

Mid-South Aquatic Plant Management Society

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A Message from the President

Hello Mid-South APMS members!

2017 was an interesting and exciting year with multiple hurricanes impacting the Mid-South region, exotic/invasive species continuing to spread and rumors of change in government of “Making Aquatic Plant Management Great Again”. In all seriousness, problematic plants and algae continue to plague our water resources and the members of this Society do a great job to combat these nuisances to provide excellent recreational opportunities as well as clean sources of water. As a member of this Society, please don’t hesitate to share what you deal with or are having problems with in your job. Someone has probably dealt with it or could provide a suggestion or solution with the vast knowledge and experience our membership holds. Another successful Mid-south Annual Training Conference is in the books! The conference held in Birmingham, Alabama, originally scheduled for the week of September 11th was postponed due to Hurricane Irma. However, with a diligent Board of Director’s, very willing sponsors, exhibitors and presenters and an AWESOME meeting planner (drum roll....Mr. Bill Torres) the meeting was rescheduled for the week of November 6th and turned out GREAT! I personally want to Thank all of the sponsors, exhibitors, presenters and attendees for your participation and continued support of the Mid-south APMS. Without all of you the Mid-South APMS would not be what it is today. With feedback from YOU, the next training conference location and date has already been chosen so mark you 2018 calendar for November 5th-7th to be in Chattanooga, Tennessee at the Embassy Suites – Chattanooga Hamilton Place. This time of year seemed to work better for many of our members with less conflict with those pesky “work” duties. The Society is always looking for willing volunteers to participate on the Board of Directors and committees.

Continued on next page...



Congratulations to our student scholarship winner, Eryn Molloy, from North Carolina State University. She will be giving a presentation on her research at next year's conference. Student participation at our annual conference is one of the Society's primary objectives, so please let students know about us and ask them to participate. The Society provides a small award for presenting and travel stipends are available. In closing, I Thank You for allowing me to be the President of such a great Society. I'm excited for what 2018 will bring. If you have any questions, comments or concerns, please direct them to Scott Jackson (scott.jackson@syngenta.com) and he will be happy to take care of them....If you've thought about getting on the Board, please get with a current Board member and they can share their experience and insure your name is on the ballot for 2019. I look forward to seeing everyone in 2018!!

Sincerely,

Jeremy Slade

Jeremy Slade



**Thanks to all the
students who
presented their
research at the 2017
Mid-South APMS
Conference in
Birmingham, AL**

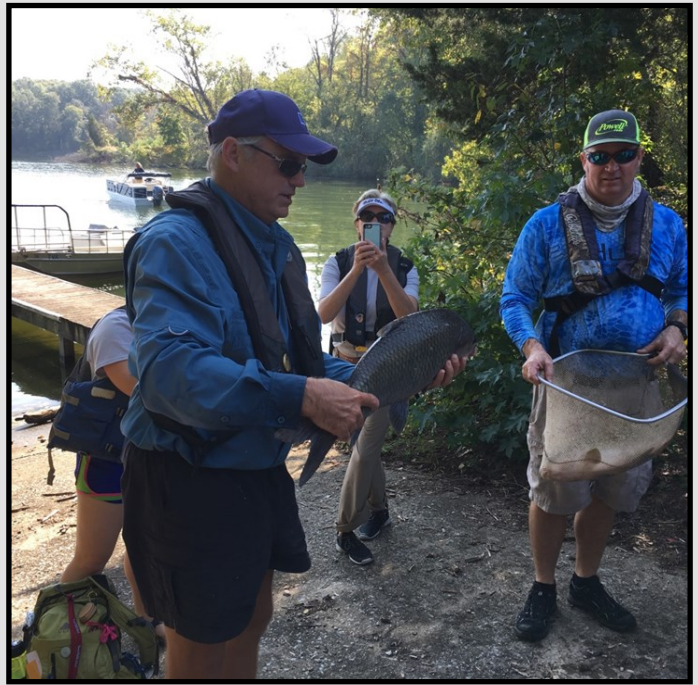


PLANT CAMP 2017

In September of 2017 educators from Tennessee and Mississippi attended “TVA Plant Camp”, a 3 day workshop focusing on non-native and invasive plant species in the Tennessee Valley. Twenty-four (24) educators were selected from nearly 100 applicants to attend the camp where they learned about some of the Tennessee Valley’s most problematic plants. Elementary through high school teachers were taught basic plant identification, aquatic and terrestrial plant science, fisheries management, as well as aquatic plant management tools and techniques. Working from the University of Florida model, this workshop gives teachers the background and materials to teach students about environ-

mental and economic impacts of invasive species in and on local lands and waters. The camp was led by TVA Aquatic Plant Management Program Manager Brett Hartis and his staff along with guest speakers from Mississippi State University, AERF, and Aqua Services Inc. On day one, the teachers got acquainted and worked through an introduction to invasive species which included the recently released National Silent Invaders Video. On day two, the teachers were given hands on experience with aquatic plant identification and wetland functions as well as management demonstrations and an airboat tour of Watts Bar Reservoir. On day three, the teachers were introduced to relationships between plants and fish and were able to take part in electrofishing surveys. The teachers were also taken on a hike showcasing the regions troublesome terrestrial invaders and were introduced to prescribed fire as a management tool. Lastly, the teachers were introduced to Lakeville-A Natural Resource Management Activity designed specifically for the mid-south region by the University of Florida. The event was co-sponsored by the Aquatic Plant Management Society, Aquatic Ecosystem Restoration Foundation, Mississippi Department of Natural Resources, and the Mid-South Aquatic Plant Management Society.





**Thanks for the Plant
Camp Update
Dr. Hartis!**

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STATE UPDATES

TENNESSEE

*Dr. Brett Hartis
Program Manager
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The volunteer state saw near record growth of submersed aquatic plants in 2017. A warm winter allowed several submersed species, including Eurasian watermilfoil (*Myriophyllum spicatum*) to see resurgence in several reservoirs of the Tennessee River including Watts Bar, Melton Hill, and Fort Loudon. New introductions of hydrilla (*H. verticillata*) were discovered in the French Broad River drainage in far East Tennessee as well as within Tellico Reservoir. The 14,000 acre water body is just upstream of Watts Bar Reservoir, which saw introduction of the species in 2015. The Tennessee Valley Authority (TVA) continues to manage nuisance aquatic plants along developed, public shoreline in many reservoirs along the Tennessee River. TVA also plans to begin stocking Triploid Grass Carp into Beech Reservoir located in West Tennessee to control hydrilla. This is the first stocking of grass carp by the agency in nearly three decades. The State continues to struggle with Parrotfeather (*Myriophyllum aquaticum*) in Reelfoot lake and other water bodies as well.

ALABAMA

Mild winters in early 2017 might have led to some of the best aquatic plant growth seen in years, however a wet spring helped stifle submersed growth in Reservoirs like Guntersville and Pickwick Reservoirs which have traditionally had major issues with nuisance aquatic plant growth. New introductions of Water Hyacinth (*Eichhornia crassipes*) and Cuban bulrush (*Oxycarum cubense*) were recorded on Guntersville Reservoir as well as a new introduction of Giant Salvinia (*Salvinia molesta*) within parts of Pickwick Reservoir. The TVA managed approximately 220 acres of water hyacinth on Lake Guntersville in an attempt to slow the spread of the newly introduced species. The Agency is currently developing a response to slow the spread of giant salvinia within the system as well.

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LOUISIANA

*Daniel C. Hill
Aquatic Plant Control Coordinator
Louisiana Dept. Wildlife & Fisheries*

The Louisiana Department of Wildlife and Fisheries (LDWF) Aquatic Plant Control Program is charged with maintaining boating access for recreation in the public waters of Louisiana. Left to their own accord, aquatic invasive plants have the potential to completely inundate

Louisiana's freshwater lakes, making them inaccessible and threatening the natural habitat of our valuable natural resources. Multiple approaches are necessary to combat nuisance vegetation in affected waters to restore and improve the aquatic habitat and the natural balance of the ecosystem.

In the past decade, LDWF has implemented a three-pronged approach to combat nuisance aquatic vegetation. This Integrated Pest Management (IPM) strategy utilizes the effects of chemical, mechanical, and biological control methods. The long-term benefits and cost efficiency provided by the IPM strategy allows LDWF to effectively manage the aquatic vegetation infestations in Louisiana's public waterbodies.

In 2017, Environmental Protection Agency (EPA) approved aquatic herbicides and surfactants were applied to 76,918 acres of nuisance aquatic vegetation to provide recreational opportunities and boating access in public waters in Louisiana. The majority of these efforts included control of 47,872 acres of giant salvinia, 20,963 acres of water hyacinth, 1,988 acres of alligator weed, and 1,532 acres of common salvinia. In addition, approximately 1,291,490 adult giant salvinia weevils were stocked into waterbodies throughout the state. This includes approximately 261,420 adult salvinia weevils stocked into Lake Bistineau.

LDWF has encountered two new aquatic nuisance species of concern. The first, yellow floating heart (*Nymphoides peltata*), was discovered in United Bay on the Toledo Bend Reservoir. Yellow floating heart can form dense floating canopies interfering with boating access and fishing opportunities.

Continued on next page..



Yellow Floating Heart, Photo Courtesy of Villis Dowden
LDWF

LOUISIANA CONT.

After several trials, the most effective treatment of flumioxazin (12 oz./acre) was implemented. Over the last several years, LDWF has successfully treated 57 total acres. This has allowed LDWF to keep yellow floating heart at manageable levels and prevent in the spread to other areas of Toledo Bend.



Crested floating heart; Photo courtesy of Jonathan Winslow

The second new aquatic nuisance species of concern is crested floating heart (*Nymphaoides cristata*). Like its' noxious cousin, crested floating heart can form dense floating canopies that interfere with recreational activities. Crested floating heart was discovered in the Riverscape area of the Amite River basin and successfully treated with the following mixture: 64 oz./acre Triclopyr, 12 oz./acre flumioxazin, and 96 oz./acre Breeze surfactant. A total of 8 acres have been treated of this noxious weed and it has thus far been kept at manageable levels.

LDWF creates and updates aquatic vegetation management plans for public waterbodies in the state. These documents are used as a guide for IPM and as a source of recommendations and information for lake authorities and the public. The Vegetation Management Plans are available online at the Louisiana Department of Wildlife and Fisheries website: www.wlf.la.louisiana.gov.

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2017-2018 Mid-South Aquatic Plant Management Scholarship Recipient Eryn Molloy

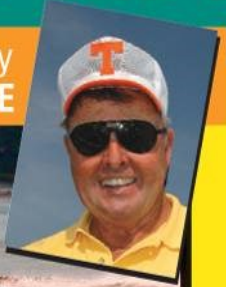
I have been working with Dr. Richardson at North Carolina State University since February 2016. Over the course of my time as an undergraduate assistant I helped many talented students working on different facets of aquatic plant management from conservation efforts to herbicides, and even some remote sensing. My undergraduate degree program placed a large emphasis on water quality so finding this niche of aquatic plants has been amazing to implement my knowledge.

Currently I am working on a master's degree and my research focuses on selective herbicide trials to preserve native vegetation as well as a potential project working with golf courses and water quality related to herbicides. Learning new skills and understanding the different levels of management will help me pursue my future goals. Ideally, I would like to become a major land/lake manager or continue in research with invasive, aquatic plants. I also strive to share this new passion with fellow students and raise general awareness to related issues. Everyone in my classes can confidently identify hydrilla now!



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A Note From The Editor

I am happy to announce that I am the newly appointed Editor for the Mid-South newsletter. I'd like to thank Dr. Fleming for his prior Editor services and the advice and guidance as I took on the Editor responsibilities. This is my first newsletter ever and it was a bit of a challenge at the beginning but things are starting to fall into place. I could use some help on getting information to publish and it doesn't have to be something scientific. I have had thoughts about constructing a bragging board page that will allow members to submit a photo of something he/she or family member has accomplished. This could be anything from a child's first fish, a trophy animal harvest, or an interesting wildlife photo. I'm looking forward to some warmer weather and I wish everyone well through the remainder of winter and into early spring!

-B. Sartain

bradsartain@gmail.com

Upcoming Annual Meetings/Events 2018

February 26-March 1 Midwest APMS Conference; Cleveland, Ohio

March 26-28 Western APMS Conference; Reno, Nevada

May 7-10 Aquatic Weed Short Course; Coral Springs, Florida

July 15-18 Aquatic Plant Management Conference; Buffalo, New York

September 5-6 Aquatic Weed School; University of California, UC Davis

October 3-5 South Carolina APMS Conference; Myrtle Beach, South Carolina

October 15-18 Florida APMS Conference; Daytona Beach, Florida

November 5-7 Mid-South APMS Conference; Chattanooga, Tennessee



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Cuban bulrush (*Oxycaryum cubense*) control strategies

**Gray Turnage
Mississippi State University
GeoSystems Research Institute**

Cuban bulrush (*Oxycaryum cubense*) is a perennial invasive aquatic plant species native to South America that is spreading across Florida and the Southeastern US. Cuban bulrush is known to form large floating islands (tussocks) that can block boat launches, impede navigation along river channels, negatively affect drainage canals, and degrade fishery habitat by lowering dissolved oxygen under the tussock. Cuban bulrush is capable of outcompeting and displacing native and other invasive species for resources thereby disrupting ecosystem processes. Cuban bulrush is capable of sexual and asexual reproduction. During initial colonization Cuban bulrush exists as an epiphytic species that utilizes other aquatic plants or structures for habitat. However, once a plant mat has captured enough sediment from the water column in the root/rhizome network the species is capable of surviving independent of other structures as a floating tussock. Portions of these tussocks can break off, float away, and start new infestations of Cuban bulrush elsewhere.

Limited data exist concerning chemical control (herbicides) methods that are effective at controlling Cuban bulrush. To date, only one study examining chemical control of Cuban bulrush has been published in a peer review journal. In an effort to investigate new chemical control strategies the Florida Fish and Wildlife Conservation Commission and personnel from the Mississippi State University Geosystems Research Institute (MSU GRI) have implemented a study MSU's Aquatic Plant Research Facility (APRF). Initial results suggest that many commercially available herbicides have strong potential to control Cuban bulrush. As this study is ongoing, the final results will be available summer 2018; the interim report can be found online at the MSU GRI database (Report # 5075; www.gri.msstate.edu).

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