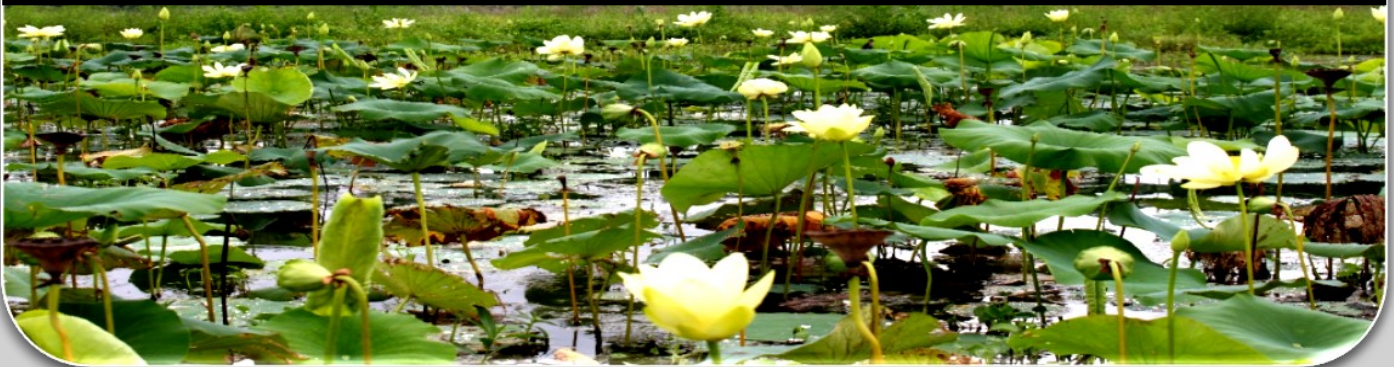


Mid-South Aquatic Plant Management Society

Vol. 37

Issue: 3



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38th Annual Mid-South Aquatic Plant Management Conference

November 4-6, 2019

Hilton Baton Rouge Capital Center

Baton Rouge, LA



The Mid-South Aquatic Plant Management Society
will hold our 38th
annual meeting at the Hilton
Baton Rouge Capital Center in Baton Rouge, LA.
Please visit the conference webpage at
<http://www.msapms.org/conferences/2019/>
for more information.

38th Annual Meeting of the MidSouth APMS Registration Form



Delegate/Student Information

Name: _____
 Affiliation: _____
 Address: _____
 City: _____ State: _____ Zip Code: _____
 E-mail Address: _____
 Phone: _____

Registration *(Includes Reception, Lunch, Banquet, and Refreshment Breaks)*

	Early <i>(by October 4, 2019)</i>	At the Door	
<input type="checkbox"/> Delegate Registration <i>(Includes 2019-2020 Regular Membership Dues)</i>	\$ 160.00	\$ 180.00	\$ _____
<input type="checkbox"/> Aquatic Plant Management Workshop Tour	\$ 25.00	\$ 25.00	\$ _____
<input type="checkbox"/> Student Registration (Presenting Paper)	\$ 0.00	\$ 0.00	\$ _____
<input type="checkbox"/> Student Registration (Not Presenting Paper) <i>(Includes 2019-2020 Student Membership Dues)</i>	\$ 35.00	\$ 35.00	\$ _____
<input type="checkbox"/> Guest Registration Name _____ <i>(Spouse, partner, child over 12 years-of-age)</i>	\$ 50.00	\$ 75.00	\$ _____

2019-2020 Membership Dues

<input type="checkbox"/> Student	\$ 5.00	\$ _____
<input type="checkbox"/> Sustaining	\$ 75.00	\$ _____

*** PLEASE NOTE that Sustaining membership dues are included with an Exhibit Space Fee ***

Meeting Sponsorship

<input type="checkbox"/> Platinum	\$ 1750.00	\$ _____
<input type="checkbox"/> Gold	\$ 1250.00	\$ _____
<input type="checkbox"/> Silver	\$ 750.00	\$ _____
<input type="checkbox"/> Contributing	\$ 500.00	\$ _____

Exhibitor Space *(Includes 1 booth space, 1 free registration and 1 Sustaining Membership for 2019-2020)*

<input type="checkbox"/> Exhibit Booth Space (8' x 10', 6-foot table, electrical hook-up available with prior notice)	\$ 550.00	\$ _____
---	-----------	----------

Electricity Required for Exhibit ☐ Yes ☐ No

Space is allocated on a first-come, first-served basis.

Newsletter Advertisement *(Includes advertisement in 2019-2020 Newsletters)*

<input type="checkbox"/> Full Page	\$ 400.00	\$ _____
<input type="checkbox"/> Half Page	\$ 200.00	\$ _____
<input type="checkbox"/> Quarter Page	\$ 100.00	\$ _____
<input type="checkbox"/> Business Card	\$ 50.00	\$ _____

Total Amount

\$ _____

Credit Card Type _____ Card Number _____ CCV _____ Exp. _____

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City: _____ State: _____ Zip Code: _____

Early registration accepted if form and payment received by Oct. 4, 2019.

Please mail completed form and payment to:

Harry Knight

MSAPMS

14 Valerie Ln

Cullman, AL 35058

Ph: (256) 531-8436 E-Mail: msapms15@gmail.com

Cancellation/Refund Policy: Registration fees are fully refundable prior to Oct. 4, 2019. No refund of any fees will be issued if cancellation of participation is received after Oct. 4, 2019. Notice of cancellation must be received by MSAPMS via mail, fax or e-mail. **Phone cancellations will not be accepted.**

Meeting Agenda

Monday, November 4th

Monday's Agenda-at-a-Glance

- 3:00 pm - 5:00 pm Board of Directors Meeting (*Magnolia Room*)
- 1:00 pm - 5:00 pm Meeting Registration (*Foyer*)
- 1:00 pm - 5:00 pm Exhibits Setup (*Riverview B*)
- 5:00 pm - 7:00 pm Welcoming Social (*Heidelberg Ballroom*)

Dinner on your own

Tuesday, November 5th

Tuesday's Agenda-at-a-Glance

- 7:00 am - 8:00 am Breakfast (*Riverview B*)
- 8:00 am - 5:00 pm Meeting Registration (*Foyer*)
- 8:00 am - 5:00 pm Exhibits Open (*Riverview B*)
- 8:00 am - 12:15 pm Midsouth APMS Aquatic Plant Workshop (*Riverview A*)
- 10:00 am - 10:15 am Refreshment Break (*Riverview B*)
- 10:15 am - 12:15 pm Midsouth APMS Aquatic Plant Workshop Continued (*Riverview A*)
- 12:15 pm - 1:30 pm Lunch (*on your own*)
- 1:30 pm - 3:15 pm General Session I (*Riverview A*)
- 3:15 pm - 3:30 pm Refreshment Break (*Riverview B*)
- 3:30 pm - 5:00 pm General Session II (*Riverview A*)

Dinner on your own

Midsouth APMP Aquatic Plant Workshop (*Riverview A*)

- 8:00 am **Aquatic Plant Identification**
Chris Mudge
U.S. Army ERDC, Baton Rouge, Louisiana
- 8:30 am **Herbicides for Use in Aquatic Environments**
Gray Turnage
Mississippi State University, Starkville, Mississippi
- 9:00 am **Biological Control of Aquatic Weeds – Principles and Applications**
Rodrigo Diaz
Louisiana State University, Baton Rouge, Louisiana
- 9:30 am **Mass Rearing of Salvinia Weevil (*Cyrtobagous salviniae*) for Biological Control of Giant Salvinia**
Charles Wahl
Louisiana State University, Baton Rouge, Louisiana
- 10:00 am **Refreshment Break (Riverview B)**
- 10:15 am **Urban Pond Management and Interacting with the Public**
Kenneth Rust
Louisiana Pond Management, Baton Rouge, Louisiana
- 11:00 am **Boating Safety and Operation Basics**
Alex Perret
Louisiana Department of Wildlife and Fisheries, Baton Rouge, Louisiana
- 11:45 am **Aquatic Plant Identification**
Chris Mudge
U.S. Army ERDC, Baton Rouge, Louisiana

12:15 pm **Lunch on your own**

Special Session – Public Relations in Aquatic Plant Management (*Riverview A*)

Moderator: **Brett Hartis**, *Duke Energy Corporation, Huntersville, North Carolina*

1:30 pm **Opening Remarks and Announcements**
Brett Hartis
Duke Energy Corporation, Huntersville, North Carolina

1:35 pm **Presidential Address**
Scott Jackson
Syngenta, West Palm Beach, Florida

1:45 pm **Stakeholder Communication – Keeping Cool Under Fire!**
Shelby Oesterreicher
University of Florida, Gainesville, Florida

2:15 pm **Communicating with the Public – What Applicators and Managers Should Know**
Jay Ferrell
University of Florida, Gainesville, Florida

2:45 pm **Social Media Best Management Practices**
Shelby Oesterreicher
University of Florida, Gainesville, Florida

3:15 pm **Refreshment Break** (*Riverview B*)

General Session II (*Riverview A*)

Moderator: **Brett Hartis**, *Duke Energy Corporation, Huntersville, North Carolina*

3:30 pm **Glyphosate; Science, Litigation, and Future Direction**
Jay Ferrell
University of Florida, Gainesville, Florida

4:30 pm **Diquat Q&A Review**
Scott Jackson
Syngenta, West Palm Beach, Florida

5:00 pm **General Sessions Conclude - Announcements**

Dinner on your Own

Wednesday, November 6th - General Sessions

Wednesday's Agenda-at-a-Glance

7:00 am - 8:00 pm	Breakfast (<i>Riverview B</i>)
8:00 am - 5:00 pm	Meeting Registration (<i>Foyer</i>)
8:00 am - 5:00 pm	Exhibits Open (<i>Riverview B</i>)
8:00 am - 10:00 am	Session III (<i>Riverview A</i>)
10:00 am - 10:20 am	Refreshment Break (<i>Riverview B</i>)
10:20 am - 12:30 pm	Session IV (<i>Riverview A</i>)
12:30 pm - 2:00 pm	MSAPMS Award Luncheon (<i>Heidelberg Ballroom</i>)
2:00 pm - 3:20 pm	Session V (<i>Riverview A</i>)
3:20 pm - 3:30 pm	Refreshment Break (<i>Riverview B</i>)
3:30 pm - 4:20 pm	Session VI (<i>Riverview A</i>)
4:20 pm - 5:00 pm	Business Meeting (<i>Riverview A</i>)
5:00 pm - 5:30 pm	Board of Directors Meeting (<i>Magnolia Room</i>)
5:30 pm - 9:00 pm	Presidential Farewell Social and Raffle (<i>Heidelberg Ballroom</i>)

General Session III (*Riverview A*)

Moderator: J.J. Ferris, *Cygnets Enterprises, Statesville, NC*

- 8:00 am **Impact of Metsulfuron on Non-target Aquatic and Upland Species**
William Prevost
Louisiana State University, Baton Rouge, LA
- 8:20 am **Comparing Efficacy Between Generic vs. Proprietary Aquatic Herbicides for Control of Emergent Plants**
Chris Mudge
U.S. Army ERDC, Baton Rouge, LA
- 8:40 am **Investigation of Reduced Herbicide Rates and Tank Mixes Applied via Submersed Injection for the Control of Cuban Bulrush (*Oxycarum cubanense*)**
Gray Turnage
Mississippi State University, Starkville, Mississippi
- 9:00 am **Growth Trends of Giant Salvinia (*Salvinia molesta*) in North Louisiana**
Alex Perret
Louisiana Department of Wildlife and Fisheries, Baton Rouge, Louisiana
- 9:20 am **How Does Giant Salvinia Impact Macroinvertebrate Community Structure?**
Charles Wahl
Louisiana State University, Baton Rouge, Louisiana
- 9:40 am **Measuring Wetland Recovery Following Control of Giant Salvinia by the Salvinia Weevil in Cameron Parish, Louisiana**
Steven E. Woodley
Louisiana State University, Baton Rouge, Louisiana
- 10:00 am **Refreshment Break** (*Riverview B*)

General Session IV (*Riverview A*)

Moderator: Gray Turnage, *Mississippi State University, Starkville, Mississippi*

- 10:20 am **Novel Host Association of *Parenthis vestitus* on the Invasive Aquatic Plant *Myriophyllum aquaticum***
Seth Spinner (Student Presentation)
Louisiana State University, Baton Rouge, Louisiana
- 10:40 am **Response of Water Quality Metrics to Foliar Herbicide Applications and Subsequent Plant Breakdown of American Frogsbit**
Adrian Lazaro-Lobo (Student Presentation)
Mississippi State University, Starkville, Mississippi
- 11:00 am **Short and Long-term Response of Fragrant Water Lily to Foliar Herbicide Applications**
Ally Ratliff (Student Presentation)
Mississippi State University, Starkville, Mississippi
- 11:20 am **Response of Water Quality Metrics to Foliar Herbicide Applications and Subsequent Plant Breakdown of Three Rooted Aquatic Plant Species**
Landon Sanders (Student Presentation)
Mississippi State University, Starkville, Mississippi
- 11:40 am **Chosen vs. Forced Risk**
Kim Brown
Louisiana State University Agricultural Center, Baton Rouge, Louisiana
- 12:30 pm **MSAPMS Awards Luncheon (Heidelberg Ballroom)**

General Session V (*Riverview A*)

Moderator: **Adam Charlton**, *Aquatic Control, Elizabethtown, Kentucky*

2:00 pm **An Integrated Approach to Control Aquatic Vegetation in Spring Bayou, Louisiana**

Jody David

Louisiana Department of Wildlife and Fisheries, Baton Rouge, Louisiana

2:20 pm **Adaptive Strategies for Management of Floating Invasive Weeds**

Mark Heilman

SePRO Corporation, Carmel, Indiana

3:00 pm **Rhodamine Dye Application to Investigate Unsuccessful Curly-leaf Pondweed Treatments in Swan Lake, MN**

Justin Nawrocki

UPL, Raleigh, North Carolina

3:20 pm **Refreshment Break** (*Riverview B*)

General Session VI (*Riverview A*)

Moderator: **Wes Anderson**, *Alabama Power, Calera, Alabama*

3:30 pm **APMS Update**

Mark Heilman

SePRO Corporation, Carmel, Indiana

3:50 pm **Industry and Product Updates**

4:20 pm **Annual Business Meeting** (*Riverview A*)

5:00 pm **Adjourn**

5:00 pm **Board of Directors Meeting** (*Magnolia Room*)

5:30 pm **Presidential Farewell Social and Raffle** (*Heidelberg Ballroom*)

For this year's conference, we are trying something a bit different. We are happy to announce that we will be having the FIRST EVER Presidential Farewell Social on Wednesday, November 6th starting at 5:30pm! With the awards being presented during the Awards Luncheon earlier in the day, we will have a fun filled early evening with entertainment, raffles and prizes all to benefit the scholarship foundation!

After all the CEU's have been earned and your minds pleasantly crammed full of new ideas it will be time to enjoy some friendship and unwind! There will be cornhole, laser shooting game, box raffles, a reverse raffle and back by popular demand, we will be having a Hammerschlagen tournament. This will be a fantastic way to end the conference and help the society.

Midsouth Aquatic Plant Management Society

Nominating Committee Report

March 12, 2019

Nominating Committee:

Jeremy Slade, Past President (Chair)

Craig Aguillard

Alex Perret

Warren Wagner

The Nominating Committee presents the following slate for consideration by the MSAPMS Board of Directors:

President Elect — Wes Anderson (Alabama Power)

Secretary — Gray Turnage (Mississippi State Univ.)

Treasurer — Harry Knight (Nutrien)

Editor – Bradley Sartain (USACE)

Director – Carl Della Torre (Orion Solutions LLC)

Director – Daniel Hill (LA Wildlife & Fisheries)

Director – J.J. Ferris (Cygnet Enterprises)

Respectfully submitted,



Jeremy Slade

Immediate Past President - Midsouth APMS

New Hires

Benjamin Sperry

***Research Assistant
University of Florida***

Dr. Benjamin P. Sperry is an Assistant Research Scientist at UF/IFAS CAIP. He received his bachelor's and master's from the UF College of Agricultural and Life Sciences in Plant Science and Agronomy – Weed Science, respectively. He then went on to earn his Ph.D. from Mississippi State University in Agronomic Weed Science in May of 2019. While his formal training is weed science in agricultural systems, Dr. Sperry has held several positions prior to graduate school related to terrestrial invasive plant management. He is an avid outdoorsman who became familiar with aquatic invasive plants and their associated problems at an early age.



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Control of Cuban bulrush – Research Update

Mississippi State University, Geosystems Research Institute

Gray Turnage

In 2017, an herbicide screening trial for the control of the invasive aquatic plant Cuban bulrush (*Oxycaryum cubense*) with submersed herbicide applications was conducted at the Mississippi State University (MSU) Aquatic Plant Research Facility and funded by the Florida Fish and Wildlife Conservation Commission (FWC). The 2017 trial found that the herbicides triclopyr (1.5 ppm), fluridone (0.02 ppm), flumioxazin (0.4 ppm), and carfentrazone-ethyl (0.2 ppm) had the greatest reduction of Cuban bulrush out of the 10 herbicides tested.

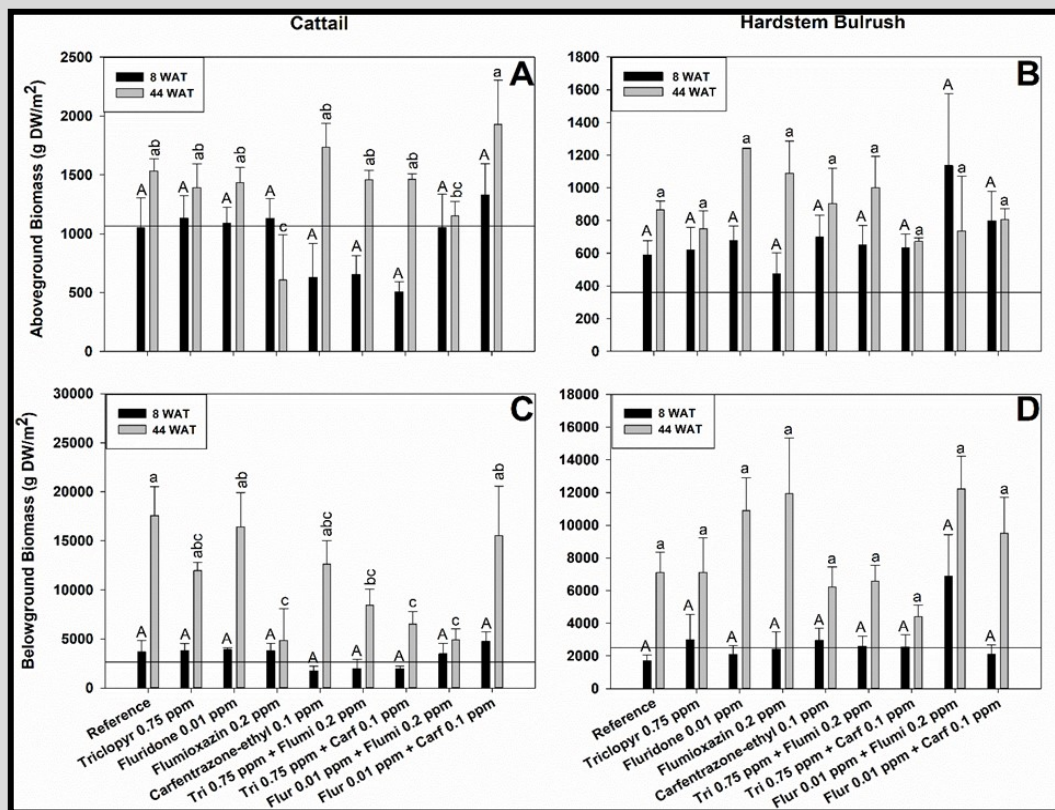


Figure 1: Cattail (A & C) and hardstem bulrush (B & D) biomass at 8 and 44 WAT. Solid lines represent pre-treatment biomass. Error bars are one standard error of the mean. Bars sharing the same letter, within biomass type and harvest date, are not significant at $\alpha = 0.05$ level.

or fluridone, and triclopyr mixed with carfentrazone-ethyl reduced cattail below-ground biomass at 44 WAT when compared to non-treated references (Figure 1). Flumioxazin alone and mixed with fluridone reduced cattail aboveground biomass at 44 WAT.

Continued..

In 2018, a second study was conducted to investigate reduced rates of these four herbicides alone and as tank mixtures to selectively control Cuban bulrush grown with two native species: Cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*). None of the herbicides tested negatively affected hardstem bulrush (Figure 1).

Flumioxazin alone, mixed with triclopyr

All herbicides and herbicide combinations reduced Cuban bulrush at 44 WAT when compared to non-treated references (Figure 2). The herbicide rates and mixtures investigated here suggest that Cuban bulrush can be selectively controlled when growing with hardstem bulrush but care should be taken to select the appropriate herbicide rate and combination when trying to control Cuban bulrush when intermixed with cattail.

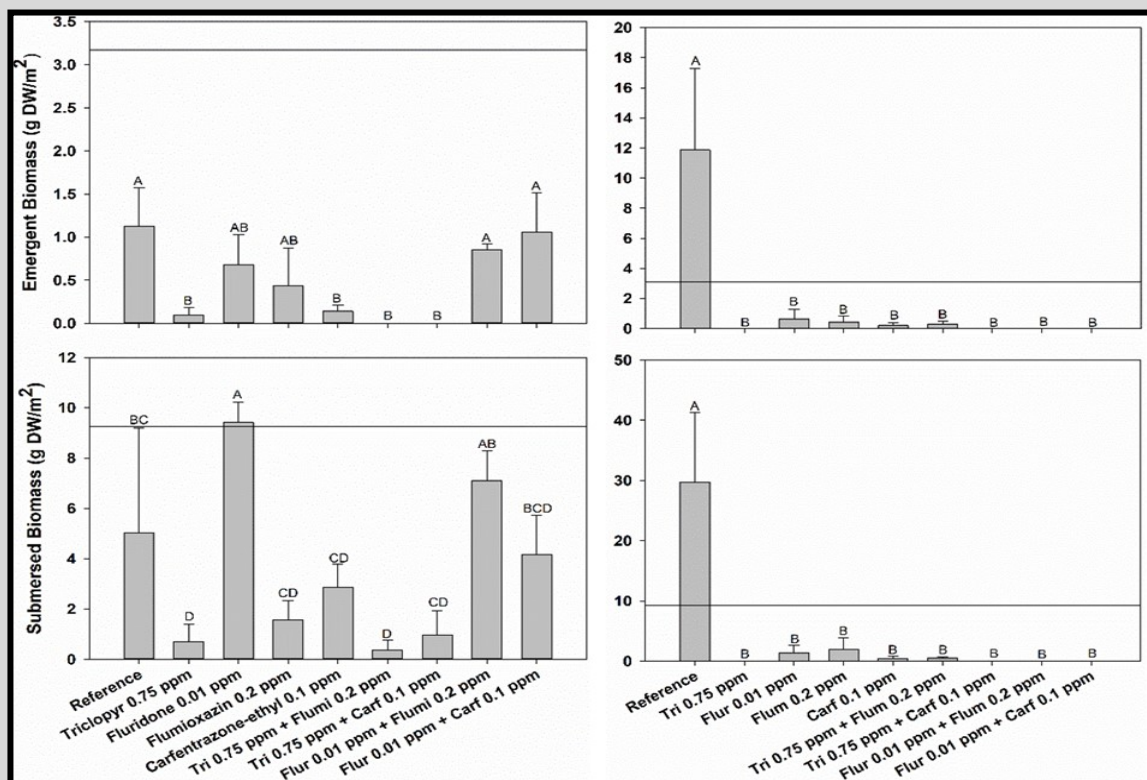


Figure 2. Cuban bulrush biomass at 8 (left) and 44 WAT (right). solid lines represent pre-treatment biomass. Error bars are one standard error of the mean. Bars sharing the same letter are not significant at $\alpha = 0.05$.

A Note From The Editor

I am always looking for good material to include in the MSAPMS newsletter. If anyone has any news related to aquatic plant management or a unique experience that they would like to share in the newsletter, please contact me at one of the email address listed below.

Thank you

-B. Sartain

bradsartain@gmail.com

Bradley.T.Sartain@usace.army.mil

THE AQUATIC PLANT MANAGEMENT SOCIETY, Inc.

7922 NW 71st Street
Gainesville, FL 32653

www.apms.org

ANNOUNCEMENT

Michael D. Netherland

APMS GRADUATE STUDENT RESEARCH GRANT

Subject Matter: A graduate student research grant in the area of aquatic plant or algae management and ecology is being offered by the Aquatic Plant Management Society. Co-sponsors of this academic award include regional APMS chapters: Florida, MidSouth, Midwest, Northeast, South Carolina, Texas, and Western.

Objective: Provide a grant for a full-time graduate student to conduct research in aquatic plant or algae management techniques (used alone or integrated with other management approaches) or in aquatic ecology related to the biology or management of regionally or nationally recognized nuisance aquatic vegetation (macrophytes, algae, or cyanobacteria).

Applicants: Solicitation for proposals is open to any full-time faculty member and/or graduate student of an accredited U.S. academic institution. A faculty sponsor must be identified if the application is submitted by a graduate student.

Amount: \$40,000 (APMS does not pay overhead or indirect charges).

Duration: Two (2) years (\$20,000 per year).

Proposal Deadline: Applications must be postmarked no later than April 17 th, 2020.

Guidelines for Proposals: Proposals should contain a concise statement of the project, including its purpose and justification, as well as sections that discuss study objectives, methodology, schedule, budget, and planned publication of results. The résumé of the faculty applicant and graduate student (if known) should not exceed two (2) pages each. Proposals should not exceed ten (10) pages, and must be signed by the applicant (principal investigator) and an appropriate university official. Include copies of your five (5) most recent peer reviewed publications.

**Please submit a pdf file of your full application via email to Ryan Thum,
APMS Vice President at: ryan.thum@montana.edu**

Award: Notification of award will be provided to the faculty member in time to make arrangements to attend the APMS 60th Annual Meeting (July 19-22, 2020 – Hyatt Regency Riverwalk, San Antonio, Texas). Formal announcement of the recipient will be made at the Annual Meeting, with initiation of the grant scheduled for the 2021-2022 academic year. Payments in the amount of \$20,000 will be made before January 31st of 2021 and 2022.

Requirements: Semi-annual progress reports must be submitted to APMS prior to June 30th and December 31 st for each year of the grant. The faculty member and student must participate in at least one APMS Board of Directors meeting and attend the APMS Annual Meeting. The student must present results of the funded research at least one time over the duration of the grant, although it is preferred that presentations are made annually. Upon completion, a final report must be submitted to APMS.

For more information on the APMS

Michael D. Netherland Graduate Student Research Grant

Visit the APMS website: <http://www.apms.org>

Inquiries: Dr. Ryan Thum

APMS Vice President 406-994-4039

ryan.thum@montana.edu

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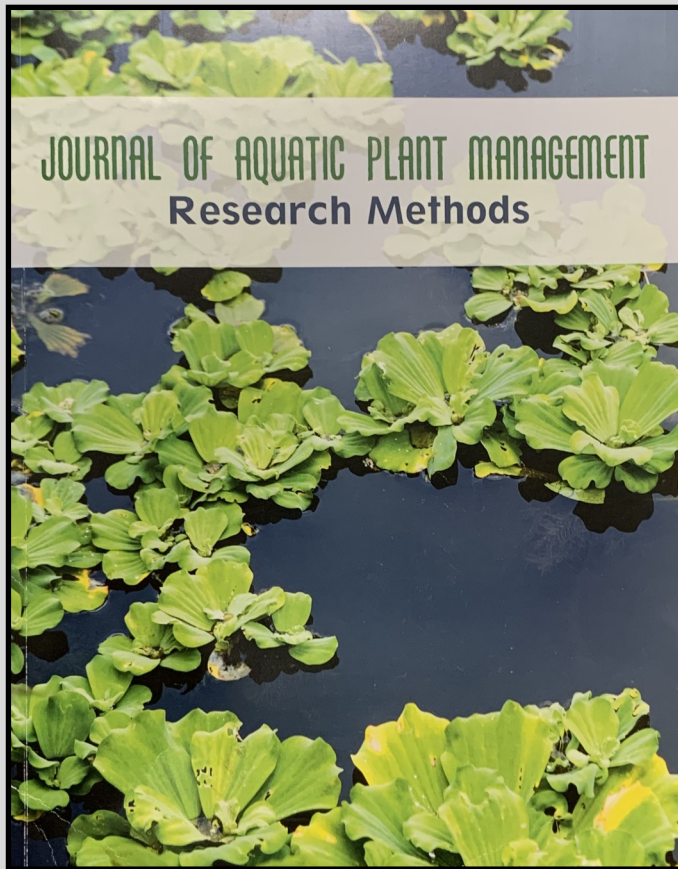
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*Terms and Conditions of the 2013 H2O Aquatic Herbicide Performance Guarantee apply. The maximum benefit a Qualifying Participant may receive during the 2013 Program Period is a \$50,000 contribution toward the cost of retreatment.

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Journal of Aquatic Plant Management Research Methods



JOURNAL OF AQUATIC PLANT MANAGEMENT Research Methods	
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Journal of Aquatic Plant Management : Research Methods

The Aquatic Plant Management Society hopes this publication will set a standard for conducting high-quality research for the next several decades. As the pioneers of these techniques move into retirement, we hope this collection of articles will help prepare the next generation of aquatic plant managers to lead our discipline with innovation and passion.

- Jason Ferrell, Ph.D. Editor

Copies can be purchased from the
Aquatic Plant Management Society Webpage
www.apms.org

In Remembrance of David Paul Tarver - February 16, 1951 – October 2, 2019



David Paul Tarver, age 68, of Tallahassee Florida, passed away October 2, 2019 after a lengthy battle with cancer. Many knew him as David, others knew him as Paul. David joined the Aquatic Plant Management Society (APMS) in 1973 after graduating from Northwestern State University in Louisiana with a BS degree in Wildlife Management. He received a master's degree in Botany from NSU in 1974 and joined the Florida Department of Natural Resources where he provided aquatic plant management extension services and law enforcement duties while serving as the Northwest Florida regional biologist.

David was hired by Eli Lilly and Dow to work in Sonar herbicide product development from 1981-1994, and SePRO from 1995-2011 to become Director of Technical Development. During this period, David was a leader in developing strategies to apply fluridone herbicide alone and in combination with other tools to bring hydrilla under maintenance control in Florida public lakes and rivers.

He served on the FAPMS Board of Directors from 1983 - 1987 and the APMS Board from 1995-2003. David was the publisher of Aquatics magazine from 1985-2009. He worked in APMS Education and Outreach where he co-authored the "Understanding Invasive Aquatic Weeds" workbook distributed to more than a

half million students. For his many years of service to aquatic resource management, APMS bestowed Honorary Membership to David in 2012.

For more than four decades, David Tarver personified innovation and customer service – both with regulatory agencies and the private sector, spending countless hours on Florida lakes and elsewhere in the country; assessing problems and creating management solutions, then passing that information to managers and stakeholders. Few have shown David's relentless passion to improve the science and management of invasive aquatic plants or had such positive impacts restoring and maintaining the uses and functions of lakes and rivers as David Tarver.

David Paul was a devoted husband, father, and grandfather. He loved, protected, and cherished his family above all else. Paul married his high school sweetheart, Debra Gallien in 1973. Together, they shared a lifetime of experiences including traveling, raising two boys and loving their precious grandchildren. He shared his vast knowledge of science with his grandchildren through countless hours helping them with homework and teaching them how to study. Paul shared his passion and skills as an Eagle Scout and Boy Scout volunteer with his two sons, Dusty, Josh, and many of their friends. He supported their endeavors in sports, hunting and fishing, and taught them to value education and have respect for our country.

He was preceded in death by his father Lee Tarver, mother Lucille Pope Tarver, and daughter-in-law, Elizabeth Marie Evans Tarver. He is survived in his immediate family by his wife of 46 years Debra Gallien Tarver, son Dustin and wife Selena; grandchildren Presley Tarver and Bristol Tarver, and Sterling Moon, Asher Moon, and Luciano Moon, and son Josh and grandson, Colby.

Donations can be made to:
University of Florida Health Shands Cancer Hospital
1515 Southwest Archer Road
Gainesville, FL 32608.

Upcoming Annual Meetings/Events

2019

October 27 -31 International Conference on Aquatic Invasive Species; Montreal, Q C, Canada

November 11-15 North American Lake Management Society; Burlington, VT

November 20 -22 Texas Aquatic Plant Management Society; Bryan, TX

2020

January 14-16 Northeast Aquatic Plant Management Society Lake; Placid, NY

February 10-12 Midwest Aquatic Plant Management Society; Indianapolis, IN

March 2-5 Weed Science Society of America; Maui, HI

March 16-18 Western Aquatic Plant Management Society; Tucson, AZ

Thank you to Our Sustaining Members for Supporting the Mid-South Aquatic Plant Management Society!

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- Stainless Steel Wrapped Motor Lead
- Control Panel w/Timer and Photocell
- 3 Spray Patterns: Classic, Trumpet, Crown & Trumpet
- Energy Efficient
- Industry Leading Spray Patterns
- Maintenance Free Motor Design
- 3 Year Warranty

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