



AQUATIC PLANT NEWS

A newsletter of the Aquatic Plant Management Society, Inc./No. 33 Feb. 1990
K.A. Langeland, Editor, University of Florida, Center for Aquatic Plants, 7922 NW 71st St., Gainesville, FL 32606

ATTEND APMS MEETING & VISIT HISTORIC MOBILE, ALABAMA

Mobile, site of the 30th Annual meeting of the Aquatic Plant Management Society, July 15-18, 1990, has a long and colorful history under the flags of five nations. During its history, Mobile has hosted many visitors; and welcomes the APMS, which will be headquartered at the Radisson Admiral Semmes Hotel in the heart of downtown Mobile.

The first visitors to the Mobile area were Spanish. Explorers from Spain had mapped and named Mobile Bay as early as 1519. Later while DeSoto roamed through Alabama, his wife, the Lady Isabella, anxiously awaited his return to the bay as he met disaster in the battle of Mauvilla. Legend has it that she planted fig trees on Dauphin Island at the mouth of the bay during this wait. Later, in 1559, the Spanish attempted to settle the area but failed.

The first visitors to succeed in settling Mobile were French. The city was founded under the patronage of King Louis XIV in 1702. Realizing the needs of the young men of Mobile, Louis XIV sent them brides in 1704. These women, who had promised to marry unknown men in Mobile, were known as the Cassette Girls. Mobile flourished as the French capital of the Louisiana Purchase until the French and Indian Wars when Mobile became British.



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George Washington needed Mobile residents' aid in the revolution; but realizing they would not help, he did the second best thing by subtly inviting the Spanish to town. The Spanish Governor of New Orleans, Bernardo de Galvez, took Washington's hint; and following his siege, Mobile became Spanish. Spanish Fort, a small town on the eastern shore of Mobile Bay, dates from this period of Spanish occupation.

The United States claimed Mobile as a portion of the Louisiana Purchase but did not press its claim as long as friendly Spanish were in town. However, when the Spanish invited the British to visit and use Mobile as a

base for attacks on New Orleans during the War of 1812, President Madison sent troops to take the city. Following this siege, Mobile became American in 1813.

A visit by Andrew Jackson was necessary to keep the British from retaking the city. His troops and the British were engaged in battle when the War of 1812 ended, and the British retreated from Mobile Bay. This retreat may mark the last time an invader set foot on American soil.

Mobile had become a prestigious city. Because of this prestige and the fact that Mobile had once been French, Lafayette was prompted to visit Mobile on his grand farewell tour of America.

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APMS HISTORICAL DOCUMENTS NEEDED

Don Riemer (Chairman, Archives Committee) has been busy amassing historical documents for the APMS archives. Don has organized current holdings into the following five record series: 1) Programs of Annual Meetings, 2) Newsletters, 3) Journals, 4) Board books, 5) Miscellaneous Publications. The following items are needed to complete the archives:

1. Meeting programs from 1965, 1967, 1971 and programs printed prior to 1964.
2. Newsletters no. 22 (1986) and 24 (1987) of the Aquatic Plant Management Society, Inc. Hyacinth Control Newsletters (note numbering started over in 1976 concurrent with the Socie-

ty's name change) nos. 1-13 and 21 are old thermofax copies that are deteriorating fast i.e., originals would be appreciated.

3. Board books prior to 1977.
4. Administrative documents: Original copies of bylaws and certificates of incorporation.
5. Official correspondence.
6. Operational manuals.

Anyone who can provide any of these materials should contact Don at the following address:
Department of Soils and Crops
Rutgers University - Cook College
New Brunswick, NJ 08903
(201) 932-9589

NOMINATIONS

The following slate of officers and board members was submitted by the nominations committee and approved at the mid-winter board of directors meeting. The membership will have the opportunity to vote on the slate at the 1990 annual meeting.

- President Elect - Randy Stocker
- Vice President - Clark Hudson
- Secretary/Treasurer - Bill Rushing (3 yr. term)
- Editor - Bill Haller
- Directors - Terry McNabb (3 yr. term)
- Don Riemer (3yr. Term)

Not only people but events visit the city of Mobile. Mardi Gras has been celebrated in Mobile since the days of the French. Mobile is the site of the first Mardi Gras in the New World.

Civil War came to the United States, and Mobile was a major player. For four years, Mobile was under siege. The city was one of the best defended in the Confederacy, and the only major city that was not occupied by Union forces until after the surrender of the Confederacy.

In August, 1864, one of the most famous visitors came to Mobile: Admiral Farragut proclaimed, "Damn the torpedos....," and the Battle of Mobile Bay ensued.

Just as Mobile saw many visitors in the past, the area now hosts tourists yearly as they come to visit the museums, forts, antebellum homes, gardens, parks, and beaches. Many of these attractions are a short walk or drive from the Radisson Admiral

Semmes Hotel. Fort Conde (official welcome center of Mobile), the Museum of Mobile, many historic Mobile homes, and the battleship USS Alabama are all less than a mile from the hotel.

For those who wish to take a longer outing, beautiful Gulf beaches with sugar white sand are less than an hour's drive at both Gulf Shores and Dauphin Island. Historical places to visit within an hour's drive include Fort Gaines on Dauphin Island, Fort Morgan at Gulf Shores, and Blakeley Historical Civil War Park near Spanish Fort. Many other tourist attractions are available in both Mobile and neighboring Baldwin County.

Activities in the area at the time of our meeting include both the national Young Women of the Year program (formerly America's Junior Miss) on Saturday, July 14, and the Alabama Deep Sea Fishing Rodeo on Dauphin Island, July 20-22.

Make plans now to attend the 30th Annual Aquatic Plant Management Society meeting. Participate in the fine program of events being planned by Program Chairman Joe Joyce; then take a little time and visit Mobile and nearby areas, enjoy the scenery, and be a part of our history.

For those wishing to spend a couple of days before or after the meeting, the following hotels/motels are available in the Gulf Shores vicinity:

Best Western	(800) 528-1234
Days Inn	(800) 325-2525
Econo-Lodge	(800) 446-6900
Gulf Shores State Park	(800) 544-PARK
Holiday Inn	(800) HOLIDAY
Quality Inn	(800) 888-6193
Perdido Beach Hilton	(800) 634-8001

Make reservations early!

Note: Historical data from "A Short History of Mobile," by Caldwell Delaney, Museum Director, The Museum of the City of Mobile. - Joe Zolczynski



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Dr. Richard D. Comes To Do More Fishing

Dick retired from the Irrigated Agriculture Research and Extension Center at Prosser, Washington on December 29, 1989 after 30 years as a weed scientist. Although I haven't been able to talk to Dick recently, I know from previous conversations that he will take the opportunity to spend more time fishing. That's probably why I haven't been able to find him.

Dick is, of course, a Past President and long standing member of APMS and we wish him well in his leisure. "But enjoy it while it lasts Dick, as you know people in this society end up busier than ever after they retire."

INTERNATIONAL SYMPOSIUM

Dr. George Bowes (Botany Department, University of Florida) attended the mid-winter Board of Directors meeting in Mobile and proposed that APMS team up with the International Symposium on Macrophytes to plan a joint meeting in Florida in 1992. The International group is an informal gathering of many aquatic scientists interested in ecology and physiology of macrophytes. The board received the proposal with enthusiasm and initial planning is underway. It is anticipated that the joint meeting would result in an additional 75-100 attendees and require extending the meeting an extra day. The proposed meeting site would be in Orlando/Daytona Beach area due to the availability of international flights into Orlando. More information will be provided as the proposed joint meeting is further developed.

SUBMIT ARTICLES FOR JUNE 1990 NEWSLETTER BY MAY 1, 1990

Hydrilla Eradication in Madera and Mariposa County, CA

When Hydrilla was found infesting approximately 100 acres of Eastman Lake and upstream within a 25-mile section of the Chowchilla River in the California Counties of Madera and Mariposa, a program was initiated for eradication of this newly detected infestation. Nate Dechoretz, Chairman of the Science Advisory Panel recently reported that this Hydrilla eradication project has made great progress. "Komeen has successfully removed all topgrowth. Furthermore, based on the results to date, Mariner appears to be very effective in preventing regrowth. How long Mariner activity will last is uncertain at this time.

Climatic conditions this winter and next spring will have a profound effect on the program. Normal or above normal rainfall may significantly increase the extent of the infestation in the Chowchilla. If this situation occurs, the probability of Hydrilla spreading to other areas in Eastman Lake will increase. As a result, the eradication effort in the river and lake will dramatically increase and probably be more difficult and complex. However, if drought conditions are present next year, the extent of the infestation will probably be considerably less than anticipated under normal weather conditions."

NOMINATIONS FOR HONORARY MEMBERSHIP

Each year the Society considers members for election to the status of Honorary Member. The Bylaws state that to be eligible a member must 1) have made a significant contribution to the field of aquatic plant management 2) be retired and no longer employed in this field 3) have been a voting member of the Society for at least 10 years 4) have actively promoted the Society and its goals. According to the Bylaws, nominations for Honorary membership shall be submitted to the Bylaws Committee through a petition signed by 10 members of the Society. Please submit nominations to the Bylaws Committee. For further information contact: D.F. Spencer, USDA Aquatic Weed Lab, University of California, Davis, CA 95616: (916) 752-1096.

NORTHEAST APMS REGIONAL CHAPTER - OPINION

One of the Regional Chapter Committee's (Steve de Kozlowski, Chairman) six major objectives this year is to consider creating a local chapter in the Northeast. Because this area is currently being served by the Midwest Aquatic Plant Management Society, the Committee will send a letter to the MAPMS President requesting a position regarding development of a Northeastern Chapter. The Committee considers further pursuit of creating a Northeastern Chapter contingent upon prior approval by MAPMS.

In my opinion there is a need for a chapter in the Northeast. I recognized this need back in 1982, when I was at NC State and suggested at that time a North Atlantic Chapter that would include Atlantic coast states from North Carolina north and Eastern Canada. However, my return to Florida precluded pursuing the idea. Examples of situations where a chapter in this area

could be beneficial is in addressing controversy that has arisen over management of Hydrilla in the Potomac River and Eurasian Water-milfoil in Lake George. These matters still need to be addressed.

After assisting with an aquatic plant management workshop in Connecticut this Fall, I left even more convinced of the need for a chapter in the New England area. There is a great deal of interest and problems that a regional APMS chapter could address. There were over 25 participants at this workshop. If as many interested members would become involved from each state in the area there would be ample participation to warrant a regional chapter.

I urge anyone who shares interest for a local APMS chapter in the northeast to apprise others in the area of the idea and let Steve (803/737-0800) know of your interest.

INSECTS BEING EXCHANGED

American and Australian scientists are trading water weed eating insects in a deal that could relieve a threat to the Florida Everglades.

U.S. Department of Agriculture scientists obtained six species of insects from their counterparts in Australia, the latest in an exchange that started in the mid 1970s. All six species are "possible candidates" for controlling the paperbark tree in Everglades National park, said Ted D. Center of USDA's Agricultural Research Service.

Paperbark, also known as punk tree and U.S. *Melaleuca*, grows in swamps or on cleared land and out-competes the park's native vegetation for growing room, said Center, a research entomologist at the ARS Aquatic Weed Control Laboratory in Fort Lauderdale. Another problem is that water absorbed by the paperbark is released four times faster than native sawgrass, he said.

Center said fellow research entomologist Joseph Balcunas has been assigned to study the anti-paperbark potential of the insects at an ARS temporary satellite office in Townsville Australia.

Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) supplied the six species. Only a short time earlier, Center's lab had turned over to CSIRO scientists a third insect to battle water hyacinth.

That insect, new to Australia, is a weed-eating weevil called *Neochetina bruchi*, released in 1974 to states by

the Fort Lauderdale lab to control water hyacinth. Australia already had received the weevil, *N. eichhorniae*, and a moth, *Sameodes albiguttalis*, to combat the growth of water hyacinth.

Tony Wright, a CSIRO biologist who stopped at the Fort Lauderdale lab in 1989 to check out insects, said water hyacinth infestation is so serious that it threatens Australia's already limited water supply.

"Water is Australia's most valuable resource," Wright said. "Anything that threatens water quality and supply, threatens Australia"

Meanwhile, *Mimosa pigra*, a tree-like weed, covers 400-square kilometers of Australian wetlands. The weed has become a problem in Australia's Kakadu National park, a



Mimosa pigra covers 400 square kilometers of Australian wetlands and has been found in three distinctive sites in Florida (USA)



Paperbark tree *Melaleuca quinquenervia* grows in swamps and cleared lands in southern Florida and is considered one of the greatest threats to the ecology of Everglades National Park

major tourist attraction and a site in the film "Crocodile Dundee."

If the weed goes unchecked, *M. pigra* will eventually overturn other vegetation that is the park's attraction. The weed also is a problem in the Everglades, Wright said.

"Although the U.S. is not my country, I still feel afraid for the future of the Everglades," he said.

Center said the Florida Department of Natural Resources has asked ARS to study the feasibility of using insect controls for the mimosa weed in the state. Australian scientists have found the plant's natural enemies in Central America and Mexico, he said.

Reprinted from Gainesville Sun, Saturday February 3, 1990

UF, IFAS Aquatic Plant Management Short Course June 19-21, 1990

The University of Florida, Institute of Food and Agricultural Science will conduct its Aquatic Plant Management Short Course in Gainesville, Florida June 19-21, 1990. The short course is designed for instruction of new aquatic herbicide applicators and as a refresher course for more experienced applicators. Topics that will be presented include:

- Aquatic plant identification, ecology and physiology
- Biological control of aquatic plants
- Mechanical control of aquatic plants
- Aquatic herbicide technology
- Calibration for aquatic herbicide applications
- Environmental considerations in aquatic plant management

There is limited space so if you are interested sign up early by contacting:
Center for Aquatic Plants
7922 NW 71st Street
Gainesville, Florida 32606
(904) 392-9613

Bylaws Changes:

The following changes were approved at the 1990 Mid-Winter Board of Directors Meeting to amend ARTICLE XIII.

Change the first sentence to read as follows: "Standing committees shall be appointed by the President to serve during his term."

Add the following:

9. Archives Committee. This committee shall consist of not less than 3 members (including the Secretary Treasurer of the Society). The committee will be responsible for maintaining the security of important records of the Society. The committee will establish guidelines and procedures for placing items in the archives.

10. Exhibits Committee. This Committee shall be responsible for making all arrangements concerning commercial or other exhibits at annual meetings. The committee shall coordinate its activities with the local arrangements committee, hotel management, the Secretary Treasurer, and other relevant persons. The committee shall be responsible for establishing and administering programs to give awards or prizes to exhibitors.

11. Finance Committee. This committee shall have at least four (4) members, one of whom shall be the Secretary Treasurer of the Society. The committee shall 1) review all financial records at the end of each fiscal year, 2) prepare a report on the Society's financial status for presentation to the Board of Directors at the mid-year meeting, 3) prepare the annual budget of the Society, 4) advise and assist the Secretary Treasurer in maintaining Society financial records and in preparing reports for the Board of Directors.

ANNOUNCING THE 10TH ANNIVERSARY CONFERENCE

MIDWEST AQUATIC PLANT MANAGEMENT SOCIETY
MARCH 18-20, 1990
AT THE ALL NEW
OMNI-SEVERIN HOTEL
AT THE MAIN ENTRANCE TO
THE FAMOUS UNION STATION
DOWNTOWN INDIANAPOLIS, INDIANA

REGISTER BEFORE MARCH 10TH AND RECEIVE
A FREE ANNIVERSARY COFFEE MUG
DEADLINE FOR HOTEL RESERVATIONS WITH SPECIAL
CONFERENCE RATES MARCH 4, 1990

CONFERENCE AGENDA & HIGHLIGHTS

Sunday, March 18: MAPMS Board of Directors Meeting 12:30-3:30

Registration 4:00-6:00 PM

Exhibit Booth set-up 4:00-7:00 PM

President's Reception 7:00-Midnight
(Presidential Suite)

Monday, March 19: 7:30-8:30 Registration-Coffee, Tea, Fruit Juice & rolls.

8:30-10:15 Perspectives on Northern

Lakes Vegetation Management

Speakers: Howard Krosch, Dr. Carole

Lembi, J. Lewis Decell, Dr. David Frey

10:15-10:30 Refreshment Break

10:30-11:50 Emerging Issues in Northern Lake Vegetation Management

Speakers: Dr. Ken Wagner, Don

Tilton, Dr. David Sutton, Dr. Barbra Speziale

11:50-1:10 Lunch on your own. Many places close by in the UNION STATION.

1:10-3:00 Ecology

Speakers Dr. William Haller, John Barko, Gerald Cleary.

2:00-3:00 Refreshments

3:00-5:00 Technology Briefs Speakers: Company Representatives

5:00-5:45 Applicators Panel

6:30-7:00 Banquet Reception-Cash Bar

7:15-8:30 Banquet & Special Recognition of Past Presidents & Door Prizes

9:00-12:00 Hospitality time in the Presidential Suite.

Tuesday, March 20: 7:30-8:15 Coffee, Tea, & Rolls

8:15-10:30 Communications and Policy

Speakers Jim Schmidt, Dr. Gregg Cheek, plus others to be announced.

10:30-10:50 Refreshment Break

10:50-11:45 Annual Meeting, Election of new Board and Officers.

12:00 Noon New MAPMS Board of Directors Meeting (Presidential Suite)

DON'T MISS THIS ONE-COME TO HELP US CELEBRATE AND REMEMBER THE PAST 10 YEARS

12. International Contacts Committee. This committee shall be responsible for encouraging the exchange of information between members of the Society and other aquatic plant management specialist and organizations throughout the world. The committee shall publicize relevant meetings, compile and maintain a list of aquatic plant specialist who are interested in the goals of this Society, and coordinate its efforts with the Membership Committee.

13. Local Arrangements Committee. This committee shall be responsible for preparing the logistical aspects of the annual meeting. Its duties shall include 1) arranging for social activities and functions, 2) assisting the Publicity Committee and providing information for the Newsletter, 3) suggesting appropriate 'local' speakers, 4) informing the Board of Directors about the arrangements. The committee shall coordinate its efforts with the Program Chairman.

14. Necrology Committee. The committee shall inform the Society about the death of a member. The committee shall assist in the preparation of letters of condolence sent on behalf of the Society by the President.

15. Placement Committee. The committee shall be responsible for collecting and displaying information about job opportunities in the field of aquatic plant management. Appropriate information should be made available at the annual meeting and in the Newsletter.

16. Publications Committee. This committee shall be responsible for the quality and quantity of all Society publications. The committee shall prepare the editorial policy, publication format, and procedures for approval by the Board of Directors. The committee shall be chaired by the Editor of

the Journal of Aquatic Plant Management. Additional members shall include the Associate Editor(s), the Newsletter Editor, and at least three other members of the Society.

17. Regional Chapters Committee. This committee shall be responsible for promoting and forming regional chapters of the Society. It shall evaluate requests from groups wishing to affiliate with the Society as regional chapters. The committee shall be responsible for enhancing communications and coordination among the regional chapters. The committee shall consist of at least one representative of each of the regional chapters and include the Vice-President of the Society.

18. Site Selection Committee. The committee shall have at least three members. The committee shall provide alternative sites within a region, and gather appropriate resources to aid the Board of Directors in selecting the meeting site and property.

19. Special Committees. Such other committees as from time to time may be deemed necessary shall be appointed by the President.

20. Special Representatives. The President shall appoint, with approval of the Board of Directors, special representative of the Society. The persons shall attend meeting of organizations such as, CAST, WSSA, NALMS, and others to act as liaisons between these organizations and the Society.

Current copies of the Society's Bylaws will be available at the annual meeting in Mobile Alabama or they can be obtained from: Bill Rushing, Secretary Treasurer, P.O. Box 2695, Washington, D.C. 20013 (202) 272-1841.

STATE OF FLORIDA
Department Of Natural Resources
AQUATIC PLANT IDENTIFICATION
AND
SURVEY TRAINING

The Florida Bureau of Aquatic Plant Management will conduct its 10th annual Aquatic Plant Identification and Survey Training Course on Wednesday and Thursday, April 4 and 5, 1990, at the Episcopal Church Conference Center in Live Oak, Fla. Plant ID will be taught from 9:30 until 4:30 on Wednesday, April 4. Basics in aquatic plant survey techniques as well as advanced computer, LORAN and Landsat satellite mapping methods will be taught through classroom instruction from 8:30 until 12:00 on Thursday, April 5. Lectures on Florida limnology, large scale hydrilla management and recognition of biological controls and associated plant damage will be provided. For those interested, field and laboratory exercises will be conducted from 1:30 until 4:30 on Thursday, April 5.

Registration:

A \$10.50 advanced registration fee is required for each day of attendance. The fee includes lunch and is refundable until March 23, 1990. For those staying overnight, the registration fee will be deducted from the accommodation charge upon arrival.

Accommodations:

Includes registration fee and 3 meals per day.
Motel, 1 person per room - \$59.50. 2 persons per room - 49.50 each. Cabins, Bunk, semi-private cubicles - 39.50 (Bring bed linens and towels or rent from Conference Center.
Make reservations through the Conference Center at 904/364-5250.
For program information call Jeff Schardt at 904/488-5631

ALABAMA DUCK STAMP PROOF TO BE RAFFLED

The Society will conduct a raffle again this year to help raise funds for student activities. Through the efforts of Joe Zolczynski, this years grand prize is a numbered, signed and framed artist's proof of the Alabama duck stamp. This is a beautiful color print that depicts a pair of Hooded Mergansers at rest. The artwork was donated to the Society by the artist, Elaine Byrd who placed 3rd in the prestigious Federal Duck Stamp Competition that had over 1200 entries. Plan to purchase lots of chances to win and at the same time help out with one of our most important endeavors, insuring quality aquatic plant managers for the future through educational opportunities.

SOURCES OF PPE FOR PESTICIDE APPLICATORS

The National Technical Information Services (NTIS) has a new publication, *Personal Protective Equipment for Pesticide Applicators: Guide to Sources*. You may want this new source guide, if you are having a hard time finding suppliers. Contact NTIS, 5285 Port Royal Road, Springfield, VA 22161 or call (703) 487-4650.

EDUCATIONAL VIDEOTAPE PROGRAMS

Aquatic Plant Management Series

Available from

The Center for Aquatic Plants
Institute of Food and Agricultural
Sciences

University of Florida
7922 North West 71st Street
Gainesville, FL 32606 USA
(904) 392-1799

All Programs Cost \$10.60 Each, Payable to University of Florida.

They are available on VHS and S-VHS video formats.

CALIBRATION - A Field Approach

This is the first of a series on equipment calibration and herbicide application being produced for the benefit of aquatic herbicide applicators. The program features Dr. William Haller and was designed to be a learning tool for new applicators as well as a refresher for those with experience. It is a practical approach which "takes the mystery" out of calibrating handguns, booms, and granular spreaders. This program is 35 minutes long.

ISTOKPOGA - Lake of Legends

This program tells the story of Florida's largest lakes, and the hydrilla infestation which made its waters all but unusable. It recounts the citizen activism and agency cooperation which resulted in the largest aquatic herbicide application in Florida

history, and describes the results of that treatment. The program is 39 minutes long.

OVERVIEW of Aquatic Plant Management

Produced for general public audiences, this program describes the benefits of aquatic plants, recounts problems caused by some exotic "aquatic weeds", and introduces the major methods of aquatic plant management, including mechanical, biological and herbicidal control. The program is about 25 minutes long and will be available in early 1990.

Additional programs are in production, including:

- * Overview of limnology and freshwater systems in Florida
- * Video aquatic plant identification manual
- * Advanced calibration program
- * And others.

These programs are free to public agencies in Florida. For others the cost is \$10.60 (the cost of duplication, handling, and mailing.)

These programs are produced by the IFAS Center for Aquatic Plants. They are funded by a grant through the Florida Department of Natural Resources, Bureau of Aquatic Plant Management, from the Aquatic Plant Trust Fund.

CALENDAR

March 15-17, 1990	Western Aquatic Plant Management Society Annual Meeting; Nugget, Sparks (Reno), Nevada.
March 16-21, 1990	55th North American Wildlife and Natural Resources Conference, Sheraton Denver Tech Center, Denver, Colorado.
March 18-21, 1990	Midwest Aquatic Plant Management Society 10th Anniversary Meeting; Omni Febern, Indianapolis, Indiana.
July 15-18, 1990	Aquatic Plant Management Society 30th Annual Meeting; Radisson Admiral Semmes, Mobile, Alabama.
August 13-17, 1990	European Weed Research Society 8th International Symposium on Aquatic Weeds; Swedish Agricultural University, Uppsala, Sweden.
November 6-10, 1990	NALMS 10th Annual International Symposium, Sheraton Tara Hotel, Springfield, Massachusetts.
January 14-16, 1991	Southern Weed Science Society Annual Meeting; Hilton Palacio Del Rio, San Antonio, Texas.
March 3-8, 1991	Third International Symposium on Off-Flavors in the Aquatic Environment; Los Angeles Airport Hilton Hotel, Los Angeles, California.

CALIBRATION INFORMATION SHEET

This sheet follows and summarizes information contained in **CALIBRATION - A FIELD APPROACH** Produced by the IFAS Center for Aquatic Plants and the DNR Bureau of Aquatic Plant Management, September 1989. (Additional copies of this Information Sheet are available. (904) 392-1799.)

YOUR RESPONSIBILITY: Maintain your equipment, calibrate carefully and regularly, and use the correct herbicide at the correct label rates. Remember that too little wastes herbicide, time and money; too much violates the law.

TEST ACRE: One acre = 209 feet per side. To lay out a TEST ACRE, use a 209' rope with a floating buoy attached. Mark point one with a fixed marker or anchored buoy. Drag your rope behind the boat until the floating buoy meets the anchored buoy at point one, and mark point two. Take a compass reading, add 90 degrees to make a right angle or square corner, and follow this reading dragging the rope to mark point three. Repeat to finish the square acre.

SPRAY BOOM - To calibrate, YOU NEED TO KNOW: Nozzle Uniformity, Output (GPM), Swath Width, and Time

Nozzle Uniformity Test: Fill your tank with water, get the air out of the system, and put each nozzle into a separate bucket. Turn the pump system on and, using a stop-watch, let the system run for one minute. Measure the output in each bucket.

The output should be the same, or uniform, in each bucket. If the output is off by 1/2 to 3/4 inches, check your hoses or change orifices. A uniform spray pattern reduces "hot spots".

Gallons Per Minute (GPM): For GPM, combine contents of the buckets from the Nozzle Uniformity Test into one bucket and measure the total output for your total gallons per minute.

Example - GPM = 4

Swath Width: Backwash from the boat and diffusion spread water soluble herbicides. Experience shows that you can skip 1-1/2 times the width of the airboat, or about 13', to obtain uniform coverage.

Example - Airboat = 6' plus 3.5' on each side (or 7') = 13' SWATH WIDTH.

To calculate the number of trips required for uniform coverage, divide 209 by Swath Width.

Example - 209' divided by 13' (swath width) = 16 trips, or 8 round trips.

Time: Measure the TIME it takes to make one round trip through the measured acre.

Example - One round trip = 82 seconds

82 seconds X 8 round trips = 656 seconds

656 secs. divided by 60 secs. (one

minute) = 11 mins. (rounded figure), the TIME to treat one acre.

Total Mix: Using the figures from the above calculations, you can determine your TOTAL MIX.

GPM (SYSTEM OUTPUT) X TIME (TO TREAT ONE ACRE) = GPA (Gallons Per Acre) of Total Mix.

Example - 4 GPM X 11 minutes = 44 GPA

Herbicide Use Rate = 2 GPA

42 gals. water + 2 gals. herbicide = 44 gals. TOTAL MIX.

Suggestions: Keep your pump at a constant speed and pressure. Check your time at each round trip to be sure it matches your TIME calculation. Halfway through the acre, you should have half a tank of herbicide mixture left. If you run out of mixture before you reach the end of the acre, or if you have a lot of mixture left after you complete the acre, RECALIBRATE. If you are within 2-3 gallons either way, you are close enough.

NOTE: Boat speed changes with wind and weight of tank. CHECK TIME AND MIXTURE LEVELS OFTEN.

HAND GUN - Again, YOU NEED TO KNOW: Output (GPM), Swath Width, and Time.

The handgun is basically a one-nozzle boom. The principles are the same.

GPM: Determine your SWATH WIDTH by spraying water at the normal pump speed and pressure over the ground and measuring the distance.

If you change your pump speed or pressure, you must RECALIBRATE.

Example - Swath Width = 35'

Time: Measure the TIME it takes to make one round trip through the measured acre.

Example - Time = 2 mins. 23 secs. OR 143 secs.

Total Mix: Using the figures from the above calculations, you can determine your TOTAL MIX.

209' divided by 35' (swath width) = 6 round trips to cover one acre

One round trip = 2 min. 23 secs. OR 143 secs. X 6 trips = 858 secs. OR

14.3 minutes to treat one acre

GPM X TIME = GPA

Example - GPM = 5, Time = 14.3 minutes

5 GPM x 14.3 Minutes = 71.5 GPA

TOTAL MIX

Herbicide Use Rate = 1.5 GPA

70 gals. water + 1.5 gals. herbicide = 71.5 gals. TOTAL MIX

Suggestions: Do not spray directly in front of the boat, because the boat wash rinses the herbicide off floating and emergent vegetation. If your tank is too small for the total mix, divide water and herbicide amounts in half

and treat half an acre per tank.

GRANULAR SPREADER - Again, find the Output (pounds per minute), Swath Width and Time.

Measure Output in POUNDS PER MINUTE (PPM) by running the

granular spreader for one minute into a container and measuring total output.

Example - PPM = 20

Determine **SWATH WIDTH** by running your spreader at the proper setting and measuring the distance that pellets are thrown.

Example - Swath Width = 30'

Determine **Time** by doing a timed run through the measured acre.

Example - Time = 1 minute

Pounds per Acre: Using the figures from above, determine how many pounds of granular herbicide you will use.

Example - Time = 1 minute, swath width = 30'

209' divided by 30' = 7 trips per acre

Output = 20 pounds per minute

(PPM)

20 PPM X 7 minutes = 140 Pounds Per Acre (PPA)

Suggestions: To reduce or increase granular output, it is easiest to change the speed of the airboat

(TIME). For more output, slow down the boat; for less output, speed up the boat. Example - 10 mins. x 20

PPM = 200 PPA

Remember! Doubling the opening of the spreader orifice does NOT double the output. RECALIBRATE! If you use a lot of granular herbicide, get blanks from the manufacturer and determine your output in pounds per minute at each of the various settings on your spreader. KNOW YOUR OUTPUT!

REMEMBER!

DETERMINE YOUR OUTPUT, SWATH WIDTH AND TIME. FOLLOW LABEL INSTRUCTIONS AND WEAR SAFETY GEAR.

CALIBRATE REGULARLY

AND CAREFULLY

AND KNOW YOUR EQUIPMENT.

QUESTIONS?

CALL YOUR IFAS AQUATIC PLANT

MANAGEMENT EXTENSION

SPECIALISTS:

DR. VERNON VANDIVER (SOUTH

FLORIDA) (305) 475-8990

DR. KEN LANGELAND (NORTH

FLORIDA) (904) 392-9613

STUDENT PAPER CONTEST - 1990

Each year since 1975 the Aquatic Plant Management Society has conducted a student paper contest in conjunction with its annual meeting. The objectives of the contest are to (1) encourage student participation in the Society affairs, (2) provide students with the opportunity to gain experience in preparing and presenting scientific papers, and (3) to recognize outstanding achievements by student members of APMS.

Graduate and advanced undergraduate students are invited to present the results of their independent research in the 1990 contest. Papers presented in the student paper contest should be the results of the student's original research and should contain information not previously presented at an APMS meeting. The meeting registration fee will be waived for all students presenting a paper at the meeting and a limited number of free rooms will also be available on a

first come first serve basis. Prizes for the best paper range from \$150 and a copy of Sculthorpe's *The Biology of Aquatic Vascular Plants* for first place to \$50 for fourth place.

Last year's contest in Scottsdale, Arizona had one of our lowest turnouts. This year we are committed to surpassing our largest turnout of 11 students which participated at the 1988 New Orleans meeting. The competition will be keen and the experience will be rewarding, so get involved. To present a student paper at the 1990 APMS Annual Meeting fill out the form provided in this newsletter and check — STUDENT PAPER.

Anyone with questions concerning the student paper contest needs to contact the Chairman of the Student Paper Contest, Dr. Kurt Getsinger, Waterways Experiment Station, P.O. Box 631, Vicksburg, MS 39180-0631. Kurt's telephone number is (601) 634-2498.

CALL FOR PAPERS, PLAN TO ATTEND AND PRESENT A PAPER AT THE APMS 1990 ANNUAL MEETING

You are invited to submit a title and abstract for the 30th annual meeting of the Aquatic Plant Management Society to be held July 15-18, 1990 at the Radisson Admiral Semmes in the heart of downtown Mobile, Alabama.

This year's program will begin with a session on "Why we do what we do", i.e. the ecological and environmental impacts of aquatic weeds, and then move into more general papers on other aspects of our profession. This will be an outstanding meeting with good ole Southern hospitality. Why not make the meeting even greater by sharing with us the outstanding operational, research or extension work you are doing.

The Tuesday afternoon session will

end early so we can travel to Gulf Shores for a beach party. We will board busses at the hotel for a short ride through Baldwin County to the Gulf State Park pavilion. The pavilion, located on the beach, has changing rooms and showers. So, bring your bathing suit and enjoy the surf or a long walk on the beautiful white sand shores of the Gulf of Mexico. Later that evening we will be treated to an all-you-can-eat seafood buffet, featuring all your favorites fresh from the Gulf of Mexico. Then following the annual awards program, we will have live music for your listening and dancing pleasure.

Please type the title, authors, organization, and address exactly the

PLACEMENT SERVICE

Dr. John Rodgers, chair of the placement committee, requests that you list your jobs open, jobs wanted notices with his committee at the annual meeting this year in Mobile. If you know or anticipate any positions open, or desire a position in aquatic plant management, let John know so your listing can be advertised at the meeting:

Biological Field Station
Dept. of Biology
University of Mississippi
University, MS 38677

**SUBMIT TITLES AND ABSTRACTS
FOR
REGULAR AND STUDENT PAPERS
TO BE PRESENTED AT
THE 1990 APMS ANNUAL MEETING
IN
MOBILE, ALABAMA JULY 15-18
BY
APRIL 30, 1990**

way you want them to appear on the program. Please use the form below to submit papers. Abstracts are needed so that they can be printed and provided to those attending the meeting. If you require more than 15 minutes to present your paper or need specialized projection equipment, please contact the Program Chairman for consideration.

THE DEADLINE FOR THE SUBMISSION OF ABSTRACTS AND TITLES IS APRIL 30, 1990. THEY MUST BE IN THE HANDS OF THE PROGRAM CHAIRMAN, Dr. Joe Joyce, BY THIS DATE TO PERMIT MAILING OF THE PROGRAM TO THE MEMBERS PRIOR TO THE MEETING.

Paper submission Form for the 1990 APMS Meeting

DEADLINE FOR SUBMISSION IS APRIL 30, 1990

(Please Detach and Return)

ABSTRACT (75 words or less):

TITLE: _____

AUTHORS: _____

ORGANIZATION: _____

ADDRESS: _____

TELEPHONE: _____

REGULAR PAPER: _____ STUDENT PAPER: _____

AUDIOVISUAL EQUIPMENT NEEDED:

35mm projector: _____ Overhead projector: _____ Other: _____

Please send this form to: Joseph C. Joyce Phone (904) 392-9613
IFAS Center for Aquatic Plants
University of Florida
7922 NW 71st Street
Gainesville, FL 32606

THE AQUATIC PLANT MANAGEMENT SOCIETY, INC.

The Aquatic Plant Management Society, Inc. is an international organization of scientists, educators, students, commercial pesticide applicators, administrators and concerned individuals interested in the management and study of aquatic plants. The membership reflects a diversity of federal, state and local agencies; universities and colleges around the world; corporations; and small businesses.

Originally called the Hyacinth Control Society, Inc., when founded in 1961, The Aquatic Plant Management Society, Inc. is a respected source of expertise in the field of biological, mechanical, chemical and other methods of aquatic plant management and aquatic plant sciences. The Society has grown to include several regional and state chapters; and through these affiliates, annual meetings, newsletters, and the *Journal*

of Aquatic Plant Management, members keep abreast of the latest developments in the field.

The objectives of the society are to assist in promoting the management of nuisance aquatic plants, to provide for the scientific advancement of members of the society, to encourage scientific research, to promote university scholarship, and to extend and develop public interest in the aquatic plant science discipline.

Application for Membership

NAME OF APPLICANT _____ SPOUSE'S NAME _____

HOME ADDRESS _____ ZIP CODE _____

CURRENT TITLE, BUSINESS OR INSTITUTION NAME, AND ADDRESS _____

_____ ZIP CODE _____

WORK PHONE _____ HOME PHONE _____

There are three regular classes of membership available to applicants, according to the Charter of the APMS which was adopted in 1961. These classes are:

- A. ACTIVE MEMBERSHIP \$ 35
- B. STUDENT MEMBERSHIP \$ 5
- C. COMMERCIAL SUSTAINING MEMBERSHIP \$200

Please check the following to indicate desired membership class and for additional information!

Membership Class:
Active _____
Student _____
Commercial Sustaining _____
Subscription _____

Please Send Information Regarding Regional Affiliates
_____ Florida Aquatic Plant Management Society
_____ Mid-South Aquatic Plant Management Society
_____ Midwest Aquatic Plant Management Society
_____ South Carolina Aquatic Plant Management Society
_____ Western Aquatic Plant Management Society
_____ Texas Aquatic Plant Management Society

AMOUNT OF REMITTANCE \$ _____ SIGNATURE OF APPLICANT _____

Send this form to: The Aquatic Plant Management Society, P.O. Box 2695, Washington, DC 20013-2695

