746

If Benjamin Franklin were to advise his readers in the 1980s, he would have said -- when our groundwaters are polluted from toxic wastes, we know the price of cleanup. EPA's lack of commitment to preserving the environment and protecting the public health has placed it on the front pages of our newspapers for the last couple of months. During the time I prepared this message Anne Burford resigned and John W. Hernandez, Jr., was Acting Administrator for about two weeks before President Reagan named William Ruckelshaus as the new Administrator of EPA, subject to Senate confirmation.

The personnel changes at EPA are not surprising. The continuing controversy at EPA guaranteed these changes. EPA comes under the executive branch and, therefore, President Reagan is entitled to choose people compatible with his views to run the agency. These political appointments have been accepted, in the past, by the Senate. They will come under closer scrutiny in the future. What has concerned us from the academic arena of environmental science and engineering is not so much the top level political appointments, but the fact that political appointees reach far down into the lower levels of EPA. It is difficult to find qualified scientists and engineers in policy-making positions in the Agency. Hopefully this will change. Can AEEP influence such a change? Probably not!

AEEP (AAPSE) was founded with the intent of influencing federal legislation and federal agencies that deal with the environmental field. Over the years we have voiced our concerns, we hope that sometimes we've been heard. The realities of Washington are such that it is difficult for an organization such as AEEP to have an impact. Because of EPA's troubles and the continuing controversy there, the subcommittees and committees of Congress will be critically reviewing EPA's budget request. AEEP has scientific credibility and the opportunity to be heard.

In my *Note to Members* on March 2, I urged you to write members of Congress regarding EPA's budget reduction for research and their proposed transfer of the *Exploratory Grants Program* to NSF. To those of you who have written, thanks! If you haven't written, please take a few minutes and write now.

Senator Daniel Patrick Moynihan (D, N.Y.) has proposed that EPA should be an independent government agency. As an independent agency, it would be modeled after government agencies such as the Nuclear Regulatory Commission. The proposal calls for a five-member, bi-partisan board appointed by the President and subject to Senate confirmation. As an independent agency, EPA would submit its own budget to Congress. Its budget would not be subjected to OMB (Office of Management and Budget) reviews. Please give me or any Board Member your views on this proposal. Hope to see you all at Purdue.

James K. Edzwald

AEEP NEWS AND ANNOUNCEMENTS

AEEP Purdue Workshop Schedule Particles and Particle Surfaces

Conducted by:

Desmond F. Lawler, Assistant Professor,
Civil Engineering, University of Texas at
Austin

Egon Matijevic, Professor, Chemistry,
Clarkson College of Technology

James J. Morgan, Professor, Environmental
Engineering Science, California Institute of
Technology

Program	Monday, May 9, 1983
8:00	Registration
8:30	Introduction Lawler
8:40	Surface Chemistry in Aqueous Systems Morgan
9:40	Preparation and Characterization of Uniform Particles Matijevic
10:40	BREAK
11:00	Interactions in Mixed Colloidal Systems Matijevic
12:00	LUNCH
1:30	Physical Aspects of Particle Transport and Interactions Lawler

2:45 BREAK

3:00 Chemical Reactions at Surfaces Morgan

4:00 General Discussion

4:30 CLOSING

The workshop will be held at Purdue (West Lafayette, Indiana) and is free to AEEP members and students. For further information, write to:

Desmond F. Lawler
Dept. of Civil Engineering ECJ8.6
Univ. of Texas
Austin, Texas 78712
(512) 471-5602

AEEP-AWWA Seminar Program

The AEEP seminar at the AWWA conference in Las Vegas is scheduled for Monday, June 6, at 8:00 p.m. The topic is *Corrosion and Corrosion Control*. The program is as follows:

1. Overview and Principles — J.E. Ferguson
2. Biologically Mediated Corrosion — J.T. O'Connor
3. Practical Applications of Theory and Case Studies — J.E. Singley

For further information, contact Gary Amy, who is this year's chairman.

G.L. Amy
Dept. of Civil Engineering ECJ8.6
Univ. of Arizona
Tucson, Arizona 85721
(602) 626-2266

AEEP Member Honored

J. Charles Jennett, Dean of Clemson University's College of Engineering, has been named Educator of the Year by the Piedmont chapter of the South Carolina Society of Professional Engineers.

Congratulations are expressed to Dean Jennett, who is an AEEP member.

AEEP Luncheon

The next AEEP Luncheon will be held on Tuesday, May 10, 1983, at noon during the Purdue Industrial Waste Conference. The luncheon will be held in the Purdue Memorial Union. If you plan to attend the luncheon and not attend the AEEP workshop on Monday, please contact Lee Christensen for reservations.

G. Lee Christensen
Dept. of Environmental Engineering
Cornell University
Ithaca, NY 14853
(607) 256-8505

AEEP Distinguished Lecturer Series

Professor Donald MacKay of the Department of Chemical Engineering and Applied Chemistry, University of Toronto, was the AEEP Distinguished Lecturer for the 1982-83 academic year. Seventeen schools requested Dr. MacKay. The following were selected: Cal Tech, Carnegie-Mellon, Clemson, Cornell, Delaware, Minnesota, North Carolina, Purdue, Stanford, Tennessee, and Washington State.

GENERAL NEWS

Proposed Unified Biological Notation

A Working Group set up by the International Association on Water Pollution Research and Control (IAWPRC) and the International Union on Pure and Applied Chemistry (IUPAC) is seeking comments on a proposed notation for use in the description of biological wastewater treatment processes. The common system, recommended for dissemination of results in international journals, is described in *Water Research*, 16, 1501-1505 (1982). Send comments to A. Milburn, Secretary-Treasurer, International Association on Water Pollution Research and Control, Alliance House, 29/30 High Holborn, London WC1V 6BA, ENGLAND.

AWWA Universities Forum

On Tuesday, June 7, the 12th Universities Forum will be held in conjunction with the annual meeting of the American Water Works Association in Las Vegas, Nevada. Fourteen student speakers representing universities across the country will present research papers dealing with various aspects of the field of water supply and treatment. The AWWA Academic Achievement Awards will also be presented as a portion of this program. Immediately following the afternoon Forum session, a reception will be held in the conference hall to provide an opportunity for student/faculty interaction.

Arrangements have been made to provide low-cost housing at two motels near the Las Vegas Convention Center. Reservations may be made directly with either the Desert Paradise or Desert Inn 500 by calling Toll Free 1-800-634-6635. Room rates are \$24.00 for single and \$29.00 for double. Hope to see you in Las Vegas!

AWWA Academic Achievement Award Competition

The Academic Achievement Award Committee of the American Water Works Association is now accepting entries for the 1984 Academic Achievement Award competition. This award is intended to encourage academic excellence by recognizing contributions to the field of public water supply. All Master's theses and Doctoral dissertations that are relevant to the water supply industry are eligible. The thesis or dissertation must reflect the work of a single author, and be submitted for a degree between September 1, 1982, and

September 1, 1983. Entries must be postmarked by October 1, 1983, to be eligible for the 1984 award.

The best thesis and best dissertation will be awarded \$1,000 each, with second place awards of \$500 in both categories. In addition, distinctive commemorative plaques will be presented to winners and their academic advisors at the 1984 American Water Works Association's Annual Conference and Exposition in Dallas, Texas.

Official entry forms and information may be obtained by writing or calling the Academic Achievement Award Committee, American Water Works Association, 6666 W. Quincy Avenue, Denver, CO 80235, (303) 794-7711 ext. 78.

SHORT COURSE AND SEMINAR ANNOUNCEMENTS

Summer Continuing Education Program

A six-week continuing education program has been designed by the Lenox Institute for Research, Inc., to educate participants on the theories and practices of water quality control with special emphasis on flotation technology. Four courses are to be offered in Summer 1983:

- (a) Flotation and Related Adsorptive Bubble Separation Processes, July 11-13, or Aug. 1-3, fee \$250;
- (b) Design and Operation of Flotation Process, July 18-20, or Aug. 8-10, fee \$250;
- (c) Application of Flotation Process, July 25-27, or Aug. 15-17, fee \$250;
- (d) Research and Pilot Plant Operation, July 14-15, July 21-22, July 28-29, Aug. 4-5, Aug. 11-12, or Aug. 18-19, fee \$150 for each 2-day period.

Reduced fees for registrations in more than one course.

For more information, please contact:

Dr. Lawrence Wang, Manager & Professor
Lenox Institute for Research, Inc.
101 Yokun Avenue
Lenox, MA 01240
(413) 637-1681

Short Course: Water Supply and Sanitation for Developing Countries

Objectives — During the UN Water Decade (1981-1990), many North American engineers and planners will be involved in increased activity in Water Supply and Sanitation in the developing countries. In this area there is a new concern to find the proper mix of low cost, renewable energy technologies together with the more conventional approaches. The present course, which will be an updated version of a Summer Course given in 1981, will review the emerging low cost, renewable energy technologies in the water supply/sanitation sector. Experience with these technologies will be presented by case histories. The role of operation and maintenance, project evaluation and the social, economic and cultural aspects of technology implementation in developing countries will also be stressed.

Participants — The course is directed to persons who plan to be actively involved in water resources and sanitary waste disposal project implementation in developing countries. Engineers and planners in consulting organizations with involvement overseas, as well as personnel in government organizations would benefit from this course. Trainers whose activities relate to overseas projects would also find this course useful.

This course will be held May 31-June 1, 1983, at the University of Ottawa, Ottawa, Canada. For further information, contact:

Mrs. Monique Marinier, Secretary
Water and Sanitation Short Course
Department of Civil Engineering
University of Ottawa
Ottawa, Ontario, CANADA K1N 9B4
(613) 231-3432

IAWPRC Seminars

The International Association on Water Pollution Research & Control announces four seminars in conjunction with its Biennial Conference in Amsterdam, 17-20 September 84. Contact IAWPRC, Alliance House, 29/30 High Holborn, London WC1V 6BA, ENGLAND, regarding the IAWPRC Biennial Conference itself.

Degradation, Retention and Disposal of Pollutants in Groundwater — 12-14 September 1984, Copenhagen, Denmark. Contact: Prof. E. Arvin, Technical University of Denmark, DK-2800, Lyngby, DENMARK.

Biological Monitoring — 15-16 September 1984, Cardiff, Wales, UK. Contact: D.H. Newsome, 7th Floor, Reading Bridge House, Reading, Berkshire, RG1 8PS, UNITED KINGDOM.

Advanced Treatment Technologies for Removal and Disposal of Micropollutants — 24-25 September 1984, Antwerp, Belgium. Abstracts are solicited. Contact: Ir. G. Bury, Secretary of Belgian National Committee of IAWPRC, Waterlooesteeweg 255-Bus 6, B-1000 Brussels, BELGIUM.

Biological Phosphate Removal — 24-25 September 1984, Netherlands. Contact: Ir. J.H. Rensink, Agricultural University (Biotchnion), De Dreijen 12, 6703 BC Wageningen, THE NETHERLANDS.

Toxic and Hazardous Wastes

The 15th Mid-Atlantic Industrial Waste Conference will be held June 26, 27 and 28 at Bucknell University in Lewisburg, Pennsylvania. The theme of this year's conference will be control of Toxic and Hazardous Wastes. Sessions will include:

- RCRA Regulations
- Biological Treatment
- Regulatory Compliance
- Recycle/Reuse
- Heavy Metals Control
- Treatment, Storage & Disposal Facilities
- Hazardous Waste Management
- Hazardous Waste Incineration
- Treatment of Toxic Wastes
- Hazardous Waste Site Clean-Up
- Sludge Management
- Physical-Chemical Processes

For information on the conference, contact:

Dr. Michael LaGrega
Department of Civil Engineering
Bucknell University
Lewisburg, Pennsylvania 17837
(717) 524-1492 or (717) 524-1112

ACADEMIC MARKETPLACE

SCHOOL: University of Massachusetts
Department of Civil Engineering

POSITION: One or two Visiting Professors in the Environmental Engineering Program for the 1983-84 academic year.

QUALIFICATIONS: Ph.D. with expertise in any of the areas of Environmental Engineering.

RESPONSIBILITIES: Teaching, research, and graduate student advising.

APPLICATION DEADLINE: Open until the position is filled.

CONTACT: Dr. Clive L. Dym, Dept. Head
Dept. of Civil Engineering
University of Massachusetts
Amherst, MA 01003

WELCOME TO NEW AEEP MEMBERS

Dr. Edward J. Bouwer
Civil Engineering Dept.
Envir. Engineering Prog.
Univ. of Houston
Central Campus
Houston, Texas 77004

Dr. Donald MacKay
Chemical Engineering
Univ. of Toronto
Toronto, Ontario
CANADA M5S 1A4
(416) 978-4019

Dr. William J. Cooper
Drinking Water Research Ctr.
Florida International Univ.
Miami, Florida 33199
305-554-3049

Dr. Ronald C. Sims
Civil & Environmental Eng.
Utah State University
Logan, Utah 84322
(807) 750-3178

Dr. Hector R. Fuentes
Metallurgical & Envir. Eng.
New Mexico Institute
of Mining & Technology
Socorro, New Mexico 87801
(505) 835-5129

Dr. T. Viraraghavan
Faculty of Engineering
Univ. of Regina
Regina, Saskatchewan
CANADA S4S 0A2
(306) 584-4094

THESIS AND DISSERTATION LISTING

The following list contains theses and dissertations completed during the 1981-82 academic year. This list was compiled by J. Jeffrey Peirce of Duke University upon submission by AEEP members.

The list is divided into nine major subject categories; each category is subdivided by schools. Each entry contains (in order) title, student's name, degree, and advisor's name. Some entries do not contain complete information.

AIR POLLUTION

Carnegie Mellon University

Atmospheric Trace Elements in Glacier National Park; Thomas Mathison; M.S.

Clemson

Mobilization of Chromium from Steelmaking Baghouse Dust; Stephen F. Robinson.

Solution Rate of Acidity and Selected Ions from Ambient Aerosols; Michael E. Perry.

Florida

Effect of Acid Precipitation upon Soil Microbial Activity; Rae Ann Boylan; M.S.

Variations in Atmospheric Dispersion Results Due to Time Frame Averaging; John Daniel Marsh; M.S.

Illinois Institute of Technology

Statistical Analysis of Atmospheric Mixing Height Estimation Models; Ann Behnke, M.S.

Acid Waste Gas Biosulfurization: An Alternative to Chemical Sulfur Recovery Processes; Ruta Garunas; M.S.

A Study of Urban Aerosol Sampling Techniques and Size Distribution; Rancy Hastings, M.S.

Johns Hopkins University

Lead Fume Exposures to Welders in Ship Renovation; Alan Weikert; M.H.S.

University of Kansas

Evaluation of Airborne Contaminants Due to Emissions from a Continuous Extrusion Cooking Process; Robert W. Field, M.S.

University of Maine at Orono

Bioaerosols in Enclosed Industrial Environments; Michael K. Yavarow.

University of North Carolina, Chapel Hill

Combining EPA Air Quality Criteria Documents for Ozone, Hydrocarbons, and Oxides of Nitrogen; Jerry J. Andersen; M.S.E.E.

Nephelometer Estimates of Fine Particulate Mass Concentration in an Outdoor Smog Chamber; Richard V. Crume; M.S.E.E.

Neutralization and Size Changes of Sulfuric Acid Mist Particles in a Model; S. Thomas Dydek; Ph.D.

Mathematical Properties of Ozone-Precursor Relationships in Photochemical Mechanisms; Gregory A. Holton; Ph.D.

Sulfur Balance in Outdoor Smog Chambers and Resulting Implications for SO₂ Photo-oxidation Studies; Janet S. Meyer; Ph.D.

Control of Air Pollution from Aviation: Emission Standard Setting Process; Dennis F. Naugle; Ph.D.

University of Tennessee

An Evaluation of Downwash under Low Wind Speed Conditions; Milton A. Babb; M.S.

Thermal Decomposition of Sodium Bicarbonate and Its Effect on the Reaction of Sodium Bicarbonate and Sulfur Dioxide in a Simulated Flue Gas; Timothy C. Keener; Ph.D.

University of Washington

Data Analysis Methods for Understanding Background Air Quality; Don Caniparoli; M.S.

Humidity Affects on Atmospheric Aerosols: 1) The Aerodynamic and Optical Effects of Deliquescent Aerosols, 2) The Segregation of Aerosols on the Sizes of Cloud Nucleating Activity; Lee Harrison; Ph.D.

Laboratory Studies of (NH₄)₂SO₄ Aerosols Using Temperature and Humidity Controlled Nephelometry; Mark Rood; M.S.E.

Vanderbilt

Applications of Interactive Computer Graphics in Highway Noise Prediction Modeling; Leonard W. Casson; M.S.

Virginia Polytechnic Institute & State University

Airborne Measurements of Pollutants in the Sphere of Influence of the Radford Army Ammunition Plant; James D. Moore, III; X(CE); (Stephens).

Characterization and Analysis of the Ambient Aerosol Species in the Shenandoah National Park and Manassas, Virginia, Regions; Stuart Widom; X(ES); (Stephens).

GROUNDWATER

Auburn University

Organics Removal from a Synthetic Groundwater Using Powdered Activated Carbon and Alum-Polyelectrolyte Coagulation; William Stephen Spengler.

Brigham Young University

Calibration and Application of HCMM Thermal Infrared Data to Location of Near Surface Water Table; Lee G. Baxter.

University of Maine at Orono

Removal of Radon-222 from Domestic Groundwater Supplies; Jeffrey E. Brandow.

Numerical Modelling of Onsite Domestic Wastewater Disposal Systems for Design Optimization; James D. McMillan; M.S.; (Willem F. Brutsaert).

Vanderbilt

Design of Efficient Groundwater Monitoring Networks; Eduardo A. Figueroa; Ph.D.

Washington State University

Potential for Groundwater Contamination by Phenols & PAH Adsorbed onto Mt. St. Helens ash/sediments; Kathleen F. Siebenmann; M.S.; (Hindin).

RIVERS, ESTUARIES & LAKES

Auburn University

Determination of Carbonaceous and Nitrogenous BOD Removal Rates and Deoxygenation Rates Downstream from Highly Treated Municipal Effluents; Robert Donald McCaleb; M.S.; (Joe Miller Morgan).

Brigham Young University

Evaluation of Relationships between HCMM Satellite Data and Utah Lake Water Quality Measurements; Marvin J. Harper).

Clarkson

Effects of Anaerobic Conditions on Particulate Phosphorus Availability in Lower Great Lakes Tributaries; J.P. McAuliffe; M.S.; (Young).

Direct Filtration Studies of the Grosse River; S.J. Tambini; M.S.; (Edzwald).

Chemical Fractionation as an Indicator of Phosphorus Bioavailability in Suspended Solids from Tributaries to Lake Erie; W.R. Beckwith; M.S.; (Young).

Physical and Chemical Characterizations of Algal-Available Phosphorus in Suspended Sediments from Lower Great Lakes Tributaries; Ann Marie Victore; M.S.; (DePinto).

The Effects of Acid Lake Recovery by Chemical Manipulation on Algal Growth Potential; Robin L. Autenrieth; M.S.; (DePinto).

Ion Exchange Resins as Estimators of Algal-Available Sediment Phosphorus from Five Lower Great Lakes Tributaries; Michael K. Bollenbacher; M.S.; (Young).

Particle Size and Settling Velocity Analysis of Suspended Solids from Four Lake Erie Tributaries; Donald J. Kwolek; M.S.; (Young).

Clemson

Stream Bed Sediment and Channel Morphology Response to Nonpoint Source Pollution Reduction in the Broadway Lake Watershed S.C.; Daniel H. Warren.

An Evaluation of Suspended Sediment Response to BMP Implementation in the Broadway Lake Watershed S.C.; B. Russell Ray.

Mercury Concentrations and Acid Precipitation Sensitivity of Western North Carolina and South Carolina Reservoirs; Melonie M. Sviatyla.

Water Quality Effects of Nonpoint Source Pollution Reduction: An Evaluation of the Broadway Lake Project; Allison D. Ranson.

An Analysis of Coarse and Fine Suspended Particle Movement during Elevated Streamflow Conditions in a Piedmont Watershed; Margaret E. Markey.

Florida Institute of Technology

Nutrient Limitation Bioassays for Lake Washington (Florida) and the Upper St. John's River; Gerald W. Lappan; M.S.; (Belanger).

Primary Production Studies in the Upper St. John's River (Florida); Christopher J. Bove; M.S.; (Belanger).

Primary Production Studies in the Lake Washington (Florida); Russell D. Arnone; M.S.; (Belanger).

Benthic Macroinvertebrates, Biological Indicators, and Diversity Indices of the Upper St. John's River (Florida); (Belanger).

Illinois Institute of Technology

Correlation of Copper Distribution in a Freshwater-Sediment System to Bioavailability; Diane Diks; M.S.

Copper Complexation and Stability Constants in Lake Water and Their Relationship to Productivity; Elsa Salazar; M.S.

Iowa State University

Hydraulics of River Bed Degradation, Willow Creek, Iowa; Hergargholi Massoudi; Ph.D.; (Dougal-Baumann).

Management of a Gravel Pit Lake System to Optimize Future Water Quality; Larry Michael Antosch; Ph.D.; (Dougal).

Montana State University

Organic Carbon Degradation in the East Gallatin River with Biofilm Kinetics; S. Srinanthakumar; Ph.D.; (Amirtharajah).

New Mexico State University

Environmental Modeling of Chlorinated Organic Compounds in Rivers; Mary Elizabeth Beyer Clanton; M.S.C.E.; (Fernando Cadena C).

A Hydrologic Simulation Model for the Otowi-Cochiti Reach of the Rio Grande; Nancy Davis Gordon; M.S.C.E.; (George Sabol).

Oregon State University

Estuarine Sediment Controls on Trace Metal Distributions; Robert James Davies-Colley; Ph.D.; (Peter O. Nelson).

Ohio State University

Water Quality in the Ohio River Basin through Statistical Inference; Thomas Shaffer; M.S.

Rensselaer Polytechnic Institute

Nutrient Budget for Lake Valencia; Jose Torres.

South Dakota School of Mines & Technology

Water Quality Aspects of Urban Stormwater Runoff on a Portion of Rapid Creek; G.L. Magee.

Analysis of Urban Runoff from the Meade Street Drainage Basin; C.L. Nowak.

Syracuse University

An Assessment of Mechanisms by Which Phosphorus May Be Regulated within the Sediments of Onondaga Lake, New York; Robert Honstein; M.S.

Vertical Phosphorus Transport in Onondaga Lake, New York; Martin C. Wodka; M.S.

Texas Technological University

An Analysis of Water Quality on the Proposed Primary Contact Recreational Area on Canyon Lake II; B.L. Shelton.

Tufts University

A 96-Hour Bioassay to Evaluate the Effects of the City of Laco-
nia (NH) Landfill Leachate on Brook Trout (*Salvelinus fontinalis*, Mitchell); Timothy Walter Drew; M.S.; (N. Bruce Hanes).

University of Arizona

Side Channel Reservoir for the Recovery of Natural Runoff in Southern Zambia; A.Z. Mumeke; M.S.

The Stable Channel as Shaped to Flow and Sediment; Elliot Silverston; Ph.D.

University of Arkansas

An Annotated Bibliography of Beaver Reservoir; Richard A. Ashworth; M.S.

University of Central Florida

Impacts of Alum Sludge on Lake Sediment Phosphorus Release and Benthic Communities; David B. Jellerson; M.S.; (Yousef).

Applied Steady-State and Transient Modeling of Mixing Zone Requirements in Streams; Alvin Castro, E.I.; M.S.; (Cooper).

Heavy Metals in Flood-Plains receiving Highway Bridge Runoff; Elizabeth T. Skene; M.S.; (Yousef).

University of Florida

Distribution of Heavy Metals in Selected Florida Lake Sediments; Donald Michael Thompson; M.S.

Organic Chelators in Lake Okeechobee, Florida; Susan Weir Zoltewicz; M.S.

The Development of New Equations for the pH of Calcium Carbonate Saturation and Corrosion in Water Distribution; Rodolfo A. Psigan, Jr.; Ph.D.

Heavy Metal Complexation with Naturally Occuring Organic Ligands in Wetland Ecosystems; John Richard Tuschall; Ph.D.

Biological Nitrogen Fixation and Denitrification in Lake Okeechobee, Florida; Bruce Robert Snyder; M.S.

Diel Vertical Migration in a Subtropical Doline Lake; Scott Alan Russell; M.S.

The Plankton Communities of Selected Colored Lakes in North-Central Florida; Raymond W. Bienert, Jr.; M.S.

The Effect of Gizzard Shad *Dorosoma Cepedianum* (LeSueur) on Primary Production and Algal Composition in a Florida Lake; Helen Marie Kennedy; M.S.

University of Iowa

Nitrogen Transformations in the Iowa and Cedar Rivers; Brandon J. Koltz; M.S.

Development of a Regional Steady State Stream Model for the Transport and Partitioning of Toxic Substances; Kirk Hatfield; M.S.

Fisheries and Limnology of Lake Panorama and Adjacent Middle Raccoon River, Iowa; Christopher D. Scarpellino; M.S.

Development and Field Validation of a Model for Predicting Long and Short Term Impacts of Acidic Deposition; William D. Palmer, Jr.; M.S.; (Schnoor).

University of Kentucky

Effects of Stream Channel Improvement on Downstream Flooding—the Modified Kentucky Watershed Model; Ronald K. Gaynor; M.S.

University of Maine

Classifying the Capability of Maine's Coastal Waters to Receive Wastewater Discharges; Bonny Lee Hadiaris; M.S.; (Brutsaert).

University of Massachusetts

Evaluation Methodologies for the Flood Mitigation Potential of Inland Wetlands; Hisashi Ogawa; Ph.D.; (Male).

University of Missouri

Ecological and Epidemiological Investigation of the Association between the Congenital Malformation Rate and the Use of Reservoir-Derived Water in a Midwestern Community; Michael D. Collins; Ph.D.

University of New Hampshire

Water Quality Impact of Non-Point Source Contaminants in Small Tidal Rivers; Edward J. Schmidt; Ph.D.; (Bishop).

University of Tennessee

Characterization of the Saturated Zone Associated with the Contour Surface Mining Spoil in the New River Basin of Tennessee; Paul S. Dickens; M.S.

University of Washington

The Design Wave for Tripoli Harbor Northwest Breakwater; Salem M. Bailtelmat; M.S.C.E.

Manganese Chemistry in Lake Sammamish; Andrew Felmy; M.S.

Biomanipulation and Its Potential in the Restoration of Green Lake; Julie Goad; M.S.E.

Limited Fetch Spectral Models for Wind Waves at a Site on Elliott Bay; John Heavner; M.S.C.E.

Internal Loading and Sedimentation of Phosphorus in a Shallow Eutrophic Lake; Dennis Lynch; M.S.

The Environmental Impact Statement Process: A Case Study of the EIS for the Waste Water Management Plant for the Lake Washington/Green River Basins; Ketil Petterson; M.S.C.E.

Effects of Nutrient and Velocity upon Periphytic Algal Growth in Experimental Streams; Robert B. Veenstra; M.S.

Prerestoration Phytoplankton Dynamics in Pine Lake; Reginald Zisette; M.S.

Vanderbilt

The Fate of Toxic Substances in Rivers; Peter R. Jaffe; Ph.D.

Virginia Polytechnic Institute

The Influence of Algal Growth and Related Ecological Factors in Reservoirs on the Production and Control of Trihalomethane Precursors; Kevin Dixon; (Hoehn).

Assemblage Characteristics and Sampling Consideration for Aquatic Macroinvertebrates Inhabiting a Lower Mississippi River Stone Dike; David B. Mathis; (Boardman).

Washington State University

The Effect of a Floating Breakwater on Thermal Stratification in an Embayment; Douglas Engle; M.S.; (Johnstone).

Phytoplankton Production and Regulating Factors in Liberty Lake, Washington, with Possible Implications of Restoration Activities; Harry L. Gibbons; Ph.D.; (Funk).

The Effects of Cadmium, Nickel and Zinc upon the Yield of *Ankistrodesmus Falcatus* and *Anabaena Flos-Aquae*; Barry J. LiMarzi; M.S.; (Funk).

The Reponse of the Liberty Lake Restoration Efforts and the Ashfall from the Eruption of Mt. St. Helens; Ralph Nelson; M.S.; (Funk).

A Comparison of Attached Algal Communities on Natural and Artificial Substrates in the Upper Spokane River; Terri H. Notestine; M.S.; (Funk).

University of Wisconsin-Milwaukee

PCBs in Dated Sediment Cores from Milwaukee Harbor; C.K. Lo.

SOLID WASTES

Duke University

Large Continuous Calorimeter for Refuse Derived Fuels; Mike Oh; M.S.

Effect of Feed Composition on Air Classified Performance; Jeff Taub; M.S.

Standards for Densified Refuse Derived Fuels; Jody Eimers; M.S.

Pulsed Air Classifiers; Rich Stessel; M.S.

Behavior of Glass and Paper in Air Classifier; Cary Saul; M.S.

Effect of Inorganic Hazardous Wastes on Clay Liner Performance; Mike Coia; M.S.