

2024 · ISSUE 1

ON THE WATER

Texas Aquatic Plant Management Society Newsletter

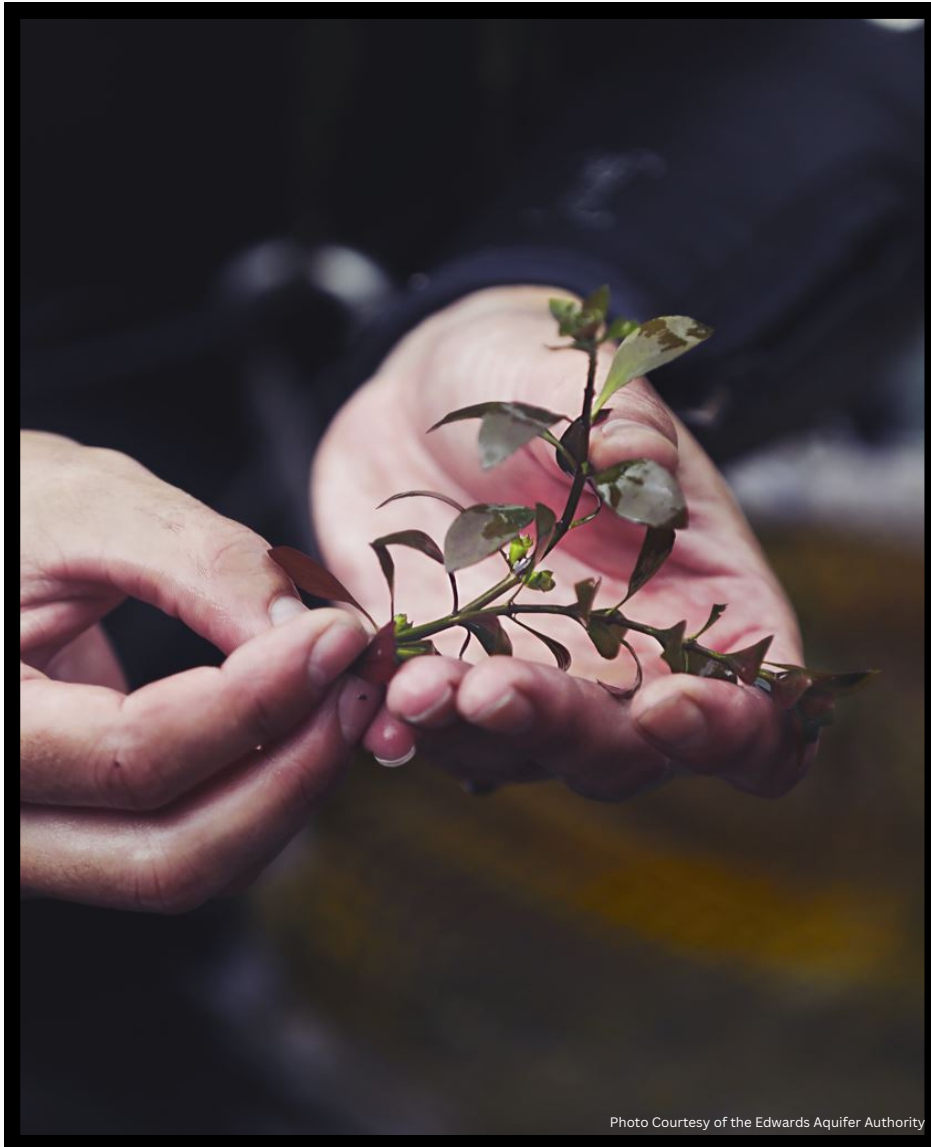


Photo Courtesy of the Edwards Aquifer Authority

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Message From the President

HALEY KOKEL

On behalf of the Board of Directors, thank you to all of our members and sponsors for your continued support of TAPMS. Please save November 12-14, 2024 for the Annual Meeting in New Braunfels, TX. This year we will be adding a professional development session to the schedule in addition to the CEU Credit. This session will include a tour of the Comal Springs on November 12, to learn about aquatic and riparian habitat restoration, aquatic vegetation identification, best management practices for vegetation removal, and a GIS tutorial. More details about the meeting are coming soon!



The Board of Directors are currently building a new website to be released in March. The old web pages are still active but will not be updated. We want to include our members as much as we can! Please submit high quality images of aquatic vegetation, vegetation management and restoration to txapms@gmail.com. Sponsors will have the opportunity to include an advertisement in addition to their logo on the website; details to follow in a separate email. For future newsletters, we will be asking members to contribute short articles about their role in the management of aquatic vegetation. Please share member accomplishments and agency updates you would like included in the newsletter or via social media. Continue to stay up to date with TAPMS via social media and watch for our new website to come soon!

**“Please save
November 12-14,
2024 for the Annual
Meeting in New
Braunfels, TX.”**

HALEY KOKEL



Meet the 2024 Board of Directors

President: Haley Kokel

Haley Kokel owns and operates Fish On Aquatic Plants, a native aquatic plant nursery in College Station, Texas. Haley earned her Master's degree from Texas A&M University through research on native aquatic vegetation establishment. Prior to opening her nursery, Haley worked for Texas Parks and Wildlife and Missouri Department of Conservation where she implemented plant propagation and planting techniques for vegetation restoration in state lakes. Haley rejoined TAPMS in 2019 after moving back to Texas and has been on the Board of Director since 2020. Haley enjoys fishing, leatherworking, gardening, hunting and spending time with her family.

Past-President: Kristina Tolman

Kristina Tolman has worked as Habitat Conservation Plan Coordinator at Edwards Aquifer Authority (EAA) since 2016. Prior to EAA, she worked as a GIS Analyst at the Meadows Center for Water and the Environment at Texas State University. She received her bachelor's degree in Geography and her Masters of Applied Geography for Environmental Resource Studies at Texas State University. Her thesis was a comprehensive habitat suitability analysis of the endangered aquatic plant, Texas wild-rice, in the San Marcos River. In her free-time she enjoys gardening and kayaking rivers in Central Texas.

President-Elect: Olivia Ybarra Lopez

Olivia received a Bachelor's of Science in Environmental Science from the University of Texas at San Antonio. Olivia was elected as TAPMS President-Elect in 2023 after joining as a member in 2022. Currently, Olivia works at the Edwards Aquifer Authority as a Habitat Conservation Plan Coordinator for the Edwards Aquifer Habitat Conservation Plan and is also the Planning Committee Co-Chair for the National Habitat Conservation Plan Coalition. In her spare time, Olivia enjoys swimming in the San Marcos River, spending time with family and her cat Willow.



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Meet the 2024 Board of Directors

Treasurer: Levi Sparks

Levi received a Bachelor's of Science in Wildlife Biology with a minor in Mass Communications, followed by a Master's in Biology from West Texas A&M University. His first TAPMS conference was in 2023, where he gave a presentation and now serves as the secretary on the board. Currently he works at the Bandera River Authority & Groundwater District as the Aquatic Ecologist and is very involved with the Groundwater Team programs. In his spare time, he enjoys fishing, hunting, and spending time with his wife, daughter, and their animals which include goats, turkeys, ducks, chickens, and horses.

Secretary: Kanyan Klein

Kanyan attended Tarleton State University, where she obtained her Bachelor's in Fisheries and Wildlife Sustainability and Ecosystem sciences, as well as her Master's degree in Business Administration. In 2023, she became a member of TAPMS and assumed the role of Secretary. She currently works as an assistant fisheries biologist for Texas Pro Lake Management. Outside of work, she enjoys spending quality time with her family, playing and coaching volleyball, and indulging in outdoor activities such as fishing and hunting.

Editor: Ryan O'Hanlon

Ryan earned his Bachelor's and Master's of Science in Wildlife and Fisheries Sciences from Texas A&M University, College Station. His connection with TAPMS started as a student presenter and he's been a member since completing his course work in 2016. Currently he serves as the Lead Aquatic Horticulturalist for Stonefly Aquatic Nursery. Outside of work Ryan can be found with his wife and three kids running around the house or around a pond.



Meet the 2024 Board of Directors

Director: Anthony Walker

Anthony attended the Northeast Texas Community College Police Academy, earning his Texas Peace Officer certification in 1996. After retiring from his commission with the Franklin County Water District (FCWD) in 2016, he transferred to the maintenance and operation department within FCWD. He joined TAPMS in 2022 and began serving on the board in 2023. Hunting, fishing, camping and time with his five grandkids are how he enjoys his days away from work.

Director: Wayne Byrd

Wayne Byrd received a degree in Business Administration from the University of Houston. He currently works for AquaMaster Fountains and is fairly new to the industry as he almost reaches the 2 year mark. AquaMaster Fountains has been a member of TAPMS for a number of years and Wayne looks forward to building relationships with everyone associated with TAPMS in the future. In his spare time he enjoys cycling and being outdoors.



The banner features a green and blue design. On the left, a large '25' is formed by a water drop and a leaf, with 'YEARS OF POSITIVE CHANGE' written below it. In the center, the text '25 YEARS OF POSITIVE CHANGE' is displayed in white on a blue background. Below this, a paragraph reads: 'BioSafe Systems has adapted and progressed by using expert knowledge, diligent research, and customer communication to solve problems for a stronger future.' On the right, there is a photograph of a calm lake surrounded by trees, and the BioSafe Systems logo and phone number '1-888-273-3088' are positioned at the bottom right. A small inset photo shows a person in a lab coat working with a microscope.

25 YEARS OF POSITIVE CHANGE

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“...it is important to educate potential clients on the differences between the two species and what to expect post-treatment.”

BRYAN FARQUHAR



A Tale of Two Species

By Bryan Farquhar
Senior Fisheries Biologist
Magnolia Fisheries & Lone Star Fountains

Both coontail and chara are commonly found in Texas' waterways. These native species look very similar and are often misidentified by the average pond enthusiast. The reality is that while coontail is a vascular plant, chara belongs to the branched algae group. Therefore, the management options for each species are very different.



Photo Credit:
AquaPlant.TAMU

Coontail can survive free floating or attached to the bottom sediments. It appears dark green in most cases and is characterized by its forked branches. Its ability to thrive unrooted makes it a nuisance in many waterways. Heavy coontail growth leads to large quantities of biomass which impacts the biological oxygen demand and necessitates careful herbicide treatments.

Chara does not have true roots but attaches to the substrate by way of shallow rhizoids. It is lighter green compared to coontail and has straight branches rather than forked. The depth to which chara grows is determined by water clarity. Chara is commonly referred to as muskgrass or skunkweed due to its strong sulfur smell.

A Tale of Two Species - cont'd

Clients often raise concern about ineffective coontail treatments. Since chara is a pioneer species, it often spreads rapidly when another species is eliminated. This is where the confusion begins. Therefore, it is important to educate potential clients on the differences between the two species and what to expect post-treatment.

Coontail can be managed with a wide variety of common aquatic herbicides including diquat, endothall, and fluridone. However, we have found coontail to become resistant to fluridone if used repeatedly. We currently get excellent results using ProcellaCor SC (florpyrauxifen-benzyl) with “in water” applications at 3-4 PDU’s per acre foot. Critical things to consider when treating are percent coverage and weather conditions. Treating large areas in the summer will require a split application to avoid rapid oxygen depletion.



The resulting persistence of chara from a fluridone treatment. Photo Credit: Author

Chara is typically managed with a wide variety of copper-based algaecides. For spot treatments, we see excellent results using “small” grade copper sulfate granules dispersed into the chara beds at a dose of 4-5 pounds per acre foot of treatment area. For larger areas, it is generally safer to use chelated copper liquids applied at 2.0-2.5 gallons per acre foot. It is important to consider water chemistry when using copper-based algaecides. Low pH increases copper toxicity to fish and other aquatic organisms, while hard water interferes with the effectiveness of the treatment. Chara is also notorious for calcifying as summer progresses, making it resistant to chemical treatments.

Coontail and chara can benefit fish and wildlife communities when preserved in moderation. Coverage of less than 20% provides gamefish habitat and creates a microcosm for aquatic macroinvertebrates and forage fish to run up the food chain. However, too much growth can interfere with the ability of largemouth bass and other gamefish to feed efficiently. If a pond or lake has a history of excessive growth, it is recommended to start management early in the season before it becomes problematic. Common problems include angling interference, reduced phytoplankton production, excessive water clarity, and clogging of fountains or submersible pumps.

Early detection, proper ID, and appropriate product selection are the keys to successful management!



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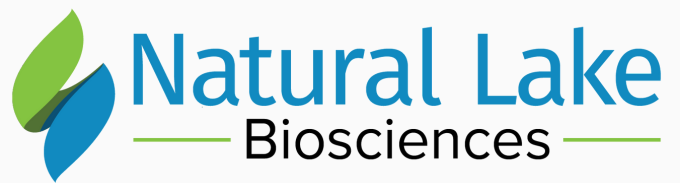
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Integrated Pest Management on the San Antonio River

By Peter Pierson
Natural Resource Management Specialist
San Antonio River Authority

Like everywhere else, the San Antonio River and its riparian ecosystem is susceptible to the introduction and establishment of populations of invasive non-native aquatic plant species. To support the integrity of our native aquatic and riparian ecosystem in a sustainable manner we subscribe to the principles as outlined in Integrated Pest Management for the strategies we employ as we attempt to minimize the impact these non-native species have on our projects and in our environment.



The Mission Reach Ecosystem Restoration Project, an 8-mile extension of the downtown riverwalk through the southern part of San Antonio, consists of over 400 acres with 113 acres of aquatic habitat and 334 acres of riparian habitat. The challenge with working on a project of this size is “not being able to see the forest for the trees.” It’s important for us to remember to be aware of our surroundings and to stand back and view the area in its entirety, not just the immediate area we may be engaged in at the moment.

“The Mission Reach Ecosystem Restoration Project, an 8-mile extension of the downtown riverwalk through the southern part of San Antonio, consists of over 400 acres with 113 acres of aquatic habitat and 334 acres of riparian habitat.”

PETER PIERSON



Photo Credit: San Antonio River Authority

Integrated Pest Management on the San Antonio River - cont'd

A slightly different shade of green, an unusual leaf pattern, or unusual flowers could turn out to be an early detection of an undesirable species gaining a foothold on the project. Early detection is always preferable as smaller populations are generally easier to contain.

Accurately identifying those species of concern along with determining the threshold as to when that concern warrants taking measures to establish a preliminary degree of control comes next. But identifying the species is only the beginning of this process. To develop a comprehensive and effective program we need to acquire an understanding of their biology and physiology to gain insight into which control measures at which stage of their life cycle is likely to produce the best results. A little research into the origin and history of the species regarding its introduction and escalation into a potentially detrimental intruder in our native ecosystem may also uncover useful information as we consider methods for controlling its presence.

Non-native species become invasive when they have no natural limitations on their ability to naturalize in an area. Prevention is always the primary goal in Integrated Pest Management. As these species tend to not have any natural pests to limit their spread, our strategy is to try to limit the space they require to get a start to begin with. The more we promote a well-balanced palette of redundant and resilient native species appropriate for the conditions of our project, the fewer opportunities we leave for these non-native species to take advantage of.

But let's face it, we wouldn't be talking about control measures if we never had a problem. This is where all that research comes into play. When we must devise a method for reducing a population of invasive species, our research into the species will help inform us as to the most appropriate and least detrimental methods. We always look for biological, cultural, and mechanical means first, but if there is little chance of successfully accomplishing our goal that way, then we can at least look for the most appropriate and least environmentally detrimental pesticide along with safest method and best timing of the application for the given situation. As we begin establishing control of the invasive population, we look to augment the native plant material in the area again as a preventative strategy. But being in the middle of an urban area, this process of monitoring the site and responding to potential invasive species is continuous and likely perpetual.

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2024 ANNUAL MEETING

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About Us

The Aquatic Plant Management Society is a respected source of expertise in the field of biological, mechanical, and chemical aquatic plant management and aquatic plant species.

The Society has grown to include several regional and state chapters. Through these affiliates, annual meetings, newsletters, and the Journal of Aquatic Plant Management, members keep abreast of the latest developments in the field.

Our Objectives

Promote the management of nuisance aquatic plants, algae, and cyanobacteria, provide for the scientific advancement of members of the society, encourage scientific research, promote university scholarship, and stir public interest in the aquatic plant science discipline.



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