



# AQUATIC PLANT NEWS

A newsletter of the Aquatic Plant Management Society, Inc./No. 25, June 1987

## ENJOY THE SOUTH, SAVANNAH STYLE AT THE 27th ANNUAL APMS MEETING

### THE PROGRAM

The Aquatic Plant Management Society will hold its 27th Annual Meeting at the Hyatt Regency Hotel Savannah, Georgia during July 12-15, 1987. This will be one of our largest meetings and one of the most enjoyable after hours.

**Sessions covering wetlands classification, regulation, utilization and revegetation will be featured.**

President-Elect Richard Comes has over seventy scientific, technical and regulatory papers scheduled in three General sessions and four concurrent sessions. Sessions covering wetlands classification, regulation, utilization and revegetation will be featured. We will also have one of our largest ever student paper contests.

### Spouses Activities

The Hyatt Regency is located in the heart of Savannah's newly restored riverfront shopping district. An easy walk from the hotel will provide spouses and members alike with an exciting and memorable shopping experience.

On Monday, July 12th, the spouses will be treated to a delightful luncheon at the Hyatt, and then at 1:30, depart the hotel on a private coach for a personal tour of Savannah's National Historic Landmark District by a professional guide from the Historical Savannah Foundation. Beautiful tree-lined streets and public squares will reveal 250 years of history, displayed eloquently in exquisite ironwork, ancient cobblestones, stately mansions and picturesque cottages.

The tour will also include special visits to the interiors of two of Savannah's finest historic homes. As a fitting finale to the three hour excursion, spouses will be treated to



the warmth of southern hospitality at a restored home while enjoying such southern favorites as Mint Juleps, Wild Azaleas, White Wine, Beene Bits and Beene Wafers.

This tour has been specially planned for our group and meeting schedule; however, alternate tours will also be available through the Foundation at no extra expense, but reservations must be made in advance.

## Tuesday Evening Festivities

A very special outing is planned for Tuesday evening to give all attendees a taste of the Ole South. Following the last session, we will board the "Captain Sam", an old-time paddle wheel riverboat, for a leisurely tour of the harbor and excursion down the Savannah River to Old Fort Jackson, a historic Civil War fort that still guards the entrance to the city from the river. Cocktails and other refreshments will be available on board during the cruise.

Once at the fort, we will be greeted by cannon fire (not at us) and Confederate soldiers will provide a pre-dinner ceremony. While the sun is

setting over the city, we will feast buffet-style on a regional seafood specialty, Lowcountry Boil (boiled shrimp, smoked sausage, corn-on-the-cob), Savannah red rice and cole slaw, and wash it down with all the refreshments you can drink. Barbecue chicken will be available for those who do not eat seafood. After the meal, we will board the boat for our cruise back to the hotel.

The evening events will be relaxed and informal, so dress accordingly. While mosquitoes are usually not a problem, it is recommended that clothes be worn that cover the skin, i.e. long pants for everyone.

## OTHER ACTIVITIES AVAILABLE

In addition to the planned program, other local attractions include Skidaway Marine Science Complex, Fort Pulaski National Monument, Savannah Science Museum and Ships of the Sea Museum. Also available are tennis courts, golf courses, fishing piers and charters, and for the beach combers, Tybee Island Beach is only 30 minutes away. Just across the river in South Carolina you can find historic Beaufort, Hilton Head Island and the Savannah National Wildlife Refuge.

# CHEMICALS AND HEALTH

(Cast News Release)

**A**mes, Iowa — Are agricultural contaminants in groundwater and drinking water threatening human health? The only verified adverse effects of an agriculture-related chemical substance in groundwater are from nitrate, which may be derived from nitrogen fertilizers, human and animal wastes and other organic residues. The hazard of excess nitrate in drinking water for infants is well known, but problems are rare because of rural areas where water from shallow wells may contain excess nitrate, parents are advised to supply infants with bottled water for the first year.

Pesticides, which receive the lion's share of the attention, have not been implicated in adverse health effects. If detected, pesticides generally are present at concentrations less than 1 part per billion. Concentrations up to 20 to 50 parts per billion or higher are found only occasionally.

These facts and others about health effects of agriculture-related chemicals in water are reviewed in the latest publication of the Council for Agricultural Science and Technology (CAST). Produced by a task force of 13 scientists chaired by Arthur L. Craigmill of the University of California and co-chaired by M. Alice Ottoboni of the California Department of Health Services (retired), this new publication emphasizes the basic concepts needed to understand such matters as toxicity, bioaccumulation, carcinogenicity, mutagenicity, teratogenicity, and the significance of synthetic versus naturally occurring chemicals.

## SOUTH CAROLINA RELAXES STERILE GRASS CARP REGULATION

**D**ue to a policy change effective January 1, 1987, the application form for sterile grass carp will no longer be required by the South Carolina Wildlife and Marine Resources Department. Pond owners wishing to purchase grass carp need simply to contact any one of the approved dealers to place an order. The purchase of fish from other sources or the possession of non-sterile (diploid) fish remains illegal. All regulations and requirements pertaining to sterility certification of carp shipped into the state remain unchanged.

The elimination of the application

The task force points out that how much of a chemical is ingested is of crucial importance in determining its effect. The effect increases with the dose. Now of concern are possible adverse health effects of chemicals in the parts-per-billion or parts-per-trillion concentrations that can be measured by modern analytical techniques. Biological effects of most chemicals cannot be measured at such concentrations.

Toxic effects of chemicals are understood to be absent below a threshold or no-effect dose that depends on the potency of the chemical, but there is controversy over whether this is true for chemical carcinogens. For such chemicals, mathematical extrapolations of uncertain validity are used to estimate the risk to humans exposed to very small doses from effects of large doses of the chemicals on laboratory animals.

The complete work of the task force is published as COMMENTS from CAST 1987-1 entitled "Health Issues Related to Chemicals in the Environment: A Scientific Perspective". This 25-page document is available for \$2.50 postpaid from CAST, 137 Lynn Avenue, Ames, Iowa 50010 (telephone 515-292-2125).

Two related publications are also recently available from CAST: COMMENTS from CAST 1987-2 entitled "Pesticides, Cancer and the Delaney Clause", and CAST Report No. 89 entitled, "Regulation of Potential Carcinogens in the Food Supply: The Delaney Clause".

form will mean that the routine inspection of an applicant's pond by department biologists will not be conducted unless specifically requested by the pond owner. To insure the most effective utilization of the fish, pond owners are encouraged to seek technical assistance from qualified personnel prior to the stocking of grass carp.

If you have any questions regarding the grass carp program in South Carolina contact Hal Beard at P.O. Box 167, Columbia, SC 29202. Phone 734-3934 (Columbia office) or 755-2070 (Styx Fish Hatchery).

## Aquatic Herbicide Contamination of Aquifers

G.D. Pullman, Aquatic Biologist

**A**quatic herbicide contamination of aquifers is indeed a matter of concern in the Great Lakes Region. A study of the possible contamination of ground water by the application of aquatic herbicides is being initiated at Park Lake, near Lansing, MI. A test well has been drilled and an automated water sampler has been installed. The study is being supervised by APMS member Dr. Fred Payne of Midwest Water Resources Management, Inc. The Michigan Department of Natural Resources helped to design the study and is working closely with Fred and his hydrologists. Water analysis will be done on a contract basis by the Michigan State University Pesticide Research Center. The study is being funded by Cygnit, Inc. and Pennwalt Corporation. Another major Chemical Company may join in support of the study, but has not committed any funds to date. Several other Great Lakes States are aware of this study and will be monitoring the results.

## ATTENTION APMS NETTERS



Anyone interested in a fun tennis tournament on Sunday before the meetings begin? If so, please give Steve Klaine a call at (901) 454-2959. We need to know how many courts to get.

### NOTICE

*"The objective of all dedicated Aquatic Weed Control men should be to thoroughly analyze all situations, anticipate all problems prior to their occurrence, have answers for all these problems, and move swiftly to solve these problems when called upon..."*

### ...HOWEVER,

*"When you are up to your 'waist' in water hyacinths it is difficult to remind yourself that your initial objective was to improve water quality." — Bill Maier 1976.*



# FUTURE VIEWS 1987 MAPMS CONFERENCE HIGHLIGHTS

**M**idwest Aquatic Plant Management Society members and friends gazed into the future of the aquatic vegetation management industry during the 1987 MAPMS annual meeting. The conference was convened in one of the Midwest's truly world class hotels, the Amway Grand Plaza Hotel in Grand Rapids, MI. Congressman Bill Shuette, Michigan 10th District congressman and member of the U.S. House Agriculture Committee, presented a glimpse into the future by describing the meaning of new FIFRA legislation being considered on Capitol Hill. APCRP Program Leader, Lewis Decell, provided insights into the workings of the U.S. Army engineers aquatic plant management efforts and a revealing discussion of the future of this important program. William Ives, President of Rose Exterminators, Inc.,

discussed the future of small PCO service companies and Mary Ellen Vollbrecht and Jerry McKersie, Wisconsin DNR, discussed a progressive regulatory approach that is being adopted by their state. Floridian Dr. Ken Langeland put some of the more northerly oriented MAPMS members at ease with his discussion of the likelihood of a future monoecious Hydrilla invasion. Other papers and presentations ranged from benthic barriers to terrestrial fertilizers, from grass carp to plant growth regulators, from swimmer's itch to pesticide safety. Truly, there was something for everyone.

The 1988 MAPMS meeting is scheduled for Columbus, Ohio from March 20-22. Contact Robert Johnson, P.O. Box 100, Seymour IN 47274, for more information.

## EPA REQUIRES NEW PESTICIDE LABEL STATEMENTS

**T**he Environmental Protection Agency will be requiring a ground water advisory statement that currently appears on some herbicide labels (no aquatic labels so far) as follows:

*"Pesticide x is a chemical which can travel (seep or leach) through soil and can contaminate ground water which may be used as drinking water. Pesticide x has been found in ground water as a result of agricultural use. Users are advised not to apply pesticide x where the water table (ground water) is close to the surface and where the soils are very permeable, i.e., well-drained soils such as loamy sands. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water."*

And a federally designated endangered/threatened species statement as follows:

*"This product may not be used in areas where adverse impact on the federally designated endangered/threatened species, noted above, is likely. Prior to making applications, the user of this product must determine that no such species are located in or immediately adjacent to the area to be treated. If the user is in doubt whether or not the above named endangered species may*

*be affected, he should contact either the regional U.S. Fish and Wildlife Service Office (Endangered Species Specialist) or personnel of the State Fish and Game Office".*

### **EPA plans to implement endangered species labeling on pesticides used as mosquito larvicides and pesticides used in forests in 1987.**

EPA plans to implement endangered species labeling on pesticides used as mosquito larvicides and pesticides used in forests in 1987. Endangered species labeling will be implemented on pesticides used on crops and rangelands in 1988. I was informed by telephone conversation that a date has not been set for implementation on aquatic herbicide labels at this time. However, a similar statement already appears on the Sonar labels. This labeling could have far reaching implications with regard to the regulation of aquatic herbicide applications.

Updated information regarding these label changes should be available at the Savannah meeting.

## CALENDAR OF EVENTS

### Meetings

- **July 12-15, 1987**  
Aquatic Plant Management Society 27th Annual Meeting, Hyatt Regency, Savannah, GA  
Contact: Richard Comes (509) 786-3454.
- **August 19-21, 1987**  
South Carolina Aquatic Plant Management Society 1987 Meeting, Clemson, SC  
Contact: Steve de Kozlowski (803) 758-2514.
- **October 14-16, 1987**  
Midsouth Aquatic Plant Management Society 8th Annual Meeting, Holiday Inn, Decatur, AL  
Contact: Leon Bates (205) 386-2276.
- **October 19-22, 1987**  
Florida Aquatic Plant Management Society 1987 Annual Meeting, Holiday Surfside Inn, Daytona Beach, FL  
Contact: Ken Langeland (904) 392-9613.
- **November 3-7, 1987**  
North American Lake Management Society 7th Annual International Symposium, Applied Lake and Watershed Management, The Role of Standards in Water Resource Management Policy, Peabody Hotel, Orlando, FL  
Contact: Dr. Martin Wanielista (305) 275-2841.
- **January 18-20, 1988**  
Southern Weed Science Society 41st Annual Meeting, Sheraton-Kensington Hotel, Tulsa, Oklahoma.
- **February 2-4, 1988**  
Weed Science Society of America 28th Annual Meeting, Riviera Hotel, Las Vegas, Nevada.

July 12-15, 1987  
Hyatt Regency Hotel  
Savannah, Georgia, USA

# PROGRAM

## THE AQUATIC PLANT TWENTY-SEVENTH

### MONDAY, JULY 13, 1987

1:30 p.m. **Wetland Identification Under the "Swampbuster"**  
**Provision of the 1985 Food Security Act**  
Edward R. Smith, USDA —  
Soil Conservation Service,  
Fort Worth, TX 76115

2:00 p.m. **Overview of the Corps of Engineers Wetland Research Program**  
Russell F. Theriot, USAE  
Waterways Experiment  
Station, Vicksburg, MS  
39180-0631

2:15 p.m. **Revegetation of a Southeastern U.S. Floodplain Following disturbance by Thermal Pollution**  
Rebecca R. Sharitz and  
Christopher P. Dunn,  
University of Georgia,  
Savannah River Ecology  
Laboratory, Aiken, SC 29801

2:45 p.m. **A Successful Wetland Restoration and Management Program**  
Robert D. Blackburn and  
Gerald E. Fensch, Joyce  
Environmental Consultants,  
Inc., Lake Worth, FL 33461

3:45 p.m. **A Perspective on Pesticides and Water Pollution**  
Dan Shankland, Center for  
Environmental Toxicology,  
University of Florida,  
Alachua, FL 32615

4:15 p.m. **What's On Down Under**  
Kathleen H. Bowmer, CSIRO  
Centre for Irrigation and  
Freshwater Research,  
Griffith, New South Wales,  
2680, Australia

4:30 p.m. **Aquatic Weed Problems and Control Methods in Malaysia**  
Mashhor Mansor, School of  
Biological Sciences,  
Universiti Sains Malaysia,  
Penang, 11800, Malaysia

### TUESDAY, JULY 14, 1987

9:00 a.m. **Aquatic Weed Control in North Carolina**  
David J. DeMont, North  
Carolina Department of  
Natural Resources and  
Community Development,  
Division of Water  
Resources, Raleigh, NC  
27611

9:15 a.m. **Large Scale Aquatic Plant Management at Lake Seminole**  
Joe Kight, U.S. Army Corps  
of Engineers,  
Chattahoochee, FL 32324



*The Kehoe House (1892)*

9:45 a.m. **Eradication of Hydrilla from Spring Lake in Sonoma County, California**  
Leslie W. Sonder, California  
Department of Food and  
Agriculture, Sacramento, CA  
95814

1:15 p.m. **Plant Growth Regulators and Aquatic Plant Control**  
Carole A. Lembi, Purdue  
University, Department of  
Botany and Plant Pathology,  
West Lafayette, IN 47907

2:00 p.m. **The Effect of Water Hardness on Use of Glyphosate for Control of Torpedograss**  
Donn Schilling, W. T. Haller  
and D. D. Thayer, Center for  
Aquatic Weeds, University  
of Florida, Gainesville, FL  
32606

2:30 p.m. **Use of Environmental Fate Information in Selection of Herbicides for Aquatic Plant Management**  
J. F. Hall and J. R. Rodgers,  
Jr., Institute of Applied  
Sciences, North Texas State  
University, Denton, TX 76203

3:30 p.m. **Responses of Five Aquatic Plant Species to Combinations of Fluridone and Copper**  
Lars W. J. Anderson and  
Nathan Dechoretz, USDA  
Aquatic Weed Control  
Laboratory, Botany  
Department, University of  
California, Davis, CA 95616

3:45 p.m. **Does External Iron Influence Recovery From Fluridone Treatment?**  
David Spencer, Greg  
Ksander and Nate  
Dechoretz, USDA Aquatic  
Weed Control Laboratory,  
Botany Department,  
University of California,  
Davis, CA 95616

4:00 p.m. **The Use of Diquat-Alginate in Flowing Water**  
Alison Fox and Kevin  
Murphy, Botany Department,  
University of Glasgow,  
Glasgow, Scotland

4:30 p.m. **Rice Floodwater Ecology and Safe Acrolein Re-Use**  
Kathleen H. Bowmer and  
Warren A. Muirhead, CSIRO  
Centre for Irrigation and  
Freshwater Research,  
Griffith, New South Wales  
2680 Australia

# HIGHLIGHTS

## MANAGEMENT SOCIETY, INC.

### ANNUAL MEETING



#### WEDNESDAY, JULY 15, 1987

**9:00 a.m. A Preliminary Evaluation of Low Density Grass Carp Stocking Rates on Aquatic Plant Biomass**  
John Cassani, David Maloney and Bill Caton, Lee County Hyacinth Control District, Fort Myers, FL 06005



*Historic Savannah*

**9:30 a.m. Growth of Hydrilla From a Single Tuber**  
David L. Sutton and Thai K. Van, University of Florida and USDA, respectively, Fort Lauderdale, FL

**9:45 a.m. Efficacy of Triploid Grass Carp in Central Florida Lakes**  
Rue S. Hestand, III, Boyd Z. Thompson and Ken W. Phippen, Florida Game and Fresh Water Fish Commission, Eustis, FL 32727-1903

**9:45 a.m. Effects of Temperature and Sediment Type on Growth and Morphology of Monoecious and Dioecious Hydrilla**  
D. G. McFarland and J. W. Barko, USAE Waterways Experiment Station, Vicksburg, MS 39180-0631

**1:45 p.m. Allelopathy in Treesquare Burrhead and American Eelgrass**  
Tai-Sheng Cheng and Donald N. Reimer, Department of Soils and Crops, Rutgers University, New Brunswick, NJ 08903

**2:15 p.m. Environmental Fate and Persistence of the Herbicide Triclopyr (Garlon 3A) Applied to an Aquatic Environment: An EUP Field Study**  
H. E. Westerdahl and W. R. Green, USAE Waterways Experiment Station, Vicksburg, MS 39180 and J. C. Joyce, Center for Aquatic Weeds, University of Florida, Gainesville, FL 32606

**3:45 p.m. Relationship Between Tissue Burden and Response of Hydrilla to Diquat**  
Kelly Michela Cassidy and John H. Rogers, Jr., Institute of Applied Sciences, Department of Biology, North Texas State University, Denton, Tx 76203

**4:45 p.m. Investigations Into the Disappearance of Milfoil in the Kawartha Lakes, Ontario**  
D. S. Painter, Environment Canada, NWRI, Burlington, Ontario, Canada

#### TUESDAY EVENING

July 14, 1987  
5:30 p.m.  
Harbor Tour and Low Country Boil  
Old Fort Jackson

#### SPOUSES' PROGRAM

Sunday, July 12, 1987  
6:30 p.m. — 7:30 p.m.  
President's Reception  
Mezzanine

MONDAY, JULY 13, 1987  
12:00 Noon  
Luncheon  
Sloane room

HISTORICAL TOURS  
(To be announced)

TUESDAY, JULY 14, 1987  
5:30 p.m.  
Harbour Tour and Low Country Boil  
Old Fort Jackson  
(Leave from Hotel dock)

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

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

1989 — Phoenix, Arizona,  
U.S.A.  
July 16-19

1990 — Florida



# NEW BIOLOGICAL SUPPRESSANTS RELEASED FOR WATER LETTUCE AND HYDRILLA

**A** weevil, *Neohydronomus pulchellus* Hustache, for suppression of water lettuce (*Pistiastrariotes*), was released into Lake Okeechobee on 29 April 1987. The release is part of an ongoing research project being conducted by Dr. Ted Center, USDA, ARS, Fort Lauderdale; Dr. Dale Habeck, Entomology and Nematology Department, IFAS, University of Florida; and Dr. Joe Balcunas, Fort Lauderdale REC, IFAS, University of Florida. Initial work which stimulated interest in this insect was done by Dr. C. J. DeLoach beginning in 1973 at the USDA, ARS Biological Control of Weeds Research Laboratory in Hurlingham, Buenos Aires, Argentina.

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**The insect has previously been released by entomologists in Australia and in South Africa for water lettuce control.**

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The weevils were originally collected both in Argentina and in Brazil. The insect has previously been released by entomologists in Australia and in South Africa for water lettuce control. The current work in Florida has been supported in part by the Jacksonville District and the Waterways

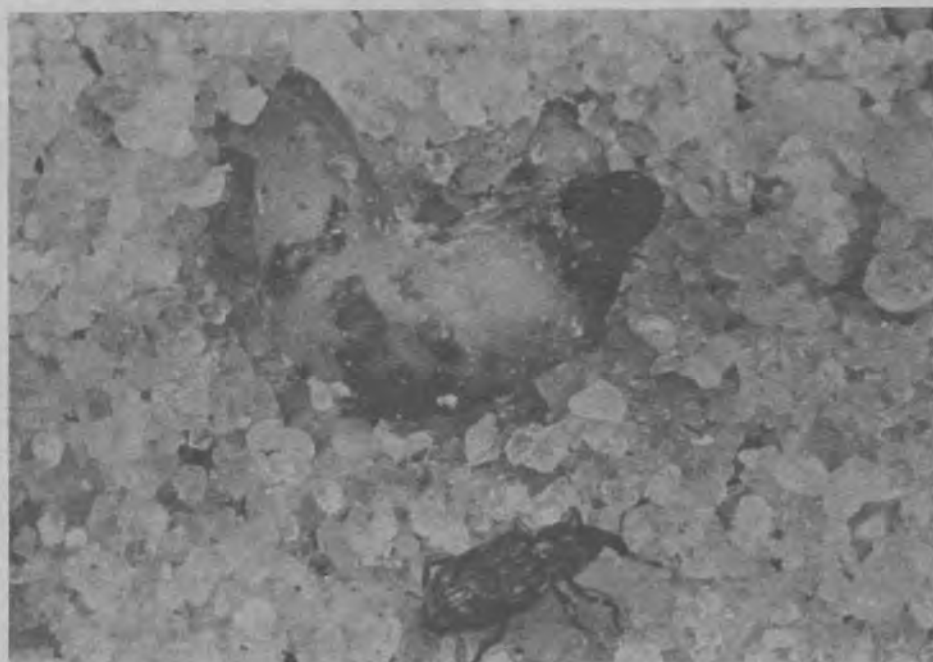


*Neohydronomus pulchellus* was released into Lake Okeechobee on 29 April 1987 for suppression of water lettuce growth

Experiment Station, U.S. Army Corps of Engineers.

A weevil which feeds on the subterranean turions of Hydrilla, commonly called tubers, was released April 30, 1987 at Lake Tohopekaliga (Osceola Co, FL). The weevil, *Bagous affinis*, which is native to Pakistan and India, is able to feed

on Hydrilla when the hydrosol is exposed as during periods of low water levels. Lake Tohopekaliga was drawn down in 1986-87 for fisheries management and lake restoration. This weevil was studied in early 1970's by Pakistani entomologists. Later, research conducted by Dr. Joe Balcunas and Dr. Gary Buckingham, "USDA, ARS, Gainesville led to the weevil being brought into quarantine in Gainesville.



*Bagous affinis* was released at Lake Tohopekaliga (Florida) for suppression of hydrilla tubers during Lake draw down.

## HYDRILLA DISAPPEARING ACT

At the European Weed Research Symposium held September 1986 in England, Dr. C. D. K. Cook reported that there are at least 140 herbarium specimens of hydrilla collected from Esthwaite Water, N.W. England, all prior to 1940. Currently, hydrilla is found in only one location in Ireland. What happened? Where did it go? According to Dr. Cook hydrilla disappeared as a result of untreated sewage entering the lake. Hydrilla was replaced by *Elodea Canadensis*, which was subsequently replaced by *E. Nuttallii*. For more details see Cook and Luond, Aquatic Botany 13:492.

# VOLUME I OF NEW "AQUATIC PLANT STUDIES"

Series Available

It is almost impossible for an individual to keep pace with the huge bulk of, not always readily accessible, literature on waterhyacinth which has amassed in recent years. This book provides for the first time a comprehensive bibliography of over 2700 references and a critical review of the current knowledge on all aspects of the plant. Important data have been compiled and presented in numerous tables and figures making the book the most important reference work to date on waterhyacinth. Areas requiring the extra attention of researchers are also indicated.

**Waterhyacinth-biology, Ecology and Management** by B. Gopal, Elsevier Science Publishers, P.O. Box 211, 1000 AE Amsterdam, The Netherlands is an indispensable reference work for anyone interested in waterhyacinth: for its control or utilization; its history and distribution.

## Consideration for the Business Meeting on Monday, July 13, 1987

### Nominees for offices for 1987-88:

President Elect — Richard Couch  
Vice President — David Sutton  
Secretary-Treasurer — Bill Rushing  
(3 year term beginning July 1988)  
Editor — Bill Haller  
Director for 3 years — Carole Lembi  
Director for 3 years — Joe Zolczynski

### Candidate for Honorary Membership:

Herbert J. Friedman, Retired,  
Chairman of the Board, Southern Mill  
Creek Division of the Crompton and  
Knowles Corporation

Herb is one of three founders and a charter member of this Society. He served as its first temporary and first permanent Secretary-Treasurer in 1961 and 1962, respectively, and President for the year 1963-64. Over the years, Herb has served in many other capacities as requested by the Board; his unselfish dedication to, and interest in, the welfare of this Society has never faltered. Herb and Nellye are familiar faces at our annual meeting.

Herb was educated at the University of Illinois, New York University and the University of Grenoble in France. He was founder and Chief Executive Officer of Southern Mill Creek Products Company through 1977.

## PUBLICATIONS AVAILABLE

Publications available from the University of Florida, IFAS (Center for Aquatic Weeds, 7922 N.W. 71st Street, Gainesville, Florida 32606)

"A First Look at Florida Aquaculture" by J.V. Shireman and W.J. Lindberg, FCES, IFAS, UF, Circular 702. 19 pp.

"Weed Control in Aquaculture and Farm Ponds" by D.D. Thayer, W.T. Haller and J.C. Joyce. FCES, IFAS, UF, Circular 707. 24 pp.

"Catfish Farming in Florida" by S.J. Welsh and W.J. Lindberg. FCES, IFAS, UF, Circular 710. 17 pp.

"Management of Water Quality for Fish" by R.W. Rottmann and J.V. Shireman. Dept. of Fisheries and Aquaculture, IFAS, UF, Circular 715.

"Research 87 — Biocontrol, Fighting Pests Nature's Way" by Darcy Meeker, ed. IFAS, UF. 45 pp.

"Aquatic Herbicide Residue Literature Review" by J.C. Joyce and V.A. Ramey. Center for Aquatic Weeds, IFAS, UF. 50 pp.

**Grass Carp — A Fish for Biological Management of Hydrilla and Other Aquatic Weeds in Florida**, Bulletin 867. Contact: D. L. Sutton or V. V. Vandiver, Fort Lauderdale Research Education Center, 3205 S.W. College Ave., Ft. Lauderdale, FL 33314.

## REPORTS AVAILABLE

Recent reports available on request from the Florida Department of Natural Resources, 3900 Commonwealth Blvd., Tallahassee, FL 32303.

1. A Literature Review of *Cabomba*, Andrew J. Leslie, Jr., 1986.
2. The Aquatic Herbicide Sonar (Fluridone): A Review of the Scientific Literature, Don C. Schmitz, 1986.

3. 1986 Florida Aquatic Plant Survey, Jeffrey D. Schardt, 1987.
4. *Hygrophila polysperma*: A Review of the Scientific Literature, Don D. Schmitz, 1986.
5. Mechanical Harvesting of Aquatic Weeds, Dan Thayer and Vic Ramey, 1986.
6. Survey and Control of *mimosa pigra* With a Review of its Biology, Katherine Gilbert and Larry Nall, 1986.

## HOW TO IDENTIFY AND CONTROL WATER WEEDS AND ALGAE

Applied Biochemists, Inc.

NEWS RELEASE — Now available — the 1987 revised edition of "How to Identify and Control Water Weeds and Algae" by Applied Biochemists, Inc. This 4th Edition of their book, originally published in 1976, has been expanded from 72 pages to 108 pages. It contains over 100 full-color pictures including drawings and descriptions of over 40 troublesome aquatic plants.

Aquatic plant control, through the use of algicides and aquatic herbicides, is explained in a simple step-by-step format. Plant identification, treatment area measurement, chemical selection,

application equipment and technique, handling safety, plus follow-up are discussed in detail. Up-to-date information is provided on aquatic vegetation control chemicals along with dosage calculation and calibration charts. Alternative control methods are also included. A wide range of topics on lake and pond management such as pond construction, water quality, fish management, aeration and others are covered. To order a copy, send \$6.95 to Applied Biochemists, Inc., 5300 W. County Line Rd., Mequon, WI 53092 or call 1-800-558-5106 (toll-free) to place your order. Quantity discounts also available.

# APPLICATION FOR MEMBERSHIP

There are three regular classes of membership available upon application made in accordance with the Charter adopted in 1961. These classes are:

- A. Active Membership .....\$ 25  
B. Student Membership.....\$ 5  
C. Commercial Sustaining Membership .....\$200

Name of Applicant \_\_\_\_\_ Spouse's Name \_\_\_\_\_

Home Address \_\_\_\_\_ Zip Code \_\_\_\_\_

Present Title & Employer \_\_\_\_\_

Business Address\* \_\_\_\_\_ Zip Code \_\_\_\_\_

Business Phone \_\_\_\_\_ Home Phone \_\_\_\_\_

Amount of Remittance \$ \_\_\_\_\_ Signature of Applicant \_\_\_\_\_

Membership Type: ACTIVE: \_\_\_\_\_ COMMERCIAL SUSTAINING \_\_\_\_\_

STUDENT: \_\_\_\_\_ SUBSCRIPTION \_\_\_\_\_

\*Please indicate address to be used by our business office.

## AQUATIC PLANT MANAGEMENT SOCIETY, INC.

The Aquatic Plant Management Society, Inc., is an international organization of scientists, educators, administrators and concerned individuals interested in the management and control of aquatic plants. The membership reflects a diverse collection of federal, state and local agencies; researchers, professors and students from universities and colleges around the

world; corporations; commercial applicators; and others dedicated to promoting research and sharing information about aquatic plant management.

Originally called The Hyacinth Control Society, Inc., when founded in 1961, The Aquatic Plant Management Society, Inc., has evolved into a respected source of expertise in the

aquatics field. The Society has grown to include several regional or state chapters; and through these affiliates, annual international meetings, newsletters, and the *Journal of Aquatic Plant Management*, members keep abreast of the latest developments in biological, mechanical, chemical and integrated methods of aquatic plant management and control.

The Aquatic Plant Management Society, Inc.  
P.O. Box 16  
Vicksburg, MS 39180