South Carolina Aquatic Plant Management Society

SCAPMSNEWS

www.scamps.org April, 2022

Inside this issue...

#SCAPMS

LIKE US ON facebook

President's Message...

First of all, thank you!

Since joining the SCAPMS board 4 years ago, I've been in awe of the thoughtful, creative, and driven people that support the society. To the board members, presenters, workshop hosts, sponsors, and members that make SCAPMS possible: Thank you, and please keep striving to keep SCAPMS the wonderful, productive society it is today.

While virtual meetings, remote working, and online training programs have been necessary to function through past couple of years, I'm sure I'm not the only one who's tired of zoom calls.

The 2021 conference was a much needed, refreshing sense of normalcy. I didn't realize how much I missed in-person conferences, and it was a great reminder that those events are not only important for sharing knowledge and for networking, but also for the enjoyment of reacquainting with like-minded folks in the industry.

I'm not entirely sure whether it's a product of the pandemic, or maybe we all hit a point in our lives where we become a little more skeptical, but I can't help but notice a general societal pattern of increasing pseudoscience and an inability to identify trustworthy sources. Undoubtedly, 'keyboard warriors' with clashing political narratives are more armed than ever with echo chamber search engines and clickbait headlines, and the result is a toxic relationship between political party affiliation and conclusions about any given science-based issue. The charm of pure, unaltered data collection and analysis can't hold its ground against the instant gratification of confirmation bias, let alone the adrenaline rush of a YouTube conspiracy theory video. It's a frustrating issue that I don't know the solution to, and realistically I don't see an end to it any time soon.

Thankfully, members of SCAPMS have something incredibly important in common: our work is inexorably rooted in quality science. If a product is ineffective, or if a management technique fails to perform, the results (or lack thereof) will speak for themselves. Our industry provides a great example of consistent data collection and quality control that will send any alchemist packing. More importantly, the industry ultimately produces aquatic plant management techniques that support healthy ecosystems while remaining cost effective for applicators.

SCAPMS Board UpdateThis year we are excited to welcome Carl Della Torre and Tom Warmuth to the board, and we were also joined by Brian Boyleston who was gracious enough to offer help with our social media and outreach.

We are always looking for extra help with newsletter articles, conference planning, fundraising, media posts, etc. so please reach out any time if you're interested! You can reach me at Carl.Bussells@santeecooper.com or contact the board at board@scapms.org.

SCAPMSNEWS

April, 2022

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 Greenville, SC July 18-22, 2022. 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 June 1, 2022 and will be evaluated on the basis of relevant test scores (ACT, 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.

Steve de Kozlowski
SCAPMS Scholarship Chairman
EMail: sdekoz2@gmail.com

SCAPMSNEWS

April, 2022

Harmful Algal Blooms and You

Times are changing, a paradigm shift in water resource management is at hand. Harmful algal blooms (HABs), toxins, dogs dying, closed beaches, etc. have become mainstream. People are more aware and more vigilant when it comes to HABs. Many environmental conditions we are currently experiencing can promote them such as saltwater intrusion, dynamic weather patterns, temperature increases, eutrophication and more. Blooms are now occurring in all types of water resources, not just the hot static systems as historically thought. No longer is water resource management solely focused on aesthetics, rather the health, safety and usability has become more prominent. With these changing times, managers should change accordingly and the responsibility we have has never been more urgent. The goals and objectives for a water resource must account for these potential harmful cyanobacteria and related toxins. Educating stakeholders, residents and clients regarding HABs and designing management plans to account for them needs to be a priority. A deeper understanding of these blooms including what to look for, what toxins are capable of being produced, exposure routes to humans and wildlife and impacts thereof should now be forefront in outlining management objectives.

Some key takeaways from this article:

- Be vigilant and proactive in your search and pursuit of cyanobacteria/HABs, not all are readily evident as surface scums or mats
- Intervene early if feasible, prior to attaining densities that could result in impeding designated uses of the water
- Understand the impacts HABs can have on all water uses from aesthetics to irrigation quality, fisheries production ad well as human and wildlife safety
- Utilize technically sound technologies, both proactive and reactive, to prevent and mitigate HABs
- Not taking action to manage HABs (or just putting up a sign) is a decision that often leads to more potential human health and environmental harm

Realize this article is not meant to incite fear, rather impart a heightened awareness of HABs and what they are capable of. The goal is to empower you with accurate knowledge regarding this ongoing shift toward being better stewards of water and just maybe saving some lives in the process.

West Bishop

SCAPMSNEWS

AIRMAX

Airmax Aeration
2022 System Line-Up

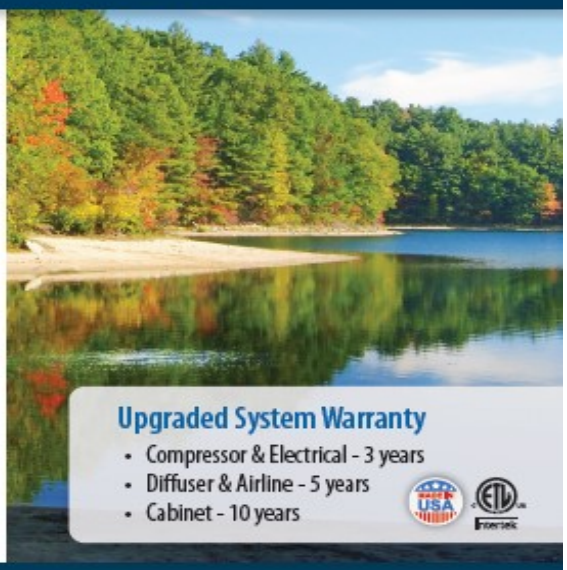
Changes to the Airmax Aeration systems are the result of our commitment to quality through innovation, as well as feedback that we receive from our pros and distributors. Airmax products are developed by the pros, for the pros.

Upgraded Features:

- Upgraded 3 year warranty on all system compressors and electrical components
- All PS & LS systems now aerate to a max depth of 50 feet
- Quick-change fitting added to all PS & LS airflow manifolds for easy maintenance

2022 System Line-Up Summarized		
SHALLOW WATER®	PONDSERIES®	LAKESERIES®
2 or 4 Diffusers	1 - 6 Diffusers	4 - 12 Diffusers

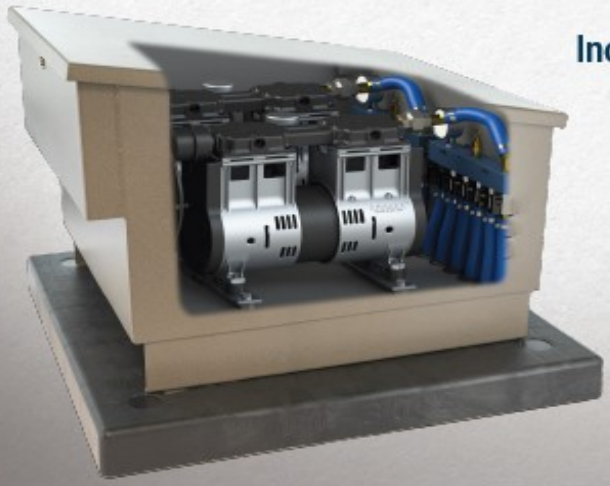
SW20HP, SW40HP, PS80, LS40, LS60 have been discontinued



Upgraded System Warranty

- Compressor & Electrical - 3 years
- Diffuser & Airline - 5 years
- Cabinet - 10 years

Newly Designed LakeSeries Aeration Systems



Increased Performance & Easy Maintenance

- Both models offer custom ordering options, adaptable to every waterbody
  - **LS80 (1 ½ HP System):** Power 4 - 8 diffusers, up to 8 acres, maximum depth of 50 feet
  - **LS120 (2 HP System):** Power 6 - 12 diffusers, up to 12 acres, maximum depth of 50 feet
- Quick-change fitting on airflow manifold for easy maintenance
- "Hot Swappable" compressor mount design
- Powder Coated Aluminum Cabinet – durable, light weight, and lockable
- Integrated gravity filter with extra-large filter media pad
- Dual cooling fans for maximum volumetric air exchange
- Dual shocks on lid; external power switch; pre-mounted composite base
- Integrated pressure gauge and pressure relief valve

airmaxeco.com | 866.424.7629 | contactus@airmaxeco.com

520074_22_V1

SCAPMSNEWS

April, 2022

UPL NA Inc's Aquatic Drone Boat Development and Commercialization

Justin Nawrocki, Jacob Meganck, and Dean Jones
UPL NA Inc

In this article we'd like to introduce you to a new and useful tool the UPL NA Inc (UPL) Aquatics Team has been working on for managing aquatic plants and algae. **It's an autonomous aquatic drone boat!** For the last few years, we've presented general updates and most recently brought an actual field-tested model to aquatic plant management conferences. We're excited to share some details about the boat's development to-date, specific features of the boat, and welcome your interest for future testing and possible purchase.

Almost everyone, including those in the aquatics industry, is trying to do more with less and there is a significant need to be more efficient. Technology is changing at a rapid pace to help save time and make tasks easier thereby increasing our efficiency and improving life in general. With that in mind, UPL has worked in collaboration with North Carolina State University (NCSU) since 2016 on the development of an autonomous drone spray boat named ADAPT™ (**A**quatic **D**elivery **A**utonomous **P**recision **T**echnology). The driving force behind the project was to offer a versatile, easy to use, pesticide delivery method that significantly reduced the exposure potential to the aquatic applicator.

When the partnership between UPL and NCSU (Crop Science and Mechanical and Aerospace Engineering departments) began on developing the ADAPT™ spray boat, a provisional patent was filed as well as the construction of the first generation of the boat (Fig 1). The rather rudimentary boat had no chemical tank and was propelled by a small fan. Initial tests showed promise however there was a problem with the boat tracking off course in moderate winds. By the third generation (Fig 2) the fan propulsion was replaced with a lower power (~50# thrust) trolling motor resolving all previous tracking issues and the boat was lenghtened by several feet to make room for a 10-gallon spray tank. Several trials were conducted including a full scale treatment of roughly a quarter acre pond for watermeal/duckweed which provided excellent control (Fig 3).

Fig 1: ADAPT™ 1st Generation

Fig 2: ADAPT™ 3rd Generation

Fig 3: ADAPT™ 3rd Generation treating watermeal/duckweed

The next step in the evolution came with a manufacturing agreement with RMD Systems (San Luis Obispo, CA) in 2019 which significantly added more capabilities and capacity to the boats. By using many off the shelf parts we are able to keep the cost down, while also offering a great deal of versitility. This allows the boat to be setup to an applicators specific needs.

Fig 4: ADAPT™ Smart controller with integrated video display

The current generation ADAPT™ spray boat has the following specifications and capacities (Table 1) in addition to the autonomous mode feature. A predefined track can easily be created and stored in the boats onboard memory allowing the boat to automatically run the track in autonomous mode when directed by the applicator. An enhanced feature of autonomous mode is the ability of the applicator to set at which specific waypoints to turn on and off the spray pump.

Length	**72"**
Width	**40"**
Height	**40"**
Weight (empty)	**200 lbs**
Maximum payload	**160 lbs**
Tank Capacity	**16 gal**
Top Speed	**7 mph**
Run Time	**4 hr**
Operating Distance	**1 mi**

Table 1. ADAPT™ spray boat physical specifications and capacities

ADAPT™ is equipped with several safety features including a first person, real time video camera mounted on the bow which transmits a video feed to the applicator on the smart controller (Fig 4). Redudant GPS recievers, inertia meters and compasses significantly reduce the possibility of a “fail to run” situation. The boats have software that when the batteries are running low or a loss of signal from the controller is detected the boat will automatically return to the original launch point also known as the “return to home” feature. Lastly, ADAPT™ is equipped with a LiDAR (light detection and ranging) sensors on the bow which stops the boat when an obstacle is detected while running in autonomous mode.

Recently, UPL placed 3 boats in the hands of professional applicators for real-world testing to receive feedback on current utility of the platform and potential changes to make it more useful. Particularly noteworthy was a trial conducted by The Lake Doctors, Inc (hereafter TLD). In May of 2021, TLD staff from the Jacksonville office and regional manager Sean Fleming simultaneously conducted an algae application and mapped a two-acre pond for bathymetry and submersed aquatic vegetation using an ADAPT™ boat while in autonomous mode.

The mapping effort was repeated twice while on site to document the accuracy of the guidance system. As you can see by the tracks in Fig 5, the boat maintained a very accurate path overlayed of the two tracks. Another evaluation was also performed to compare the ADAPT™ mapping accuracy to a typical application surveying vessel (i.e., johnboat operator driven) used by TLD. The results were very comparable, ~75% similarity between methods to collect the data. It was noted that the accuracy rate would of even higher if the transducer on the ADAPT was calibrated (position of the transducer relative to the water's surface). Both trials were performed relatively quickly for the size of the pond evaluated.

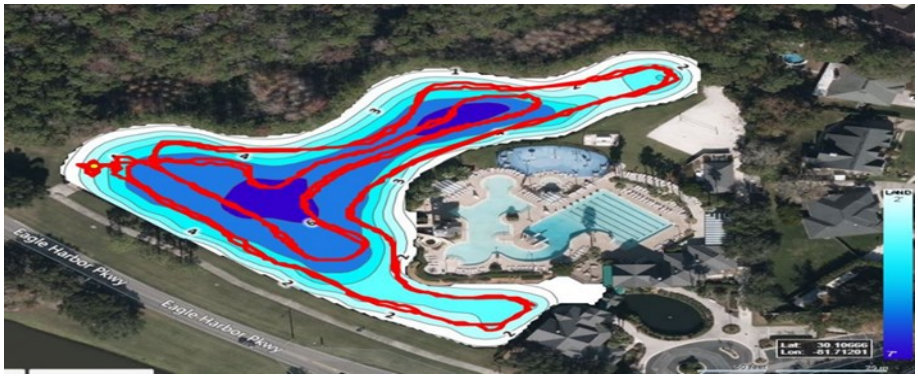


Fig. 5 C-Map BioBase tracks and bathymetry output as collected by ADAPT™.

The ADAPT™ platform is tailored for multitasking as demonstrated in this trial that was completed in 25 minutes. Sean stated several key findings in the conclusion of his report.
"Running in autonomous mode may allow for placement in difficult to access locations for treatment or bathymetric analysis. Autonomous mode would allow for precision treatments at specific areas of a waterway with confidence that the pathways would be followed. This would be most beneficial in developing tracks based upon biovolume maps generated. In such applications, the initial scan would flag the areas of greatest biovolume accumulation (Fig 6) and the subsequent runs would be able to precisely target those areas based upon GPS data rather than visual line of sight. This would be particularly effective for areas of underwater vegetation deep in the water column. The trailing hoses can be set to the precise depth based upon the contour measurements to more precisely deliver herbicide to the target species."

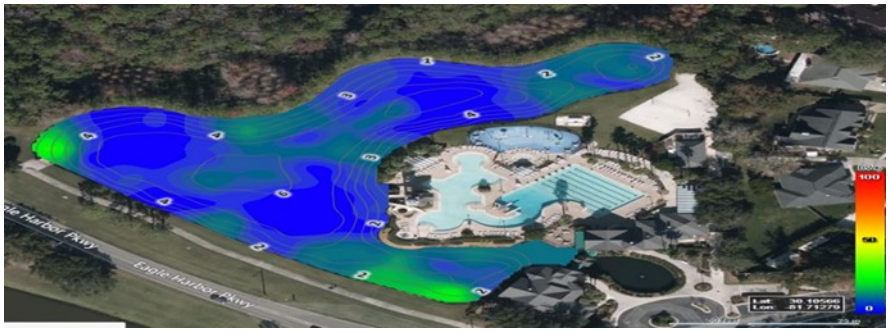


Fig. 6 C-Map BioBase vegetation heat map and bathymetry output as collected by ADAPT™.

SCAPMSNEWS

April, 2022

The latest generation ADAPT™ boats are back from testing with applicators and will be showcased at upcoming aquatic weed management conferences (Fig 7). They are also available for on water demonstrations with prospective customers. Please contact your UPL sales representative to schedule a demonstration and discuss the personalization of a boat for your operations needs. UPL is proud to annouce ADAPT™ is now available on the commercial market.

Dr. Justin Nawrocki, Justin.nawrocki@upl-ltd.com, is the east coast, including Florida, territory sales manager for UPL. Justin has been a part of this drone boat development since the inception of the project while he was still a graduate student at North Carolina State University. He has moved up through the aquatics industry over the past 20 years from a professional applicator to an extension specialist for Lake Gaston to receiving his masters and doctorate degrees from NC State researching aquatic plant management.

Jacob Meganck, Jacob.meganck@upl-ltd.com, is the Midwest territory manager for UPL. Jacob started in the Aquatics industry in 2005 working for a major distributor and in 2011 moved into his role as Midwest territory manager. In the distribution role he assisted in developing a speed-rate controlled application boat modified from agriculture and right-of-way systems. Jacob came onboard to the aquatic drone boat project when UPL partnered with NC State.

Dean Jones, Dean.jones@upl-ltd.com, is the Mid-south territory manager for UPL. Dean has 25 years' experience in the aquatic plant management industry including serving as Manager of the Polk County Aquatic Weed Control Section, Senior Biological Scientist with Osceola County and the University of Florida Center for Aquatic and Invasive Plants, and a contractor for the US Army Corps of Engineers Engineer Research and Development Center. Dean became a member of the drone boat project team in January 2020 upon joining UPL.

Ed Shimer
Director of Business Development
Easter Regional Manager
EShimer@earthsciencelabs.com
earthtecwatertreatment.com
earthtecqz.com
800.257.9283
843.810.1830
Clean Water for the Planet.
ESL
EARTH SCIENCE LABS

Cygnet Enterprises, Inc.

Products to Enhance Our Water Resources®

LARGEST SINGLE SOURCE DISTRIBUTOR OF AQUATIC PLANT MANAGEMENT PRODUCTS IN THE UNITED STATES SINCE 1974

CYGNET STOCKS PRODUCT FROM ALL THE MAJOR MANUFACTURERS

syngenta
UPL AQUATICS BALANCING NATURE WITH SCIENCE
SePRO
BREWER International
BioSafe Systems
CHEM ONE
Nufarm
OB OLD BRIDGE CHEMICALS
BAYER

- Cygnet employs an experienced and knowledgeable staff that strive for outstanding customer service.
- On staff biologists and ex-professional applicators provide first hand knowledge and experience to our customers.
- Our employees have over 200 years of combined experience in the aquatics industry.
- Cygnet Enterprises is a strong supporter of environmental stewardship.
- Our goal is to be a leader in industry stewardship to enhance our water resources
- We try to make a difference from the national level all the way down to the local level.

WWW.CYGNETENTERPRISES.COM

SCAPMSNEWS

April, 2022

62nd Annual Meeting of the Aquatic Plant Management Society

July 18th-22nd, 2022

Hyatt Regency Greenville – Greenville, South Carolina

Present Your Original Research

You are invited to submit a title and abstract for the 62nd Annual Meeting of the Aquatic Plant Management Society to be held at the Hyatt Regency in beautiful Greenville, SC. Oral and poster presentations are solicited for original research on the biology or ecology of aquatic and wetland plants and algae, control methods (biological, chemical, cultural, mechanical) for invasive, exotic or nuisance plant or algal species, and restoration projects involving wetland or aquatic plants and algae. Presentation of original research will be given preference and should be indicated by including results in the abstract. This year's meeting is in the region of the South Carolina Aquatic Plant Management Society, so regional presenters are strongly encouraged to submit an abstract.

Oral presentations will be allotted a total of 15 minutes with an additional 5 minutes for questions and discussion. Contributed oral presentations should be scientific or technical in nature, which will be determined from the submitted abstract. An LCD projector/computer and laser pointer will be available for oral presentations. Only PC-based PowerPoint presentations will be accepted. All presenters will be required to upload their final PowerPoint presentation to the abstract submission portal prior to the meeting. Note: All presentations that include externally run programs; models or special animation, must be reviewed and approved by the Program Chair prior to the meeting. You will not be allowed to set up a personal computer for your presentation. A poster session will also be scheduled. Free-standing display boards (4' x 4') will be provided for posters.

Students

The society will provide all student presenters with room accommodations and complimentary registration. First, 2nd, and 3rd place prize money will be awarded in separate contests for both oral and poster presentations. In addition, a student tour of local management sites and scenic places is being put together for student enjoyment. Students may contact the Program Chair (Dr. Brett Hartis; brett.hartis@duke-energy.com) or the Student Affairs Committee Chair (Sam Sardes; sam.sardes@solitudelake.com) with any questions.

SCAPMSNEWS

April, 2022

COVID-19 Considerations

The APMS Board of Directors is carefully monitoring the ever evolving COVID-19 pandemic, paying close attention to all CDC guidance. Our hope is that the 2022 conference will be our first chance for everyone to get back to an all in-person meeting, however we will be adjusting as needed as the conference nears. At the end of the day, the safety of our members and participants is of utmost importance. We will doing all we can to make our meeting as safe as possible. We are working hard to maintain everything about the conference that makes it educational, informative, and fun. Check back on the website www.apms.org for up to date information.

Abstract Submission Information

Abstracts must be submitted on the WSSA abstract system at http://weedscimeetingabstracts.com/. Instructions for abstract submittal are below. The WSSA Title and Abstract Submission System is now active and will remain open until **May 13, 2022**.

Acceptance of contributed papers will not occur until after the abstract deadline and will be confirmed by a separate e-mail.

Logging in to the WSSA System

If you have used this system before, enter your e-mail address and password to sign on to the system. If you cannot remember your password, click “Forgot your password?” to reset the password.

If you do not have an account with the WSSA abstract submission system, click “Register as a new user” and follow the instructions.

Once you are logged in, you will see a list of conferences that are open for Title and Abstract submissions. Click on “My Titles” at the top, and then click on “Create New”. You will be prompted to select a conference. Select “2021 APMS” and hit the “Continue” button.

Entering a Title: Type in the title capitalizing key words (e.g., Response of Eurasian and Hybrid Watermilfoil to Five Auxin-mimic Herbicides). Please do not submit your title in bold typeface or all caps. Just capitalize the major words in the title.

Students: Please indicate if you are a student. There will be no student contests this year, but we will waive registration for students presenting in-person or virtually.

Section: Indicate whether you are presenting an oral or poster presentation using the "Type" dropdown menu. For oral presentations, under "Section 1", please indicate whether you will be presenting in-person (July 13-14) or virtually (July 27-29). We will not have in-person posters, but posters may be presented virtually.

Presenter Biography: Please provide a short biography of the presenting author (200 word maximum).

Abstract: Type or copy the text of your abstract into the abstract box (300 word maximum).

Authors: Be sure to add the full names and contact information of all authors. Please indicate the presenting author with the checkbox. Please enter all authors in the correct order, and the order can be changed by dragging the boxes.

If you have any questions, please contact:

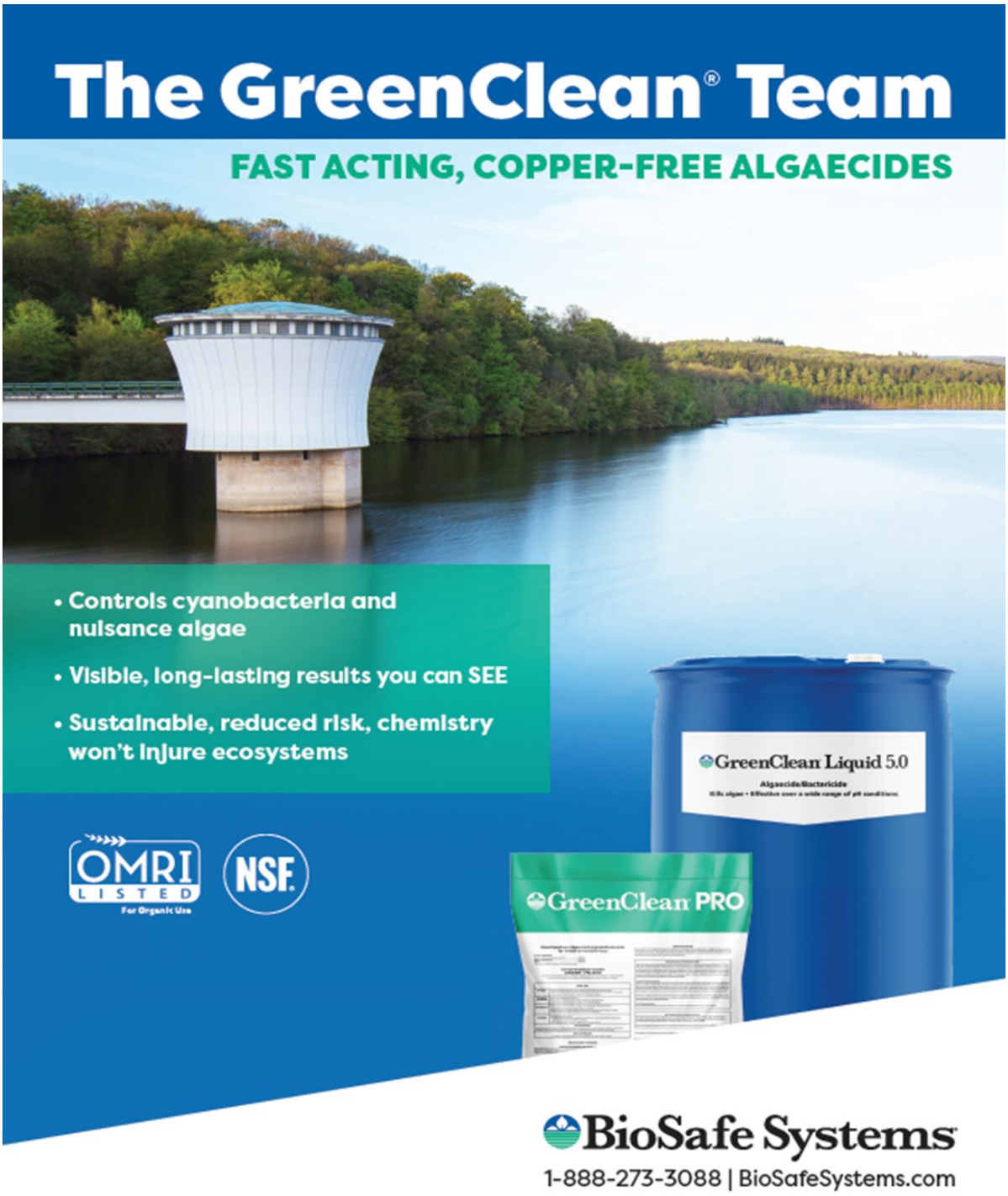
Dr. Brett Hartis

2021 APMS Program Chair

brett.hartis@duke-energy.com

KEYCOLOUR T.M.
Total Color Maintenance
Rick Purcell
Technical Director
3002 W. Weldon Ave. • Phone: 602-424-9990
Phoenix, AZ 85017 • Fax: 602-424-2999
www.keycolour.net • Toll Free: 800-274-4393
rpurcell@keycolour.net • Cell: 602-769-1532

SCAPMSNEWS



April, 2022

SCAPMSNEWS

2022 APMS 62nd Annual Meeting in conjunction with SCAPMS

Hyatt Regency
Greenville, SC
July 18-22, 2022

We are delighted to announce that the 62nd Annual Meeting of the Aquatic Plant Management Society will be held July 18th-22nd at the Hyatt Regency in beautiful downtown Greenville, South Carolina. Go ahead and make your reservations!

Our conference will feature speakers from all over the country who will focus on the ever evolving study and management of aquatic plants and algae.

This year's conference will also feature a special session on Harmful Algal Blooms (HABs), which will cover current impacts, implications for monitoring and management, and a future outlook for interdisciplinary collaboration.

Interested in submitting an abstract? Check out our Call for Papers.

We welcome you to attend this year's meeting and take in all that the Society has to offer.

For more information on lodging or to book under the Society's special room block rate, visit https://www.hyatt.com/en-US/group-booking/GSPRG/G-APMS

Hotel Information

- Hyatt Regency Greenville220 North Main Street, Greenville, SC 29601
  Special Room Block Rate

Sponsorship and Exhibitor Information

The Annual Meeting provides an excellent forum to exhibit products and services and interact with key people involved in aquatic plant management throughout the country.

Sponsorship and Exhibitor Information Page

April, 2022

SCAPMSNEWS

April, 2022

Aquatic Solutions
Driving Innovation.

Stay ahead of the curve with Nutrien Solutions™. A team of seasoned industry professionals will work closely with you to map out an effective aquatic plant management program designed to suit your needs.

Local Approach. Nationwide Expertise.

At Nutrien Solutions, relationships are important. We strive to understand your needs and challenges with uncompromised stewardship. We will partner with you to provide the most cost-effective and sustainable aquatic plant management strategies in the industry.

Nutrien Solutions

Connect with Nutrien Solutions on @NutrienSolVM

Contact your local representative or visit NutrienAgSolutions.com.

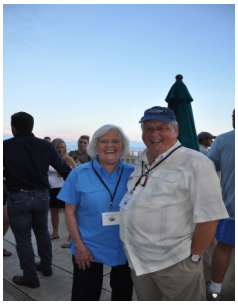
Cary Martin 704.305.7752
Troy Knowlton 727.348.7569
Paul Mason 407.718.9154
Stephanie Walters 407.466.8360

Logo Contest –

Do you have an artistic touch? Everything deserves a fresh coat of paint from time to time. The SCAPMS Board of Directors is hosting a contest to spruce up our logo. The membership will vote on entries at the 2022 annual conference this coming fall. The winner of the contest will receive $300! Please submit your entries to board@scapms.org

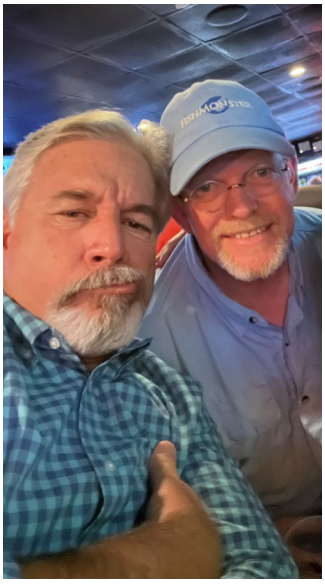
Please note: This new logo will IN NO WAY REPLACE our founding logo, this will be for advertisement i.e. hats, T-shirts, stickers etc.

SCAPMSNEWS



2021 Conference Sponsors

*Airmax *Alligare *Applied Biochemist *Biosafe Systems *Brandt * Brewer International
*Carolina Aquatic Management * Clemson Extension * Cygnet Enterprises, Inc
*Estate Management Services *Foster Lake & Pond Management * Helena * Key Colour
*Mountain Lake and Pond * Naturalake Biosciences * Nufarm *Nutrien Solutions
*Outdoor Water Solutions *Santee Cooper *SePRO * Solitude Lake Management
*Summit Helicopters *Syngenta *UPL *Vertex Water Features



April, 2022


Novel and simple solution to immediately
inactivate phosphorus and restore water quality.
EutroSORB® WC
Water Column Phosphorus Inactivator
Advanced non-copper formulation to quickly
control and oxidize nuisance algae and cyanobacteria.
Oximycin® P5
Algaecide and Oxidizer
Do More With Less
SePRO
For more information, call your SePRO Technical Specialist at 1-800-419-7779 or visit sepro.com

SCAPMSNEWS

April, 2022

Steven "Skip" Allen Karby

January 23, 1949 - November 21, 2021

Steven "Skip" Allen Karby was born January 23, 1949, to the late Stephen and Mildred Karby. Skip passed away peacefully on November 21, 2021, surrounded by his loving family. Skip was born and raised in Elyria, Ohio. He graduated from Ohio University in 1972. After graduation, Skip moved to Clearwater, Florida where he met his sweetheart, April. They married and lived in Tarpon Springs, Florida where they started their family. In 1989, Skip and April moved to Sylva, in the beautiful mountains of Western North Carolina, where they raised their children, Kristen and Stephen. With a love for all things water, Skip let this passion create his career path where he was the owner of Suncoast Specialists, later Mountain Lake Management Inc, for over 50 years, managing waterways and aquatics for golf courses and resorts throughout the Southeast. Over the past two decades Skip and his son, Stephen, worked together sharing their passion for the outdoors. Throughout his lifetime, Skip was active with the Knights of Columbus, as a 4th degree Knight. He helped to lead church softball leagues, youth Free Throw competitions, church fish fry events and served as Parish Council President. He was a founding member of the Florida Aquatic Plant Management Society. He was also a member of the South Carolina Aquatic Plant Management Society and served on the board. Skip lived life to its fullest and shared that zest for life with his family, friends, and neighbors. Skip never met a stranger. As an avid golfer, and sports fanatic, these hobbies maintained lifelong connections to his closest friends. He enjoyed attending local sporting events, rooting for his favorite Ohio teams, spending time outside and near water, or reminiscing about the past and talking about trains with his brother-in-law and best friend, Gene. Skip was a great listener and would spending hours talking about anything and everything with friends and family over the phone. In recent years, Skip's most favorite past-time has been adventures and conversations with his 5-year-old granddaughter, Harper Grace. To anyone that watched them together, it was known they shared a very special relationship. He leaves behind a family that will miss him greatly. Along with his wife of 45 years, April (née Chapin), he is survived by his Daughter: Kristen (Chuck) of Midlothian, VA; Son: Stephen of Charlotte, NC, and Granddaughters: Harper and Kayla. Skip is also survived by his Sister: Mary Jo Gunselman (Gene) of Mount Pleasant, SC and Skip's nephews and nieces, and their children: Gregg (Emily) of Short Hills, NJ; Ryan (Khris) of Asheville, NC; and Stephanie (Zach) of Atlanta, GA; great-niece and nephews: Julia, Andrew and Enzo. The family request that donations can be made to the National Kidney Foundation or your favorite charity, in memory of Steven" Skip" Karby.

SCAPMSNEWS

Board of Directors

President: Carl Bussells
Santee Cooper
Email: carl.bussells@santeecooper.com

Vice President: JJ Ferris
Cygnet Enterprises
Email: jferris@cygnetenterprises.com

Immediate Past President: Justin Nawrocki
UPL
Email: justin.nawrocki@upl-ltd.com

Treasurer: Todd Horton
SePRO
Email: todd.horton@sepro.com

Secretary: Casey Moorer
Santee Cooper
Email: casey.moorer@santeecooper.com

Editor: Cary Martin
Nutrien Solutions
Email: cary.martin@nutrien.com

Assistant Editor: Julie Holling
SC Dept. of Natural Resources
Email: hollingj@dnr.sc.gov

Director: Ryan Stanley
Foster Lake and Pond Management
Email: ryan@fosterlake.com

Director: Tom Warmuth
BioSafe Systems
Email: twarmuth@biosafesystems.com

Director: Brett Hartis
Duke Energy
Email: brett.hartis@duke-energy.com

Director: Carl Della Torre
Orion
Email: cdellatorre@orionivm.com