

# AQUATIC PLANT NEWS

A newsletter of the Aquatic Plant Management Society, Inc. Wendy Andrew, Editor, 10616 Bay Lake Road, Groveland, Florida 34736

No. 46 May 1994

# TEXAS HOSPITALITY AWAITS YOU AT THE 34TH ANNUAL MEETING!!!

So, after looking over the program included in this newsletter, you've made arrangements to attend the 34th Annual Meeting in San Antonio. Great decision! Now what about expanding the experience with some professional and personal extras?

Sunday there will be a field trip to San Marcos, about 35 miles northeast of San Antonio. Highlights include Southwestern State University's Aquatic Studies Laboratory, where a giant ramshorn snail evaluation is ongoing; a glass-bottom boat tour of Aquarena Springs (a popular tourist attraction), where just about every submersed aquatic known in Texas fights for space; and a look at the endangered Texas Wild Rice in the San Marcos River within the city limits and near a state fish hatchery. Early regis-

tration can ensure a seat on this adventure. The cost is \$20, which includes entrance fees and transportation. Lunch will be available for about \$5. If you took advantage of a special airfare and came in on Saturday, this is a good way to spend extra time and savings and see a little of Texas. The bus boards at the hotel at 11 a.m. and returns by 4 p.m., in plenty of time to freshen up for the President's Reception.

San Antonio is known as a great vacation destination. Plan to bring your family. The hotel is within walking distance of many, many attractions, which can ease their pain of separation while you attend the meeting sessions. Take an extra day or two and enjoy a theme park (Fiesta Texas and Sea World of Texas), the McNay or Witte Art Museums, Lone Star Brewery and its

famous Hall of Horns, five historic Missions and/or world class golf. Within a mere 150 miles (can you tell we're on Texas scale?) are the Gulf Coast for fishing, Padre Island National Seashore for sunning, and Laredo, Mexico for shopping. The atmosphere of San Antonio and the Riverwalk will make the 34th Annual Meeting one to remember. Bring along a friend to enjoy it too.

Mark your calendars: July 10-13, APMS, San Antonio. The registration for the meeting is the same as last year. Participant is \$75 pre-registration, and \$90 after June 30th. Spouse/child is \$50 pre-registration and is \$65 late. Rooms at the Hilton Palacio de Rio are \$104/single and \$114/double. Call 210/222-1400 for reservations. See you in the Lone Star State!!!

THIRTY-FOURTH ANNUAL MEETING OF THE AQUATIC PLANT MANAGEMENT SOCIETY, INC.

AND

SIXTH ANNUAL MEETING OF THE TEXAS AQUATIC PLANT MANAGEMENT SOCIETY

JULY 10-13, 1994 HILTON PALACIO DEL RIO, SAN ANTONIO, TEXAS

TENTATIVE PROGRAM INSIDE

# What Are The Limits of Aquatic Systems?

Aquatic scientists often compare the values of different aquatic variables they collect to those reported by scientists from other parts of the world. This fundamental exercise contributes to the knowledge of ecological limits these variables can have. In addition, these comparisons often reveal interesting aspects (or inconsistencies!) in the data. When newly measured values are close to the minimum or maximum reported values, they indicate measurements that may need to be reexamined for correctness or the values may add insight into the ecological functions of that particular system.

Hence, we believe that there is a need for a comprehensive compilation of published ranges of physical, chemical, and biological variables that have been measured by other aquatic scientists in rivers, lakes, wetlands and oceans.

The following is a partial list of the types of values that should be compiled: Physical properties: altitude, latitude, area, depth, residence time,

sedimentation rate, current, turbulence, density, temperature, optical properties, etc... Chemical properties: salinity, specific conductance, conservative ion concentrations, nutrient concentrations, oxygen concentrations, dissolved organic carbon, etc ... Biological properties for primary producers (aquatic macrophytes, algae), bacteria, protozoa, zooplankton, fish, amphibians, aquatic reptiles, aquatic birds and other aquatic wildlife: biomass, metabolism (respiration, photosynthesis), immigration, reproduction, growth, recruitment, mortality (natural and harvested), emigration

We are attempting to organize this type of data and publish it in an appropriate journal for the general use of aquatic scientists around the world. We ask for your help with this task. If you have measured or know of a value for an ecological variable that may represent a high or low limit and have some way of citing the work so that the scientific community can use it, please send the documentation of

this value (date and location of sample, method, value, and citation) to us. We have no funding for this project and thus no real deadline. We believe, however, that with your help a completion date of 1996 seems reasonable. We will make sure contributors get a free copy of the finished product.

Thank you for your help.

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### ATTENTION EMPLOYERS

One of the many functions of our Society is to assist those seeking employment in aquatic plant management professions to know of available employment opportunities, and vice versa. This responsibility is given to the Placement Committee. The Committee is asking all Company owners, Supervisors,

Personnel staff, etc. who have current employment opportunities, or anticipate any in the future to announce them in our newsletter or contact the Placement Committee Chair (Ken Langeland, 904-392-9614). Likewise, anyone seeking employment should contact Ken. The Committee will also provide a

bulletin board at the Annual Meeting in San Antonio for announcements of employment opportunities or employment being sought.

Ken would also like to encourage anyone who is interested to sign up at the meeting to chair or be a member of the Placement Committee next year.



OFF TO TEXAS WE GO >>

### TENTATIVE PROGRAM

THIRTY-FOURTH ANNUAL MEETING OF THE AQUATIC PLANT MANAGEMENT SOCIETY, INC.

AND

SIXTH ANNUAL MEETING OF THE TEXAS AQUATIC PLANT MANAGEMENT SOCIETY

JULY 10-13, 1994

HILTON PALACIO DEL RIO SAN ANTONIO, TEXAS

**SUNDAY, JULY 10, 1994** 

8:00 AM APMS Board of Directors Breakfast8:30 AM APMS Board of Directors Meeting

11:00 AM- Aquatic Plant Field Trip to San Marcos4:00 PM (preregistration required)

3:00 PM- Registration

Salon del Rey pre-function area

6:00 PM

7:00 PM President's Reception
Salon del Rey South/Terrace Garden

**MONDAY, JULY 11, 1994** 

8:00 AM- Registration
5:00 PM Salon del Rey pre-function area

9:00 AM- Exhibits on Display 5:00 PM Salon del Rey South

9:30 AM- Spouses' Riverwalk Boat Tour

11:30 AM Meet in main lobby

### Session I

Salon del Rey N&C

Presiding: Joe Zolczynski, President

8:30 AM Call to Order 8:35 AM Welcome 8:45 AM Announcements

9:00 AM APMS Chapter Reports

Texas APMS Report and

Presidential Address: Malcolm C. Johnson, III

Florida APMS: MidSouth APMS: Midwest APMS: South Carolina APMS: Western APMS:

9:45 AM Presidential Address: Joe Zolczynski

10:00 AM Break

10:15 AM Invited Speaker

10:45 AM Then, Now, and Where We Must Be.

John Gallagher, Aquatic Weed Scientist (retired)

11:15 AM APMS Business Meeting

11:45 AM Lunch

### Session II

Salon del Rey N&C

**Aquatic Plant Management in Texas** 

Moderator: Kelly Duffie Estes Inc. Houston, TX

1:15 PM Extension Methods for Aquatic Vegetation Management in Texas. Jim Davis, Texas Agricultural Extension Service, Texas A&M

University, College Station, TX.

1:30 PM An Overview of Commercial Aquatic Plant

Management in Private Texas Impoundments.

Mac McCune, Lake Management Services, Inc.,

Richmond, TX.

1:45 PM	Aquatic Plant Control and Water Management. John Wedig, Lower	4:15 PM	The Corps' Lewisville Aquatic Ecosystem
	Colorado River Authority, Austin, TX.	4.151101	Research Facility: New Opportunities for Aquatic Plant Research, Education, and
2:00 PM	Aquatic Plant Control at Lake Cypress		Cooperation in the State of Texas.
2.00 F W	Springs. Ed Withers, Franklin County		R. Michael Smart, U.S. Army Engineer
	Water District, Mt. Vernon, TX.		Waterways Station, Lewisville Aquatic Ecosystem Research Facility, Lewisville,
			TX.
2:15 PM	Management of Shallow Impoundments in		
	North Texas to Provide Emergent and	4:30 PM	Angler Opinions on Fishery Management
	Submergent Vegetation for Waterfowl. Len G. Polasek, Dept. of Wildlife and		Tools: Who Wants What? Robin K.
	Fisheries Sciences, Texas A&M University,		Riechers, Texas Parks and Wildlife
	College Station, TX. Student Paper		Department, Austin, TX.
		4:45 PM	Imaganus for Controlling Shareling
2:30 PM	Cold Temperature Limitations on the Growth	4.43 PW	Imazapyr for Controlling Shoreline, Marginal and Ditchbank Vegetation,
	of Waterhyacinths. Chetta S. Owens and John D. Madsen, AScI Corporation,		Michael Standish, American Cyanamid
	Lewisville, TX and U.S. Army Engineer		Company, Granger, TX.
	Waterways Station, Lewisville Aquatic		
	Ecosystem Research Facility, Lewisville, TX.	5:00 PM	Texas APMS Business Meeting
2:45 PM	Carbon Source for Submerged Leaves of the	7:00 PM	Elf Atochem Reception
	Endangered Zizania texana (Texas Wildrice).		
	P. Power, Southwest Texas State University		
	San Marcos, TX and R.D. Doyle, U.S. Army Engineer Waterways Station, Lewisville		
	Aquatic Ecosystem Research Facility,		TUESDAY, JULY 12, 1994
	Lewisville, TX.		
3:00 PM	Break	6:45 AM	Local Chapter Presidents Breakfast
5.00 1.11	Di Cuit		C
3:15 PM	An Overview of Grass Carp Use in		Session III
	Texas. Earl W. Chilton II, Texas Parks		Salon del Rey N&C
	and Wildlife Department, Austin, TX.		Ecology and Physiology
3:30 PM	An Investigation of Grass Carp Spawning in		Moderator: Michael Smart
	the Lower Trinity River, Texas. Mark A.	U.	S. Army Engineer Waterways Station
	Webb, Texas Parks and Wildlife Department, Bryan, TX.		Lewisville,TX.
	Department, Bryan, 17.		
3:45 PM	The Biology of Free-ranging Grass Carp in		
	East Texas River and Bay Systems.	8:30 AM	Potential Impact of Turtle Herbivory on
	Howard S. Elder and Brian R. Murphy, Dept. of Wildlife and Fisheries Sciences,		Aquatic Macrophyte Communities.  Gary O. Dick and R. Michael Smart, AScI
	Texas A&M University, College Station, TX.		Corporation, Lewisville, TX and U.S. Army
	Student Paper		Engineer Waterways Station, Lewisville
			Aquatic Ecosystem Research Facility,
4:00 PM	Effectiveness of Low-Density Triploid Grass		Lewisville, TX.
	Carp Stockings. Brian Blackwell and Brian R. Murphy, Dept. of Wildlife and Fisheries	8:45 AM	Aquatic Plant Feeding Preferences by the
	Sciences, Texas A&M University, College	0.43 AIVI	Red-Eared Turtle. Kimberly J. Mauermann,
	Station, TX . Student Paper		Gary O. Dick, and R. Michael Smart, U.S.
			Army Engineer Waterways Station,
			Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX.
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- 9:00 AM The Effects of Aquatic Plant Communities on Water Quality. David R. Honnell, John D. Madsen, and R. Michael Smart, AScI Corporation, Lewisville, TX and U.S. Army Engineer Waterways Station, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX.
- 9:15 AM Foraging Efficiency and Growth of Juvenile Largemouth Bass Associated with Exotic and Native Aquatic Macrophytes. R.M. Crouch, U.S. Army Engineer Waterways Station, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX. Student Paper
- 9:30 AM Dynamics of Eichhornia crassipes and Related Aquatic Plants in Lake Chapala.

  Eric Gutierrez, Felipe I. Arreguin, Manuel Guzman A., and Gualberto Limon M., Instituto Mexicano de Tecnologia del Agua, Paseo Cuauhnauac, Mexico; Instituto de Limnologia, Universidad de Guadalajara, Chapala, Mexico; Disenos Hidraulicos y Tecnologia Ambiental, Guadalajara, Mexico.
- 9:45 AM Environmental Influences on the Early
  Phenology of Monoecious Hydrilla in Lake
  Gaston. Chad R. Coley and Stratford Kay,
  Crop Science Dept., North Carolina State
  University, Raleigh, NC. Student Paper
- 10:00 AM Break
- 10:15 AM Long-Term Competition Between
  American Lotus and Eurasian Watermilfoil,
  Joe R. Snow, R. Michael Smart, and Gary
  O. Dick, U.S. Army Engineer Waterways
  Station, Lewisville Aquatic Ecosystem
  Research Facility, Lewisville, TX and AScI
  Corporation, Lewisville, TX.
- 10:30 AM Reproductive Biology of Southern Naiad in Southwest Florida. John R. Cassani, E. Lasso de la Vega, and H.P. Allaire, Lee County Hyacinth Control District, Fort Myers, FL.
- 10:45 AM Abscisic Acid Induced Changes in Gene Expression During Leaf Development in the Aquatic Macrophyte, Potamogeton nodosus. Doreen Gee, U.S. Dept. of Agriculture ARS, Aquatic Weed Control Research Laboratory, University of California, Davis, CA. Student Paper

- 11:00 AM Some Chemical and Biochemical
  Characteristics of Six Lakes in Northwest
  Hillsborough County, Florida. Andrew L.
  Hassell, Patricia M. Dooris, and Dean F.
  Martin, Institute for Environmental Studies,
  Dept. of Chemistry, University of South
  Florida, Tampa, FL.
- 11:15 AM Monitoring Physiological Effects of
  Triclopyr and Fluridone on Non-Target
  Aquatic Plant Species. Susan L. Sprecher
  and Anne B. Stewart U.S. Army Engineer
  Waterways Experiment Station, Vicksburg,
  MS and AScI Corporation, Vicksburg, MS.
- 11:30 AM Effects of Flurprimidol on the Growth and Carbohydrate Status of Eurasian Watermilfoil. Linda S. Nelson, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- 11:45 AM Random Amplified Polymorphic DNA
  (RAPD) Reactions Can Identify the Hydrilla
  Biotypes Found in the U.S. Frederick J.
  Ryan, U.S. Dept. of Agriculture ARS,
  Aquatic Weed Control Research Laboratory,
  University of California, Davis, CA.
- 12:00 PM Lunch

## Session IV Salon de Rey N&C

### **Preventing Aquatic Weed Infestations**

Moderator: Randy G. Westbrooks USDA APHIS PPQ Whiteville, NC.

- 1:15 PM Biological Pollution: A Historical
  Perspective of Aquatic Weeds in the
  United States. Randy G. Westbrooks, U.S.
  Dept. of Agriculture APHIS PPQ,
  Whiteville, NC.
- 1:45 PM Aquatic Weeds Intercepted by the U.S.
  Department of Agriculture. Larry Fowler,
  U.S. Dept. of Agriculture, APHIS PPQ,
  Brownsville, TX.
- 2:00 PM Water Spinach (*Ipomoea aquatica*); a crop in California, a weed in Florida. Mario Rodriguez, U.S. Dept. of Agriculture APHIS PPQ DEO, Hyattsville, MD.

2:15 PM	Florida's Noxious Aquatic Plant Prevention Program. William E. Caton, Bureau of Aquatic Plant Management, Dept. of Environmental Protection, Tallahassee, FL.	4:30 PM	Habitat Manipulation Using Sonar in a Waterfowl Management Wetland. David Tarver, SePRO, Tallahassee, FL.
2:30 PM	Screening Criteria for Potentially Invasive	6:00 PM- 10:00 PM	Awards Banquet: A Texas Ho-Down
	Nonindigenous Plants: A Florida Model. Kathy Burks, Michael Kane, Greg Jubinsky,	10.00 TWI	
	Bureau of Aquatic Plant Management, Dept. of Environmental Protection, Tallahassee, FL. and University of Florida, Gainesville, FL.	WEDNESDAY, JULY 13, 1994	
2:45 PM	North Carolina Aquatic Weed Prevention		Session VI
2.43 1 1/1	Program. David DeMont, Division of		Salon del Rey N&C
	Water Resources, Dept. of Environment, Health and Natural Resources, Raleigh, NC.	Mana	agement Strategies and Techniques
2.00 DM	California III della Fardiandea Processo		Moderator: Kurt Getsinger
3:00 PM	California Hydrilla Eradication Program, Ross O'Connell Dept. of Food and	U.S. Army Engineer Waterway Station	
	Agriculture, Sacramento, CA.	Vicksburg, MS	
3:15 PM	Break	8:30 AM	Evaluation of Copper Herbicides for the Control of Waterhyacinth (Eichhornia
			crassipes). Ken Langeland, Brian Smith, and Neil Hill, IFAS Center for Aquatic
	Session V		Plants, University of Florida, Gainesville, FL.
	Salon del Rey N&C		
V	Management Strategies and Techniques	8:45 AM	Evaluation of Eichhornia crassipes Control Strategies in Lake Chapala. Gualberto Limon
	Moderator: Fred Nibling, Jr.		M., Eric Gutierrez, Pilar Saldana, Jesus Rodriguez P., and Ruben Huerto, Disenos
	U.S. Bureau of Reclamation		Hidraulicos y Tecnologia Ambiental,
	Denver, CO		Guadalajara, Mexico; Instituto Mexicano de Tecnologia del Agua, Paseo Cuauhnauac, Mexico.
3:30 PM	Short-Term Summer Drawdown as a Potential		MCAICO.
	Tool for Management of Monoecious Hydrilla. Angela G. Poovey and Stratford H.	9:00 AM	Integrated Control of Waterhyacinth with
	Kay, Crop Science Dept., North Carolina State	7.00 THM	Weevils and Paclobutrazol. Thai K. Van and
	University, Raleigh, NC. Student Paper		Ted D. Center, U.S. Dept. of Agriculture,
			ARS, Fort Lauderdale, FL.
3:45 PM	Analysis of Copper in Aqueous Systems.	0.15 AM	Demousl of Triploid Gross Com Using Figh
	Emily Deaver and John H. Rodgers, Jr., Dept. of Biology, University of Mississippi,	9:15 AM	Removal of Triploid Grass Carp Using Fish Management Bait (FMB). Craig T. Mallison,
	University, MS. Student Paper		Rue S. Hestand III, and Boyd Z. Thompson,
			Florida Game and Freshwater Fish
4:00 PM	Restoring Lake Jackson, Osceola Co.,		Commission, Eustis, FL.
	Florida, Mikel W. Hulon, Florida Game	9:30 AM	AMUR/STOCK Simulation for Examination
	and Freshwater Fish Commission, Kissimmee, FL.	9.30 A.W	of the Effects of Site Conditions on Plant Control by Grass Carp. R.M. Stewart and
4:15 PM	GPS/GIS Manning and Applications for		W.A. Boyd, U.S. Army Engineer Waterways
4:15 PM	GPS/GIS Mapping and Applications for Aquatic Plant Management. Terry McNabb, Resource Management, Inc., Tumwater, WA.		Experiment Station, Vicksburg, MS.

9:45 AM An Overview of Current Biological Control
Research for the Management of Aquatic
Plants. Alfred F. Cofrancesco, Michael J.
Grodowitz, and Ted Center, U.S. Army
Engineer Waterways Experiment Station,
Vicksburg, MS and USDA ARS, Aquatic
Plant Control Research Center,
Fort Launderdale, FL.

10:00 AM Break

10:15 AM Use of Native Aquatic Plants for Control of Nuisance Species in Guntersville Reservoir, Alabama. R.D. Doyle and R.M. Smart, U.S. Army Engineer Waterways Station, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX.

10:30 AM Laboratory Evaluations of Fluridone for Control of Hydrilla and Eurasian Watermilfoil. M.D. Netherland and K.D. Getsinger ,U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

10:45 AM Preliminary Evaluation of Water Exchange Characteristics at Lake Gaston and Implications for Herbicide Efficacy.

Stratford H. Kay, Steve Hoyle, Chad Coley, and Angela Poovey, Crop Science Dept., North Carolina State University, Raleigh, NC.

11:00 AM Phenological Timing of Control
Technologies for Eurasian Watermilfoil.
John D. Madsen, U.S. Army Engineer
Waterways Station, Lewisville Aquatic
Ecosystem Research Facility, Lewisville, TX.

11:15 AM Progress on Eradicating Catclaw Mimosa in Florida. David L. Sutton and Kenneth A. Langeland, University of Florida, IFAS, Fort Lauderdale Research and Education Center and Center for Aquatic Plants, Gainesville, FL.

11:30 AM Effects of Sub Lethal Doses of Garlon 3A and Komeen on Canopy Structure of Myriophyllum spicatum. Lars W.J.

Anderson, U.S. Dept. of Agriculture, ARS, Aquatic Weed Control Research Laboratory, University of California, Davis, CA.

11:45 AM APMS Business Meeting

12:00 PM Adjournment

12:30 PM APMS Board of Directors Lunch/Meeting

### **Alternate Papers**

Still Sampling Hydrilla Tubers - Don't We Ever Learn?

Alison Fox and Bill Haller, IFAS Center for Aquatic Plants,
University of Florida, Gainesville, FL.

The Effects of Triploid Grass Carp and Sonar Treatments on Aquatic Plants in Lake Yale. Rue S. Hestand, III, Boyd Z. Thompson, and Craig T. Mallison, Florida Game and Freshwater Fish Commission, Eustis, FL.

Egeria densa: Problems and Potential Solutions for the Sacramento Delta. Lars W.J. Anderson and Suzanne Fellows, U.S. Dept. of Agriculture, ARS, Aquatic Weed Control Research Laboratory, University of California, Davis, CA.

### TUESDAY EVENING PROGRAM

July 12, 1994 6:00-10:00 PM

A Texas Ho-Down at the Don Strange Ranch

Transportation provided from the hotel.

Meet in front of hotel on Alamo Street at 5:20 PM for bus transportation.

Casual Dress

## 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 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**

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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		

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