



MSAPMS-TVA Aquatic Plant Management Workshop – Agenda

Organizers: Gray Turnage (MSU/MSAPMS); Stephen Turner (TVA)

Location: Lake Guntersville State Park, AL (*Specific locations shown on map below*)

Dates: Aug. 3-5, 2026

Day 1 (Aug. 3): Travel, registration, and classroom presentations

12:00 – 1:00 PM: Registration and Lunch (*The Gathering Place*)

Afternoon Session (The Gathering Place)

1:00 – 1:50 PM: Presentation 1 (AIS impacts to Aquatic Fauna and Human uses of water – **Dr. Joe Bisesi**/Univ. FL)

1:50 – 2:00 PM: Break

2:00 – 2:50 PM: Presentation 2 (Regulatory perspectives on APM – **Mrs. Kim Brown**/Univ. TN)

2:50 – 3:00 PM: Break

3:00 – 3:50 PM: Presentation 3 (Ecology and Life History of AIS – **Dr. John Madsen**/JD Madsen Consulting)

3:50 – 4:00 PM: Break

4:00 – 4:50 PM: Presentation 4 (Safety...The cost of living – **Mr. Cary Martin**/Nutrien Solutions)

4:50 – 6:00 PM: Break

6:00 – 9:00 PM: Dinner/Evening Social (*The Gathering Place/Earwood Pavilion*)

Day 2 (Aug. 4): Classroom, hands on plant ID, A-Z herbicide applications, and field site visits on Lake Guntersville

7:00 – 8:00 AM: Breakfast (*The Gathering Place*)

Morning Session (The Gathering Place)

8:00 – 8:50 AM: Presentation 5A (Aquatic plant control – **Mr. Daniel Hill**/Alligare)



8:50 – 9:00 AM: Break

9:00 – 9:50 AM: Presentation 5B (Herbicide Sprayer Calibration – **Dr. John Madsen**/ JD Madsen Consulting)

9:50 – 10:00 AM: Break

10:00 – 10:50 AM: Presentation 6 (Digital and printed resources for APM practitioners – **Mr. Carlton Layne**/AERF)

10:50 – 11:00 AM: Break

11:00 – 11:50 AM: Industry updates (Sponsors)

11:50 – 1:00 PM: Lunch (*The Gathering Place*)

Afternoon Session (Beach Pavilion)

1:00 – 1:50 PM: Hands on Plant ID (**Dr. Gray Turnage**/MSU)

1:50 – 2:00 PM: Break

2:00 – 2:50 PM: Plant Management Technology (**Mr. Stephen Turner**/TVA)

2:50 – 3:00 PM: Break

3:00 – 5:30 PM: Visit field sites on Lake Guntersville (**Mr. Stephen Turner**/TVA)

5:30 – 6:00 PM: Break

6:00 – 6:30 PM: Closing Remarks (**Mr. Stephen Turner**/TVA)

6:30 – 9:00 PM: Dinner/Evening Social (*The Gathering Place*/Earwood Pavilion)

Day 3 (Aug. 5): Breakfast and departure

7:00 – 8:00 AM: Breakfast (*Earwood Pavilion*)

8:00 AM: Depart



Figure 1. Locations of workshop events (The Gathering Place and Beach Pavilion) at Lake Guntersville State Park in Alabama.



Abstracts (Presentation Order)

AIS impacts to Aquatic Fauna and Human uses of water (Dr. Joe Bisesi) – Aquatic invasive species (AIS) can have devastating impacts on our environment, our economy, and our health. This includes impacts on both native flora and fauna by destroying habitat, outcompeting native species, spreading disease, and damaging infrastructure, which necessitates active management to protect these resources. In the presentation, we will examine impacts of AIS on aquatic fauna including effects of breeding habitat suitability, water quality, recreational usage, and the economy.

Regulatory perspectives on APM (Mrs. Kim Brown) – This presentation will review regulatory changes that are going to impact the aquatic herbicide industry. Some of the main focus will be the Endangered Species Act changes in regards to FIFRA. This presentation will also cover how operations can work to be sure to be in compliance with pesticide safety and recordkeeping.

Ecology and Life History of AIS (Dr. John Madsen) – Understanding the ecology and the life history of target invasive aquatic plant species will enhance the manager's ability to effectively and efficiently control target plant species, including where and when to find and control them. Three topics will be considered: growth forms of aquatic plants, environmental factors that drive the growth and distribution of aquatic plants, and the life history types of aquatic plants. Examples of how these factors are important in planning and implementing management will use common target aquatic plant species; such as waterhyacinth, hydrilla, Eurasian watermilfoil, and others.

Safety...The cost of living (Mr. Cary Martin) – This safety presentation provides an overview of essential practices for reducing risk in a variety of everyday and workplace environments. Key strategies for hazard awareness in driving, working around water environments, chemical safety, and wildlife encounters will be presented. Steps will highlight ways to prevent accidents, respond to emergencies, and protect both people and the environment.

Aquatic plant and algae control (Mr. Daniel Hill) – Aquatic plants and algae play a vital role in maintaining the health and function of aquatic ecosystems. However, too much of a good thing is not always a good thing and management is often needed to maintain a desired aesthetic, water use function, remove invasives or improve native species diversity and habitat. Five methods of aquatic plant management (cultural, physical, mechanical, biological and chemical); and the advantages and disadvantages of each will be discussed in this 2-part presentation.



Herbicide Sprayer Calibration (Dr. John Madsen) – This presentation will cover common practices and techniques to calibrate herbicide application technology for foliar applications and submersed injections. Also included will be common mathematical formulas and conversion factors needed to calibrate herbicide sprayers.

Digital and printed resources for APM practitioners (Mr. Carlton Layne) – It can be hard to separate the wheat from the chaff when trying to track down reliable and accurate information regarding aquatic plant management techniques. This presentation will introduce attendees to some of the digital and printed resources that can be used in decision making by identifying suspicious plants, determining whether management is needed, developing management plans when needed.

Hands on Plant ID (Dr. Gray Turnage) – This presentation will focus on aquatic plant ID for common species in southeastern reservoirs. The presentation will include a hands-on component where attendees can handle and manipulate plants in order to see pertinent morphological details that are critical for correct ID in field sites.

Plant Management Technology (Mr. Stephen Turner) – This presentation will provide an overview of non-chemical control technology for managing plants. Topics covered will be mechanical, physical, and integrated control methods that are commonly used in aquatic settings.

Visit field sites on Lake Guntersville (Mr. Stephen Turner) – Stephen will coordinate and lead a field trip to show participants locations on Lake Guntersville that are infested with invasive aquatic plants. This field trip will also allow participants to see previously managed sites so they can see recovery efforts (or lack thereof) of native aquatic flora.

Speaker Biographies (Alphabetical Order)

Dr. Joe Bisesi – Dr. Joe Bisesi associate professor and associate chair in the Department of Environmental and Global Health and member of the Center for Aquatic and Invasive Plants at the University of Florida. He is an aquatic toxicologist that studies both the beneficial and detrimental impacts of chemicals to fish and invertebrates in water. He conducts exposure studies with fish and invertebrates aimed at elucidating whether chemicals that are either intentionally or accidentally added to aquatic systems may cause significant risk to native organisms. These include past and ongoing studies that are specifically focused on the use of chemicals to manage invasive species while limiting off target effects in native species. He also conducts research focused on understanding fate, exposure, and bioaccumulation chemicals in aquatic matrices (surface water and wastewater) using mass spectrometry.



Mrs. Kim Brown – Kim Brown started with the University of TN Extension team in March of 2022 located in Jackson, TN at the West Tennessee Research and Education Center. Kim has worked in pesticide safety education for more than 15 years, spending the majority of that time working as the Pesticide Safety Education Coordinator for the LSU AgCenter from 2012 – 2021. Prior to working with the LSU AgCenter, Kim was the assistant pesticide safety education coordinator at Auburn University. She earned her B.S. from Auburn University in Agronomy and her M.S. from Louisiana State University in Plant, Soils and Environmental Science.

Mr. Daniel Hill - Daniel began his career in aquatic plant management in 2007 as an undergraduate at Louisiana State University working for the School of Renewable Natural Resources' Wetland Ecology Laboratory. After graduating with his BS degree in Natural Resource Ecology and Management he began as a Research Associate in Dr. William E. Kelso's Marine Fisheries Laboratory collecting, analyzing, and data management of research efforts focused on ecology, distribution, abundance, and status of species of special concern, primarily in the Atchafalaya Basin. In 2011, he began his career with the Louisiana Department of Wildlife & Fisheries collecting and analyzing data in the Calcasieu, Mermentau and Sabine River Systems. In 2013, Daniel began as the District V Inland Fisheries Biologist Supervisor overseeing the aquatic vegetation control operations in Southwest Louisiana. From there Daniel became the Aquatic Plant Control Coordinator for LDWF Inland Fisheries overseeing all aquatic plant control activities in the state. After several roles with LDWF Daniel moved to the private sector and he is now the Deep South Sales Representative for Alligare serving Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, and Texas. Daniel has been on the board of directors for the Midsouth Aquatic Plant Management Society and served as President in 2024. Daniel currently sits on the Louisiana Plant Management Society Board of Directors and served as President in 2024.

Mr. Carlton Layne – Carlton is the Executive Director of the Aquatics Ecosystem Restoration Foundation. Prior to that, he was a law enforcement officer of EPA, Office of Pesticide Program, Region 5. Carlton is particularly skilled in the investigation of pesticide incidents to determine compliance with federal, state and/or tribal requirements under applicable statutes and ordinances. In particular, he has expertise in both label interpretation and development in terms of applicability in the field by users, legal requirements and enforcement.

Dr. John Madsen – Dr. John D. Madsen is currently a consulting scientist. In December 2022, he retired from his position as a Research Biologist with the US Department of Agriculture, Agricultural Research Service on the campus of University of California-Davis. He was previously a faculty member at Mississippi State University for eleven years, and a Research Biologist with



the US Army Engineer Research and Development Center for nine years. Dr. Madsen has been researching the biology, ecology and management of aquatic weeds and their impact on native aquatic plants for over 30 years. Dr. has also been an associate editor for Journal of Aquatic Plant Management and has served on numerous society boards. He has more than 130 peer-reviewed journal publications. Dr. Madsen has a Bachelor of Science degree from Wheaton College, Wheaton, IL, and Master of Science and Doctor of Philosophy degrees in Botany from the University of Wisconsin-Madison.

Mr. Cary Martin - Cary Martin is an Aquatic Specialist with Nutrien Solutions covering over 35 states. He has a vast hands on experience in lake and pond management for over 35 years and a U.S. Coast Guard Veteran a past Captain Firefighter. Knowing how dangerous our job can be, he applies the knowledge gained with the Coast Guard and Fire Department to ensure both employee and public are as safe as possible.

Dr. Gray Turnage - Gray has over a decade of research experience with invasive aquatic and wetland plants. He has been involved with several projects nationwide establishing control efforts and protocols for invasive aquatic and wetland plants as well as monitoring those efforts to analyze success of the protocols he has helped to develop (www.gri.msstate.edu). His projects range in size from entire watersheds to private ponds. This work regularly includes consulting with resource managers and landowners, developing management plans for public and private entities, and monitoring temporal changes in plant community dynamics. He is an active member of the MidSouth and National Aquatic Plant Management Societies (APMS) and engages other APMS chapters on a regular basis.

Mr. Stephen Turner – Stephen is the Program Manager for the TVA Aquatic Plant Management Program and is based in Guntersville, AL. He received his B.S. in Environmental Biology from Jacksonville State University, then attended graduate school at Auburn University in Fisheries Biology. Stephen spent 20 years in the Pond and Lake Management industry prior to his working for TVA for the last 6 years. He oversees the management of aquatic plants throughout the entire TVA system, oversees treatment of around 2,500 acres of aquatic plants annually, harvesting about 1,000 acres of aquatic plants from TVA reservoirs annually and works in partnership with multiple state agencies, local governments, and stakeholder groups to provide management on multiple waterbodies throughout TVA's footprint.