

AQUATIC PLANT NEWS

A newsletter of the Aquatic Plant Management Society, Inc./No. 35 October 1990 K.A. Langeland, Editor, University of Florida, Center for Aquatic Plants, 7922 NW 71st St., Gainesville, FL 32606

13th Annual Meeting Combines Business and Relaxation



Al Burkhalter presents Keynote Address: "Aquatic Plant Management - Where have we come from and where are we going?"

The Thirteenth Annual Meeting of the Aquatic Plant Management Society convened on Monday morning July 15 at the Raddison Admiral Semmes in Mobile Alabama. The 176 of us who were fortunate enough to attend this years meeting had high expectations for the annual opportunity to share information and relax with friends and associates. When we adjourned on Wednesday afternoon no one was disappointed. We applaud Joe Joyce, Program Chairman and Joe Zolczynski, Local Arrangements Chair-

man, and their committees for providing this experience. For those of you who were not able to attend, here's a synopsis of the meeting.

Following a warm, DEEP SOUTH welcome from Honorable Michael C. Dow, Mayor, City of Mobile, Alabama, Al Burkhalter provided a perspective of the aquatic plant management profession with his Keynote Address: "Aquatic Plant Management - Where have we come from



Art work by Missy Haller provided encouragement to donate to the APMS Scholarship Fund.

and where are we going?" John Gallagher and Bill Haller followed with a comprehensive "History and Development of Aquatic Weed Control in the United States", which put things further in perspective for us younger folks. John's and Bill's history will soon be available as Chapter 7 of The Weed Science Society of America's Volume 5 of Reviews of Weed Science (see additional information elsewhere in this newsletter). Contributed papers throughout the next three days provided information on latest developments in all aspects of aquatic plant sciences and operations.

An important function of APMS is to

provide support to graduate students in aquatic sciences. Bill Haller did another superb job this year of collecting donations to the APMS Scholarship fund. Bill's efforts were aided by the art work of Missy Haller and generosity of Elaine Byrd, and Valent Corporation. Elaine Byrd donated a numbered, signed and framed artists proof of the Alabama duck stamp for use as a door prize and Valent donated a color TV. Our support for students

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Fall Message to APMS Members

The 30th Annual Meeting of the Aquatic Plant Management Society in Mobile was a tremendous success. It was one of our largest meetings and one thing's for sure -those Alabama folks sure do know how to party!! Not to be outdone the Midwest APMS group is planning for an equally exciting and interesting meeting in Dearborne, Michigan July 14-17, 1991. Make your plans to come, its going to be great in the Midwest!!

The program and local arrangements committees for the 1992 meeting are already well on the way in planning for the international symposium on the biology and physiology of aquatic plants to be held in conjunction with our meeting in Daytona Beach, Florida in July, 1992. This will be a wonderful opportunity to interact

with our European counterparts.

One of the real joys (and benefits) of being President of APMS is the tremendous support you get from members in the running of the society. Listed in the news letter are the names and phone numbers of the committee chairs who actually guide the direction and events of our great society. If you have some ideas or thoughts to contribute on how the society should respond to a given issue give us a

The mid winter Board of Directors meeting was originally scheduled for January 27, 1991 in Dearborn, MI, however due to state budget cut backs for many of the Board members and committee chairs, we were forced to schedule the meeting at the Delta Court of Flags in

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Fall Message from page 1

Orlando, FL on the same date. The meeting is always open to any member, if you would like to attend, please let either Bill Rushing or I know.

Thanks for your support and have a safe

and happy holiday season.

The Aquatic Plant Management Society 1990-91 Committee Assignments

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NEW .. NEW .. NEW **Aquatic Plant Guide Available**

A new publication, Aquatic and Wetland Plants of South Carolina, is available from the S.C. Water Resources Commission. The manual has been specially designed for easy plant identification by botanists and nonbotanists alike using over 260 color photographs and illustrations. Color coded chapters, an Ilustrated glossary and index with common and scientific names further assist the user in properly identifying over 90 aquatic plants and algae that occur in fresh water of South Carolina and neighboring states.

The principal author, Cynthia Aulbach-Smith, is the former curator of the University of South Carolina Herbarium and is a recognized authority of aquatic and wetland plants in South Carolina.

Development and printing of the book were coordinated by the South Carolina Aquatic Plant Management Council with funds provided by the South Carolina Water Resources Commission and corporate contributors. All proceeds from the book will go into a special public education account of the South Carolina Aquatic Plant Management Trust Fund.

Copies of the book are \$8.00 plus postage and can be obtained by contac-

Lyle McElveen

Publications Coordinator S.C. Water Resources Commission

1201 Main Street, Suite 1100

Columbia, S.C. 29201 (803) 737-0800

"History and Development of Aquatic Weed Control in the United States" by J.E. Gallagher and W.T. Haller

The Weed Science Society of America will soon release for sale Volume 5 of Reviews of Weed Science. The seven chapters included in this publication are: 1) The Use of Controlled Release Technology for Herbicides, 2) Energy Aspects of Weed Electricution, 3) The Correlative Inhibition of Bud Growth in Perennial Weeds: A Nutritional Perspective, 4) Synergizing Herbicides, 5) Biology and Control of Morningglories (Ipomoea spp.), 6) Management and Control of Canada Thistle, and 7) History and Development of Aquatic Weed Control in the United States.

CONTENTS OF CHAPTER 7

INTRODUCTION

ACTIVITIES OF THE FEDERAL AGENCIES PRIOR TO 1945 U.S. Army Corps of Engineers U.S. Fish and Wildlife Service The Bureau of Reclamation U.S. Department of Agriculture

DEVELOPMENT OF AQUATIC WEED CONTROL BETWEEN 1945-1970 Western Weed Control Conference Northeastern Weed Control Conference

University of Florida, IFAS Public Education Video Available

Florida's Aquatic Plant Story is the most recent environmental education program produced by the UF/IFAS Center for Aquatic Plants. The 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 intended especially for general audiences and school students who have little knowledge of Florida's aquatic plants and their management.

Florida's Aquatic Plant Story is one of a series of environmental education programs about aquatic plants and the management of Florida's freshwater ecosystems. The series is sponsored by the Florida Department of Natural Resources, Bureau of Aquatic Plant Management, with funds from the Aquatic Plant Trust Fund. VHS copies of the program may be purchased for \$10.60 (\$10.00 for non-Florida residents) payable to the University of Florida. Order from:

IFAS Publications Office IFAS Building 664 University of Florida Gainesville, Florida 32611-0001 (904) 392-1764.

North Central Weed Control Conference Southern Weed Conference The Weed Problem Species Distribution by Region The Herbicides Submersed Weed Control **Emersed Weed Control** Drawdown and Herbicides

AQUATIC WEED CONTROL FROM 1971-1989 Levels of Activity The Researchers The Weed Problem The Chemicals The Overview Weeds and Weed Science

THE AQUATIC PLANT MANAGEMENT SOCIETY **Environmental Concerns** International Organization Weed Problems Herbicides Used Presidents Philosophies

THE CORPS OF ENGINEERS IN AQUATIC WEED CONTROL Changes-People and Divisions

THE TENNESSEE VALLEY **AUTHORITY**

MECHANICAL CONTROL Current Research and Development Harvesting in the Lake States

BIOLOGICAL CONTROL

Biological Control of Alligatorweed Biological Control of Waterhyacinth Biological Control of Waterlettuce Insects on Submersed Plants Biological Control With Grass Carp Biological Control with Plant Pathogens

CURRENT ACTIVITIES AND FUTURE CONSIDERATIONS

California Delaware Florida Minnesota Texas Washington Chemical Control Mechanical Control **Biological Control** Other Control Programs **Future Challenges** Point of View Literature Cited

Reviews of Weed Science Volume 5, 1990 can be ordered for \$35.00 U.S. currency, check, Visa, or Mastercard from: Weed Science Society of America, 309 West Clark Street, Champaign, IL 61820 (Phone: 217/356-3182). When ordering by credit card provide card number and expiration date.

AI PAID AD

	CALENDAR
November 6-10, 1990	NALMS 10th Annual International Symposium Sheraton Tara Hotel, Springfield, Massachusetts.
November 26-30, 1990	25th Annual Meeting of the Aquatic Plant Control Research Program (APCRP); Marriott Hotel, Orlando, Florida.
January 14-16, 1991	Southern Weed Science Society Annual Meeting; Hilton Palacio Del Rio, San Antonio, Texas.
February 4-7, 1991	Weed Science Society of America Annual Meeting; Galt House East Hotel, Louisville, Kentucky.
March 3-8, 1991	Third International Symposium on Off-Flavors in the Aquatic Environment; Los Angeles Airport Hilton Hotel, Los Angeles, California.
March 14-15, 1991	Western APMS Annual Meeting; Stouffer Madison Hotel, Seattle, Washington.
March 16, 1991	Lake Association Leaders Workshop, University Place Holiday Inn, East Lansing, Michigan.
March 17, 1991	Professional Lake Managers Workshop (Recertification Credits for Certification Credits for Certified Aquatic Herbicide Applicators), University Place Holiday Inn, East Lansing, Michigan.
March 18-19, 1991	Midwest APMS Annual Meeting, University Place Holiday Inn, East Lansing Michigan.
July TBA, 1991	South Carolina APMS Annual Meeting, Santee Cooper's Somerset Point Facility on Lake Moultrie, Moncks Corner, Souther Carolina.
October TBA, 1991	Florida APMS Annual Meeting, Hollday Inn Surfside, Daytona Beach, Florida.
November 8, 1991	Texas APMS Annual Meeting; Windham South Park, Austin, Texas.
February 17-21, 1992	International Weed Control Congress, Monash University, Melbourne, Australia.
July 12-17, 1992	International Symposium on Aquatic Plants, Daytona Beach, Florida.

13th Annual Meeting from page 1

is rewarded by the excellent papers presented in the annual Student Paper Contest. As a result of Kurt Getsinger's efforts, this years contest had a record number of participants. Congratulations to this years student paper award winners who were:

First Prize: Greg McDonald, "Comparative effects of antagonistic ions on glyphosate efficacy on torpedograss," University of Florida, IFAS, Gainesville, Florida.

Second Prize: Tom Byl, "The peroxidase response of Hydrilla verticillata, (Royle) to sublethal concentrations of heavy metals and sulfometuron methyl," Memphis State University, Memphis, Tennessee.

Third Prize: Jan Miller, "The effects of

Third Prize: Jan Miller, "The effects of slow release fertilizer application on wild rice production," Lakehead University, Thunder Bay Ontario, Canada.

Fourth Prize: Mark Mossler, "Microbial degradation of fluridone," University of Florida, IFAS, Gainesville, Florida.

Ribbons and cash prizes of \$100 for 1st, \$75 for 2nd, and \$25 for 3rd were presented in the 1990 Photo Contest. Winner of 1st and 3rd place this year was Wendy Andrew. Fred Katz won 2nd place. This is the second year in a row that Wendy has won first place so start taking photos now to give Wendy competition next year.

Relaxation at this years meeting was provided as a seafood banquet and live entertainment by country-western recording artist Ronnie McDowell at Gulf Shores State Park. During the beach party with the help of Ronnie McDowell we discovered who can sing and who can't. Unfortunately I had broken my camera by this time (fortunate for some).

The 1991 Annual Meeting will be held in Dearborn Michigan. This is the first meeting held this far north for some time and Randall Stocker, Program Chairman and Dick Hinterman, Local Arrangements Chairman promise some real midwestern surprises. Start making plans now to attend. Visitors information can be obtained

from the following:
Metropolitan Detroit Convention
and Visitors Bureau
100 Renaissance Center, Suite 1950
Detroit, Michigan 48243-1056
(313) 259-4333



Joe "Z" provides important instructions on beach etiquette and attire prior to departing for the seafood banquet at Gulf Shores State Park.

Lewis Decell Presented Award of Honor At SCAMPS 12th Annual Meeting

The South Carolina Aquatic Plant Management Society Annual Meeting is one that I never miss because of the excellent information that is always presented on pertinant topics such as Lyngbya spp. and Najas spp. biology and control and large scale grass carp stocking. This year's meeting, which was held at Duke Power's World of Energy on August 2-3, 1990, was no exception. In addition to the meeting, a tour of Duke Power's World of Energy and nearby hydroelectric projects was extremely educational. I encourage anyone who can to attend South Carolina's meetings to do so (you'll be treated to one of the best barbecues or seafood boils you ever had).

This years SCAPMS meeting was highlighted by presentation of two important awards:

The SCAPMS's first award of honor



Phil Fields, 1990 SCAPMS Member of the Year, for his outstanding contributions to the Society and aquatic plant management in South Carolina.



Lewis Decell (center), first recipient of the SCAPMS Award of Honor, for his many outstanding contributions to aquatic plant management in North America, Ken Manuel, SCAPMS 1989-90 President (right), Howard Roach, SCAPMS 1989-90 Vice President (left).

was presented to Lewis Decell, Manager, Environmental Resources Research and Assistance Program, USCOE, Waterways Experiment Station in Vicksburgh, Mississippi for his exceptional performance in assisting the State of South Carolina in developing a statewide program, his research and technology transfer systems and his diversified funding programs. Lewis was a founder and charter member of SCAPMS and was instrumental in its creation.

Phil Fields was the 1990 SCAPMS Member of the Year Award Recipient. This award is presented each year to an individual who has made outstanding contributions to the Society and to the field of aquatic plant management. Phil has been a SCAPMS member since 1985, served on several committees, was Director in 1989-90 and is currently Vice President. Phil has been responsible for overseeing all aquatic plant control field operations for the State's aquatic plant management program since 1985. His diligent efforts insure that control operations are being conducted in a safe and effective manner.

Agent Orange Studies

The latest analysis of 1987 data collected from U.S. Air Force "Ranch Hand" personnel suggest little or no adverse health impact among workers heavily exposed to "Agent Orange" phenoxy herbicides during the Vietnam War, USAF told a Food and Drug Advisory Committee. A separate study of "reproductive outcomes", attempting to correlate dioxin levels in Ranch Hand fathers with documented birth defects in offspring, is scheduled for completion this winter. (PTCN, 9/26/90)

Aquatic Plants Second In Florida Aquaculture Sales

Increased use of aquatic plants for wetland mitigation and aquascaping has added to the already important aquarium plant industry in Florida. Results of a recent survey by the Florida Department of Agriculture and Consumer Services revealed 44 commercial aquatic plant growers net \$7.0 million in sales. This was second only to 193 ornamental fish growers who netted \$33.7 million. Alligators with 32 active growers contributed \$4.5 million. Oysters and clams valued at \$2.1 million were sold by 65 growers. Seventy catfish growers contributed \$1.9 million. All other aquatic sales totaled \$1.6 million from 29 growers.

Purple Plague is on the Loose

Purple loosestrife, or purple lythrum (Lythrum salicaria) is an erect perennial noxious weed that is invading wetlands of the Pacific Northwest at an alarming rate. First introduced into this country along the eastern seaboard in the early 1800's, it has now spread across the northern tier, including Canada. It was first documented in Washington in 1933, and now has spread to most counties (20 of 39) in the state with Grant County supporting 55,000 acre infestation.

Pacific Northwest Lythrum Strike Force has T-shirts available. 50/50 cotton/poly blend at \$8.00, 100% cotton at \$9.00. Available in aqua, pink, powder blue, silver, white, tan (50/50), & ecru (100%). Sizes from Small to X-large. For more information contact: Sharon L. Sorby, Pacific Northwest Lythrum Strike Force, P.O. Box 5085, Newport, WA 99156-5085, or phone (509) 447-2401. Order fast — supplies are limited.

Aquatic Plant Book

by C.D.K. Cook 1990, 228 pages with 408 figures, paperbound ISBN 90 5103 043 6 Dutch Guilders 100./US \$55.

Aquatic plants, wherever they grow, play an important role in the ecosystem. When nature is intact they regulate the quality of the water and provide food and shelter for its inhabitants. If nature is upset they can disappear altogether or grow and spread at an alarming rate and can cause anything from a 'local nuisance' to a catastrophe that may directly threaten human life. The management of our environment has become the most important single concern of mankind today. Many aquatic plants have invaded new areas, some were deliberately planted because of their economic or decorative value or were accidentally introduced with other plants, some have settled peacefully, but others have become aggressive weeds.

The book is a comprehensive guide to the aquatic plants of the world. It describes and illustrates 407 genera; including all ferns and flowering plants that are likely to be found in or floating on permanent or semi-permanent, fresh or salt water anywhere in the world. Care has been taken to describe juvenile and vegetative features which are often ignored in floristic literature but are so im-

portant for the indentification of aquatics particularly as many species have short-lived or insignificant flowers that are easily overlooked or some species rarely develop flowers at all. The identification keys are based, when possible, on easily seen vegetative features. This book is also a reference work: for each genus information on distribution (native and introduced ranges), like forms, ecology, pollination mechanisms, disseminules and their dispersal mechanisms, uses, economic importance, and references to the literature is given.

It is hoped that this book will be of use not only to botanists and zoologists but also to all people concerned with aquatic ecosystems (natural or man-made) whether they be managers, engineers, weed controllers or conservation officers. Gardeners and aquarists should also find much useful information.

Aquatic Plant Book can be obtained by check, American Express, Visa or requesting billing from: SPB Academic Publishing by, P.O. Box 97747, 2509 GC The Hague, The Netherlands. When ordering by credit card provide card no. and expiration date. N.B. orders accompanied by payment will be executed free of postage and handling fee. Dutch customers please add 6% B.t.W. Prices are subject to change without prior notice. All SPB Academic Publishing titles can be obtained through your bookseller.

Minnesota Implements Recomendations for Eurasian Watermilfoil Management

The Minnesota Department of Natural Resources (MDNR) and the Freshwater Foundation Institute for Lake and Wetland Management sponsored a three day "Workshop on Management of Eurasian Watermilfoil in Northern Latitudes" in early 1990 (for workshop details see Aquatic Plant News No. 34). The workshop recommended approaches and methodologies for Eurasian watermilfoil management and adopted the following resolution:

WORKSHOP RESOLUTION

The Workshop Adopted the following resolution on March 1, 1990

WHEREAS, Eurasian watermilfoil (Myriophyllum spicatum) has become a major noxious aquatic weed in northern temperate latitudes, and;

WHEREAS, Eurasian watermilfoil has out-competed most native flora when introduced into a waterbody, and;

WHEREAS, Eurasian watermilfoil has aggressively spread throughout waterbodies after introduction, and;

WHEREAS, Eurasian watermilfoil has become established at nuisance densities in waterbodies covering a range of trophic conditions, and:

WHEREAS, Eurasian watermilfoil in high densities has adverse economic impacts through its interference with recreation, flood control, water supply



Drawing by Laura L. Reep, Compliments of University of Florida IFAS, APIRS

and delivery, navigation, fisheries and wildlife habitat, and;

WHEREAS, established populations of Eurasian watermilfoil will not necessarily decline in response to reduction of nutrient inputs, and;

WHEREAS, existing and excessive populations of Eurasian watermilfoil accelerate material deposition, and;

Nominations for APMS Honorary Membership

Nominees are being requested for consideration for Honorary membership in the Aquatic Plant Management Society. Names of nominees must be submitted to the Bylaws and Resolutions Committee in the form of a petition signed by no less than ten (10) active members. Nominees will then be evaluated by the Bylaws and Resolutions Committee to ascertain that they meet the criteria for eligibility as an Honorary member. As specified in Article XVI of the Bylaws, before being considered for Honorary membership, a person must meet the following criteria:

1. He or she must have contributed significantly to the field of aquatic vegetation management during his or her career. The individual should be retired and no longer employed in the field of aquatic vegetation management, except that partitime work as a consultant shall be permissible.

2. He or she must have been a voting

member of the Society for no less than ten (10) years.

He or she must have actively promoted the Society and its affairs during their membership.

Eligible nominees will be presented to the Board of Directors and the Past Presidents Advisory Committee by the Bylaws and Resolutions Committee. Honorary membership is approved by a majority vote of the Past Presidents Advisory Committee and conferred by a majority vote of the Board of Directors.

Please submit petitions for Honorary membership and a synopsis of each nominee's contributions to the field of aquatic plant management by **December 1.1990** to:

Michael Kane

Bylaws & Resolutions Committee Chair Environmental Horticulture Department University of Florida Gainesville, FL 32611

Second Year of Stocking Complete

By Steven de Kozlowski

(Article printed in the South Carolina APMS May 1990 Newsletter, Vol. 11, No. 3.)

The second installment of 100,000 sterile grass carp have been released into Lake Marion. As planned, all of this year's fish were released from the Stumphole Landing Campground. Because of water quality problems experienced in 1989, the stocking was conducted a little earlier this year. The first 33,000 fish arrived April 5th and all 100,000 fish were in the lake by May 17th, before water temperatures could become too warm. The grass carp averaged about 12 inches in length, were in good shape, and we experienced very little mortality from the stocking process.

Now into its second year, the Lake Marion Sterile Grass Carp Stocking Project is still on course and is being carried out as originally planned with some adjustments due to unexpected weather related problems during 1989. Extremely hot weather in late April and May created high water temperatures and low dissolved oxygen conditions resulting in two separate fish kill events in May and June in the Packs, Elliotts and Low Falls areas. An undetermined number of stocked grass carp were killed during both incidents.

Also, in September, Hurricane Hugo hit the state near Charleston and carved a path of destruction directly through the Santee Cooper Lakes. The result was the state's largest, most widespread fish kill ever documented. Unfortunately, an accurate assessment of the storm's impact on the grass carp stocked earlier that year is not available, and reports provide conflicting results. The official fish kill report indicates that no grass carp died from Hugo; however, only one of the six radio tagged grass carp apparently survived the storm.

Because of the uncertainty of grass carp survival during 1989, the stocking plan has been modified to allow for a fourth year of stocking, if needed, to replace fish possibly lost due to Hurricane Hugo and the spring fish kill events.

While it is too early to expect any significant results, unofficial reports of localized weed control by the fish have been noted. Furthermore, preliminary results from the radio tracking studies indicate that the grass carp are remaining in the general target area of upper Lake Marion and that most of the fish appear to prefer the open water flats near the release sites.

In spite of the possible setback, commitment to the project by state and federal agencies, and the public, is as strong as ever. We are hopeful that in time the sterile grass carp will prove to be an effective long-term management tool for the state's largest aquatic weed problem.

Aquatic Plant Scholarship Grant

The South Carolina Aquatic Plant Management Society, Inc., a non-profit corporation established for the purpose of promoting the management of noxious aquatic vegetation in South Carolina, is seeking applications for a scholarship grant. The Society intends to award a \$1000 grant to the successful applicant in the Fall of 1991. Grant funds may be used by the recipient to cover costs associated with education and research expenses.

Eligible applicants must be enrolled as full time undergraduate or graduate students in an accredited college or university in the United Sates. Performance of research directly related to aquatic plant management in South

Carolina is also required.

Applications must be received no later than May 1, 1991 and will be evaluated on the basis of relevant test scores (ACT, SAT, GRE, etc.), high school and/or college grades, quality and relevance of research project, a proposed budget, information obtained from references, and other related considerations. Other factors being equal, preference will be given to applicants enrolled in Southeastern and South Carolina academic institutions.

The successful applicant will be required to present an oral report on the research project at the annual meeting of

the Society.

Persons interested in applying for the scholarship grant should contact Danny Johnson, S.C. Water Resource Commission, 1201 Main Street, Suite 1100, Columbia, S.C. 29201, phone (803) 737-0800 for additional information on application procedures.

Weedar 64 Label Changes

The Environmental Protection Agency has approved PHONE-POULENC's request for the following WEEDAR 64 label changes:

 Combined use directions for waterhyacinth and Eurasian watermilfoil (which were printed under special separate

leaflets) to the basic label text.

 Deleted the statement "To be applied by Federal, state or public agency personnel trained in aquatic weed control or by licensed commercial applicator under contract to the above agencies." in the use directions for waterhyacinth control

Clarified the storage instructions in the Storage and Disposal section.

These changes will eliminate difficulties in interpretation that sometimes arose.

Minnesota Recomendations from page 5

WHEREAS, existing populations of Eurasian watermilfoil also pose a threat to uninfested waters...

THEREFORE, the Eurasian watermilfoil Workshop strongly recommends eradication and control through well-coordinated programs conducted by appropriate governmental agencies which utilize the approaches and methodologies recommended by this workshop.

The MDNR has implemented the strategies recommended by the workshop report, which include control of established Eurasian watermilfoil infestations by mechanical harvesting and applications of the herbicides 2,4-D, furidone, endothall, diquat and organic copper com-

plex; and eradication of pioneer infestations by diver operated dredge, manual removal by divers and applications of 2,4-D or fluridone.

In addition, MDNR has attempted to predict lakes where Eurasian watermilfoil is most likely to grow well once it has been introduced. Both the MDNR and the Freshwater Foundation have targeted education-related programs to the most threatened lakes.

To implement the research recommendations of the report the MDNR and the Freshwater Foundation have developed and submitted a joint proposal to the state legislature for state funding to match Foundation fundraising efforts. The research program will concentrate on plant ecology (life history, physiology and vegetative community associations) and development of biological controls.

Survey Shows Reduction In Eurasian Watermilfoil And Increase In Native Species In Mobile Bay Resulting From Herbicide Management with 2,4-D

In a 1987 survey conducted by Joe Zolczynski, Game and Fish Division, Alabama Department of Conservation and Natural Resources and Michael J. Eubanks, Environment and Resources Branch, Mobile District, USACE, fourteen species of submersed aquatic macrophytes were documented in Mobile Bay. The most abundant species present was Eurasian watermilfoil. Of the 4,524 acres of submersed aquatic macrophytes present, Eurasian watermilfoil was found in 3,786 acres. It was the dominant plant in 2,325 acres of this area. Significant increases or increased dominance by native

species were noted in bays where Eurasian watermilfoil has been managed using the herbicide 2,4-D DMA. Therefore, the authors conclude, Eurasian watermilfoil management with 2,4-D DMA has been successful in reducing the dominance of Eurasian watermilfoil.

Copies of this report, which is titled "Mobile Delta Submersed Aquatic Vegetation Survey 1987 (May 1990), can be requested by contacting Michael J. Eubanks, Environment and Resource Branch, Mobile District, USACE, 109 St. Josephs St., Mobile, AL 36628-001, Attn SAMPD-EI, 205/694-3861.

EPA's Proposed Certification And Training Regulations To Be Published Soon

The regulation will propose three levels of supervision to be incorporated on future labeling of restricted use pesticides: "(1) Use only by a certified applicator, (2) direct supervision by a certified applicator who is required to be on site at all times and available at the point of use in five minutes, and (3) direct supervision by a certified applicator who is not required to be on site."

The EPA proposal would expand the definition of "use" to include mixing, loading, transport, storage or handling after the pesticide seal is broken

The proposal calls for recertification of applicators in state and Indian programs at least every five years.

The proposed rules would not permit the certification of a non-reader. Certification of private and commercial applicators who are non-English readers would be permitted. However the proposed rules would limit non-English certification to products that had labels on the non-English language the applicator could read and understand. The certification exemption for doctors of medicine and doctors of veterinary medicine would be eliminated, but the exemption for laboratory workers would be maintained.

To implement the regulation changes, state applicator certification plans would need to be revised.

EPA plans to allow 120 days for public comments on the proposed regulation changes following their publication in the Federal Register. (pesticide and Toxic Chemical News Vol. 18, NO, 48)

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If you wish to receive the first circular please contact: Dr. George Bowes, Department of Botany, University of Florida, Gainesville, Florida 32611, U.S.A.

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Dr. Carole Lembi, Department of Botany and Plant Pathology, Purdue University, W. Lafayette, IN 47907, Phone 317-494-7887 FAX 317-494-0363

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

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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.

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