

Program

TWENTY-FOURTH
ANNUAL MEETING

**THE AQUATIC
PLANT MANAGEMENT
SOCIETY, INC.**



**HYATT RICHMOND HOTEL
Richmond, Virginia, USA
July 15-18, 1984
Sunday through Wednesday**

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THE PROGRAM

TWENTY-FOURTH ANNUAL MEETING
OF
THE AQUATIC PLANT MANAGEMENT
SOCIETY, INC.
July 15-18, 1984
Hyatt Richmond Hotel
Richmond, Virginia, USA

"Water Restoration with Aquatic Plant Management"

SUNDAY, JULY 15, 1984

12:00 Noon **Board Luncheon**
Tidewater Room

1:00 p.m. **Meeting of the Board of Directors**
Jefferson Room

3:00 p.m.-
6:00 p.m. **Registration**
Tobacco Festival Foyer

6:30 p.m.-
7:30 p.m. **President's Reception**
Monticello Room
Exhibits on Display

MONDAY, JULY 16, 1984

8:00 A.M. - 5:00 P.M.
Registration - Tobacco Festival Foyer

9:00 A.M. - 5:00 P.M.
Exhibits on Display - Monticello Room

GENERAL SESSION I

9:00 A.M. - 12:00 Noon
Regency Ballroom B, C, & D [All sessions]

Presiding: A. Leon Bates, President

9:00 a.m. **Call to Order**
9:05 a.m. **Invocation**
9:10 a.m. **Welcome**
9:15 a.m. **Presidential Address:** A. Leon Bates
9:30 a.m. **Announcements:** Max McCowen, President Elect
and Program Chairman

- 9:35 a.m. **APMS Chapter Reports**
 Florida APMS, Paul C. Myers, President
 Midsouth APMS, Terry Goldsby, President
 Midwest APMS, David Eisentrout, President Elect
 South Carolina APMS, Danny Johnson, President
 Western APMS, Nate Dechoretz, President
- 10:15 a.m. **Keynote Address**, T. O. Robson - United Kingdom
- 10:45 a.m. **EPA Update**, Roy Clark
- 11:00 a.m. **Noxious Weed Act**, Vernon Vandiver
- 11:15 a.m. **Aquatic Weed Problems in Ecuador**, Joe Joyce
- 11:30 a.m. **Aquatic Weed Problems in Turkey**, A. Leon Bates
- 11:45 a.m. **Aquatic Weed Problems in Developing Nations**,
 Wm. T. Haller
- 12:00 Noon **Recess for Lunch**

MONDAY, JULY 16, 1984

GENERAL SESSION II

1:00 P.M. - 4:30 P.M.

Presiding: Carlton Layne

U. S. Environmental Protection Agency
 Lakeland, Florida

- 1:00 p.m. **Advances in Weed Control Technology-Trends of the Future**, Warren C. Shaw, National Program Staff, ARS, USDA, Beltsville, MD
- 1:30 p.m. **An Update About the Aquatic Plant Information System**, Victor Ramey, Aquatic Weed Program, University of Florida, 2183 McCarty Hall, Gainesville, FL
- 1:45 p.m. **Update - Corps of Engineers Aquatic Plant Control Research Program**, J. L. Decell, USAE Waterways Experiment Station, Vicksburg, MS
- 2:00 p.m. **A Comparative Study of Growth and Reproduction of *Hydrilla verticillata* in California and Florida - Biomass, Subterranean Turion Production and Container Configuration**, Lars W. J. Anderson* and David L. Sutton. Botany Department, University of California, Davis, CA* Agricultural Research and Education Center, Ft. Lauderdale, FL
- 2:15 p.m. **Status of *Hydrilla* in the Potomac River**, K. K. Steward, ARS, SR, Aquatic Plant Management Laboratory, Ft. Lauderdale, FL
- 2:30 p.m. **Comparative Studies of Monoecious and Dioecious *Hydrilla* Biotypes**, K. K. Steward* and T. K. Van, ARS, SR, Aquatic Plant Management Laboratory, Ft. Lauderdale, FL
- 2:45 p.m. **Some Unusual Aspects in the Sexual Reproductive Processes of *Hydrilla verticillata* (L.f.) Royle**, Richard R. Yeo and Jon R. Thurston. U. S. Department of Agriculture, ARS, Botany Department University of California, Davis, CA
- 3:00 p.m. **Break**

- 3:15 p.m. **Can *Hygrophila* and *Limnophila* Repeat *Hydrilla*'s Infamy in Florida?**, William Spencer and George Bowes, Botany Department and the Center for Aquatic Weeds, University of Florida, Gainesville, FL
- 3:30 p.m. ***Myriophyllum* Identification Made Easy** Edward N. Nelson* and Richard W. Couch Natural Sciences Department, Oral Roberts University, Tulsa, OK
- 3:45 p.m. ***Myriophyllum spicatum* L. Distribution in the United States, 1984** Richard W. Couch* and Edward N. Nelson, Natural Sciences Department, Oral Roberts University, Tulsa, OK
- 4:00 p.m. **The Biology and Control of Spinyleaf Naiad (*Najas minor* All.)** David H. Webb, A. Leon Bates and Earl R. Burns, Tennessee Valley Authority, Muscle Shoals, AL
- 4:15 p.m. **Adjourn**
- 4:30 p.m. **Federal Aquatic Plant Management Working Group Meeting**, A. Leon Bates, Chairman - Washington Room

TUESDAY, JULY 17, 1984

8:00 A.M. - 5:45 P.M.

Registration - Tobacco Festival Foyer

8:00 A.M. - 5:45 P.M.

Exhibits on Display - Monticello Room

GENERAL SESSION III

8:00 A.M. - 12:00 Noon

Presiding: David Bayne

Auburn University

Alabama

- 8:00 a.m. **Western US Irrigation Systems: Proven and Potential Methods for Control of Aquatic Weeds** Lars W. J. Anderson, USDA/ARS Aquatic Weed Control Laboratory, Botany Department, University of California, Davis, CA
- 8:15 a.m. **Integrated Aquatic Weed Control on the Withlacoochee River, FL** Leonard F. Bartos, Southwest Florida Water Management District, Brooksville, FL
- 8:30 a.m. **Energy Requirements and Capacities of Aquatic Plant Choppers** Larry O. Bagnall, Agricultural Engineering Department and Center for Aquatic Weeds, University of Florida, Gainesville, FL

- 8:45 a.m. **The Economics and Feasibility of Mechanical Waterhyacinth Control in the Contra Costa Canal**
Thomas J. McNabb, Aquatics Unlimited/American Lake and Canal, Concord, CA
- 9:00 a.m. **Status of Grass Carp in Europe**
T. O. (Dale) Robson, U.K.
- 9:15 a.m. **Feasibility of Using Surgically Sterilized Grass Carp for Weed Control**
John A. Osborne* and David Clippinger, Department of Biological Sciences, University of Central Florida, Orlando, FL
- 9:30 a.m. **Use of Herbivorous Fish to Manage Aquatic Weeds in Agricultural Waterways**
David L. Sutton* and Vernon Vandiver, Ft. Lauderdale Research and Education Center, University of Florida, Ft. Lauderdale, FL
- 9:45 a.m. **Field and Laboratory Tests with Hybrid, Surgically Altered, and Triploid Grass Carp in Southern California**
Randall K. Stocker* and Paul R. Beaty, Imperial Irrigation District, USDA/ARS, Brawley, CA and Coachella Valley Water District, Coachella, CA
- 10:00 a.m. **Control of Submerged Weeds with the Grass Carp: A Large-Scale Success Story**
R. D. Martyn, R. L. Noble, and P. W. Bettoli, Texas A&M University, College Station, TX
- 10:15 a.m. **Exotic Insects for Control of *Hydrilla***
Joe Balciunas, University of Florida Research and Education Center and USDA Aquatic Plant Management Laboratory, Ft. Lauderdale, FL
- 10:30 a.m. **Aquatic Plant Problems in Australia**
Chris Ripper, New South Wales Water Supply Commission, Griffith, NSW, Australia
- 10:45 a.m. **Break**
- 11:00 a.m. **Annual Business Meeting**
- 12:00 Noon **Recess for Lunch**

ANNUAL BUSINESS MEETING

11:00 A.M. – 12:00 Noon

Presiding: A. Leon Bates, President

GENERAL SESSION IV

1:00 P.M. – 5:45 P.M.

Presiding: Randy Stocker

USDA Research Center, Brawley, CA

- 1:00 p.m. **Integrated Management of *Hydrilla* in North Carolina: The First Year**
G. J. Pesacreta, R. G. Hodson, and K. A. Langeland, Zoology Department, North Carolina State University Crop Science Department, North Carolina State University, Raleigh, NC

- 1:15 p.m. **Physico-Chemistry of Lakes and Reservoirs in North Carolina with Submersed Aquatic Vegetation**
G. J. Pesacreta, Zoology Department, North Carolina State University, Raleigh, NC
STUDENT CONTEST PAPER
- 1:30 p.m. **Evidence for the Management of *Hydrilla* and *Hydrilla*-like Plants by Natural Products**
M. Perez-Cruet* and D. F. Martin, CHEMS Center, Department of Chemistry, University of South Florida, Tampa, FL
STUDENT CONTEST PAPER
- 1:45 p.m. **Spikeush (*Eleocharis* spp.) as a Source of Allelopathics for the Control of Undesirable Aquatic Plants**
Floyd M. Ashton, Joseph M. DiTomaso* and Lars W. J. Anderson, Botany Department, University of California, Davis, CA
STUDENT CONTEST PAPER
- 2:00 p.m. **Macrophyte Zonation in a *Hydrilla* Community in a North Carolina Reservoir as Related to Drawdown**
S. M. Harlan*, G. J. Davis, and G. J. Pesacreta, Department of Biology, East Carolina University, Greenville, NC, and Department of Zoology, North Carolina State University, Raleigh, NC
STUDENT CONTEST PAPER
- 2:15 p.m. **Comments on Diquat/EDB**
J. Clarke Hudson, Chevron Chemical Co., Orlando, FL
- 2:30 p.m. **Effect of Temperature, Light, and Water Quality on the Activity of Three Copper Based Algicides**
Lars W. J. Anderson and Nathan Dechoretz*, USDA/ARS, Botany Department, University of California, Davis, CA
- 2:45 p.m. **Influence of Light and Temperature on Photosynthesis and Respiration of *Pithophora oedogonia* (Mont.) Witt.**
D. F. Spencer, J. M. Graham, and C. A. Lembi, USDA/ARS, Davis, CA; University of Wisconsin, Madison, WI; and Purdue University, W. Lafayette, IN
- 3:00 p.m. **Break**
- 3:15 p.m. **The Secci Disc and Light Measurements**
G. Douglas Pullman* and C. D. McNabb, The Dow Gardens, Midland, MI; and Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI
- 3:30 p.m. **Control of Aerial Leaf and Stomatal Development by Abscisic Acid in Selected Species of *Myriophyllum* and *Proserpinaca***
Michael E. Kane* and Luke S. Albert, Department of Botany, University of Rhode Island, Kingston, RI

- 3:45 p.m. **Studies on Utilization of Treated Stack Gas. II. Growth of Waterhyacinths (*Eichornia crassipes*) in Carbon Dioxide-Rich Atmospheres**
Dean F. Martin* and Kenneth A. Hewes
CHEMS Center, Department of Chemistry,
University of South Florida, Tampa, FL
- 4:00 p.m. **On the Mechanism of *Ptychodiscus brevis* by a Naturally Occurring Lysing Agent**
Dean F. Martin, CHEMS Center, Department of
Chemistry, University of South Florida, Tampa, FL
- 4:15 p.m. **Fate of Endothall During the Pat Mayse Lake, Texas, Aquatic Plant Management Program**
K. H. Reinert*, M. L. Hinman, and J. K. Rodgers, Jr.
Institute of Applied Sciences and Department of
Biological Sciences, North Texas State University,
Denton, TX
- 4:30 p.m. **Effects of Endothall During the Pat Mayse Lake, Texas, Aquatic Plant Management Program**
M. L. Hinman*, K. H. Reinert, and J. H. Rogers, Jr.
Institute of Applied Sciences and Department of
Biological Sciences, North Texas State University,
Denton, TX
- 4:45 p.m. **Long Term Control of Submersed Aquatic Macrophytes in Central Illinois**
Robert C. Hiltibran, Associate Professor of
Agronomy, University of Illinois, Urbana, IL
- 5:00 p.m. **Effect of 2,4-Dichlorophenoxyacetic Acid and Gibberellic Acid on Waterhyacinths Under Operational Conditions**
Joseph C. Joyce and William T. Haller
Center for Aquatic Weeds, Institute of Food and
Agricultural Sciences, University of Florida,
Gainesville, FL
- 5:15 p.m. **Herbicide Investigations in Lake Mann and Williams Pond Following Applications of Sonar (fluidone)**
D. C. Schmitz, L. E. Nall, and A. J. Leslie
Florida Department of Natural Resources, Bureau
of Aquatic Plant Research and Control,
Tallahassee, FL
- 5:30 p.m. **Status Report on SONAR, 1984**
David Tarver and Lonnie Pell
Elanco, Tallahassee, FL; Elanco, North Carolina
- 5:45 p.m. **Adjourn**
- 6:30 p.m. **Cocktail Hour**
- 7:30 p.m. **Annual Banquet**

TUESDAY EVENING

July 17, 1984

6:30 P.M.

Cocktail Hour

Monticello Room

7:30 P.M.

Annual Banquet

Regency Ballroom A

Speaker

Carl Sapp

WEDNESDAY, JULY 18, 1984

8:30 A. M. – 11:30 A.M.

Exhibits on Display – Monticello Room

GENERAL SESSION V

8:15 A. M. – 11:30 A. M.

Presiding: Gordon Baker

South Florida Water Management District

West Palm Beach, Florida

- 8:15 a.m. **An evaluation of the Possible Causes and Consequences of the Decline of Submerged Vascular Communities in Northern Chesapeake Bay**
W. R. Boynton, W. M. Kemp, J. C. Stevenson, and R. Twilley, Center for Environmental and Estuarine Studies, University of Maryland; Chesapeake Biological Laboratory, Solomons, MD; Horn Point Environmental Laboratories, Cambridge, MD
- 8:30 a.m. **Effluent Disposal into Wetlands**
C. W. Sheffield*, Rick Johnson, and Carol Lotspeich Sheffield Engineering & Associates, Inc. Orlando, FL and Lotspeich & Associates, Winter Park, FL
- 8:45 a.m. **Effect of Sediment Type of Water-Column Phosphate Concentrations After Herbicide Treatment of Eurasian Watermilfoil**
Scott Painter, Aquatic Ecology Division, Environment Canada, Burlington, Ontario, Canada
- 9:00 a.m. **Deprotonation Reactions in the Aquatic Medium due to Metal Ion and Hydrogen Ion Uptake by Waterhyacinth**
Kaiser Jamil, Zafar Jamil*, and C. Thyagarajan Biocontrol Unit and Inorganic & Physical Chemistry Division, Regional Research Laboratory, Hyderabad, India
- 9:15 a.m. **Artificial Selection for a Cold Tolerant Strain of *Agasicles hygrophila***
Allan J. Hruska* and Sarah M. Gladstone, Biological Control Laboratory, NC Department of Agriculture, Raleigh, NC.
- 9:30 a.m. **Aquatic Weeds as Bio Fertilizer**
D. K. Saxena, Department of Botany, Bareilly College, Bareilly, U. P. India
- 9:45 a.m. **Aquatic Weed Problems in Bangladesh**
Abdullah Al Mamun* and Md. Arshad Ali Bangladesh Agricultural University, Mymensingh, Bangladesh

- 10:00 a.m. **Recycling of Tannery and Sewage Effluents by *Eichornia crassipes* (Waterhyacinth) – A Review**
M. Vivehanandan, Department of Botany, Bharathidasan University, Tiruchirapalli, India
- 10:15 a.m. **Primary Production and Calorific Value of *Eichornia crassipes* (Mart) Solms of a Lake in Uttar Pradesh, India**
V. C. Srivastava and S. Lata
Department of Botany, Harish Chandra Post-graduate college, Varanasi, India; and Department of Zoology, K. N. Govt. Postgraduate College, Gyanput, India
- 10:30 a.m. **Break**
- 11:00 a.m. **Final Business Meeting – Installation of Officers for 1984-85**
- 11:30 a.m. **Adjourn Twenty-Fourth Annual Meeting**

FINAL BUSINESS MEETING

11:00 A.M. – 11:30 A.M.

Presiding: A. Leon Bates, President

- 11:30 A.M. **Adjourn Twenty-Fourth Annual Meeting**

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BOARD OF DIRECTORS

- 12:00 Noon **Board Luncheon**
Shenandoah Room
- 1:00 p.m. **Meeting of Board of Directors**
Jefferson Room

NOTES

**THE AQUATIC PLANT
MANAGEMENT SOCIETY, INC.**

Post Office Box 16, Vicksburg, MS 39180

APPLICATION FOR MEMBERSHIP

There are four regular classes of membership available upon application made in accordance with the Charter adopted in 1961. These classes are: (A) ACTIVE MEMBERSHIP (\$20.00); (B) STUDENT MEMBERSHIP (\$5.00); (C) CORPORATE MEMBERSHIP (\$100.00); and (D) COMMERCIAL SUSTAINING MEMBERSHIP (\$200.00).

Applicant's Name _____

Spouse's Name _____

Home Address _____

City, State, Zip _____

Home Telephone _____

Present Title _____

Present Employer _____

Business Address _____

City, State, Zip _____

Business Telephone _____

Membership Class Desired _____

Amount of Remittance Herewith \$ _____

Signature of Applicant _____

Date _____

* Please indicate by asterisk which address you wish the Secretary-Treasurer's office to use.

(Detach and Return)

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Mequon, Wisconsin

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Casselberry, Florida

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Ft. Lee, New Jersey

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PRODUCTS COMPANY, INC.
Tampa, Florida

UNION CARBIDE AGRICULTURAL
PRODUCTS COMPANY
Research Triangle Park, North Carolina

UNIROYAL CHEMICAL COMPANY
Bethany, Connecticut

Affiliated Chapters

Florida Aquatic Plant Management Society

Paul C. Myers, President
Applied Aquatic Management, Inc.
310 East Thelma Street
Lake Alfred, Florida 33850
1984 Meeting – Plant City, Florida
October 23-25

Midsouth Aquatic Plant Management Society

Terry Goldsby, President
Aquaservices, Inc.
P. O. Box 36
Guntersville, Alabama 35976
1984 Meeting – Daphne (Mobile), Alabama
October 10-12

Midwest Aquatic Plant Management Society

David Eisentrout, President Elect
Pennwalt Corporation
2753 Wildwood Drive
Columbus, Ohio 43220
1985 Meeting – Fort Wayne, Indiana
March 17-19

South Carolina Aquatic Plant Management Society

Danny Johnson, President
South Carolina Water Resources Commission
P. O. Box 4440
Columbia, South Carolina 29240
1984 Meeting – Charleston, South Carolina
August 23-24

Western Aquatic Plant Management Society

Nate Dechoretz, President
520 North Almond
Dixon, California 95620
1985 Meeting – Phoenix, Arizona
March 14-15

SPOUSES' PROGRAM

SUNDAY, JULY 15, 1984

6:30 P.M. – 7:30 P.M.
President's Reception
Monticello Room

MONDAY, JULY 16, 1984

12:00 Noon
Ladies' Luncheon
Shenandoah Room

2:00 P.M.
Bus Tour of Richmond
Leave From Hotel Lobby

TUESDAY, JULY 17, 1984

6:30 P. M.
Cocktail Hour
Monticello Room

7:30 P.M.
Annual Banquet
Regency Ballroom A

**FUTURE MEETING SITES
OF THE
AQUATIC PLANT
MANAGEMENT SOCIETY,
INC.**

**1985 – Hotel Vancouver
Vancouver, British Columbia,
CANADA
July 21-24**

**1986 – Sundial Beach and Tennis Resort
Sanibel, Florida, U.S.A.
July 13-16**

**1987 – Hyatt Regency Savannah
Savannah, Georgia, U.S.A.
July 12-15**

**1988 – Fairmont Hotel
New Orleans, Louisiana, U.S.A.
July 10-13**

1989 – To be determined