



**TENNESSEE  
VALLEY  
AUTHORITY**

## **AERF & TVA PLANT MANAGEMENT WORKSHOP**

Lake Guntersville State Park, AL

Aug. 4-6, 2025

## **AERF & TVA PLANT MANAGEMENT WORKSHOP**

**Organizers:** Carlton Layne (AERF); Gray Turnage (MSU/MSAPMS); Stephen Turner (TVA)

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

**Dates:** Aug. 4-6, 2025

**Day 1** (Aug. 4): Travel, registration, and classroom presentations

12:00 – 1:00 PM: Registration (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 (Ecology and Life History of AIS – **Dr. John Madsen**/JD Madsen Consulting)

2:50 – 3:00 PM: Break

3:00 – 3:50 PM: Presentation 3 (Environmental fate and toxicity of herbicides used for aquatic plant control – **Dr. Gray Turnage**/MSU)

3:50 – 4:00 PM: Break

4:00 – 4:50 PM: Presentation 4 (Digital and printed resources for APM practitioners – **Mr. Carlton Layne**/AERF)

4:50 – 6:00 PM: Break

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

---

**Day 2** (Aug. 5): 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 and algae control: Emergent and Floating Plants – **Mr. Leif Willey** /Aquatic Control)

8:50 – 9:00 AM: Break

9:00 – 9:50 AM: Presentation 5B (Aquatic plant and algae control: Algae and Submersed Plants) – **Mr. Leif Willey**/Aquatic Control)

9:50 – 10:00 AM: Break

10:00 – 10:50 AM: Presentation 6 (Regulatory perspectives on APM – **Mrs. Kim Brown**/Univ. TN)

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: A-Z herbicide applications (**Mr. Troy Goldsby**/AquaServices)

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. Carlton Layne**/AERF)

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

---

**Day 3** (Aug. 6): Breakfast and departure

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

8:00 AM: Depart



## AERF & TVA PLANT MANAGEMENT WORKSHOP



Figure 1: Locations of workshop events at Lake Guntersville State Park in Alabama.

## **AERF & TVA PLANT MANAGEMENT WORKSHOP**

---

### **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.

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.

Environmental fate and toxicity of herbicides used for aquatic plant control (Dr. Gray Turnage) – This presentation will cover basics of calculating herbicide rates, application methods, and environmental fate of herbicides labelled for use in aquatic environments.

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.

Aquatic plant and algae control (Mr. Leif Willey) – 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.

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.

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.

A-Z Herbicide Applications (Mr. Troy Goldsby) – This presentation will be conducted outdoors and will cover all aspects of aquatic herbicide applications from start to finish including planning, mixing herbicides, application techniques, and record keeping.

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

## **AERF & TVA PLANT MANAGEMENT WORKSHOP**

---

### **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. Troy Goldsby – Troy is an expert aquatic pesticide applicator. Executive and biological responsibilities include field management of aquatic vegetation and fisheries projects throughout the southeastern U.S. He has managed a fish elimination project for Duke Energy (Plant McGuire) in Huntersville, North Carolina, and has 27 years of experience in the aquatic plant management field. Troy has been on the board and president of the following societies: The Midsouth Aquatic Plant Management Society, The Society of Lake Management Professionals, The Tennessee Vegetation Management Association, and The Alabama Fisheries Association, The Aquatic Plant Management Society, The Aquatic Ecosystem Restoration Foundation, and The Tennessee Wildlife Federation.

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.

## **AERF & TVA PLANT MANAGEMENT WORKSHOP**

---

### **Speaker Biographies (Alphabetical Order)**

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.

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](http://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.

Mr. Leif Willey - Leif began his career in aquatic plant management in 2008 as an undergraduate at Purdue University working as a season intern for Aquatic Control Inc. in Seymour, IN. After graduating with his BS degree in Fisheries management he enrolled in a graduate program at the University of Florida's Center for Aquatic and Invasive Plants researching biology and control of invasive crested floating heart. He received his MS degree in 2012 and continued working for the University at the Center for aquatic and Invasive Plants as a research biologist through 2013 before moving on to lead field research and method development effort for a private company in southern Florida until 2016. 2016-2018 Leif worked with SePRO corporation as an aquatic technical specialist in the Midwest (IN, KY, OH, MI). In 2018, he began his current role at Aquatic Control, Inc. overseeing their management programs on large lakes as well as overseeing special projects including research and development. Leif has been on the board of directors for the Midwest Aquatic Plant Management Society since 2017 serving as Editor until 2024 when he was elected Vice-President.

Event Co-Sponsors



Lotus Sponsor Level: \$3,000 - \$5,000



Hyacinth Sponsor Level: \$1,500 - \$3,000

