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MIDSOUTH AQUATIC PLANT MANAGEMENT SOCIETY
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Midsouth Aquatic Plant Management Society Newsletter

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This October, MSAPMS heads to Baton Rouge, Louisiana, October 26–29, for Bayous, Basins & Balance — and we're putting together a program worth making the trip for. Our home base is the **Hilton Baton Rouge Capitol Center**, giving attendees a great location for three days of learning, networking, and catching up with the people who understand why a conversation about weeds in water can actually be fascinating. The MSAPMS room rate is **$139 per night**, but don't procrastinate too long: the conference **room block rate ends October 13**.

And what will we be talking about? A little bit of everything. Get an inside look at new research on controlling invasive Vallisneria, including field trials showing promising results from repeated herbicide treatments, and hear the latest work on giant salvinia — from evaluating seasonally appropriate, cost-effective herbicide combinations to research exploring whether herbicide treatments might actually be used to "herd" salvinia weevils toward otherwise inaccessible infestations.

The program also goes well beyond herbicides. Dr. Brittany Chesser will share results from a statewide survey examining how Texas private pond owners recognize and manage aquatic vegetation problems, while Jim Petta will look at the need to bring plant management, fisheries, drinking and irrigation water uses together rather than treating them as competing interests. And yes, AI has officially made its way into aquatic plant management: Chris Taylor will share how interactive study applications and AI are being used to support pesticide applicator training — with work already underway on an AI field-support agent.

There's much more coming as the final program takes shape, **including CEUs**, so consider this your preview. Register, reserve your $139 room before October 13, and start making plans for Baton Rouge. Come for the science, stay for the connections — and leave with ideas you can actually put to work when you get home.

**REGISTRATION** **HOTEL ROOMS** **EXHIBITORS**

# WHY PUBLIC COMMENT MATTERS IN EPA DECISIONS

Jason Ferrell
Professor and Chair - UF/IFAS Agronomy Dept
Director - UF/IFAS Center for Aquatic and Invasive Plants

We often assume that federal policy development is only guided by the opinions of regulators and attorneys. Despite this popular belief, one of the most essential parts of developing federal policies is public input. When the U.S. Environmental Protection Agency (EPA) develops policies or evaluates pesticide registrations, it actively seeks comments from stakeholders, practitioners, researchers, and members of the public. These public comments help ensure that policy decisions are informed by real-world experiences and practical, boots-on-the-ground perspectives.

Decisions made in Washington, D.C. can have significant impacts on water management districts, local governments, lake associations, agricultural producers, natural resource agencies, and private landowners. Unfortunately, the official technical reports that are submitted to the EPA may lack the genuine experiences faced by agriculture and natural resource professionals who use these plant management tools daily.

This is where opportunities for public comment become so important. Thoughtful statements from diverse stakeholder groups and members of the public can provide examples of local challenges, describe the benefits of effective aquatic plant management, identify unintended consequences of proposed policies, and highlight opportunities for improvement. Even brief comments can help the EPA better understand how a proposed action may affect communities and natural resource management efforts across the country.

Most importantly, submitting a comment does not automatically mean supporting or opposing a policy. Rather, it is an opportunity to contribute knowledge, experience, and perspective to the decision-making process. The EPA reviews and considers the submitted public comments, which then become part of the foundation for future decisions.

As new EPA proposals related to aquatic herbicides and endangered species continue to emerge, professionals and stakeholders should remember that public comment opportunities are a chance to participate in the policymaking process. By sharing informed and constructive feedback, we can help shape policies that better protect valuable ecosystems while preserving effective management tools for the future.

When opportunities for public comment arise, consider taking a few minutes to make your voice heard. Your experience and perspective matter.

# The 2025-2026 MSAPMS Board of Directors

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# RED, GREEN, AND SOMEWHERE IN-BETWEEN: EUGLENA EXPLAINED

Dr. Todd Sink, Professor and Aquaculture Extension Specialist, Texas A&M AgriLife Extension Service, Department of Rangeland, Wildlife, and Fisheries Management

Dr. Brittany Chesser, Assistant Professor and Aquatic Vegetation Management Specialist, Texas A&M AgriLife Extension Service, Department of Rangeland, Wildlife, and Fisheries Management

In degraded freshwater ecosystems, Euglena spp. occupy an interesting evolutionary crossroads as mixotrophic (uses a combination of different sources of energy and carbon) protists, combining photosynthetic capability with an ability to consume external food particles (phagotrophic) and absorb dissolved organic compounds directly through their cell membranes for nutrition (osmotrophic consumption). Lacking a rigid cell wall, these single-celled organisms rely on a flexible sub-membrane protein matrix, the pellicle, allowing for dynamic cell deformation known as metaboly. Guided by a prominent light-filtering stigma (eye-spot) and propelled by a single anterior flagellum, Euglena actively navigate light gradients to optimize energy intake. When environmental stressors such as nutrient depletion or desiccation occur, the organism exhibits high phenotypic plasticity, shifting into a non-motile, mucilaginous palmelloid state or encysting entirely within the benthic sediment to await favorable conditions.

Under eutrophic conditions, rapid reproduction through binary fission (cell-division) yields conspicuous, film-like surface blooms that function as classic bioindicators of severe organic enrichment and hydraulic stagnation. These blooms display unique optical properties and rapid photoprotective behaviors, frequently transitioning from vibrant green to blood-red within 10 to 30 minutes. In response to high solar radiation, cells synthesize astaxanthin, a carotenoid pigment that migrates to the cellular periphery to shield their photosynthetic mechanism from ultraviolet damage. Paired with diurnal vertical migration, wherein populations phototactically rise to harvest peak midday light and sink deep into the water column during low-light periods or disturbances, these blooms routinely pull off a visual "disappearing act" that complicates routine field assessment.

Beyond their ecological role as bioindicators, certain species pose significant eco-toxicological hazards to aquatic food webs. Most notably, Euglena sanguinea synthesizes Euglenatoxin (ETX), a potent alkaloid ichthyotoxin structurally analogous to fire ant venom. ETX selectively targets gill epithelial tissue and neuromuscular pathways in fish, causing rapid respiratory distress, loss of equilibrium, and complete population collapses within 24 to 48 hours. These events are frequently misdiagnosed as standard nocturnal hypoxia or dissolved oxygen crashes. Conversely, livestock impacts are primarily

# EUGLENA CONTINUED

behavioral and indirect. Organic decomposition of dead/dying blooms renders water unpalatable, leading to animal dehydration, while stagnant microenvironments promote secondary bacterial proliferation, such as Clostridium botulinum.

Given these risks, water quality managers must accurately differentiate Euglena from harmful cyanobacterial blooms to tailor mitigation strategies. Field diagnostics can leverage the bloom's photoprotective mechanism via a simple shadow test: placing an opaque object over a red surface film for 15 to 30 minutes causes the shadowed cells to retract astaxanthin or dive, turning the shaded area green while the surrounding water remains deep red. However, because both taxa can harbor dangerous toxins and coexist in nutrient-enriched waters, visual field cues alone are insufficient to rule out concurrent cyanobacterial threats.

Definitive identification requires microscopy at 400x magnification from a upper-water-column sample. Water managers should evaluate motile cells for characteristic metaboly (squeezing, spindle-shaped movements) alongside three diagnostic intracellular structures: the anterior bright red stigma (eye-spot), paramylon starch storage discs dispersed throughout the cytoplasm, and a active anterior flagellum (absent during palmelloid or encysted phases). Confirming Euglena dominance serves as an immediate imperative for managers to address the underlying drivers of ecological degradation, specifically watershed nutrient loading and insufficient water column turnover.

# 2026 MSAPMS SCHOLARSHIP OPPORTUNITY
# HELP GET THE WORD OUT!

MSAPMS is seeking applications for the 2026 student scholarship to be awarded at the annual meeting Oct. 26-29 in Baton Rouge, LA. We request that the successful applicant attend the meeting and give a presentation of academic progress and results as they are available. **One scholarship of $5,000 will be awarded** to a qualified graduate or undergraduate student applicant enrolled and studying aquatic plant science or other relevant research.

**Application Deadline October 15, 2026**. Full details at **msapms.org/scholarships**

# ICYMI - TVA/MSAPMS SUMMER PLANT CAMP

The 2026 MSAPMS-TVA Aquatic Plant Management Workshop brought professionals to Lake Guntersville State Park, August 3–5, for practical, field-focused training. Organized by Dr. Gray Turnage (MSU) and Stephen Turner (TVA), the program combined classroom education with hands-on learning and field experience.

Sessions covered aquatic invasive species, regulatory issues, safety, aquatic plant and algae control, sprayer calibration, and resources for APM practitioners. Attendees then put that knowledge to work with hands-on plant identification, plant management technology, and field visits on Lake Guntersville to examine invasive plants and previously managed sites.

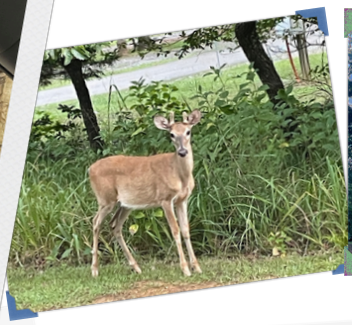
The Summer Plant Workshops are meant to complement the regular MSAPMS Annual Meeting workshop, not replace it. Its focus is on front-line staff, field application, and creating accessible training opportunities for the people doing this work every day.

Best of all, the workshop was provided at no registration or hotel cost to attendees thanks to our sponsors! MSAPMS sincerely thanks **TVA, Aqua Services, Orion Solutions, UPL, Alligare, Aquatic Control, Cygnet Enterprises, Nutrien Solutions, SePRO, Syngenta, Nufarm, Alabama Power, and Key Colour** for investing in practical training, workforce development, and the future of aquatic plant management.

Get ready, we're doing it again next August 2-4, 2027 back at Lake Guntersville State Park!



# RELIVE THE ACTION AT LAKE GUNTERSVILLE 2026



# 45thAnnual Mid-South Aquatic Plant Management Conference






October 26-29, 2026

*Kicks off Monday evening with a President's reception*
*Sessions begin at 8 AM CT on Tuesday Oct 27th*

## Hilton Baton Rouge Capitol Center
## Baton Rouge, LA

Visit our conference pages for details

## *2026 Board Nominees*

**President-elect**

Tim McLean - Alabama Power

**Directors**

Maxwell Gebhart - MS State

Mike Pursley - MDMR

Joey Kauppi - Aquatic Control, Inc.

(Joey will fill the final year of Tim's Director term)

The passing of the gavel from Dr. Gray Turnage to incoming President Stephen Turner.