



SCAPMSNEWS

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April, 2024

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President's Message...

As we look forward to the South Carolina Aquatic Plant Management Society's 2024 Annual Meeting, I am filled with a profound sense of gratitude and pride for the journey we've embarked upon together. Over the years our society has been propelled forward by the unwavering dedication and passion of individuals like you who believe in our mission to preserve and sustainably manage our aquatic ecosystems.

Reflecting on the milestones we've achieved, I am reminded of the incredible strides we've made in advancing scientific research, promoting education and awareness, and fostering collaboration among stakeholders. It is through your collective efforts that we have been able to make a meaningful impact on the management of aquatic plants in our communities and beyond.

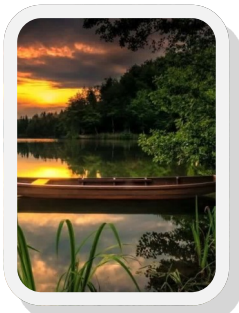
I want to take this opportunity to express my appreciation to all our past and present board members for their exceptional leadership, tireless commitment, and invaluable contributions. Your guidance and vision have been the driving force behind our society's success, and I am honored to serve alongside such dedicated individuals.

To our society members, I extend my deepest gratitude for your unwavering support, active participation, and relentless advocacy. Your passion for our cause inspires us all, and it is your engagement that fuels our collective efforts to provide positive change in our aquatic environments.

Our society has achieved significant milestones in recent years. We've continued our work to control and mitigate the spread of invasive aquatic plant species, safeguard the health of our water bodies, and promote the sustainable use of our aquatic resources. Research, education, and outreach efforts have been invaluable in this pursuit.

As we move forward, it's important to recognize the challenges we face, from shifting environmental conditions to emerging threats in our waterways. We must adapt, innovate, and collaborate to address these challenges effectively. I encourage you all to stay engaged, share your knowledge, and seek out opportunities for collaboration within our communities.

In closing, I want to thank every one of you for your continued dedication to the South Carolina Aquatic Plant Management Society. It is your unwavering commitment and passion that has allowed us to accomplish so much, and I am excited to see what the future holds. I look forward to seeing everyone this year for another great Annual Meeting!



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FREE MONEY!



The South Carolina Aquatic Plant Management Society is seeking applications for its annual Phillip M. Fields Scholarship Award. The Society intends to award a \$5,000 scholarship to the successful applicant at the joint APMS/SCAPMS Annual Meeting in North Myrtle Beach, SC September 30th-Oct 2nd. Scholarship funds are provided directly to the student and may be used by the recipient to cover costs associated with education and research expenses. Eligible applicants must be enrolled as full time undergraduate or graduate students in an accredited college or university in the United States. Course work or research in an area related to the biology, ecology or management of aquatic plants in the Southeast is also required.

Applications must be received no later than July 1, 2024 and will be evaluated on the basis of relevant test scores (SAT, GRE, etc.), college grades, quality and relevance of course work or research, a proposed budget, information obtained from references, and other related considerations. Other factors being equal, preference will be given to applicants enrolled in Southeastern and South Carolina academic institutions. The successful applicant may be requested to present an oral report on research activities at the annual meeting of the Society.

Application forms and additional information are available at www.scapms.org/scholarship.html. Note: All application information is to be submitted electronically.

Justin Nawrocki
SCAPMS Scholarship Chairman
Justin.nawrocki@upl-ltd.com

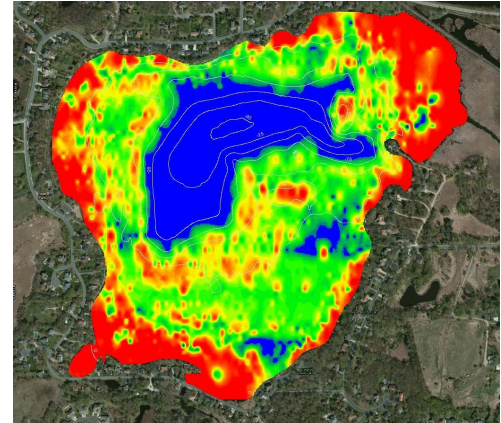
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What Is Lake Mapping and Surveying - And What's the Point of It?

As a decision-maker for an HOA, golf course, or municipality, you know that lack of planning often leads to sudden mishaps that wreak havoc on your budget. But in order to properly plan for future needs, like a new roof or parking lot, you need to have as much information as possible to inform your timeline and approach. With water resources, this can be challenging; in order to make the right choices, you need to have a clear picture of what's happening below the surface.



Aquatic experts use a variety of lake surveying and mapping techniques to unearth a wealth of knowledge for your planning needs. Each method of mapping – vegetation, bathymetric, and sedimentation/hardness mapping – provides unique insights that allow you to assess areas of your waterbody that may have gone unnoticed and been nearly impossible to calculate into your budgeting and decision-making processes.

How does lake mapping work?

During lake mapping, a trained expert operates a boat equipped with GPS units and depth-sounding equipment to survey the entirety of the waterbody. The survey starts at the perimeter and then works back and forth across the lake body, assigning waypoints that are correlated with depth, vegetation, and sedimentation to provide accurate and detailed reporting. Once this assessment is completed, this data is extracted to create easy-to-read informational maps detailing the location and levels of the lake's depth, vegetation, and sedimentation.

Typically, three types of maps are provided to you at the conclusion of a lake survey:

Vegetation Mapping: Surveying Lake Plants, Algae, and Invasive Weeds

Lake vegetation mapping illustrates the placement and density rates of native littoral, shoreline, and submerged / underwater plants, as well as algae and invasive weeds – all of which can reach nuisance levels that impede recreational activities and create unsightly, difficult-to-manage backdrops that make your job harder.

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Vegetation levels can be shown on a sliding scale depicting the percentage of growth coverage in a particular water column (a section of water that runs from the water's surface to the bottom sediment). From there, a professional analyzes the collected data to identify the areas that should be managed and determine the most efficient solution to do so depending on the stakeholder's unique water management goals.

Some of the benefits of lake vegetation mapping include:

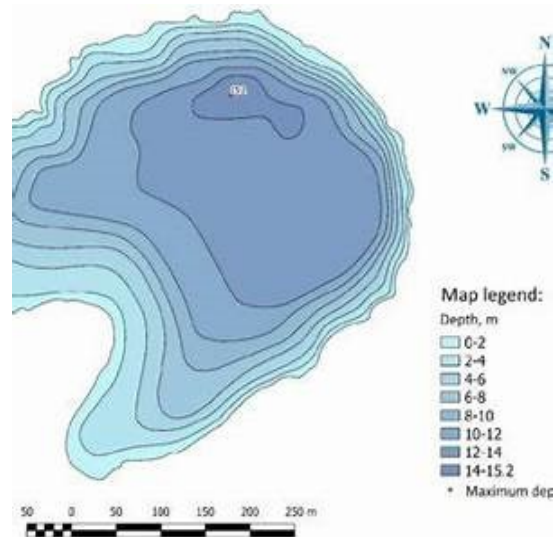
- Locating and learning more about aquatic plants that are present
- Determining density levels of both native and non-native species
- Monitoring for invasive species and putting in place measures to help prevent algae blooms

Bathymetric Mapping: Surveying Lake Depth Contours

Lake depth / bathymetric mapping utilizes GPS integrated with depth-sensing technology to chart lake bottom contours and volume levels. This information is crucial to fully understand water quality conditions, select management approaches for aquatic plants and algae, and develop accurate estimations for fish stocking.

Some of the benefits of lake bathymetric mapping include:

- Properly choosing, sizing, and placing a fountain or aeration system
- Mapping the waterbody for boat navigation, fish restocking, and more
- Using volume levels to select weed and algae management products that align with EPA regulations



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Sediment Hardness Mapping: Analysis for Removal and Dredging Planning

It is critical that you remain up to date with the structural integrity of your waterbody's floors and perimeters, as well as monitor and map its habitat parameters. Sediment analysis allows you to determine the level of sedimentation, which is the accumulation of organic and inorganic matter often in the form of grass clipping, leaves, animal waste, litter, and fertilizers. By understanding the rate that your waterbody is filling in, it's possible to calculate a timeline and budget for future sediment removal services like dredging to restore the original depth and volume.

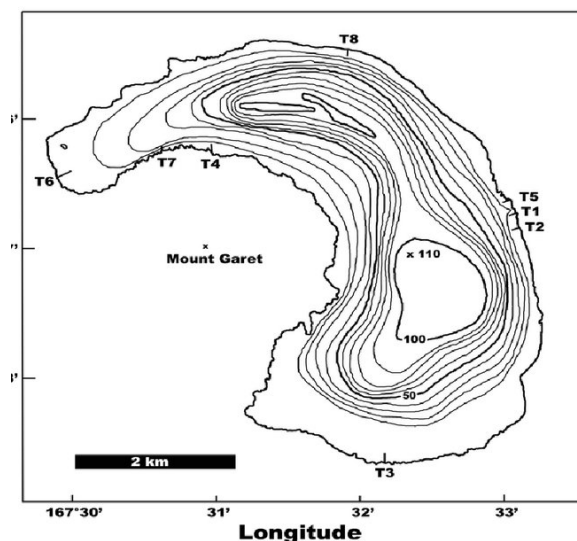
Some of the benefits of lake sediment hardness mapping include:

- Planning and budgeting for sediment removal/dredging
- Determining the stability and composition of lake bottoms for structures such as docks
- Proactively budgeting for dredging to avoid costly, unforeseen expenditures

Find the Right Partner for Lake Mapping

Successful surveying, mapping, and bathymetry projects require a trained professional with the necessary equipment and experience in data analysis. When looking for a mapping partner, it's important to find one that focuses on catering to your unique needs and goals, and places an emphasis on using science-based techniques and technologies to do so.

The right partner is dedicated to helping you interpret the data, and understand the management options available to you to prevent weeds, algae, and sedimentation, which might include buffer management, shoreline restoration, biological bacteria, nutrient remediation, aeration, and more. With the right data at your fingertips, you can establish yourself as a capable, reliable decision-maker for your business or community. - Written by Solitude Lake Management



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Establishing Native Vegetation in Piedmont Reservoirs

Kara Foley

North Carolina State University

While the ecology and control methods of invasive species are commonly emphasized in the field of aquatic plant management, it is also important to remember that fostering the growth of native species is another fundamental aspect of maintaining healthy aquatic ecosystems. Native vegetation provides waterbodies with many benefits such as water quality improvement, shoreline stabilization, and ecosystem productivity enhancement as a result of enriched food and habitat sources. In artificial reservoirs with limited native seed banks or in naturally-formed lakes with low plant diversity, it is common to encounter barren or sparsely-inhabited littoral zones. These areas within waterbodies that lack vegetation are deprived of the ecological services that a diverse community of native aquatic plant species can provide and are also especially vulnerable to invasion by aggressive, non-native species.

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In an effort to introduce more beneficial native aquatic plant species into North Carolina's Piedmont reservoirs, researchers at North Carolina State University have studied a variety of methods for shoreline revegetation. The most successful methods have been those that utilize temporary cages built within a waterbody's littoral zone in which appropriate native species are planted into. These cages are critical components of revegetation projects as they protect young plant populations from ecological pressure, such as herbivory, that would limit development during their most vulnerable early growth stages. The ultimate goal of these cages is that, over time, founder colonies of native plants can eventually spread to other uninhabited areas of the waterbody through seed or vegetative reproduction. With time, a self-sustaining system is created and the original cage structures become unnecessary components and can be removed from the system.

Two main cage designs have been successful in North Carolina. The first are simply-built rectangular cages that are positioned in 4 to 6 feet of water and extend above the water surface such that herbivores, such as grass carp and turtles, are not able to enter the enclosure. Recently, smaller-scale revegetation cubes have also been deployed in selected Piedmont reservoirs. The cube design is much smaller than a cage and is enclosed on six sides.





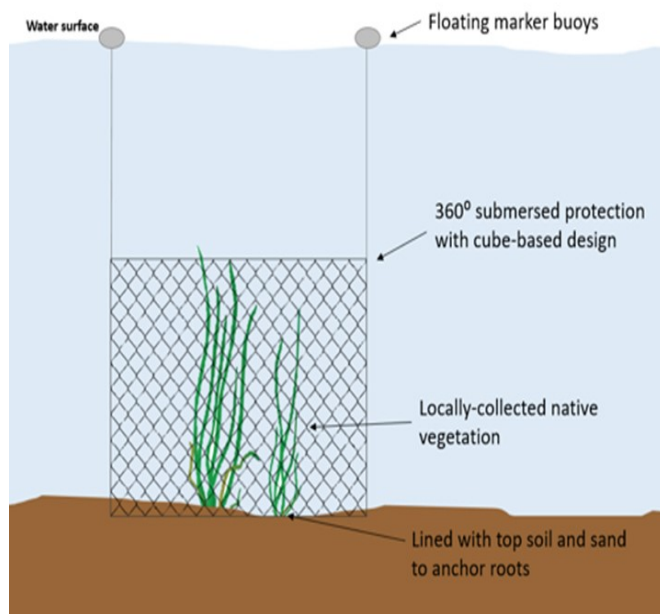
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This design allows for three hundred and sixty degree plant protection when fully submersed, and is a good option for reservoirs that experience frequent water level fluctuations as they can be deployed at deeper depths than the classic shoreline-based cage design. Plant species for these revegetation projects are selected based on available information on what has been previously understood to be native to the region. In North Carolina, American water-willow (*Justicia americana*) and eel grass (*Vallisneria neotropicalis*) are two commonly planted native species.

The process of revegetating a waterbody is not simple and usually takes quite a bit of time before successful results are achieved. When starting a revegetation project, it is necessary to consider physical, ecological and economical characteristics that can influence plant growth and success. Physical factors that should be noted include average water depth, water level fluctuation tendencies, and sediment type. The potential for competition with non-native or other native species in the area as well as the possibility of herbivory by other organisms also should be incorporated into project plans. From an economic standpoint, projects may be limited by native species propagule cost or propagation space restrictions.

Looking forward, encouraging the development of strong and healthy native plant communities is an essential component to any waterbody's long term management plan. By doing so, we can ensure that we have sustainable healthy ecosystems that can continue functioning to their full potential for many years to come.

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Meet the Aquatics Specialist

It's always good to see new faces in the aquatics industry. "Meet the Aquatics Specialist" was created to help SCAPMS members to become more familiar with these faces and to welcome them into their career. If you would like to submit an introduction for someone you work with, please email it to the SCAPMS board at board@scapms.com

Joseph Dress

Joseph joined Santee Cooper in October of 2023 and is part of the Lake Management Team in Biological Services. Joseph got his start at Santee Cooper as a summer student in 2015-2018 working with The Old Santee Canal Park and Biological Services. He graduated from Catawba College in 2019 with a degree in Natural Resource Management and a minor in Biology. As an Environmental Specialist at Santee Cooper, his position entails treating invasive species, planting, and supporting native vegetation, water quality monitoring, fisheries work, invasive species outreach and education, and working on other various environmental projects.



When Joseph first started in Biological Services at Santee Cooper as a summer student, he was paired with Hugo Burbage. As a team they helped treat invasive plants on the vast Santee Cooper Lakes. Both Hugo and Joseph shared a passion for sports with both playing football in college, Hugo at North Greenville, and Joseph at Catawba College. This led to an exchange of many stories both past and present and many laughs during the long summer days. Hugo stated that Joseph had a strong work ethic and "had the most confidence in what he was doing of any summer student that he ever worked with" / "Joseph only needed to be shown a procedure or technique once and it became second nature to his work".

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Colton Parker

Colton Parker– SOLitude is an Aquatic Specialist and Business Development Consultant for the South Carolina region. He is responsible for educating stakeholders and building relationships with property managers and communities throughout South Carolina. In addition to providing clientele with lake and pond management solutions, Colton takes pride in truly understanding which solution will be best for the environment.

Colton has been involved in the outdoors for a multitude of years including in the Boy Scouts of America where he ultimately earned the rank of Eagle Scout. He has had a multitude of sales positions spanning from vehicle sales to telecommunication. SOLitude combines both passions, being able to build long-standing relationships and then protecting the environment with the best-known resources SOLitude can provide.



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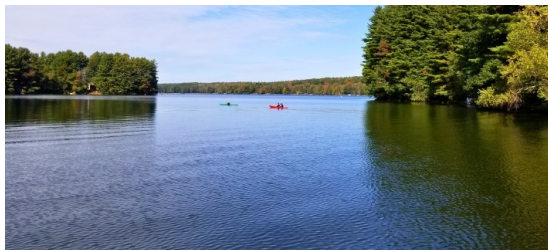


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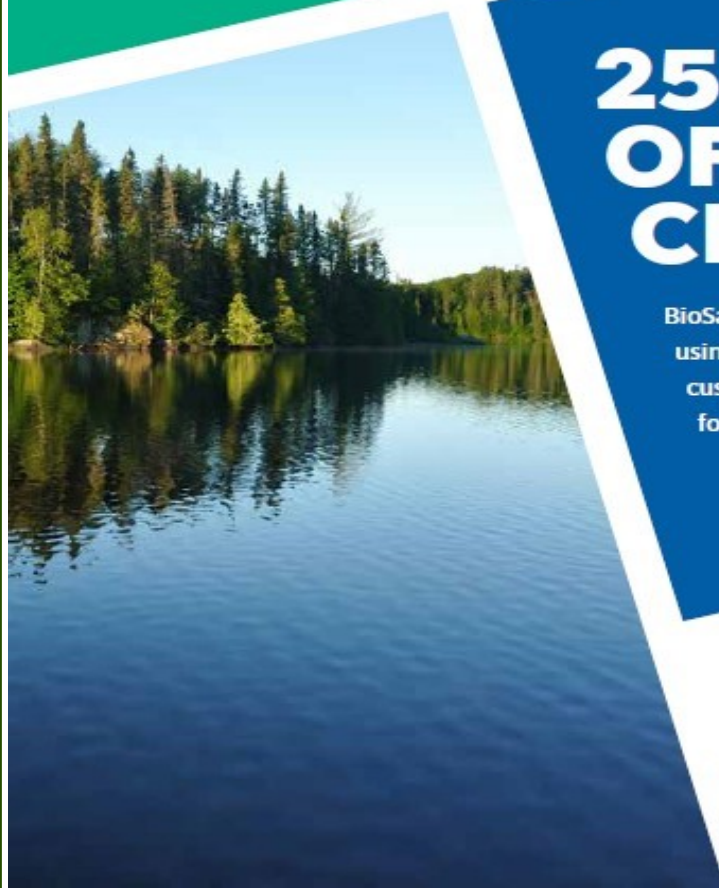


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