

# *Program*

## **FUTURE MEETING SITES**

1981 - Coliseum Ramada Inn  
Jackson, Mississippi U.S.A.  
July 12-15

1982 - Caesars Palace  
Las Vegas, Nevada U.S.A.  
July 18-21

1983 - Dutch Inn  
Lake Buena Vista,  
Florida U.S.A.  
July 10-13

1984 - Richmond Hyatt House  
Richmond, Virginia U.S.A.  
July 15-18

1985 - Canada  
July 14-17

TWENTIETH ANNUAL MEETING

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



**SARASOTA HYATT HOUSE**

Sarasota, Florida

July 13-16, 1980

Sunday through Wednesday



## BOARD OF DIRECTORS 1979-80

### OFFICERS

**WILLIAM N. RUSHING, President**  
United States Army Corps of Engineers  
Post Office Box 631  
Vicksburg, Mississippi 39180

**NELSON VIRDEN, President-Elect**  
Viriden Weed Control Service  
Route 2 Box 414  
Jackson, Mississippi 39213

**ROY P. CLARK, Vice President**  
EPA. - Pesticides & Toxic Substances  
345 Courtland Street  
Atlanta, Georgia 30308

**JULIAN J. RAYNES, Past President**  
1567 Knob Hill Drive, N.E.  
Atlanta, Georgia 30329

**ALVA P. BURKHALTER, Treasurer**  
Department of Natural Resources  
Crown Building  
202 Blount Street  
Tallahassee, Florida 32304

**WILLIAM T. HALLER, Editor**  
University of Florida  
Agronomy Department  
304 Newell Hall  
Gainesville, Florida 32611

**T. W. MILLER, JR., Secretary**  
Lee County Hyacinth Control District  
Post Office Box 06005  
Fort Myers, Florida 33906

### DIRECTORS

**GORDON E. BAKER**  
South Florida Water Management District  
Post Office Box V  
West Palm Beach, Florida 33402

**A. LEON BATES**  
Tennessee Valley Authority  
E & D Building  
Muscle Shoals, Alabama 35660

**JAMES A. FORET**  
University of Southwestern Louisiana  
Post Office Box 4-4492  
Lafayette, Louisiana 70504

**MAX C. McCOWEN**  
Lilly Research Lab  
Eli Lilly and Company  
Box 708  
Greenfield, Indiana 46140

**EMORY McKEITHEN**  
Union Carbide Agricultural Products Company, Inc.  
Post Office Box 12100  
Jackson, Mississippi 39211

**GEORGE SUCIU**  
Zero Defects Design Limited  
Box 74 - Montreal, P.O. H3P 3B8  
Canada

### NEWSLETTER

**L. V. GUERRA**  
Texas Parks & Wildlife Department  
134 Baniff  
San Antonio, Texas 78204

## THE PROGRAM



**TWENTIETH ANNUAL MEETING**  
of  
**THE AQUATIC PLANT MANAGEMENT**  
**SOCIETY, INC.**  
July 13-16, 1980  
Sarasota Hyatt House  
Sarasota, Florida, U.S.A.

### SUNDAY, JULY 13, 1980

1:30 P.M. Meeting of the Board of Directors -  
American-Spanish Room

3:00 P.M. - 6:00 P.M. Registration - Lower Lobby

6:30 P.M. - 7:30 P.M. President's Reception - Poolside  
Registration Required for  
Admission

### MONDAY, JULY 14, 1980

8:00 A.M. - 5:00 P.M.  
Registration - Lower Lobby

9:00 A.M. - 5:00 P.M.  
Commercial Exhibits - Gallery

### GENERAL SESSION

9:00 A.M. - 12:00 Noon  
Hernando Desoto North and South  
Presiding: William N. Rushing, President  
The Aquatic Plant Management Society, Inc.

9:00 A.M. Call to Order

9:05 A.M. Invocation: Leslie E. Bitting, Sr.,  
member, APMS, and Past President,  
Florida APMS

9:10 A.M. Presidential Address:  
William N. Rushing, President, APMS

9:30 A.M. Announcements:  
Nelson Viriden, Program Chairman,  
President-Elect, APMS

9:40 A.M. CAST Report: William T. Haller,  
University of Florida, Gainesville,  
Florida

10:00 A.M. General Discussion: Barry Freeman,  
Mississippi Department of Wildlife  
Conservation, Jackson, Mississippi;  
L. V. Guerra, Texas Parks & Wildlife  
Department, San Antonio, Texas;  
Donald V. Lee, Louisiana Department  
of Wildlife & Fisheries, Baton Rouge,  
Louisiana



- 11:00 A.M. "The Application of Mathematical Modeling Techniques in Aquatic Plant Management Programs" - Eldon C. Blancher, II, USAE Waterways Experiment Station - Vicksburg, Mississippi.
- \*11:15 A.M. "Subaqueous Release of Fenatrol from Two Commercial and Four Experimental Formulations" - William E. Spencer and William T. Haller, IFAS, University of Florida, Gainesville, Florida
- \*11:30 A.M. "Continued Studies of Hydrilla Growth Inhibiting Lake Sediment Extracts" - Vance Ley, Dean F. Martin and R. E. Moon, Department of Chemistry, University of South Florida, Tampa, Florida
- \*11:45 A.M. "Effects of Harvesting on Hydrilla Growth" - K. A. Langeland and David L. Sutton, Agricultural Research Center, University of Florida, Gainesville, Florida

\*Denotes Student Paper

## GENERAL SESSION

1:30 P.M. - 4:45 P.M.

Hernando Desoto North and South  
Presiding: Dean F. Martin  
University of South Florida  
Tampa, Florida

- 1:30 P.M. "Prediction of Total Phosphorus Concentrations, Chlorophyll a Concentrations and Secchi Disc Depths in Natural and Artificial Lakes" - Daniel E. Canfield, Jr., Aquatic Weeds Research Center, University of Florida, Gainesville, Florida
- \*1:50 P.M. "Alligatorweed Biotypes and Implications for Control" - Stratford H. Kay and William T. Haller, IFAS, University of Florida, Gainesville, Florida
- \*2:05 P.M. "Vegetation Habitat Preference by Aquatic Invertebrates in Orange Lake, Florida" - Curtis E. Watkins, II, Aquatic Weeds Research Center, University of Florida, Gainesville, Florida
- 2:20 P.M. "Preliminary Evaluation of Hydrogen Peroxide as a Potential Herbicide for Aquatic Weeds" - P. C. Quimby, Jr., Southern Weed Science Laboratory, Stoneville, Mississippi
- \*2:35 P.M. "The Effects of Several Herbicides on Hydrodityon" - Dan Thayer and William T. Haller, IFAS, University of Florida, Gainesville, Florida

- \*2:50 P.M. "The Re-establishment of Macrophytes Following Drawdown of Lake Kissimmee" - Deborah J. Valin and Rue S. Hestand, III, Vincent P. Williams and Chris C. Carter, Florida Game and Fresh Water Fish Commission, Eustis, Florida
- 3:05 P.M. Break
- 3:20 P.M. "Hydrilla Control Efforts on Lake Conroe, Texas" - L. V. Guerra, Texas Parks & Wildlife Department, San Antonio, Texas
- \*3:35 P.M. "HPLC Analysis of Fatty Acids from Natural Waters and its Application Toward the Natural Management of the Waterhyacinth" - Julio Herrera and Dean F. Martin, Department of Chemistry, University of South Florida, Tampa, Florida
- \*3:50 P.M. "A Genetic Comparison of Three Growth Forms of the Waterhyacinth, *Eichhornia crassipes*" - Richard P. Wain and Dean F. Martin, Department of Chemistry, University of South Florida, Tampa, Florida
- \*4:05 P.M. "Photosynthetic and Photorespiratory Processes in Submersed and Emergent Parrotfeather" - Michael E. Salvucci and George Bowes, Department of Botany, University of Florida, Gainesville, Florida
- 4:20 P.M. "Aerial Application of Herbicides for the Control of Aquatic Plant Problems" - Robert J. Gates, Southwest Florida Water Management District, Brooksville, Florida
- 4:35 P.M. Discussion

\*Denotes Student Paper

## GENERAL SESSION

TUESDAY, JULY 15, 1980

8:30 A.M. - 12:05 P.M.

Hernando Desoto North and South  
Presiding: L. V. Guerra,  
Texas Parks & Wildlife Department,  
San Antonio, Texas

- 8:30 A.M. "A Method for Assessing the Growth Rate of Duckweeds" - David L. Sutton and Kenneth M. Portier, Agricultural Research Center, University of Florida, Gainesville, Florida
- 8:45 A.M. "Semiconductor Properties of Membrane-Electrode Systems" - M. J. Allen, University of Nottingham, Sutton Bonington, Loughborough, United Kingdom



- 9:00 A.M. "Working with Environmental Groups in Order to Influence Regulatory Procedures on the Application of Pesticides" - Tom Camp, Aquatic Management Company, Glendale, Arizona
- 9:15 A.M. "Aquatic Vegetation Control in Ontario" - D. L. MacKenzie, Ministry of the Environment Pesticides Control Section, Toronto, Ontario, Canada
- 9:30 A.M. "Control of Blue Green Algae (Scum) *Oscillatoria* and *Nostoc* in Flowing Waters" - Tom Camp, Aquatic Management Company, Glendale, Arizona
- 9:45 A.M. "Laboratory Life History Data and Preliminary Greenhouse Studies on the Efficacy of *Arzama densa* Wlk., a Native Biocontrol Agent Against Waterhyacinth" - R. G. Baer and P. C. Quimby, Jr., Southern Weed Science Laboratory, Stoneville, Mississippi
- 10:00 A.M. "The Effects of Diuron on Aquatic Organisms" - Rue S. Hestand III, Lowell L. Trent, Boyd Z. Thompson and Deborah J. Valin, Florida Game and Fresh Water Fish Commission, Eustis, Florida

## ANNUAL BUSINESS MEETING

11:00 A.M. - 12:00 Noon

Presiding: William N. Rushing, President

12:05 P.M. Recess for Lunch

## GENERAL SESSION

**TUESDAY, JULY 15, 1980**

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

Hernando Desoto North and South

Presiding: Donald V. Lee

Louisiana Department of Wildlife & Fisheries

Baton Rouge, Louisiana

- 1:30 P.M. "Effects of Lead, Cadmium and Copper on Alligatorweed, with Biocontrol Implications" - Stratford H. Kay and William T. Haller, IFAS, University of Florida, Gainesville, Florida
- 1:45 P.M. "Chronology of the Responses of the Shoots of Three Submersed Aquatic Weeds to Two Herbicides: a Time Lapse Study" - Richard R. Yeo, USDA, SEA, University of California, Davis, California
- 2:00 P.M. "The Aquatic Plants of Oklahoma" - Richard Couch and Edward Nelson, Oral Roberts University, Tulsa, Oklahoma
- 2:15 P.M. "Feeding Behavior of Underyearling Hybrids of the Grass Carp, *Ctenopharyngodon idella* and the Bighead, *Hypophthalmichthys nobilis* On Several Species of Aquatic Plants" - John R. Cassani, Lee County Hyacinth Control District, Fort Myers, Florida
- 2:30 P.M. "Preliminary Host Specificity Tests of *Parapogonx rugosalis*, A Potential Biological Control Agent for Hydrilla" - Joseph K. Balciunas and Ted C. Center, USDA, SEA, AR, Aquatic Plant Management Laboratory, Fort Lauderdale, Florida
- 2:45 P.M. "Field Evaluation of Hydout and Aquathol K for Control of *Hydrilla verticillata* (Royle) in Gatun Lake, Panama" - Howard E. Westerdahl, USAE, Waterways Experiment Station, Vicksburg, Mississippi
- 3:00 P.M. Break
- 3:15 P.M. "Evaluation of a Formulation of *Cercospora rodmanii* as a Biocontrol of Waterhyacinth" - Edwin A. Theriot and Dana R. Sanders, USAE Waterways Experiment Station, Vicksburg, Mississippi
- 3:30 P.M. "Comparison of Atrazine and Simazine Movement Across Sections of Submersed and Floating-Type Leaves of American Pondweed (*Potamogeton nodosus* Poir.)" - Lars W. J. Anderson, USDA-SEA, Botany Department University of California, Davis, California
- 3:45 P.M. "Demonstration of Hydrilla Management in Agricultural Waterways in Florida" - Vernon V. Vandiver, Jr. and David L. Sutton, Agricultural Research Center, IFAS, University of Florida, Ft. Lauderdale, Florida
- 4:00 P.M. "Operational Evaluation of Aquavatur, Copper Complexes and Inverting Oils" - Leonard Bartos, Southwest Florida Water Management District, Brooksville, Florida
- 4:15 P.M. "Degradation of Elastomeric Control Release Material" - G. A. Janes, Creative Biologist Laboratory, Inc., Barberton, Ohio
- 4:30 P.M. "The Use of Models to Predict Total Phosphorus Concentrations and Algal Levels in Natural and Artificial Lakes" - Daniel E. Canfield, Jr., IFAS, School of Forest Resources and Conservation, Gainesville, Florida





## TUESDAY EVENING

July 15, 1980

---

6:30 P.M.

### Reception

Sara North and South

---

7:45 P.M.

### Annual Banquet

Hernando Desoto South

Speaker

To Be Announced



## GENERAL SESSION

WEDNESDAY, JULY 16, 1980

8:30 A.M. - 11:30 A.M.

Hernando Desoto North and South

Presiding: Emory McKeithen

Union Carbide, Jackson, Mississippi

- 8:30 A.M. "Myriophyllum spicatum Distribution in the United States, 1980" - Richard Couch and Edward Nelson, Oral Roberts University, Tulsa, Oklahoma
- 8:45 A.M. "Control of Submersed Aquatic Weeds with Dwarf Spikerush, a 5-year Survey of a Weedy Canal" - Richard R. Yeo, USDA, SEA, University of California, Davis, California
- 9:00 A.M. "Hydrilla Control with Grass Carp" - J. A. Osborne, W. Borkowski, and N. Sassic, University of Central Florida and Orange County Pollution Control Department, Orlando, Florida
- 9:15 A.M. "Biocontrol of Waterhyacinth in West-Central Louisiana by *Cercospora rodmanii*" - A. S. Allen and S. M. Laborde, Northwestern State University, Natchitoches, Louisiana
- 9:30 A.M. "Carbon Dioxide Evolution by Hydrilla Due to Immersion in Various Organic Acid Solutions" - George Bowes and Jan Blickenstaff, University of Florida, Gainesville, Florida
- 9:45 A.M. "Endothall and the Environment" - Obren Keckemet, Pennwalt Corporation, Tacoma, Washington
- 10:00 A.M. "Replacement of Hydrilla by Other Aquatic Plants in a Pond with Emphasis on Growth of American Lotus" - D. L. Johnston, David L. Sutton, Vernon V. Vandiver, Jr., and Kenneth A. Langeland, IFAS, University of Florida, Fort Lauderdale, Florida
- 10:15 A.M. "Evaluating Variance in the Nutrient Content of Hydrilla" - David L. Sutton and Kenneth M. Portier, Agricultural Research Center, University of Florida, Fort Lauderdale, Florida
- 10:30 A.M. "Chemical Control of Melaleuca" - Randall K. Stocker, USAE Waterways Experiment Station, Vicksburg, Mississippi
- 10:45 A.M. Discussion

### FINAL BUSINESS MEETING

11:00 A.M. - 11:30 A.M.

Presiding: William N. Rushing, President

11:30 A.M. Adjourn Twentieth Annual Meeting

\* \* \* \* \*

**BOARD OF DIRECTORS**

**NOTES**

12:00 Noon    Luncheon - American-Spanish Room  
1:30 P.M.    Meeting of the Board - British-French Room

**NOTES**

## NOTES

## COMMERCIAL SUSTAINING MEMBERS

APPLIED BIOCHEMISTS, INC.  
Mequon, Wisconsin

AQUAMARINE CORPORATION  
Waukesha, Wisconsin

ARUNDO LIMITED OF LOUISIANA  
Belle Chasse, Louisiana

HAROLD F. BROWN, INC.  
Fort Pierce, Florida

ELANCO PRODUCTS COMPANY  
Indianapolis, Indiana

J. L. B. INTERNATIONAL CHEMICALS, INC.  
Hialeah, Florida

JOYCE ENVIRONMENTAL CONSULTANTS, INC.  
Casselberry, Florida

LAKES & WATERWAYS  
MANAGEMENT SERVICE  
Pompano Beach, Florida

LANTANA BOATYARD, INC.  
Lantana, Florida

MENARDI SOUTHERN CORPORATION  
Houston, Texas

MINNESOTA WANNER COMPANY  
Minneapolis, Minnesota

MONSANTO AGRICULTURAL  
PRODUCTS COMPANY  
Atlanta, Georgia

NALCO CHEMICAL COMPANY  
Oak Brook, Illinois

PENNWALT CORPORATION  
Prattville, Alabama

RHODIA, INC.  
Atlanta, Georgia

SANDOZ, INC.  
San Diego, California

SOUTHERN MILL CREEK PRODUCTS, INC.  
Tampa, Florida

MR. GEORGE SUCIU  
Montreal, Quebec, Canada

UNION CARBIDE AGRICULTURAL  
PRODUCTS COMPANY  
Ambler, Pennsylvania

VECTOR SUPPLY, INC.  
Orlando, Florida

VELSICOL CHEMICAL CORPORATION  
Chicago, Illinois



# **LADIES PROGRAM**

## **EXHIBITORS**

**Joyce Environmental Consultants, Inc.**

**Nalco Chemical Company**

**Pennwalt Corporation**

**Rhone-Poulenc, Inc.**

**Southern Mill Creek  
Products Company, Inc.**

**Vector Supply, Inc.**

### **SUNDAY, JULY 13, 1980**

6:30 P.M. - 7:30 P.M. - President's Reception  
Poolside

### **MONDAY, JULY 14, 1980**

9:30 A.M.  
Board bus at Hyatt House

10:00 A.M. - 12:00 Noon  
Bay Cruise, Brunch aboard LeBarge  
(Sarasota Bay Tour)

12:30 P.M.  
Tour Ringling House, Museum and Garden

### **TUESDAY, JULY 15, 1980**

6:30 P.M. - Reception  
Sara North and South

7:45 P.M. - Annual Banquet  
Hernando Desoto South