The Aquatic Plant Management Society

Annual Board of Directors Meeting
July 18, 2022
Hyatt Regency
Greenville, SC

APMS Board Book – July 2022

Table of Contents	Chair/Contact	Noticed? 6/14/22	Received?
Board Book Cover	Giannotti	--	complete
Contents	Giannotti	--	complete
Agenda	Thum	--	complete
BOD Chairs & Contact Info	Giannotti	--	complete
Minutes			
Quarterly BOD Meetings			
4/7/2022	Giannotti	--	yes
5/25/2022	Giannotti	--	yes
6/9/2022	Giannotti	--	yes
Officer Reports			
President	Thum	yes	--
Treasurer	Nawrocki	yes	yes
Secretary	Giannotti	yes	yes
Editor	Leon	yes	--
Committee Reports			
Awards	Madsen	yes	yes
Bylaws	Leary	yes	yes
Education/Outreach/Website	Hartis	yes	yes
Exhibits	Jones	yes	yes
Finance	Fuhrman	yes	yes
Legislative	Richardson	yes	--
Meeting Planning	Richardson	yes	--
Membership	Bellaud	yes	--
Nominating	Wersal	yes	yes
Past Presidents' Advisory	Wersal	yes	--
Program	Hartis	yes	yes
Proposal Review	Wersal	yes	--
Publications	Leon	yes	--
Regional Chapters	Turnage	yes	--
Scholastic Endowment	Haug	yes	yes
Strategic Planning	Heilman	yes	Sunday eve
Student Affairs	Sardes	yes	--

Special Representatives				
	AERF	Layne	yes	--
	BASS	Slade	yes	yes
	CAST	Gettys	yes	--
	NALMS	McNabb	yes	yes
	RISE	Barrick	yes	--
	WOA	Kay	yes	--
	WSSA	Richardson	yes	--
	Science Policy	Van Wychen	yes	--

-- = No report at this time….but may present in the meeting.

AGENDA

Annual Pre-Conference Board Meeting
Hyatt Regency
Greenville, South Carolina
July 18, 2022

0730 CALL TO ORDER - President Ryan Thum

MINUTES - Available online at https://apms.org/member-login/

REPORT OF THE PRESIDENT – Ryan Thum

REPORT OF THE TREASURER – Justin Nawrocki

REPORT OF THE SECRETARY – Amy Giannotti

REPORT OF THE EDITOR – Ramon Leon

Call for motion to approve Officer Reports

COMMITTEE REPORTS

Awards – John Madsen
Bylaws and Resolutions – James Leary
Education and Outreach - Brett Hartis
Exhibits and Sponsorship - Dean Jones
Finance - Andy Fuhrman
Legislative - Rob Richardson
Meeting Planning – Rob Richardson
Membership – Marc Bellaud
Nominating – Ryan Wersal
Past President's Advisory – Ryan Wersal
Program – Brett Hartis
Publications – Ramon Leon
Regional Chapters – Gray Turnage
Scholastic Endowment – Erika Haug
Strategic Planning - Mark Heilman
Student Affairs – Sam Sardes
Website – Brett Hartis

SPECIAL REPRESENTATIVE REPORTS

AERF - Carlton Layne
BASS – Jeremy Slade

CAST - Lyn Gettys
NALMS - Terry McNabb
RISE - Sam Barrick
Women of Aquatics - Amy Kay
WSSA - Rob Richardson
Science Policy Director - Lee VanWychen

Call for Motion to approve Committee / Special Representative Reports

OLD BUSINESS

Call for any Old Business that needs to be resolved

NEW BUSINESS

Call for any New Business that needs to be resolved

~5:00 pm ADJOURN - President Ryan Thum

The Aquatic Plant Management Society, Inc.
PO Box 754
Holly Springs, NC 27540
www.apms.org

2021 - 2022 Board, Committee Chairs, and Special Representatives

Officers

President -Dr. Ryan Thum
Montana State University

President Elect - Dr. Brett Hartis
Duke Energy

Vice President - Dr. Jason Ferrell
University of Florida

Immediate Past President -Dr. Ryan Wersal
Minnesota State University - Mankato

Treasurer - Dr. Justin Nawrocki
UPL NA Inc.

Secretary - Ms. Amy Giannotti
AquaSTEM Consulting LLC

Editor - Dr. Ramon Leon
North Carolina State University

Directors

Dr. Lyn A. Gettys
University of Florida

Dr. Christopher Mudge
USA ERDC-EEA

Mr. Michael Greer
U.S. Army Corps of Engineers

Dr. Erika Haug
North Carolina State University

Dr. Toni Pennington
Environmental Science Associates

Mr. Matt Johnson
Aquatic Control

Student Director

Kara Foley
North Carolina State University

2021 - 2022 Committee Chairs and Special Representatives

Committee	Chair
Awards	John Madsen
Bylaws and Resolutions	James Leary
Education and Outreach	Brett Hartis
Exhibits	Dean Jones
Finance	Andy Fuhrman
Legislative	Rob Richardson
Meeting Planning	Rob Richardson
Membership	Marc Bellaud

Nominating	Ryan Wersal
Past President's Advisory	Ryan Wersal
Program	Brett Hartis
Proposal Review	Ryan Wersal
Publications	Ramon Leon
Regional Chapters	Gray Turnage
Scholastic Endowment	Erika Haug
Strategic Planning	Mark Heilman
Student Affairs	Sam Sardes
Website	Brett Hartis

Special Representative

AERF	Carlton Layne
BASS	Jeremy Slade
CAST	Lyn Gettys
NALMS	Terry McNabb
RISE	Sam Barrick
Women of Aquatics	Amy Kay
WSSA	Rob Richardson
Science Policy Director	Lee Van Wychen

THE AQUATIC PLANT MANAGEMENT SOCIETY, INCORPORATED

Minutes of the Board of Directors Meeting
April 7, 2022
Virtual Meeting

The Board of Directors of the Aquatic Plant Management Society, Inc., met on Thursday, April 7, 2022, over virtual platform. President Ryan Thum called the meeting to order at 10:30 a.m., EDT.

Officers and Directors present at roll call were:

Ryan Thum, President
Brett Hartis, President-Elect
Ryan Wersal, Immediate Past President
Jason Ferrell, Vice-President
Justin Nawrocki, Treasurer
Amy Giannotti, Secretary
Ramon Leon, Editor
Michael Greer, Director
Matt Johnson, Director
Chris Mudge, Director
Erika Haug, Director
Kara Foley, Student Director

There were no Proxies.

Others in attendance during all or portions of the meeting:

James Leary, Bylaws & Resolutions Committee Chair
Sam Sardes, Student Affairs Committee Chair
Rob Richardson, Meeting Planning/Legislative Committees Chair
Lee Van Wychen, WSSA Science Policy Director
Dean Jones, Exhibits Committee Chair
Gray Turnage, Regional Chapters Chair
Carlton Layne, AERF
Jeremy Slade, BASS
Bill Torres, Meeting Coordinator

MINUTES
All prior Meeting Minutes were approved via electronic vote.

PRESIDENT'S UPDATE

After Roll Call, President Thum outlined that today's meeting should summarize reports and preparations, with specific focus on the Annual Meeting and for the Michael D. Netherland Graduate Student Research Grant.

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TREASURER'S UPDATE

Treasurer Nawrocki started a discussion about having better procedures in place to reduce debate about finances in the future. Currently, money has been coming in with the JAPM Special Delta Region edition and via Sustaining Membership renewals. APMS does have operating monies for the foreseeable future, but Nawrocki stresses that procedures need to be in place to safeguard accounts and reserves. Recently, APMS has lost about $30,000, and while APMS was in the black prior to COVID, APMS has struggled since then to support initiatives without constant support from successful annual meetings. Nawrocki expressed frustration that APMS BOD has to take requests throughout the year for support from other organizations, and the BOD seems to not be as cognizant of current financial status.

Nawrocki asked Secretary Giannotti to forward the APMS 5-year financial summary spreadsheet to the Board, Committee Chairs, and Special Representatives for evaluation and discussion.

> ***Justin Nawrocki motioned that APMS reconsider separating the Finance Committee with the Scholastic Endowment Committee as he does not believe they will function efficiently together. Discussion centered on the previous Board support for combining these Committees that was voted on at the MidYear Board Meeting in January 2022, and that the Membership is being prepared to vote on this to streamline Committees and volunteers. There was no second, and the motion was withdrawn after discussion.***
>
> ***Justin Nawrocki motioned that all requests for funds be submitted through the Proposal Committee. After discussion determined that this was already in the bylaws, the motion was withdrawn without a second.***

Nawrocki reports that APMS can move ahead with issuing the Michael D. Netherland Graduate Student Research Grant for this year. Applications are typically due end of April, but Ferrell will accept applications through May and announce via social media/newsletter/website.

SECRETARY'S UPDATE

Secretary Giannotti mentioned that she is working on advertising the APMS Annual Meeting for July 2022 via social media channels and the newsletter. Preparations are underway to have the website ready for registration soon after this meeting. Giannotti stated that the next newsletter will go out around May 15, plenty of time for membership review of content for voting at the Annual Business Meeting in July.

EDITOR'S UPDATE

Editor Leon announced that APMS is up and running now with the electronic version/access of JAPM. APEX is using an IP-based recognition system for institutional subscribers, and database has been established to allow those users access.

Some subscribers were expecting printed copies of JAPM for 2021 and for 2022 – approximately 27 institutions in total. Two resolutions for this were proposed: 1). The cost of refunding

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subscriptions would be about $5,800. 2). The other option presented is to print the issues and mail to subscribers so APMS fulfills the obligation to provide them a printed copy. Allen Press quoted the cost of doing so to be about $800/for each year. Leon told EBSCO he would discuss options with the Board, and he instructed EBSCO to please stop printed publication renewals. There is a significant savings to print and mail vs. refund the subscription. Leon will request a print + mailing quote from Allen Press, and he and Giannotti will work together to mail these remaining print subscribers their issues upon printing if necessary.

Ramon Leon motioned that APMS cover the cost of printing issues and delivering to subscribers expecting printed copies from 2021 and 2022 only, up to a cost of $3,000. Brett Hartis seconded the motion. Discussion involved President Thum saying this may help to get papers distributed rather than cancelling subscriptions altogether. The motion passed without dissent.

Leon also met with the Editorial Board to discuss the possibility of merging JAPM with IPSM (Invasive Plant Science Management), affiliated with the WSSA. The Editorial Board was split in half about what to do, with these two options presented: 1). All agreed that while Cambridge is a better publisher and merging would streamline membership and marketing, there are some potential drawbacks for APMS – like IPSM is expected to move fully to open-access soon with high costs for their authors (~$2,400), and the loss of individuality of JAPM. Leon offered another alterative 2). Have JAPM go fully open access, which eliminates subscriptions, and relies solely on the fees that the authors pay but at a more affordable rate than the proposed merger. This likely will increase readership substantially and broaden APMS reach. Currently, JAPM articles are open-access after two years anyway.

Discussion around option 2 focused on making sure costs for authors are affordable so JAPM doesn't lose participation. Ferrell pointed out that there are a lot of journals out there and JAPM currently has poor distribution as is with Search Engine Optimization (SEO) in Google Scholar and impact factors are weak in general.

Thum and Haug supported Leon's suggestion to survey the APMS Membership by putting an informational update in the APMS Newsletter to evaluate what is a reasonable expectation for costs, etc. Leon will provide a summary to Giannotti for inclusion in the May newsletter.

Leon announced the Editorial Board has decided the Outstanding JAPM Article Award for this year: Winner: GETSINGER, K. D., & MADSEN, J. D. (2021). Drawdown herbicide applications for control of flowering rush on dewatered littoral sites. *J. Aquat. Plant Manage*, 59, 85-89.

There is no Outstanding International Contribution Award for this year.

Jason Ferrell motioned to approve the Officer Reports. Brett Hartis seconded the motion. The motion passed without dissent.

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COMMITTEE UPDATES

Awards – Awards nominees were presented in the MidYear BOD Meeting; Presidential Awards will be coming from President Thum ASAP. Nothing additional to report.

Bylaws and Resolutions – Updates regarding Committee changes and consolidations have been prepared for the newsletter and forwarded to Giannotti for inclusion. Nothing additional to report.

Education and Outreach – Hartis reported that he, Ferrell, Johnson, Heilman, and perhaps Giannotti will be attending the JASM Meeting in Grand Rapids in May, with the special session on May 19 from 1-5 pm. President Thum will be in attendance, too.

Exhibits – Jones reported that sponsorship and exhibitor information for APMS 2022 has been updated and distributed; emails and website updates completed as well. As soon as online registration is ready, the sponsorships and exhibitors will be signing up. Jones and Hartis will coordinate.

Finance – Board discussed the idea of increasing registration costs to help cover expenses for APMS 2022.

> ***Ryan Wersal motioned the Board to increase APMS Annual Meeting Registration Costs by 20% for early ($395 to $475), late ($495 to $565), one-day ($100 to $120), and guest registrants ($130 to $155), and for exhibitors from $800 to $1,000. Brett Hartis seconded the motion, and it passed without dissent.***

Discussion of increased annual membership fees was proposed as well and requires the membership to vote.

> ***Brett Hartis motioned the Board to increase membership by 20% for annual dues and, if supported, prepare this motion for vote at the Annual Business Meeting in July 2022 with increases beginning the next year (2023-2024). Matt Johnson seconded the motion. The motion passed without dissent.***

Legislative – Nothing to report at this time.

Meeting Planning – Bill Torres is set for meeting planning thus far. Torres and Jones will complete the signage for the annual meeting. Nothing additional to report at this time.

Membership – Marc Bellaud (via Sam Sardes) is working on plans for a recruitment effort sometime before summer. Nothing additional to report.

Nominating – Nominations were complete in January; slate of candidates will be in the newsletter in preparation for the Annual Business Meeting vote of membership.

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Past-President's Advisory – Nothing to report. Giannotti noted that Past-Presidents were invited to attend Strategic Planning on July 17, 2022.

Program – Hartis is working to complete the Program, and events are scheduled from Sunday through Friday (student tour). Meeting registrations should go live on the website tomorrow. This program will be a digital program only, with a link to a .pdf on the website for those that want to print prior.

Proposal Review – Nothing to report.

Publications – Nothing to report.

Regional Chapters – Gray Turnage suggested switching luncheon to low-key drinks event for regional chapters at Annual Meeting. Meeting reminders and requests have been sent out to regional chapters for the MDN GSRG donations. Regional chapter summary was forwarded to Giannotti for inclusion in *Aquatics* magazine and in APMS newsletter. Nawrocki will draft appreciation text for MDN GSRG donors and forward to Giannotti. Nawrocki has gotten in touch with previous MDN GSRG recipients and has asked them to provide "where are you now" updates about career, etc.

Scholastic Endowment Committee - Erika Haug discussed the 2022 APMS plans from the scholastic endowment committee. The committee plans to conduct a bucket raffle with 5-10 big-ticket items. Tickets will be $5 each. The committee also plans to include an additional ticket in the name badge of each registered attendee. The badge tickets can then be drawn from at the start of each session to win tickets for the bucket raffle. Erika mentioned that SCAMPS will be conducting their annual duck race and the funds from that will go to the SCAMPS student scholarship. This plan was cleared with the finance committee. Lastly, Erika mentioned that JJ Ferris and Brett Hartis were working on a location for a golf tournament, the proceeds from which will also go to the support the APMS Scholastic Endowment.

Strategic Planning – President Thum reminded everyone it is scheduled for Sunday, July 17, 2022, from 10 am to 4 pm, Eastern, with Dr. Ed Osborne. He encouraged all Board Members to be present and participatory.

Student Affairs – Sam Sardes is working on a headcount for all student attendees; will know more after abstract submission deadline passes (May 13, 2022). Student field trip for Friday is still being developed. Hartis suggested contacting SC DNR about collaborative possibilities with hatchery, invasive plant crew, etc. Sardes will cc the Board as details become available.

SPECIAL REPRESENTATIVE REPORTS

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AERF – Carlton Layne emphasized that AERF doesn't ask for direct matches, but rather partnerships/contributions that further the mission of both organizations. Layne will submit a request to President Thum that cannot be discussed at the present.

BASS – Jeremy Slade reported that the Bass Conservation Summit was well received. Videos of Hartis's presentation will be made available and links shared with APMS. Joan Blankenship reported that a previous grant received for eelgrass propagation in Virginia was appreciated.

CAST – No update at this time.

NALMS – No update at this time.

RISE – No update at this time.

WOA – No update at this time.

WSSA – No update at this time.

Science Policy – Lee Van Wychen reported that he will prepare updates from the Weed Survey and Washington DC activities for presentation at the annual meeting. The 2022 appropriations were passed, which means that the USACE received another $1 million (now up to $8 million – with $1million designated for hydrilla and flowering rush, and $7 million for general aquatic plant management research). There were also big increases for Great Lakes Initiative and the Sea Grant programs.

Van Wychen thanked Richardson, Thum, and Heilman for participating on congressional visits with appropriators. As the 2023 budget is released, Van Wychen will chime in with updates and provide feedback where necessary.

WOTUS is currently on hold after administration had intended to do a two-fold publication on the proposed rule.

The federal Invasive Species Advisory Committee has been re-started with this administration after a funding controversy between DOI and USDA left it defunct in the previous administration. There is now money back in the 2022 budget. Van Wychen nominated Rob Richardson and Jacob Barney – both were nominated back in 2018 before the Committee was dissolved.

Van Wychen is watching the Endangered Species Act (ESA) policy that has come to the forefront with the ESA protection program. Herbicides and glyphosate on list of issues. EPA assessment now under review by USFWS and NMF; Van Wychen will monitor and make comments as needed; WSSA formed special committee with ESA in February with Bill Chisholm as chair. Important as this will impact all herbicides eventually.

New hydrilla strain in Connecticut River will be expensive. Van Wychen said the Senate is receptive to earmarks for now that were previously removed in 2008. This should help target specific aquatic plant management programs.

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Amy Giannotti motioned to accept the Committee and Special Representative updates. The motion was seconded by Erika Haug. The motion passed without dissent.

Old Business:

The APMS Secretary stipend is up for renewal in July 2022. This is typically a three-year term with a $10,000/year stipend associated with service.

Ryan Wersal motioned that APMS renew the Secretary's stipend for an additional three years at $10,000/year for July 2022-June 2025. The motion was seconded by Brett Hartis. The motion passed without dissent. Giannotti abstained from this vote.

The Social Media Coordinator annual contract is up for renewal with an associated stipend of $2,000/year.

Ryan Wersal motioned that APMS renew the annual Social Media Coordinator contract with an annual stipend of $2,000. Matt Johnson seconded the motion. Discussion by Wersal indicated that social media outreach was a significant part of the last strategic plan, and Hartis added that APMS social media presence has helped educate the public about aquatic plant management, build bridges, and network with other agencies, organizations, and regional chapters. Hartis encouraged APMS members to get involved and participate. The motion passed without dissent, and Giannotti abstained from this vote.

New Business:

Giannotti reminded anyone that has newsletter content to submit that to her by April 21, 2022.

Hartis encouraged abstract submissions – due by May 13, 2022.

The Board meeting adjourned at 1:41 p.m., EDT with a motion from Ryan Wersal and a second from Brett Hartis.

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THE AQUATIC PLANT MANAGEMENT SOCIETY, INCORPORATED

Minutes of the Board of Directors Meeting
May 25, 2022
E-Vote

Background: Sherry Whitaker has worked the registration desk at many previous APMS Conferences, and APMS has covered Sherry's travel in the past. Sherry is unable to attend this year, and Amy Giannotti (APMS Secretary) has offered to cover the registration booth for the Annual Meeting.

> ***Ryan Thum motioned the Board to comp Amy Giannotti's Meeting Registration for APMS 2022 in Greenville in exchange for coverage at the registration desk. Jay Ferrell seconded the motion. The motion passed without dissent.***

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THE AQUATIC PLANT MANAGEMENT SOCIETY, INCORPORATED

Minutes of the Board of Directors Meeting
June 9, 2022
E-Vote

Jay Ferrell motioned the Board to award the Michael D. Netherland Graduate Student Research Grant to Ryan Wersal. Erika Haug seconded the motion. The motion passed without dissent.

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APMS Prospective 2022 Board Nominations and Status

Ryan Wersal – APMS Immediate Past President and Nominations Chair

16 February 2022

Board Members with terms ending this July:

- Immediate Past President Ryan Wersal
- Secretary Amy Giannotti
- Treasurer Justin Nawrocki
- Director Lyn Gettys
- Director Chris Mudge

Vice President (to begin 4-year Presidential cycle), Secretary, Treasurer, and two open Director-at-Large positions are on the ballot for consideration. Candidates have been identified and confirmed for these positions.

- Vice President – Mr. Jeremy Slade – UPL – Gainesville, FL
- Secretary – Ms. Amy Giannotti – AquaSTEM Consulting, Winter Park, FL
- Treasurer – Dr. Justin Nawrocki – UPL – Raleigh, NC
- Director – Dr. Gray Turnage – Assistant Research/Extension Professor – Mississippi State University, Starkville, MS
- Director – Mr. Troy Goldsby – President of Aquatic Services, Guntersville, AL

Full bios and photos for slate are available in Nominating Committee Report in the Board Book.

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Officer and Director Reports

President's Report
Dr. Ryan Thum

This report will be presented verbally at the meeting.

2022 Aquatic Plant Management Society Annual Meeting

Treasurers Report

7/4/2022

I have enclosed a year-to-date detailed accounting of income and expenses as well as an overview of the last 5 1/2 years, please keep in mind while much of the income for 2022 has posted the majority of the expenses have not. The society had a bit of a speed bump financially speaking over the last 2 years with both a cancelled and an under-attended meeting. The annual meeting is by far our largest revenue generator and with Covid receding, which increased attendance for the 2022 meeting, and the board approving registration increases I feel we are back to having a sound financial outlook. We must also remember that as inflation continues to track above the normal levels we may see substantial increases in our expenses and be prepared to adjust quickly to that change.

An extension was filed for our taxes, which was approved, and our finalized tax return was filed the first week of July, 2022.

Justin Nawrocki

Current Account Balances

Checking	$107,234.58
Scholastic Endowment Checking	$15,074.28
Scholarship	$172,590.10
Reserve	$234,169.80

	Jan 1 - Jul 2, 22	
Ordinary Income/Expense		
Income		
Annual Meeting Income		
Contributions (Raffle Donations)	1,400.00	
Delegate 1-Day Registration	430.00	
Delegate Pre-Registration	31,825.00	
Delegate Registration	1,695.00	
Exhibit Fees	18,500.00	
Guest Registration	620.00	
Sponsorship	53,500.00	
Total Annual Meeting Income	107,970.00	
Journal Income		
Page Fees	9,230.00	
Subscriptions	3,681.22	
Total Journal Income	12,911.22	
Membership Income		
Individual	9,120.00	
Student	212.00	
Sustaining	9,000.00	
Total Membership Income	18,332.00	
Refund	-4,529.46	
Scholastic Endowment Income		
Contributions	3,500.00	
Total Scholastic Endowment Income	3,500.00	NEAPMS, TAPMS, FAPMS, MSAPMS*, SCAPMS*
Total Income	138,183.76	
Expense		
Annual Meeting Expense		
Deposit	5,000.00	
Plaques	1,792.25	
Host Chapter Reimbursement 2021	2,600.00	Plus $2k MSAPMS donation to MDN Scholarship
Total Annual Meeting Expense	9,392.25	
APMS Blog	1,000.00	
Credit Card Merchant Processing		
Credit Card Merchant Processing - Other	2,689.09	
Total Credit Card Merchant Processing	2,689.09	
Insurance		
Board of Dir. & Gen. Liability	1,032.00	
Total Insurance	1,032.00	
Market Fluctuations		
Endowment Market Loses	10,708.22	
Total Interest Expense	10,708.22	
Journal Expense		
Editing	3,581.11	
Manuscripts	185.40	
Journal Expense - Refunds	5,400.00	

Total Journal Expense	9,166.51	
Licenses and Permits	61.25	
Miscellaneous	73.64	Remainder of new laptop balance
JASM Meeting Sponsorship	$2,500	
Professional Fees		
Accounting Software	282.49	
Total Professional Fees	282.49	
Repairs		
Computer Repairs	856.93	
Total Repairs	856.93	
Scholastic Endowment Expense		
Graduate Assistantship	20,000.00	Paid to NCSU
Total Scholastic Endowment Expense	20,000.00	
Secretary Stipend	5,000.00	
Tax Preparation-Forms	41.07	
Website		
Administration	3,560.00	
Website - Hootsuite	174.00	
Total Website	3,734.00	
Total Expense	66,537.45	
Net Ordinary Income	71,646.31	
Net Income	**71,646.31**	

	2017		2018		2019		2020		2021		2022	
Item	Income	Expense	Income	Expense	Income	Expense	Income	Expense	Income	Expense	Income	Expense
Annual Meeting	$128,345.00	$88,362.60	$101,898.00	$85,615.44	$110,089.00	$93,888.73	$0.00	$750.00	$82,680.38	$57,830.47	$107,970.00	
Journal	$28,665.15	$6,099.42	$21,195.00	$6,415.44	$17,194.40	$6,324.74	$11,080.00	$6,022.45	$5,724.78	$3,000.00	$12,911.22	
-Allen Press		$14,390.11		$27,083.79		$13,513.76		$16,987.77		$13,044.30		$3,766.51
Membership	$23,735.00		$22,795.00		$37,095.00		$18,657.00		$18,620.00		$18,332.00	
Scholastic Endowment	$44,509.00	$40,309.72	$38,643.00	$50,000.00	$44,768.20	$54,600.00	$13,300.00	$20,000.00		$20,000.00		$20,000.00
Website		$3,300.00		$3,600.00		$5,600.00		$4,149.00		$10,413.00		$3,734.00
Refunds										$2,775.00		$5,400.00
Credit Card Processing		$5,952.11		$4,691.24		$6,369.32	$1,563.75			$3,658.00		$2,689.09
Society Sponsorship		$8,278.00		$8,511.36		$9,575.00	$8,640.00			$10,853.55		
Education/Outreach		$17,517.80		$5,000.00		$3,000.00						
BASS Grant							$1,500.00			$3,000.00		
Insurance		$1,729.32		$1,765.00		$1,834.32		$1,851.32		$862.00		$1,032.00
Secretary Stipend		$10,000.00		$10,000.00		$10,000.00		$15,000.00		$10,000.00		$5,000.00
APMS Social Media						$1,000.00		$2,000.00		$2,000.00		$1,000.00
Tax Prep/Audit		$8,000.00		$6,000.00		$6,675.00		$1,500.00		$3,050.00		
MISC.		$809.85		$879.73	$4,940.01	$530.91	$86.46	$1,275.30		$1,677.12		
Board Travel/Booth Staff		$1,607.02		$1,905.56		$3,780.97						
Board Meeting		$8,868.69		$4,285.86		$5,008.07		$1,636.96				
Totals	$225,254.15	$215,224.64	$184,531.00	$215,753.42	$214,086.61	$221,700.82	$54,827.21	$71,172.80	$107,025.16	$142,163.44		
Totals - Scholarship Payout	$225,254.15	$175,224.64	$184,531.00	$165,753.42	$214,086.61	$171,700.82	$54,827.21	$51,172.80	$107,025.16	$122,163.44		

Secretary's Report
Submitted by: Amy L. Giannotti

Minutes: Approved Minutes from previous Board Meetings are posted on the APMS web site at https://apms.org/board-meeting-minutes/

Profile: Please remember to login and update your profile on the new APMS website. We would like to have business cards, contact info, and photos included for each profile.

Membership, Sponsorship, & Exhibitorship: All registration payments, sponsorships, memberships, and renewals can now be made on the website. Renewal notices were sent to the Sustaining Members in early 2022. Individual membership renewals are now synchronized with Annual Meeting Registration.

Meeting information for APMS 2022:

Sustaining Members: 17

Sponsors ($56,000): 15

- 1 Platinum
- 3 Gold
- 9 Bronze
- 2 Contributors

Exhibitors ($16,000):

- 16 Exhibitors

Meeting Attendees who have Registered – 128 (not all have paid):

- 103 Delegates
- 16 Students + 1 non-competing
- 2 One Day Registrations
- 4 Honorary Member Registrations
- 2 Guests of Delegates

APMS Newsletter: The Spring APMS Newsletter (issue 129) was published in April and featured content related to the Annual Meeting, as well as updates from Regional Chapters, Science Policy Initiatives, Nominees for BOD, etc. It is uploaded on the APMS website at and is enclosed in this Board Book as well: https://apms.org/wpcontent/uploads/Aquatic-Plant-News-Issue-Number-129-April-2022.pdf

2021-2022 Expenditures: As outlined in the APMS Operating Manual, I have included a breakdown of AMEX credit card expenditures so far for APMS year July 2021- June 2022 for the Office of the Secretary.

	Date	Expense	Amount
Hootsuite	**January 2022**	**Social Media Management**	**$174/year**
Amazon	**June 2022**	**Badges, sleeves, lanyards for annual meeting**	**$125.32**
Travel to Greenville	**July 2022**	**Annual Meeting Travel**	

Proposed Budget for 2022-2023 - Office of the Secretary

Item	**Estimated Cost**
Social Media Scheduling Software	$174
Secretary Travel Expenses: gasoline, rental car, airfare to Indianapolis	$1,900
Total	**$2,374**

APMS Membership Database:
There are currently 388 accounts logged in the APMS database, but not all are active or have current paid memberships. APEX is asking the Board to set a cutoff date for membership renewals. This information is necessary.

60 Years

Aquatic Plant News

The Newsletter of the Aquatic Plant Management Society, Inc.
April, 2022 – Issue 129

Cover image courtesy of Amy Giannotti

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Aquatic Plant Management Society, Inc.
100 Winterberry Lane | Holly Springs, NC 27540

Newsletter Editor, Amy Giannotti

APMS President's Update

Although aquatic plant management has been in full swing in several parts of the country, and is gearing up in others, this ski fanatic is desperately clinging to the last bits of what has been a warmer and drier than average winter in the Rocky Mountains.

Spring is also a time when your APMS committees, directors, and officers are gearing up for our upcoming annual meeting. This year's 62nd annual meeting is at the Hyatt Regency in Greenville, SC, from July 18-22. The meeting will be in person, and we hope you will be able to join us. Whether you are an academic researcher, practitioner, or agency personnel, we hope you will consider submitting an abstract for an oral or poster presentation at the conference. Abstract submissions will be accepted until May 13, 2022. Additional information can be found at https://apms.org/2022-annual-meeting/.

The Board has been active over the last year. I will leave some updates and details for other reports in the newsletter, but I will briefly touch on a few key activities here.

First, the Board of Directors approved several proposed Bylaws changes that consolidate and eliminate some committees. As the Society, and world around us, has changed, so has the relevance and functionality of some committees. Consolidating and eliminating defunct committees will streamline the committee reports during Board meetings, and allow greater discussion and consideration of Society business. I thank Dr. James Leary and the Bylaws Committee for their efforts to craft the proposed changes. I briefly summarize the proposed Bylaws changes here, and these changes must be voted on by the general membership at the annual business meeting.

1. Eliminate the Legislative Committee. As a practical matter, this committee is essentially now redundant with Lee Van Wychen's duties and reports as the Weed Science Society of America's Science Policy Director.
2. Eliminate the Publications Committee. The duties of this committee are covered by the Journal of Aquatic Plant Management's Editor, and the Education & Outreach Committee.
3. Consolidate the Website Committee with the Education & Outreach Committee.
4. Consolidate the Scholastic Endowment Committee with the Finance Committee.

Second, APMS continues to work on converting the Society to a 501(c)(3) organization. This change in organizational structure is important to facilitate larger donations, which in turn is important for building the Michael D. Netherland Graduate Student Research Grant fund. The overall goal is to make this research grant self-sustaining. Historically, and currently, this award has been funded collaboratively through APMS' fundraising activities, and contributions from the regional chapters. However, it has always been a challenge for regional chapters to balance funding their own scholarships with contributing to the Michael D. Netherland Graduate Student Research Grant. Therefore, having a self-sustaining fund is an important strategic focus for APMS. I thank the Finance Committee, especially Chair Andy Fuhrman, for their efforts on this important transition.

Speaking of Strategic Planning brings me to my third brief update. Our next Strategic Planning meeting will take place immediately before the annual conference at the conference venue in Greenville, SC. I thank Dr. Mark Heilman for all of his efforts on Strategic Planning over the past cycle, and continuing into this cycle.

Finally, APMS has done several things to help accomplish its strategic vision of expanding our reach and interest. Along with the Midwest APMS, APMS cosponsored and cohosted a symposium at the upcoming Joint Aquatic Sciences Meeting in Grand Rapids, Michigan, this May 14-20. I thank Matt Johnson, Brett Hartis, and Mark Heilman for leading this effort. We hope to see some of you there! We also continue to provide support to organizations like BASS and CAST. We provided sponsorship support to the North American Invasive Species Management Association. And, we continue to interact with other societies with similar missions and visions, like NALMS and WSSA.

I would like to thank all of the Officers, Directors, and Committee Chairs and members for all of their thoughtful and hard work. And, I thank all APMS sponsors and members for all of your efforts and contributions that make this Society what it is.

Sincerely,

Ryan Thum

President – APMS

2022 APMS Board of Directors Nominees

Vice President – Jeremy Slade

Mr. Jeremy Slade earned a B.S. in Biology from the University of Mississippi in 2002, and a M.S. in Wildlife and Fisheries Science from Mississippi State University (MSU) in 2005. From 2005 to 2008, he worked as a research associate in the Department of Wildlife and Fisheries at MSU, and a research scientist contracted by the US Army Engineer Research and Development Center, US Army Corps of Engineers, Chemical Control Team. In 2008, Jeremy accepted the position of senior biological scientist at the Center for Aquatic and Invasive Plants, University of Florida where he evaluated multi-scale herbicide applications for controlling hydrilla and other nuisance plants managed by the Florida Fish and Wildlife Conservation Commission until the end of 2010. Investigating new use patterns, including herbicide efficacy and selectivity was a large component of this work. In January 2011, Jeremy joined UPL NA Inc., previously United Phosphorus, Inc., as an Accounts Manager in Aquatics for the southeast US covering the Gulf States. Responsibilities in this role included supporting and providing technical assistance of UPL's aquatic products portfolio to ensure proper use resulting in responsible and effective aquatic plant management programs. In April 2019, Jeremy was promoted to Business Lead of UPL's Aquatics Division. In this role his primary responsibility is to oversee the sales, marketing and business development while managing a team of five territory sales managers and one field development manager. Jeremy is involved with several national and regional aquatic plant management industry affiliates including holding Board of Director's positions; The Aquatic Plant Management Society (previously Treasurer), Midsouth Aquatic Plant Management Society (Past President), Florida APMS (Past President & Scholarship Foundation Secretary/Treasurer), Aquatic Ecosystem Restoration Foundation (Gold Member), Responsible Industry for a Sound Environment, Midwest; South Florida; Texas; and Western Aquatic Plant Management Society member. In his free time Jeremy enjoys spending time with his family doing anything water related (fishing, swimming, scalloping) and traveling.

Secretary - Amy Giannotti

Amy Giannotti is the founder of AquaSTEM Consulting, LLC – an environmental consulting company specializing in lake and aquatic plant management, aquatic habitat restoration, and STEM outreach initiatives. Amy is an environmental scientist and Certified Lake Manager, and she has over 20 years of experience working in temperate and subtropical marine and freshwater systems, including coastal and freshwater vegetation dynamics, exotic species management, impacts of nutrient enrichment and remediation efforts, stormwater management and watershed hydrology, and public speaking on environmental issues affecting lakes, springs, and karst community ecology. Amy holds a B. S. in biology from Marietta College (Ohio) and earned her M.S. in environmental science from the University of Virginia, with a specialty in marine ecology. In addition to her work in the private sector, Amy has extensive experience leading lake and natural resource management efforts for state and local governments in Florida, and some of her professional affiliations include APMS, FAPMS, and NALMS. In her spare time, Amy enjoys scuba diving, snorkeling, hiking, and exploring the great outdoors.

Treasurer – Justin Nawrocki

Justin currently resides in Raleigh, NC with his wife and 1 daughter. He started his aquatic plant management career as an herbicide applicator in Michigan focusing on EWM and CLP control in large lake systems. Currently, Justin is the east coast territory manager for UPL's Aquatic division. He received his Masters and PhD from NC State University researching Hydrilla's tuber bank response to management as well as the effects on sport fish and macroinvertebrates from revegetating Piedmont reservoirs. Justin is active in numerous societies, presenting at nearly all the regional APMS chapters, and is the immediate past president of SCAPMS and is the current treasurer of APMS. In his spare time, he stays as far away from water as possible and enjoys volunteering.

Director – Gray Turnage

Gray is an Assistant Research/Extension Professor at Mississippi State University and has 13+ years of research experience in aquatic and wetland ecosystems. He has been involved with several research projects across the U.S. establishing control efforts and protocols for invasive aquatic/wetland plants as well as monitoring those efforts to analyze restoration success of native flora after control measures have been implemented. His projects range in size from entire watersheds to sub-acre sites. Gray is the MSU subject matter expert for UAS use for managing wetland and aquatic resources. Gray has also worked as a private wetland consultant in Mississippi. This work regularly includes consulting with resource managers and landowners, writing management plans, monitoring plant community dynamics over time, as well as GIS mapping of site characteristics and plant species locations. He is a member of the MidSouth and National Aquatic Plant Management Societies (APMS), the Mississippi Cooperative Weed Management Association (CWMA), and is a founding council member of the Mississippi Aquatic Invasive Species Council.

Director – Troy Goldsby

Troy as worked for Aqua Services, Inc. for 23 years. He now owns the company with his brother Bryan and their father, Terry, still helps in consulting. Troy has been on the board, and president, of the following organizations: MSAPMS (Midsouth Aquatic Plant Management Society), AFS (Alabama Fisheries Society), TVMA (Tennessee Vegetation Management Association), and SLMP (Society of Lake Management Professionals) of which he was a founding member. Recently, Troy and Aqua Services, have begun a new project with Bill Dance as his private consultants in the new Bill Dance Signature Lake series for the state of Tennessee. Troy continues to assist on numerous fisheries management projects with a primary focus largemouth bass growth. He also coordinates many large scale aquatic plant and cyanobacteria control projects for Aqua Services throughout the southeast utilizing specialized equipment designed by Aqua Services, Inc. Collegiate course studies at University of North Alabama, University of South Alabama, and Oregon State University (wildlife/fisheries emphasis). Executive and biological responsibilities include field management of aquatic vegetation and fisheries projects throughout the United States, Mexico, and the Bahamas.

2022 APMS Annual Meeting

The 62nd Annual Meeting of the Aquatic Plant Management Society will be held in Greenville, South Carolina, from July 18-22, 2022.

There are lots of neat things to do and see in the Piedmont! Start planning your adventure now by visiting https://www.visitgreenvillesc.com.

PROGRAM UPDATE
2022 APMS Annual Meeting

The 62nd Annual Meeting of the Aquatic Plant Management Society in Greenville, SC is rapidly approaching! Our meeting planning and program committees have been hard at work putting together an exciting event.

We will kick things off on the evening of Monday July 18th with the President's Reception at Ink N Ivy, one of Greenville's premier social spots. Enjoy a taste of southern cuisine while catching up with old friends and colleagues.

Tuesday (July 19th) and Wednesday (July 20th) will feature a full day of presentations from the cutting edge of aquatic plant and algae management research. Don't miss our opening session highlighting the status of Harmful Algal Blooms (HABs) and the outlook for future monitoring and management needs. For special luncheon opportunities, have a look at our "events-at-a-glance" found below.

Don't forget to join us Wednesday night for the APMS Awards Banquet, being held at Studio 220 @NOMA. Guests will enjoy a delicious plated dinner while recognizing the great contributions of our APMS members.

Be sure to hang around on Thursday (July 21st), as we close out the conference with a demonstration session featuring technological advancements in management.

See the below "events at a glance" for more information on dates and times. Event times are subject to change as the program is finalized.

Second Call for Papers: Slots for oral and poster presentations are filling up quickly, so please submit your title and abstract as soon as possible. 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 will feature a special session discussing the status of Harmful Algal Blooms (HABs) and the outlook for future monitoring and management needs. Invited speakers and submitted talks will drive discussions of regional and national impacts of harmful algal blooms, needs for short- and long-term control strategies, and defining the society's role in achieving meaningful results. Oral presentations may include original research on the biology or ecology of harmful algae, control of HABs, and other similar topics. Abstracts submitted for the special session should be indicated during the abstract submission process. The last day to submit abstracts is May 13th, 2022. For more information on submitting an abstract, click HERE.

There are lots of neat things to do and see in the Piedmont! Start planning your adventure now by visiting https://www.visitgreenvillesc.com.

2022 APMS Annual Meeting
Events At-A-Glance

Sunday, July 17th

Start time	End time	Event
10:00 AM	4:00 PM	APMS Strategic Planning

Monday, July 18th

Start time	End time	Event
7:30 AM	5:00 PM	APMS Board of Directors Pre-Conference Board Meeting
8:00 AM	5:00 PM	Exhibits and Poster Setup
12:00 PM	5:00 PM	Registration
6:00 PM	7:00 PM	Student Meet & Greet
7:00 PM	9:00 PM	President's Reception @ Ink N Ivy

Tuesday, July 19th

Start time	End time	Event
7:00 AM	5:00 PM	Exhibits and Posters
8:00 AM	5:00 PM	Registration
7:30 AM	8:30 AM	Breakfast
8:00 AM	12:00 PM	Special HAB Session
10:30 AM	10:45 AM	Morning Break
12:00 PM	1:30 PM	Lunch on your own
12:00 PM	1:30 PM	Past Presidents' Luncheon
12:00 PM	1:30 PM	Women of Aquatics Luncheon
1:30 PM	4:30 PM	General Sessions I&II
2:40 PM	3:10 PM	Afternoon Break
4:30 PM	5:10 PM	APMS and SCAPMS Business Meeting
6:00 PM	7:00 PM	Regional Chapters Evening Discussion
6:00 PM	7:00 PM	Poster Session

Wednesday, July 20th

Start time	End time	Event
7:00 AM	5:00 PM	Exhibits and Posters
8:00 AM	5:00 PM	Registration
7:30 AM	8:30 AM	Breakfast
8:00 AM	12:00 PM	General Session III&IV
10:30 AM	10:45 AM	Morning Break
12:00 PM	1:30 PM	Lunch on your own
12:00 PM	1:30 PM	Student Luncheon
1:30 PM	4:30 PM	General Sessions V&VI
2:40 PM	3:10 PM	Afternoon Break
6:00 PM	7:00 PM	Awards Reception
7:00 PM	9:30 PM	APMS Awards Banquet

Thursday, July 21st

Start time	End time	Event
7:00 AM	5:00 PM	Exhibits and Posters
8:00 AM	5:00 PM	Registration
7:30 AM	8:30 AM	Breakfast
8:00 AM	12:00 PM	General Session VII
10:30 AM	10:45 AM	Morning Break
12:00 PM		APMS Conference Concludes
12:30 PM	5:00 PM	APMS Board of Directors Post-Conference Board Meeting
12:30 PM	5:00 PM	AERF Board of Directors Meeting

Friday, July 22nd

Start time	End time	Event
6:45 AM	7:15 AM	Student Breakfast
7:15 AM	5:00 PM	Student Tour
7:00 PM	9:00 PM	Student Dinner

If you have any questions, please contact:

Dr. Brett Hartis
2022 APMS Program Chair
Brett.hartis@duke-energy.com

Matters Requiring Votes at the Annual Business Meeting in July 2022

Proposed Increase in Individual Membership Dues

The Board of Directors approved an increase in annual membership dues by 20% to become effective in 2023-24 upon approval by the general membership at the Annual Business Meeting. This increase is necessary to help address rising costs of conference space, inflation, etc.

Proposed Changes to the Aquatic Plant Management Society Bylaws

Please review these proposed changes to the Bylaws – with committee eliminations and consolidations – that were discussed at the MidYear Board of Directors Meeting and are presented to the general membership for a vote at the Annual Meeting in July 2022.

1) Eliminate the Legislative Committee

Remove language in the bylaws:

> 6. Legislative Committee. This committee shall consist of not fewer than five (5) voting members whose duties shall be to inform itself as to any legislation pending of interest to the Society and to make recommendations to the Board of Directors on the same.

2) Eliminate the Publications Committee

Remove language in the bylaws:

> 13. Publications Committee. This committee shall be responsible for the quality and quantity of all Society publications. The committee shall prepare the editorial policy, publication format, and procedures for approval by the Board of Directors. The committee shall be chaired by the Editor of the Journal of Aquatic Plant Management. Additional members shall include the Associate Editor(s), the Secretary, and at least three other members of the Society. A selected member of this Committee shall serve on the Strategic Planning Committee.

Proposed Changes to the Aquatic Plant Management Society Bylaws (continued)

3) Consolidate Website and Ed/Outreach

Remove language in the bylaws:

18. Website Committee. This committee will be responsible for maintaining the website and will coordinate all structural modifications therein. In addition, the committee will be responsible for approving all postings on the site. This committee shall consist of no fewer than three (3) members.

Edit language (highlighted in red) in the bylaws:

3. Education and Outreach Committee. This committee shall be responsible for identifying specific educational needs and issues appropriate for APMS sponsorship. Once such needs are identified and verified, this committee shall direct the coordination, development, and production of Society sponsored educational materials **including social media messaging** and **online** programs as deemed appropriate by the Board of Directors. The Chair shall also serve on the Strategic Planning Committee. The committee shall consist of not less than five (5) members, one of whom shall be the Chair of the Student Affairs Committee.

4) Consolidate Scholastic Endowment with Finance

Remove language in the bylaws:

15. Scholastic Endowment Committee. This committee shall be responsible for coordinating fund raising activities for the Society's Scholastic Endowment Fund. The committee shall consist of not less than four (4) members, one of whom shall be the Chair of the Student Affairs Committee.

Edit language (highlighted in red) in the bylaws:

5. Finance Committee. This committee shall 1) review all financial records at the end of each fiscal year, 2) prepare a report on the Society's financial status for presentation to the Board of Directors at the mid-year meeting, 3) prepare the annual budget of the Society, 4) advise and assist the Treasurer in maintaining Society financial records and in preparing reports for the Board of Directors, 5) coordinate fund raising activities for the Society's Scholastic Endowment Fund.

Proposed Changes to the Aquatic Plant Management Society Bylaws (continued)

5) Reorder the committee list

- 6. **Meeting Planning Committee.** This committee shall have at least three members. The committee shall investigate alternative sites within a region, and provide a recommendation to the Board of Directors to aid in selecting the meeting site and property. Upon recommendation of this Committee and approval by the Board of Directors, this Committee may secure the services of a Meeting Planner firm or contractor via a competitive bid process for the purposes of assisting with carrying out their designated responsibilities.

- 7. **Membership Committee.** This committee shall consist of not fewer than five (5) active members of the Society; one of whom shall be the Secretary, one of whom shall be the Chair of the Student Affairs Committee and one of whom shall be the Vice President. This committee shall investigate and promote memberships in the Society. The committee shall inform the Society about the death of a member. The committee shall also assist in the preparation of letters of condolence sent on behalf of the Society by the President.

- 8. **Nominating Committee.** The Nominating Committee shall consist of not fewer than five (5) members, to be chaired by the Immediate Past President, and shall recommend to the Society candidates for election to the several offices. This committee shall inform the Society membership of the slate of nominees for office at least 30 days prior to the annual business meeting (an exception may be made for Student Director if selection of a nominee by the Student Affairs Committee cannot meet that deadline). Terms of membership in the Nominating Committee shall be for no more than two successive years, and a two-year break shall occur between periods of service on this committee.

- 9. **Past Presidents Advisory Committee.** This committee shall consist of all past Presidents of the Society who are members in good standing and shall be chaired by the Immediate Past President of the Society. The duties of this committee shall be to examine the aims and goals of the Society, make recommendations to the Board of Directors related to achieving these aims and goals, and to review and suggest changes to the Operating Manual, as may be appropriate.

- 10. **Program Committee.** The program committee shall consist of the members of the Board of Directors, chaired by the President Elect, and its duty shall be to provide programs for each annual meeting. It shall be at the discretion of the Board and at the option of the Program Chair (President Elect) to annually request approval for a capped monetary allocation to cover select invited speaker(s)' expenses for those presenting at the annual meeting who may be unable to attend without a stipend. These monies are to be used at the discretion of the President Elect / Program Chair.

Proposed Changes to the Aquatic Plant Management Society Bylaws (continued)

- 11. **Proposal Review Committee.** This Committee shall be responsible for reviewing and making recommendations to the Board for all externally submitted funding requests / proposals to the Society, regardless of the funding amount, excluding proposals for the Society's Graduate Student Research Grant. The Committee shall consist of the Immediate Past President, President Elect, Treasurer, one Director, and one member at-large. The Committee will be chaired by the Immediate Past President who will appoint the Director and member at-large. Upon review of each proposal, the Committee will submit a written recommendation with justification to the Board for final decision.

- 12. **Regional Chapters Committee.** This committee shall be responsible for promoting and forming regional chapters of the Society. It shall evaluate requests from groups wishing to affiliate with the Society as regional chapters. The committee shall be responsible for enhancing communications and coordination among the regional chapters and the Society. The committee shall be responsible for collecting and displaying information about job opportunities in the field of aquatic plant management. Appropriate information should be made available at the annual meeting and in the Newsletter. The committee shall consist of at least one representative of each recognized regional chapter and include the Vice President of the Society.

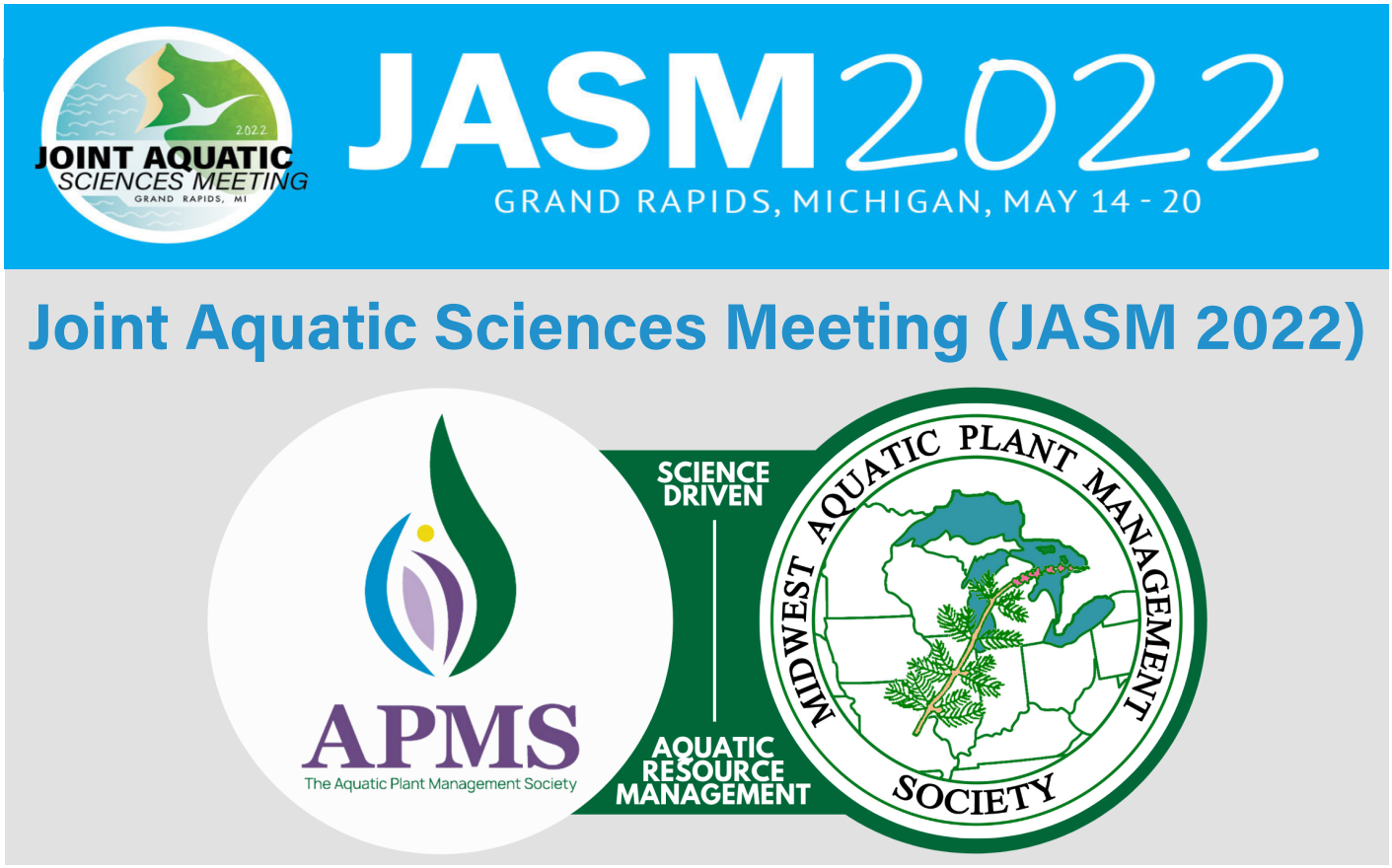
- 13. **Strategic Planning Committee.** This committee shall be responsible for clarifying the future focus of the Society by providing a framework for decision-making and recommending realignment of resources and establishment of priorities, as needed, in a practical, productive and responsive manner to meet current and future membership needs. This Committee shall consist of no fewer than nine (9) members including the Immediate Past President, the Vice President, Treasurer; the following Committee Chairs: Bylaws & Resolutions, Education & Outreach and Student Affairs; a member of the Publications Committee; plus at least two members-at-large selected for their longstanding support and/or historical perspective of the Society.

- 14. **Student Affairs Committee.** This committee should consist of no fewer than four (4) members of the Society. The Chair of the Student Affairs Committee shall also serve as a member of the Scholastic Endowment Committee and the Strategic Planning Committee. The duties of this committee shall be to investigate and promote membership of students into the Society and make recommendations to the Board of Directors as to means of enhancing and encouraging student participation in the Society. Prior to the Annual Business Meeting, this Committee shall provide the Nominating Committee the name of their selected current student member willing to serve on the Board as a Student Director for the up-coming year.

Journal of Aquatic Plant Management Update

Last year, JAPM made the transition from printed and digital publication to solely digital. As most technological changes, there was a learning curve that affected both the editorial and publication processes. Some of the challenges we had to face were related to the different formats in which institutional subscribers (e.g., distributors, libraries, companies) are set to handle access to digital journals. After consulting with multiple institutions, we decided to go with IP-authentication, which has become the standard of the industry. Thus, if you have access to JAPM through your institution, you must go to the journal website and click on the institutional access link (https://apms.org/journal-access-for-libraries/). The system will recognize the IP-domain of your institution and will give you full access to the journal.

Now that the digital delivery system is in place, and things are going back to [the new] normal, we will refocus our efforts on increasing our target audience for both readers and authors. Please reach out to us if you have ideas about how to expand the impact of JAPM on aquatic plant management.



APMS and MAPMS have combined forces and organized a symposium at the upcoming Joint Aquatic Sciences Meeting (JASM 2022) to be held May 14-20, 2022, in Grand Rapids, Michigan. This symposium includes a series of presentations covering strategies for aquatic plant and algae management, stakeholder engagement, and educational outreach on invasive plants. We have also joined together as a Gold Sponsor which includes exhibit space. Thank you to Dr. Ryan Thum, Dr. Brett Hartis, Matt Johnson, and Dr. Mark Heilman for representing APMS and MAPMS at this meeting. Learn more about this conference by visiting https://jasm2022.aquaticsocieties.org.

More information about JASM 2022

The Joint Aquatic Sciences Meeting (JASM) will be the world's largest gathering of aquatic scientists, students, practitioners, resource agency staff, and industry representatives in history. JASM's parent organization, The Consortium of Aquatic Science Societies (CASS), is comprised of 9 groups representing various interests within the aquatic science realm. The JASM 2022 meeting is designed to bring together deep, multidisciplinary subject-matter expertise to collaboratively educate one another and solve the complex environmental problems facing our society and our planet today.

The meeting is organized by the Consortium of Aquatic Science Societies (CASS), which includes:

- American Fisheries Society
- Association for the Sciences of Limnology and Oceanography
- Coastal and Estuarine Research Federation
- Freshwater Mollusk Conservation Society
- International Association for Great Lakes Research
- North American Lake Management Society
- Phycological Society of America
- Society for Freshwater Science
- Society of Wetland Scientists

2022 Calendar of Events for Regional Chapter Meetings & Related Events

62nd Annual Meeting of the APMS Society

July 18-22, 2022
Hyatt Regency - Greenville, SC
https://apms.org/2022-annual-meeting/

UF/IFAS Aquatic Weed Control Short Course

August 22-25, 2022
DoubleTree by Hilton Orlando at SeaWorld - Orlando, FL
http://sfyl.ifas.ufl.edu/aw/

46th Annual Florida Aquatic Plant Management Society Training Conference

October 3-6, 2022
Hilton Daytona Beach Oceanfront Resort - Daytona Beach, FL
https://fapms.org/conference/2022-conference/

41st MidSouth Aquatic Plant Management Society Conference

October 24-26, 2022
Battle House Renaissance Mobile Hotel & Spa - Mobile, AL
http://www.msapms.org/conferences/2022/

Texas Aquatic Plant Management Society Annual Conference

November 7-9, 2022
Embassy Suites by Hilton San Marcos Hotel Conference Center and Spa - San Marcos, TX
https://www.tapms.org/2022-annual-meeting/

Regional Chapter Updates

FAPMS UPDATE

(Kelli Gladding – University of Florida; Steve Montgomery – Allstate Resource Management)

FAPMS Website: https://fapms.org

FAPMS is beginning to prepare for our annual conference in Daytona this year in October. Details: https://fapms.org/conference/2022-conference/

Reminder that Aquatics magazine will not be circulated in hard copy to non-members this year. Chapters will receive a digital copy they can circulate to their members electronically. Issues will be posted to the FAPMS website on a two-issue delay.

FAPMS 2022 Scholarship Announcements:

The Paul C. Myers Applicator Dependent Scholarship application due date is quickly approaching and needs to be submitted by June 1st, 2022. This is such a great opportunity for our FAPMS member's children to benefit with a monetary stipend to help support their higher education. With the level of inflation, we are all experiencing in 2022, any financial assistance is a blessing to support our college bound children. Visit the new FAPMS website for details about qualifications and to find the application page: https://fapms.org/scholarships/scholarship-foundation/

In addition to the Myers Dependent scholarship, the FAPMS Scholarship Foundation is also accepting applications for the William L. Maier Jr. Memorial Scholarship. This scholarship is designed to help support Graduate students attending a university in Florida with a broad focus on freshwater habitats. The deadline for submission is August 31st, 2022. Please share this information with your family and friends, it's another great opportunity to support conservation management of the next generation for our freshwater aquatic environments.

Since the establishment of the FAPMS Scholarship and Research Foundation in 1986, the FAPMS membership's children have been awarded $130,650.00, through the Paul C. Myers Applicator Dependent Scholarship. Plus, another $19,900.00 awarded to graduate students with the William Maier Jr. Memorial Scholarships. The primary mission of the Foundation is to continue to support the members of FAPMS as well as promote academic interest in the field of aquatic plant management. The primary fundraising events are during the FAPMS conference with raffle tickets and duck races. However, you can support the Foundation all year long when you purchase through Amazon. Just simply select the FAPMS Scholarship Foundation through the Amazon smile charity list.

We look forward to receiving many applications over the next couple of months and please contact us if you have any questions.

Sincerely, FAPMS Scholarship Foundation BOD.

Regional Chapter Updates

MAPMS UPDATE

(Garrett McClain – Cygnet Enterprises)

MAPMS Website: https://www.mapms.org

MI EGLE ANC has implemented new (2021) restrictions on copper sulfate use in the spring with the basis being protecting fish spawning. The MI industry has supplied numerous studies contradicting their arguments and had a handful of meetings, but it appears not much consideration was taken.

New copper usage conditions for protection of spawning fish:

As part of its ongoing charge to protect natural resources in lakes, the ANC program has developed a new permit condition for the protection of spawning fish from copper algaecides and herbicides. The following two conditions will be included in standard permits and some individual permits:

> Due to the toxicity of copper to spawning fish, do not apply copper products within 20 feet of a known, or suspected, active spawning bed.
>
> Except for waterbodies with a total surface area of less than 10 acres and canals and marinas on the Great Lakes and connecting waters, copper treatments for algae, macroalgae, and submersed macrophytes are restricted to chelated copper products during May and June. No more than a cumulative total of 25 percent of the potential spawning area (the area of the waterbody within the 0-10 feet depth contours) may be treated with copper products during May and June. Treatment of starry stonewort with chelated copper may exceed a cumulative total of 25 percent of the potential spawning area. If starry stonewort is treated under this exemption, then treatment of filamentous algae, planktonic algae, and native macroalgae is not allowed during May and June; and treatment of starry stonewort during May and June is restricted to one time only per starry stonewort treatment area. In the event of a harmful algae bloom (HAB) during May or June (documented by positive algal toxin test results, positive identification of HAB species, or other approved EGLE methodology), alternative treatment patterns may be considered by EGLE to protect public health.

In relation to this new condition and because of its relevance to waterbody management, the permit applications for standard and individual permits have a new question to capture an estimate of the surface area of the potential littoral zone (surface acres of a lake that are within the 0-10 feet depth contour). This information will also be required to be submitted as part of treatment reports starting in 2021.

Not much going on in the Midwest of note in terms of new species or successes.

WI DNR has proposed some new rule changes for APM and conducted an economic impact study on these changes. There were a few public comment periods that we participated in. I think there has been some pushback from the regulated community on the validity of their data for the rule changes. I think they are getting close to the stages of implementation.

Draft Rule: https://dnr.wisconsin.gov/sites/default/files/topic/Rules/WY2919DraftRule2.pdf

Draft EIA: https://dnr.wisconsin.gov/sites/default/files/topic/Rules/WY2919FiscalEstimate2.pdf

Regional Chapter Updates

MSAPMS UPDATE

(Carl Della Torre – Orion Solutions)

MSAPMS Website: http://www.msapms.org

MSAPMS planning annual conference Oct. 24-26, 2022 in Mobile, AL.

MSAPMS struggles with student attendance; does APMS (or other chapters) have guidance regarding student recruitment.

New species infestations - Giant Salvinia invaded new site in northern AL, big leaf pondweed becoming problematic in AL power reservoirs.

Metsulfuron-methyl (MSM) has two 24c labels in the southeastern U.S. targeting giant salvinia:

- Cimarron Max Part A labeled in TX, LA, MS, AL, and SC.
- Alligare PRO MSM 60 labeled in TX and LA.

NEAPMS UPDATE

(Will Stevenson – SOLitude Lake Management)

NEAPMS Website: https://www.neapms.org

The board and members have been talking about the need for more people in the industry at all levels/roles. The market demand for managing waterbodies continues to grow. Factors are many and varied, including climate change and Covid. Most industry folks have noted that more people working at home are paying more attention to their local water. There are not enough contractors to do the work that needs to be done. We need to foster our students and engage more in the profession.

The major news in the NE is hydrilla in the CT River. This will be an all-hands-on-deck effort, once organized, to better understand how best to manage this new strain. CT State was recently able to get an AIS sticker fee established to help raise some funds for AIS management/outreach.

New for NEAPMs was our Winter Webinar Series – Boats are the number one vector for the spread of aquatic invasive species in inland waters and prevention is the best tool for dealing with this spread. Our inaugural webinar series featured an overview of New Jersey Water Supply Authority's efforts to prevent the spread of AIS by building and expanding a watercraft inspection steward program in New Jersey, a social science perspective on interactions with boaters, and a regional approach to AIS education and outreach involving Great Lakes states and Canadian provinces. And the second session highlighted tips for how to create your own spider diagrams to track boater movement among water bodies and assess the risk of aquatic invasive species introductions.

Registration for Plant Camp goes live on May 2, 2022. Join us as. We help educate teachers about the threats that invasive plants pose in our lakes and waterways. A preliminary agenda is available at: https://static1.squarespace.com/static/61efc467da0db26e60cd32cb/t/6228f7a7137a104c237f7285/1646852007885/NEAPMS+Plant+Camp+2022.pdf

Regional Chapter Updates

SCAPMS UPDATE

(Justin Nawrocki, PhD – UPL)

SCAPMS Website: http://scapms.org/index.html

The SCAPMS annual meeting was held in person in Oct 2021 in Myrtle Beach, SC. We had a better-than-expected turnout and enjoyed the chance to meet and exchange ideas and research.

Giant salvinia has become a growing concern in the Southeast, now infesting numerous backwater areas on the Santee Cooper Chain of Lakes. Santee Cooper recently finished construction on their new greenhouse to rear the giant salvinia weevils. Hopefully much success and knowledge will be gained with this endeavor.

TAPMS UPDATE

(Brittany Chesser – Texas A&M Extension)

TAPMS Website: https://www.tapms.org

2021 Annual Meeting Attendance = 74

2022 Annual Meeting will be held in person November 7-9, 2022, at the Embassy Suites by Hilton in San Marcos, TX

Student Scholarship has been renamed in memory of David Allen Bass, a former BOD and member

Triploid grass carp updates (more information explained in the 10/21 newsletter avail at http://www.tapms.org/wp-content/uploads/2021/10/On-the-Water-Newsletter-fall-2021.pdf)

- Newsletter URL: https://www.tapms.org/newsletter/)
- Triploid Grass Carp Stocking Permits Period of Validity
- Transfer of Triploid Grass Carp with Property Sale/Transfer

This year hoping to focus on increasing membership and the communicating the benefits that come with membership (i.e., professional development webinars/workshops and other activities).

WAPMS UPDATE

(Tom Warmuth – Biosafe Systems)

WAPMS Website: wapms.org

Just conducted 2022 annual conference in Tucson, AZ (March 7-11).

Follow us on social media on Twitter, Facebook, Instagram, and LinkedIn for updates, information, and meeting details.

Science Policy Report

March, 2022
By, Lee Van Wychen

Congress Finalizes FY 2022 Appropriations

Nearly 6 months overdue, the House and Senate passed a much-awaited FY 2022 omnibus spending package on March 9 and March 10, respectively. President Biden signed the Consolidated Appropriations Act of 2022 (H.R. 2471) into law on March 15. The $1.5 trillion legislative package combines all twelve FY 2022 appropriations bills and includes $13.6 billion in military and humanitarian aid for Ukraine.

For aquatic plant management in FY 2022, the Army Corps of Engineers received $8 million for its Aquatic Plant Control Research program, its second $1 million increase in a row. Of the $8 million, $1 million is designated for activities for monitoring, surveys, and control of **flowering rush** and **hydrilla** and $7 million is for nationwide research and development to address invasive aquatic plants. The appropriations language also encourages the Army Corps to support cost-shared aquatic plant management programs, and in particular, to evaluate and address prevention of new infestations of **hydrilla** in the Connecticut River Basin.

Overall funding for the Department of the Interior (DOI) increased $776 million to $14.1 billion in FY 2022, with $1.4 billion (+8 percent) directed to the Bureau of Land Management (BLM); $3.3 billion (+5 percent) to the National Park Service (NPS); $1.65 billion (+4 percent) to the Fish and Wildlife Service (FWS), and $1.4 billion (+6 percent) to the US Geological Survey (USGS), which includes at least $2.75 million for research on **harmful algal blooms**.

Within specific DOI programs important for invasive species management, BLM's Rangeland Management account received a $3 million increase to $109 million after being held level in FY 2021. The FWS's Wildlife and Habitat Management account under its National Wildlife Refuge System received a $10 million increase to $250 million in FY 2022. The appropriation language directs $15.9 million from this account to focus on high priority invasive species including nutria, **buffelgrass**, and **cheatgrass**. In addition, this account helps fund the FWS's invasive species strike teams. Finally, the National Park Service's (NPS) Resource Stewardship account received a $20 million increase to $382 million, which helps fund the NPS's invasive plant management teams.

For FY 2022, USDA-ARS funding increased $141 million to $1.63 billion while USDA-NIFA funding increased $67 million to $1.64 billion. The Agriculture and Food Research Initiative (AFRI) competitive grants program increased by $10 million for the fourth year in a row to $445 million in FY 2022. Noteworthy highlights include a $5 million increase in **Smith Lever** funding for Extension and a $2.5 million increase for the **IR-4 Minor Crop Pest Management** program, its first increase in over a decade. Every dollar invested in the IR-4 Project generates $524 in economic activity for the US.

There is also language in the FY 2022 omnibus that supports the creation of a regionally focused **Herbicide Resistance Initiative** for the Pacific Northwest to identify and overcome herbicide resistance associated with the crop production pathway, reducing production losses and reducing or eliminating pressure on trade limits due to contamination. It directs $2 million to support research to address weed management strongly affecting the long-term economic sustainability of food systems in collaboration with ARS, research institutions, and stakeholder support.

The table below includes final appropriations for FY 2019 – FY 2022 for various Federal programs important to weed and invasive plant research and management in terrestrial and aquatic ecosystems.

Lee Van Wychen, Ph.D. - Executive Director of Science Policy, National and Regional Weed Science Societies
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Science Policy Report

[Continued]

	FY 2019	FY 2020	FY 2021	FY 2022
	----------$ millions----------			
Army Corps- Aquatic Plant Control research	$6	$6	$7	$8
EPA - Great Lakes Restoration Initiative	$300	$320	$330	$348
NOAA - National Sea Grant College Program	$68	$74	$75	$76
DOI - BLM: Rangeland Management	$104	$106	$106	$109
DOI - FWS: National Wildlife Refuge System: Wildlife and Habitat Management	$234	$239	$240	$250
DOI - NPS: Resource Stewardship	$334	$342	$362	$382
DOI - Wildland Fire: Fuels Management	$189	$194	$220	$227
USDA-ARS	$1,303	$1,414	$1,492	$1,633
USDA-NIFA	$1,471	$1,527	$1,570	$1,637
-AFRI Competitive Grants	$415	$425	$435	$445
-Hatch Act (Exp. stations)	$259	$259	$259	$260
-Smith Lever (Extension)	$315	$315	$315	$320
-IR-4 Program	$12	$12	$12	$14.5
-Crop Protection and Pest Management	$20	$20	$20	$20
-SARE: Sustainable Ag Research & Educ.	$37	$37	$40	$45
-McIntire-Stennis Forestry Research	$36	$36	$36	$36
USDA-APHIS: Cogongrass eradication	n/a	n/a	$3	$3

EPA Announces Endangered Species Act Protection Policy for New Pesticides

On January 11, 2022, the EPA announced that, effective immediately, the Agency's review of applications for new pesticide active ingredients (AI) pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) will uniformly incorporate analysis under the Endangered Species Act (ESA) with the intention of prioritizing protection for listed species as much as possible. The new policy applies to AI applications already submitted for consideration as well as incoming applications. EPA press release.

Prior to this policy change, EPA has not uniformly required ESA analysis for all applications for new AIs, which often resulted in litigation against EPA. EPA expects the new policy to reduce litigation in general and improve the overall legal defensibility of new AI registrations.

EPA has explained that it intends to provide several mitigation options to allow the greatest flexibility for pesticide users while still ensuring protections for listed species. Mitigation efforts often include measures intended to avoid or minimize exposure routes between where pesticides are used and where the species live, restrict the geographic or temporal scope of pesticide applications, and reduce the number of pesticide applications allowed on a treated site.

To learn more about EPA's Endangered Species Act Protection Policy for New Pesticides, please see the Q&A document.

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Science Policy Report

[Continued]

EPA Updates Endangered Species Protection Bulletins

The EPA has released an improved version of Bulletins Live! Two (BLT), an online application for Endangered Species Protection Bulletins. BLT describes geographically specific pesticide use limitations to protect threatened and endangered species and their designated critical habitat.

Pesticide applicators are required to reference the Bulletins Live! Two (BLT) website (https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins) when directed by a product label. If the pesticide label directs you to this website, you are required to follow the pesticide use limitations(s) found in the Bulletin for your intended application area, pesticide active ingredient or product and application month.

EPA's Bulletins contain the following information:

- A map of the user-defined intended application area.
- The user-selected active ingredient and/or pesticide product to be applied.
- Pesticide use limitations(s).
- The month for which the Bulletin is valid.

Important Notes about Bulletins:

- Bulletins may be accessed up to six months before pesticide application. Be sure that you follow the correct Bulletin for the month of your pesticide application.
- When referenced on a pesticide label, Bulletins are enforceable use limitations under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).
- The pesticide use limitations found in Bulletins Live! Two are part of EPA's federal program to protect listed species. Your state may have pesticide use limitations beyond those found in your Bulletin. Bulletins are not intended to replace or override any restrictions that your state may impose. You need to be aware of and follow pesticide limitations according to both the state AND federal requirements.

For more information: https://www.epa.gov/endangered-species/endangered-species-protection-bulletins

Vilsack Announces 10-Year Strategy to Confront Wildfire Crisis

In response to the nation's growing wildfire crisis, USDA Secretary Vilsack and Forest Service Chief Moore have launched a strategy to address the threat to millions of acres and communities across the nation. The strategy will first target areas defined as being at the highest risk based on community exposure, including the Pacific Northwest, the Sierra Nevada Range in California, the front range of Colorado, and the Southwest. The plan highlights the importance of collaboration with the Department of Interior, Tribes, states, local communities, and private landowners to effectively address the crisis. For more information, click here.

Meetings of the National and Regional Weed Science Societies

- Jul. 18 - 21, 2022 Aquatic Plant Management Society (APMS), Greenville, SC www.apms.org
- Dec. 5 - 8, 2022 North Central Weed Science Society (NCWSS), St. Louis, MO www.ncwss.org
- Jan. 23 - 26, 2023 Southern Weed Science Society (SWSS), Baton Rouge, LA www.swss.ws
- Jan. 30 - Feb. 2, 2023 Northeastern Weed Science Society (NEWSS), Arlington, VA www.newss.org
- Jan. 30 - Feb. 2, 2023 Weed Science Society of America (WSSA), Arlington, VA www.wssa.net
- Feb. 27 – Mar 2, 2023 Western Society of Weed Science (WSWS), Boise, ID www.wsweedscience.org

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Science Policy Report

[Continued]

Wilkes Confirmed as USDA Undersecretary for Natural Resources and Environment

Homer Wilkes was sworn in on Feb. 11, 2022 to serve as Undersecretary for Natural Resources and Environment at USDA. His nomination was confirmed by the Senate by a voice vote. Wilkes is expected to work closely between USDA NRCS and the Forest Service on land restoration projects, including the 10-year wildfire mitigation plan.

Wilkes is a native of Port Gibson, Mississippi. He earned a B.S. in business finance, an M.B.A. and Ph.D. in urban higher education from Jackson State University. From 1984 to 2007, Wilkes served as a supply officer in the United States Navy Reserve. During his career, Wilkes has served within the NRCS as acting CFO, acting associate agency chief, and as Mississippi's state conservationist. Since 2013, Wilkes has worked as the director of the Gulf Coast Ecosystem Restoration Task Force.

Williams Confirmed as USFWS Director

On February 17, 2022, the U.S. Senate confirmed Martha Williams by voice vote to serve as the next Director of the U.S. Fish and Wildlife Service (USFWS), a position that has been vacant since January 2021. Williams has been leading the agency since January as Principal Deputy Director. Prior to that Williams served as Director of the Montana Department of Fish, Wildlife and Parks from 2017 to 2020. She previously served as an Assistant Professor of Law at the Blewett School of Law at the University of Montana and co-directed the university's Land Use and Natural Resources Clinic. Williams earned her bachelor's degree from the University of Virginia and her Juris Doctor degree from the University of Montana School of Law.

2022 National Invasive Species Awareness Week (NISAW) Highlights CT River Hydrilla

National Invasive Species Awareness Week was February 28 – March 4, 2022. Educational invasive species webinars were presented for: USGS Decision Science – Modeling and Structured Decision Making; Climate Change and Invasive Species; Protect the Uninfested West from Aquatic Invasive Species; Pacific Green Crab Management; and Firewood Rules, Certifications, and Recommendations across the USA. More info at: www.nisaw.org

There was also a Congressional briefing titled "**Managing the Hydrilla River Infestation in the Connecticut River**." Many thanks to Mark Heilman for his work on coordinating this. The Connecticut River is a critical water resource in the northeastern US with unique habitats and wildlife impacted by an aggressive invasion of a novel biotype of the submersed exotic aquatic plant, *Hydrilla verticillata*.

Hydrilla is on the Federal Noxious Weed List and is considered the worst aquatic invasive plant in the US. The extensive (70+ mile) hydrilla infestation in the Connecticut River poses a serious risk to other waterways in the Northeast and especially the Great Lakes. Initial federal funding proposals (Sen. Blumenthal – CT) to contain the hydrilla infestation and work towards restoration of the river call for $25 million annually for four years through the US Army Corps of Engineers Aquatic Plant Control Program, the nation's only federally authorized program for the research and development of effective, science-based strategies to manage invasive aquatic weeds.

Presentations were given by: Ian Pfingsten, US Geological Survey and Co-Chair of NE Aquatic Nuisance Species Panel; Judy Preston, Connecticut Sea Grant; and Dr. Rob Richardson - NC State University and Past President of APMS. Their presentations highlighted the local impacts of the infestation on the ecology and uses of the river, risks of regional and national spread, and integrated management options to contain the hydrilla invasion and work towards restoration.

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Sustaining Members

The Aquatic Plant Management Society is grateful for our Sustaining Members whose generous annual contributions sponsor our most important core values, especially education and outreach initiatives. Sustaining Membership costs $500 and includes membership privileges for one designated representative; subscription to the *Journal of Aquatic Plant Management*, APMS newsletters, and access to the APMS Blog and social media content; quarterly issues of *Aquatics* magazine; recognition as a Sustaining Member in newsletters, the Annual Meeting Program, and on the APMS website.

Thank you all for your support in 2022!

Incorporated in 1961 as a forum to share water hyacinth control experiences, today APMS and its seven Regional Chapters promote research and outreach to manage all species of aquatic plants and algae.

General Info for Membership, Etc.

The Aquatic Plant Management Society, Inc. is an international organization of scientists, educators, students, commercial pesticide applicators, administrators, and concerned individuals interested in the management and study of aquatic plants and algae. The membership reflects a diversity of federal, state, and local agencies, universities and colleges around the world, corporations, and small businesses.

VISION

The Vision of the Aquatic Plant Management Society is to be the leading international organization for scientific information on aquatic plant and algae management.

MISSION

The Mission of the Aquatic Plant Management Society is to provide a forum for the discovery and dissemination of scientific information that advances aquatic plant and algae management policy and practice.

STATEMENT ON EQUITY, DIVERSITY, & INCLUSION

Creating an atmosphere of inclusion is vital to the Aquatic Plant Management Society (APMS). Contributions and perspectives from all members, students, event participants, and our local and international communities are important. Diversity includes age, culture, disability, ethnicity, gender, national origin, color, race, religion, sexual orientation, and diversity of thoughts and ideas. We recognize that embracing and encouraging diversity is critical to fulfilling our mission to 'Provide a forum for the discovery and dissemination of scientific information that advances aquatic plant and algae management policy and practice'. APMS will strive to further cultivate a Society built on mentorship, encouragement, tolerance, and mutual respect, and foster a welcoming environment for all.

To join, visit this link: http://www.apms.org/society/membership/

To renew a membership, login and visit this link: http://www.apms.org/member-login/

Follow us and Learn More:

@APMSociety
@apmsociety
@APMS1961

…..And Join the APMS Group on LinkedIn….
Many of our regional chapters are active on social media, too. Give them a like and a follow!

Editor's Report
Dr. Ramon Leon

No report at this time.

Committee Reports

APMS Annual Meeting 2022

Awards Committee – John Madsen

We have awards assigned and will have plaques ready for the meeting, thanks to help of the committee, especially Jay Ferrell. Awardees have been notified. We'll announce awardees at the banquet.

6/14/2022

Bylaws and Resolutions Committee
Dr. James Leary

Report from Bylaws and Resolutions Committee for July 18, 2022 APMS Board of Directors Meeting

On June 16, I convened with Andy Fuhrman of the Finance committee to review and discuss the draft Articles of Incorporation highlighting the transition of the APMS to 501 c 3 status. After re-reviewing the articles prepared by our attorney, it was our assessment that the AOI did not appear to conflict with the language in our current Bylaws. It is our opinion that this can proceed with the president.

On April 15, 2022, Signatures petitioning for Honorary Membership Awards for Joe Bondra and William Culpepper were submitted. The Bylaws committee reviewed the candidates and determined that they each met the qualifications.

On January 25, 2022, The Board of Directors approved the proposed changes to the Bylaws, and will proceed with a vote by the membership at the annual business meeting.

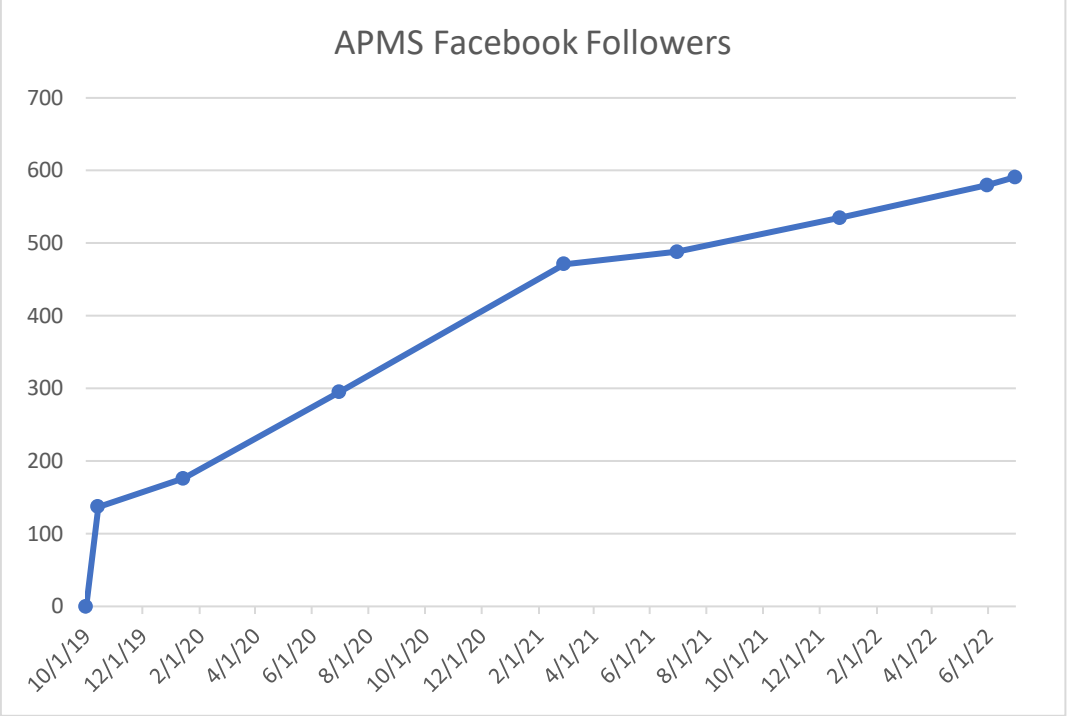
Submitted By: James Leary
Committee Members: James Leary (chair), Jeff Schardt, Guy Kyser, John Madsen and Steve Zulinski

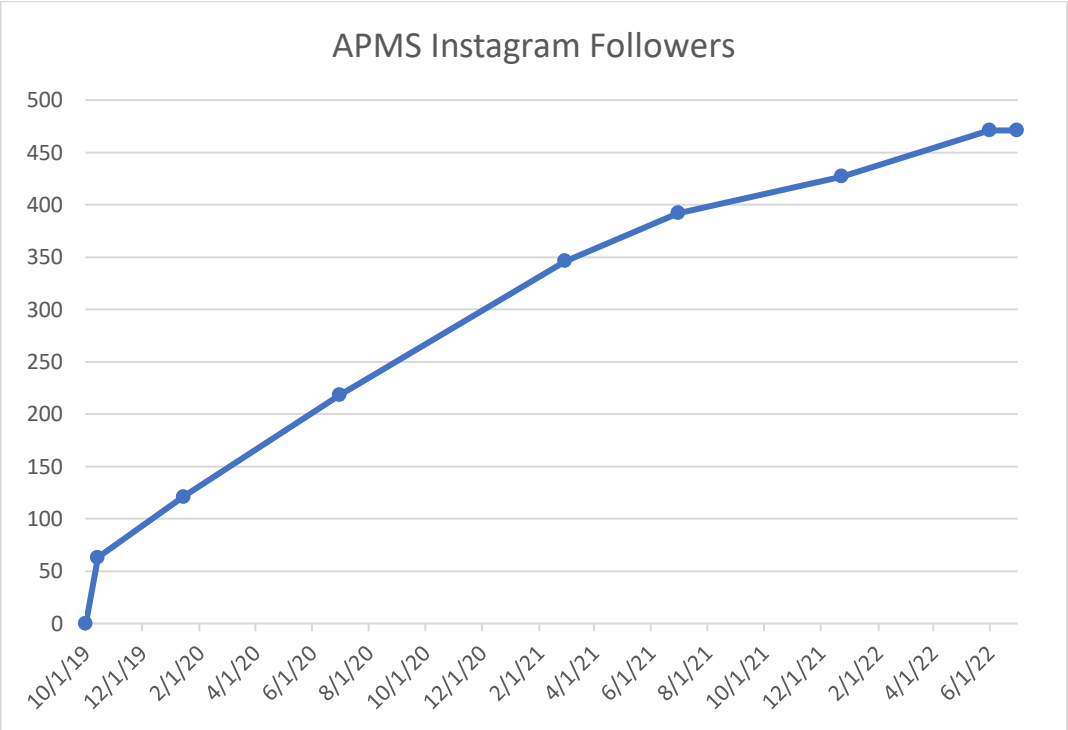
Website/Ed and Outreach Committee Reports
Dr. Brett Hartis

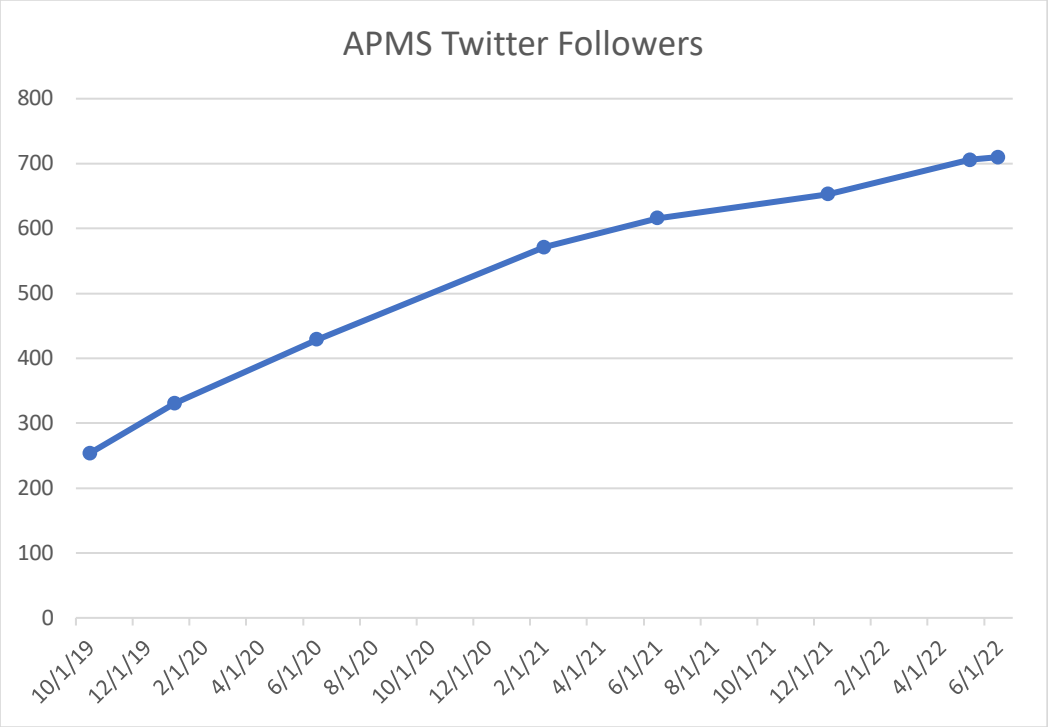
Joint Aquatic Sciences Meeting – Matt Johnson, Mark Heilman, Jay Ferrell, and Brett Hartis recently attended the Joint Aquatic Sciences meeting in Grand Rapids, Michigan. The team staffed a booth sponsored by Midwest APMS and APMS, fielding questions about the society and providing marketing and educational material to attendees. Conference attendance was estimated at around 4,000 over the span of a week, many with which the group was able to interface and provide information about both societies.

APMS and MAPMS also jointly put together a special symposium entitled "Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae", which featured many speakers from the APMS membership. Speakers introduced the audience to the history, methodologies, and future of aquatic plant and algae management. This included a synopsis of various methods of control, discussions of integrated management strategies, and exploration of the wide-reaching impacts of invasive and/or noxious aquatic plants and algae to our nations water resources. The goal of the symposium was to stimulate discussion of shared interests among attendees.

Social Media Update
Amy Giannotti, Social Media Manager







John Madsen manages APMS group on LinkedIn, and it has 1551 followers as of June 30, 2022.

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Mon, May 16
1:30 PM - 5:00 PM
DeVos Place - Grand Gallery Overlook F
Scientific Session

Aquatic Ecology **Aquatic Toxicology** **Aquatic Vegetation** **Conservation biology** **Ecosystem: Lake/Reservoir** **Ecosystem: Wetland** **Education/Outreach/Communications** **Endangered/RareSpecies** **Evolution** **Fish and Wildlife** **Genetics** **Harmful algal blooms** **InvasiveSpecies** **Microbial** **Mollusk** **Policy/Law** **Resource Management** **Restoration/Management/Conservation** **Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae**

Description

Our speakers will introduce the audience to the history, methodologies, and future of aquatic plant and algae management. This will include a synopsis of various methods of control, discussions of integrated management strategies, and exploration of the wide-reaching impacts of invasive and/or noxious aquatic plants and algae to our nations water resources. The goal of this symposium is to stimulate discussion of shared interests among attendees

Session Chairs

Organizer
Brett Hartis, Lead Scientist, Duke Energy Corporation

Co-organizer
Matthew Johnson, President, Aquatic Control, Inc.

Presentations

1:30 PM

2:00 PM

Aquatic Plant Management Intersections with Algae and Culture (509)

Jason Ferrell, Director, UF/IFAS Center for Aquatic and Invasive Plants

Resource Management

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
The necessity of aquatic plant management was formalized in 1899 by the passing of the Rivers and Harbors Act, giving authorization and funding to the US Army Corps of Engineers to address water hyacinth growth in the St. Johns River in Florida. The purpose of this action was due to overgrowth of water hyacinth that was inhibiting navigation, while also resulting in flooding and the proliferation of disease carrying mosquitoes. These early scientists designed a score of new and innovative harvesting machines, utilized chemical methods, and trialed numerous physical barriers in an attempt to reverse the negative effects of this plant. Though much has been learned about managing water hyacinth in the past one hundred years, the necessity of managing this, and other invasive plants, has not changed. However, one significant change is dealing with the complex intersection of plant management and public opinion. It has become increasingly common for stakeholders to voice negative opinions if management operations are perceived to be either too high or too low. This is exacerbated by communication opportunities that transport these issues immediately to a regional or national platform. One of the primary points of concern is the intersection of plant management action and subsequent algae response – particularly harmful algae blooms (HAB). It has been noted that managing large populations of plants, either chemically or mechanically, can often result in a sustained algae bloom. From the standpoint of herbicide application, this is the result of rapid release of nutrients from the decaying plants.

Keywords:
Resource Management

2:00 PM

2:15 PM

The Ecology of Submersed Aquatic Vegetation Communities under Management in Select Florida Lakes (2485)

jacob Thayer, South Florida Water Management District; James Leary, Assistant Professor, University of Florida; Kelli Gladding, Center for Aquatic and Invasive Plants, University of Florida; Amy Kendig, Center for Aquatic and Invasive Plants, University of Florida; Amber Elizabeth Riner, Center for Aquatic and Invasive Plants, University of Florida; Candice Prince, Center for Aquatic and Invasive Plants, University of Florida

InvasiveSpecies

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Submersed aquatic vegetation (SAV) is a major ecological component of Florida's shallow lake systems. Hydrilla (*Hydrilla verticillata* [L.F.] Royle) is a non-native SAV dominating many of these lakes and is often observed to be growing in large monotypic cultures exclusive to other native SAV community members. This invasive species is the number one priority for aquatic plant management in the state of Florida with desired outcomes to conserve native SAV diversity. We are studying the effects on SAV community ecology from selective hydrilla management activities. This investigation is being conducted in mesotrophic Lake Sampson (804 hectares) in Bradford County Florida. Surveys have been conducted before and after selective herbicide treatments that were administered in early spring of 2021. Data on species and abundance were recorded with point intercept, hydroacoustic, and airborne imagery surveys on monthly

intervals offering community structure data with high spatial and temporal resolution. Here, we present on some of the basic attributes in community ecology consisting of native and nonnative patch networks along with local and lake-level diversity indices to describe patterns of environmental filtering and competitive exclusion. Selective hydrilla management is enhancing local composition of native SAV communities.

Keywords:
InvasiveSpecies

2:15 PM

2:30 PM

The Regulatory World of Algaecides and Herbicides and Why Understanding it Matters (573)

Bernalyn McGaughey, Compliance Services International

Aquatic Toxicology **Aquatic Vegetation** **Endangered/RareSpecies**
Fish and Wildlife **Harmful algal blooms** **InvasiveSpecies** **Policy/Law**
Restoration/Management/Conservation
Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Entering the world of algaecide and aquatic herbicide regulation is rather like falling down the rabbit hole in Alice in Wonderland: everything is either very big, very small or very confusing. Reading the story of Alice in Wonderland is anything but boring – hearing about aquatic weed and algae control regulations may sound as dull as dirt. But understanding how these products are regulated and what it takes to get them from discovery to use is important to those involved in lake science and management, as well as to lakefront owners and recreationalists. The science behind successful registration is deep and complex, and driven by more than one set of environmental laws. Wise choices in lake management require confidence in the science supporting choices made. This presentation seeks to provide the audience with that confidence through a light-hearted but comprehensive review of the requirements for registration of aquatic herbicides and algaecides, including their history of regulation, registration processes, required studies (and data they produce), labeling, and enforcement - - with the goal of making a complicated and highly specialized aquatic weed or algae control tool and its accompanying set of regulatory drivers and data a bit more understandable.

Keywords:
Aquatic Toxicology,Fish and Wildlife,Policy/Law,Restoration/Management/Conservation,Harmful algal blooms,Aquatic Vegetation,InvasiveSpecies,Endangered/RareSpecies

2:30 PM

2:45 PM

Evaluating the Response of Invasive Flowering Rush (Butomus umbellatus) Cytotypes to Chemical Control Measures (2551)

Jacob A. Hockensmith, Mississippi State University; Gray Turnage, Mississippi State University; Cory Shoemaker, Slippery Rock University

Aquatic Vegetation **InvasiveSpecies** **Restoration/Management/Conservation**
Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:

Establishment and spread of invasive species has affected ecosystems across the globe. These intruders compete with native species for resources, which often leads to reduced biodiversity and other environmental issues. Flowering Rush (*Butomus umbellatus*) is one species that has invaded the northern United States and Canada. Flowing Rush is a perennial, aquatic species that can be found growing along shorelines of lakes and other waterbodies. In North America, two distinct cytotype populations occur: diploid and triploid. These cytotypes differ in key anatomical and physiological properties. Despite these differences, current best management practices of chemical control are based solely off research conducted on triploid populations, which account for only 29% of populations across North America. In this study, we assessed the effect of two commonly used chemical control measures for aquatic plants, Diquat and Endothall, on diploid and triploid cytotypes. After establishment and subsequent herbicide application, plants were followed to eight weeks post-treatment. Plants were then harvested to assess the efficacy of treatments on above- and belowground biomass accumulation, and belowground asexual rhizomatous bud production. We observed that when treated with herbicides, bud production in diploid plants increased, while bud production in triploid plants was unaffected. In diploid Flowering Rush, higher concentrations of Diquat and Endothall increased bud production compared to control and low concentration treatments. Both Diquat and Endothall reduced the overall above- and belowground biomass. Our results suggest that diploid and triploid populations display different reactions to chemical controls and that further research is needed to elucidate these differences.

Keywords:
Restoration/Management/Conservation,Aquatic Vegetation,InvasiveSpecies

2:45 PM

3:00 PM

Using Ultraviolet Light-C to Control Aquatic Invasive Plant Populations in Lake Tahoe: Lab Experiment to Field Testing (2399)

Emily M. Carlson, University of Nevada, Reno; Elizabeth Everest, Wonders of the Mekong and the University of Nevada; Erin Suenaga, MSc, Staff Researcher, University of Nevada-Reno; Sudeep Chandra, Global Water Center, University of Nevada-Reno; John Paoluccio, Inventive Resources, Inc.

Aquatic Vegetation **Ecosystem: Lake/Reservoir** **InvasiveSpecies**
Resource Management
Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:

We used ultraviolet light (UV-C) to control aquatic invasive and nuisance plants in Lake Tahoe, California. Through a partnership between private and public institutions, we developed a boat outfitted with UV-C arrays, exposed plants *in situ* to UV-C, and monitored the recovery of plants (biomass, height, composition) over time. Plant biomass was reduced by 100%, including the highly invasive curly-leaf pondweed (*Potamogeton crispus*). Plant heights were reduced over time depending on the taxa. One year post treatment the composition contained 60% less curly-leaf pondweed, more native species, and increased diversity. Laboratory-controlled experiments were conducted to compare UV-C and chemicals as a positive control (acetic acid and endothall) on curly-leaf pondweed of various life stages. UV-C exposure on unsprouted turions resulted in no mortality or diminished germination. Recently sprouted turions exposed to UV-C initially lost all vegetation but were able to resprout. A second treatment of UV-C on the same plants had compounding effects, with the resprouting effort taking more time and producing less growth. Mature plants were the most susceptible to UV-C light exposure with observed loss of turgor pressure and chlorophyll *a*. Some UV-C plants were able to produce green apical meristems after exposure, but plants were weakened. Controlling growth of aquatic macrophytes using UV-C shows promising results with treatments that can be tailored, through timing and frequency, to target specific plant species and lead to reduced growth and possible seasonal eradication.

Keywords:
Resource Management,Ecosystem: Lake/Reservoir,Aquatic Vegetation,InvasiveSpecies

3:00 PM
3:45 PM

Break

3:45 PM
4:00 PM

VIRTUAL ONLY - Status and Control of water hyacinth in 3 Lake Victoria hot spots, Uganda (2580)

STELLA MBABAZI, SENIOR FISHERIES OFFICER, MINISTRY OF AGRICULTURE, ANIMAL INDUSTRY & FISHERIES; Dorothy Birungi, NARO; Patrick Byamukama, Directorate of Fisheries Resources (DiFR), P.O. Box 4, Entebbe, Uganda; Richard Mangeni, Directorate of Fisheries Resources (DiFR), P.O. Box 4, Entebbe, Uganda; Edward Rukuunya, Lake Victoria Fisheries Organization (LVFO), P.O.Box 1625, Jinja, Uganda

Resource Management

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Water hyacinth was first reported on Lake Victoria in 1988 as rapidly growing floating mats that covered most shores and sheltered bays of the Lake causing environmental and socioeconomic consequences. Lake wide coverage in Uganda gave overall infestation of 182.5ha but the three main hot spot study areas had infestation status of 14-34ha for Bunjako Bay, 2-7.9ha for River Kagera and 0.5-5ha for Sango Bay. The survey assessed the impacts of manual, biological and mechanical weed control measures at the three sites between May and August 2021. We found low weevil populations in the study sites dominated by Neochetina eichhornia. Bunjako had the highest infestation at 0.4 weevils per plant followed by River Kagera at 0.3 weevils per plant. Weevil impact in terms of feeding scars had also increased in all the sites compared to 2014 figures. We also found mite infestation at Sango bay and river Kagera as opposed to Bunjako bay. Daily manual removal of the weed was highest at Kagera (1100 kg) compared to Sango Bay (970 kg bay). Notably, Bunjako Bay had more control efforts through local government strategic interventions. Mechanical control operations further led to the harvest of 2,170 tons of water hyacinth at river Kagera. Current resurgence cycles coupled by low weevil population in these hotspots call for strengthening of weevil mass rearing and release program as well as manual removal involving communities. We further recommend focused control at river Kagera from upstream owing to the average inflow rate of 15 mats per minute.

Keywords:
Resource Management

4:00 PM
4:15 PM

The Importance of Stakeholder Engagement in Developing Management Plans (241)

Brett Hartis, Lead Scientist, Duke Energy Corporation

Aquatic Vegetation **Education/Outreach/Communications** **InvasiveSpecies**

Resource Management

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Invasive species quite often exist across the very jurisdictional boundaries upon which their management is governed. To complicate things further, public opinion regarding the need and implementation of such management programs can vary widely dependent on the dominating uses of impacted resources. In the southeastern United States, management of the invasive aquatic plant hydrilla and other invasive aquatic plant species is often the subject of intense controversy among user groups. As a result, management of such species within these multi-use water resources can differ widely from one water body to the next. Neighboring management programs can range from planned eradication to even the promotion of invasive aquatic plant species as ecosystem services, dependent upon the dominating uses of that resource. This, in turn creates mixed messaging for state and national policy on aquatic invasive plant management. This presentation will provide insight into the importance of ongoing engagement programs to manage stakeholder expectations, highlighting the importance of education and outreach in finding common ground among conflicting user groups and working towards shared planning and future consensus.

Keywords:
Education/Outreach/Communications,Resource Management,Aquatic Vegetation,InvasiveSpecies

4:15 PM
4:30 PM

A Comparison of Watercraft Decontamination Methods: Invasive Species Removal, Boater Outreach, and Cost (1174)

Jo Latimore, Senior Academic Specialist, Michigan State University; Maria Bleitz, Michigan State University; Kevin Walters, Aquatic Biologist, Michigan Department of Environment, Great Lakes, and Energy

Aquatic Vegetation Education/Outreach/Communications InvasiveSpecies
Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
The secondary spread of Aquatic Invasive Species (AIS) via trailered watercraft to inland lakes and reservoirs is an issue that negatively affects native species and costs billions of dollars in the Great Lakes region every year. Preventative efforts against AIS have focused on reducing overland spread by encouraging boaters to remove invasive organisms from their watercraft, trailers, and gear before launching in another lake. Local communities have installed boat wash stations at launch sites that use heated pressurized water to remove invasive animals and plant fragments. Recently, several local communities including Higgins Lake have purchased waterless boat cleaning stations such as CD3 units that use compressed air, vacuums, and hand tools. Few studies have compared these two cleaning approaches, and none have in the context of Michigan's regulations. We conducted a review of published literature and unpublished data with the goals of assessing the effectiveness of both boat cleaning methods in terms of AIS decontamination effectiveness, boater/angler outreach effectiveness, and cost-effectiveness. The review includes a synthesis of 1) unpublished data collected by the CD3 units at Higgins Lake, survey data collected by the Michigan State University Mobile Boat Wash program, data from various local boat operations, and 2) reports compiled by CD3, white papers, and primary literature of various decontamination methods. The findings will be presented as a resource for lake managers considering investing in boat cleaning equipment or programs at their own lakes.

Keywords:
Education/Outreach/Communications,Aquatic Vegetation,InvasiveSpecies

4:30 PM
4:45 PM

Rapid and Collaborative Action to Comprehensively Address Emerging Concerns in Aquatic Plant and Algae Management (680)

Mark Heilman, SePRO

Harmful algal blooms InvasiveSpecies Resource Management

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
The theme of this joint conference speaks well to how management policy, science, and practice must be effectively refined and aggressively implemented to respond to emerging challenges with invasive aquatic vegetation and harmful algae. Problems decades and perhaps centuries in the making such as habitat loss, climatic change, eutrophication, and intercontinental transfer of exotic species have accelerated and are interacting together to more quickly degrade the quality of our aquatic resources. Research and management must be more comprehensive in scope and impact. Just as multiple environmental pressures are interacting together negatively, new research and related improvements in management techniques should be integrated more effectively to interact positively in addressing multiple aspects of water resource quality. As two examples, enhanced mitigation strategies for excess nutrients and their cycling can and should be developed and implemented in conjunction with novel control techniques for harmful algae to simultaneously improve the chronic long-term drivers of excessive productivity driving harmful blooms while also reducing immediate risks of harmful algae to human health, ecology, and economies. Similarly, there are links between the excessive productivity of invasive aquatic plants and the eutrophication/aging of infested sites that can be identified and 'broken' by well-designed research and resulting selective control strategies. To foster new ideas and discussion of accelerated collaborative research and comprehensive management, this presentation will efficiently link past and current research findings that highlight the value of more holistic perspectives and techniques that better and more quickly address emerging concerns that cross traditional disciplines of management science.

Keywords:
Resource Management,Harmful algal blooms,InvasiveSpecies

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5:00 PM

Utilizing a Standardized System of Survey Methods and Analysis Metrics to Assess Inland Lake Health (2634)

Mike Foster, Environmental Engineer, Kieser & Associates, LLC; Mark Kieser, Kieser & Associates

Aquatic Ecology Ecosystem: Lake/Reservoir InvasiveSpecies

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Inland lakes should be managed with objectives for maximizing both ecosystem health and recreational benefits; two goals often at odds with managing aquatic plant communities. A standardized system of survey methods and analysis metrics was developed and applied on 14 Michigan lakes in order to assess the health of the macrophyte community, recreational condition, and extent of aquatic invasive species (AIS). Lakes were surveyed twice per growing season using expanded AVAS methods, then analyzed with measures for floristic quality index, Shannon indices for biodiversity and morphological diversity, and other novel metrics. With nearly all lakes were under some form of AIS management, the floristic quality index exceeded management targets for 8 of 14 lakes while recreational nuisances were >10% of survey sites at 9. Invasive plant species were observed on all 14 lakes, with 8 exhibiting AIS presence at >50% of survey sites. Total coverage for Eurasian watermilfoil (*Myriophyllum spicatum*) and starry stonewort (*Nitellopsis obtusa*) were positively correlated with observed recreational nuisance levels and negatively correlated with floristic quality. Both species have proven difficult to manage, particularly without harm to native species. Continued lake

monitoring is essential to assess the success of management strategies and adjust them when necessary. This presentation will show how ecological monitoring in these lakes with standardized monitoring and metrics is a cost-effective means to formulate, assess and achieve long-term lake management goals, going beyond traditional survey methods for seasonal AIS treatment needs.

Keywords:
Aquatic Ecology,Ecosystem: Lake/Reservoir,InvasiveSpecies

5:00 PM

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Supratidal Sediment and Seaweed a Significant Source of Enterococci-Evaluation before, during, and after COVID-19 shutdown (VIRTUAL) (169)

Afeefa A. Abdool-Ghany, University of Miami; Peter Sahwell, University of Miami; Maribeth Gidley, University of Miami; Christopher Sinigalliano, National Oceanic and Atmospheric Administration; James Klaus, University of Miami; Helena Solo-Gabriele, University of Miami

Microbial

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
A local beach has issued excessive beach advisories due to elevated levels of the fecal indicator bacteria, enterococci. Given the frequency of beach advisories over the last few years, a study was designed to identify sources of contamination. Suspect sources of contamination include sea and shore dwelling animals, human presence, and seaweed accumulations. Water samples were collected in the ankle, knee, and waist-deep water; sediment samples were collected in the supratidal, intertidal, and subtidal zone; and seaweed samples were collected along the hightide line. Samples were analyzed for enterococci by culture and qPCR, microbial source tracking markers for humans (HF183 and Hum-M2), dogs (DogBact), and seabirds (Gull2). The monitoring period coincided with the COVID-19 shutdown and provided the unique opportunity of monitoring the beach without human presence. Results show that enterococci with elevated levels of human markers persist in the seaweed and sediment and are likely to contribute to elevated levels of bacteria in the nearshore waters. During the shutdown period, the elevated levels of enterococci in the sediment were isolated to the seaweed-stranding areas. During periods when the beaches were open, enterococci were distributed more uniformly across the supratidal and intertidal zones suggesting that human foot traffic may be responsible for the spread of enterococci throughout these areas. Overall, the study suggests that humans may inoculate the seaweed with enterococci, the enterococci accumulate in the decomposing seaweed, and then humans redistribute enterococci from the seaweed strandings throughout the surface of the beach sand.

Keywords:
Microbial

5:00 PM

5:00 PM

What does the *Phragmites australis* Genome tell us about its Invasiveness? (Virtual) (781)

Dong-Ha Oh, Ph.D., Assistant research professor, Louisiana State University; Kurt Kowalski, USGS Great Lakes Science Center; Quynh Quach, Tulane University; Chathura Wijesinghege, Louisiana State University; Philippa Tanford, Washington University in St. Louis; Maheshi Dassanayake, Louisiana State University; Keith Clay, Tulane University

Conservation biology **Ecosystem: Wetland** **Evolution** **Genetics**

InvasiveSpecies Restoration/Management/Conservation
Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
The rapid invasion of the non-native *Phragmites australis* (Poaceae, subfamily Arundinoideae) is a major threat to native coastal and wetland ecosystems in North America. By developing and analyzing the first reference genome for *P. australis* (ssp. *australis*), we found a *Phragmites* lineage-specific whole-genome duplication (WGD) after its divergence from the Panicoidieae clade. The WGD event was followed by extensive fractionation (i.e. loss of duplicated genes), however, genes associated with transcription factor and regulatory functions were preferentially retained. We compared the transcriptomes of invasive (ssp. *australis*) and native (ssp. *americanus*) genotypes collected from replicated populations across the Laurentian Great Lakes and found that genes associated with biotic stress and defense responses were expressed at a higher basal level in invasive genotypes, but native genotypes showed a stronger induction of defense responses when challenged by a fungal endophyte. Subsequent chromosome-level genome assemblies of representative individuals from the invasive (ssp. *australis*) and native (ssp. *americanus*) subspecies supported a tetraploid chromosome model that is segregating as a diploid, agreeing with recent cytological and genomic studies. While both subspecies most likely shared the same WGD event, they subsequently followed distinct fractionation trajectories, generating substantial variations in gene copy numbers between the native and invasive *Phragmites*. The reference genomes of the invasive and native *Phragmites* (currently being analyzed), combined with the comparative transcriptome analysis and community ecological and environmental data, add to our understanding of mechanisms leading to invasiveness and support the development of novel genomics-assisted management approaches for invasive *Phragmites*.

Keywords:
Conservation biology,Restoration/Management/Conservation,Genetics,Evolution,Ecosystem: Wetland,InvasiveSpecies

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Successes in Protecting Imperiled Freshwater Mollusks While Managing Invasive Plants And Algae (Virtual) (818)

W. Gregory Cope, William Neal Reynolds Distinguished Professor, North Carolina State University; Sean B. Buczek, North Carolina State University; Jennifer M. Archambault, North Carolina State University; Robert J. Richardson, North Carolina State University; West M. Bishop, SePRO Corporation; Mark Heilman, SePRO; Justin Nawrocki, UPL; Tom Warmuth, BioSafe Systems LLC; Monte A. McGregor, Kentucky Department of Fish and Wildlife Resources

Aquatic Toxicology Conservation biology Endangered/RareSpecies
InvasiveSpecies Mollusk
Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Invasive aquatic plants and harmful algae pose risks to the Nation's flora and fauna, especially for the highly imperiled groups of native freshwater mussels and snails. Likewise, integrated management strategies, including chemical applications for controlling these invasive species can be detrimental to imperiled species conservation, if they fail to consider the presence and sensitivity of at-risk species. The submersed exotic macrophyte Hydrilla (*Hydrilla verticillata*) and the filamentous cyanobacterium Lyngbya (*Lyngbya wollei*, syn. *Microseria wollei*) are two invasive aquatic species that have spread rapidly throughout the United States, and especially in the Southeast,

where native freshwater biodiversity is highest. Common chemical control methods for these species include the application of contact and systemic herbicides and algaecides (e.g., fluridone, endothall, copper, chelated copper, peroxides, glyphosate, florpyrauxifen-benzyl). Prior to our research over the last decade, little was known about the toxicity of these compounds to freshwater mollusks. We have since conducted ASTM International standard acute and chronic toxicity tests with more than a dozen species of freshwater mussels (family Unionidae) and snails (family Lythoglyphidae). These studies have provided regulatory and natural resource management agencies with the information needed to effectively protect sensitive species while controlling invasive weeds and algae. Moreover, our laboratory data was a catalyst for applied field research. Our studies conducted in rivers, lakes, and reservoirs during active management have demonstrated the safety and efficacy of the control program in real-time. This targeted research has made possible the dual goals of invasive control and and native conservation in biodiverse ecosystems that support imperiled species.

Keywords:
Aquatic Toxicology,Conservation biology,InvasiveSpecies,Endangered/RareSpecies,Mollusk

5:00 PM

5:00 PM

Effects of Aggressive Reed (Phragmites australis) on Aquatic Communities in Kansas Freshwater Reservoir. (Virtual) (1803)

Allison Pardis, Graduate Research Assistant, Fort Hays State University;
William Stark, Fort Hays State University

Aquatic Ecology **Ecosystem: Lake/Reservoir** **InvasiveSpecies**

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Phragmites australis is a Aquatic Nuisance Species (ANS) in Kansas, a non-native reed that threatens lake and river ecology, displaces desirable species, impedes movement of wildlife and humans, and can have detrimental economic effects on communities. The majority of Phragmites research is in brackish ecosystems and the effects of *Phragmites* in freshwater systems and especially on fishes is understudied, even as many states and agencies invest substantial resources in management. As freshwater systems face a biodiversity crisis, prevention and control of non-native species invasion is critical. Effective management therefore requires a thorough understanding of the effects these invaders have on ecosystems and the application of modern and efficient technologies. The strong trophic links of aquatic systems make them ideal communities to observe change and cascade effects as invading species establish. This project established the extent of trophic level effects by measuring habitat indices specific to warm water fishes and comparing fish assemblages within invaded and non-invaded areas. Additionally, methods developed novel drone (UAS) techniques to spectrally identify *Phragmites* and other species of interest to inform dispersal of this ANS species. These data and techniques will inform fisheries and land managers of ecosystem effects and provide a framework to apply modern UAS tools to facilitate early detection, inform efficacy of mitigation strategies, and monitor invasive species management at meaningful spatial and temporal scales, vital to developing
precise mitigation strategies to address the effects of this invasive species and combat the freshwater biodiversity crisis.

Keywords:
Aquatic Ecology,Ecosystem: Lake/Reservoir,InvasiveSpecies

5:00 PM

5:00 PM

A Novel Ship Hull Coating: Mitigating Climate Change and Aquatic Invasive Species Transport (Virtual) (2283)

Charlotte Lenore Michaluk, The Watershed Institute

Ecosystem: Lake/Reservoir InvasiveSpecies Mollusk

Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae

Info

Abstract:
Our global cargo fleet burns the dirtiest heavy fuel oil. Hull coatings deter transfer of harmful species and reduce climate change emissions. Frictional drag between ship hulls and water contributes to 90% of cargo ship fuel consumption, which contributes 4% to global climate change emissions. Invasive species have devastating effects on ecosystems, costing the US economy over $120 billion per year. The zebra mussel is estimated to cause up to $650M annual economic damage, and spread disease to waterfowl. Antifouling cargo ship coatings prevent the growth of aquatic organisms, from algae to bivalves. This study explored principles of biofouling using a physid snail biological model tested in a water tunnel, and proposes a novel hull coating using biomimicry of shortfin mako shark skin denticles. 3D engineering models were developed for Computational Fluid Dynamics. Variations in surface chemistry and geometry were compared and optimized. DNA Barcoding of the COI (cytochrome c oxidase subunit 1) region positively confirmed the species of biological model organism. Statistical analysis shows this novel composite material of polydimethylsiloxane with encapsulated polyethylene terephthalate “denticles” may limit biofouling and invasive species transfer, and reduce frictional drag and fuel consumption.

Keywords:
Ecosystem: Lake/Reservoir,InvasiveSpecies,Mollusk

Exhibits Report
Dean Jones

June 30, 2022
To: Board of Directors of the Aquatic Plant Management Society (APMS)
From: Dean Jones
Subject: Exhibits Report
Committee Members: Dean Jones, Todd Olson, Carl Della Torre, and Matt Johnson

Exhibitors
With two weeks to go, nineteen exhibitors have registered for the 2022 APMS meeting in Greenville, SC. The total income generated for APMS from Exhibitors was $16,000. Exhibitor participation is right in line with the historical numbers.

Sponsors
With two weeks to go, fifteen sponsors contributed to the 2022 APMS meeting in Greenville, SC including one Platinum Sponsors (UPL NA) and three Gold Sponsors (Alligare, SePRO and Syngenta). There was also nine Bronze Sponsors and two Contributors. The total income to APMS from sponsors for the 2022 Annual Meeting was $56,000. Sponsor participation is very similar to the historical numbers.

Historical Summary
The total revenues generated from exhibitor and sponsor participation for the 2022 meeting is $72,000. The following tables provides a comparison for sponsor and exhibitor contributions over the last 11 years. This is $1,000 more than the 11-year average. There usually a few last-minute stragglers join as well.

			Funding Source, Amount & Percentage for Meeting							Meeting Cost Analysis		
Year	Venue	Attend	Sponsor	%	Exhibitor	%	Registration	%		Income	Expense	Net
2021	New Orleans	85	39,300	49	7,200	9	33,130	42		79,630	53,609	26,021
2019	San Diego	202	53,389	49	18,400	17	36,900	34		110,089	95,558	14,531
2018	Buffalo	201	56,183	55	14,400	14	31,315	31		101,898	83,134	18,764
2017	Daytona Beach	217	71,065	56	18,400	14	38,880	30		128,345	80,447	47,898
2016	Grand Rapids	172	45,360	52	15,400	17	27,021	31		87,781	64,406	23,375
2015	Myrtle Beach	248	47,712	43	18,200	16	45,620	41		111,532	121,644	-10,112
2014	Savannah	213	49,739	47	19,600	19	36,495	34		105,834	95,588	10,246
2013	San Antonio	208	52,472	48	18,900	18	37,180	34		108,552	85,598	22,954
2012	Salt Lake City	160	50,750	52	17,500	18	29,540	30		97,790	81,839	15,951
2011	Baltimore	180	59,652	55	16,800	15	32,860	30		109,312	97,009	12,303
2010	Bonita Springs	286	74,263	54	15,505	11	48,290	35		138,058	107,099	30,959
	Average	**197**	**54,535**	**51**	**16,391**	**15**	**36,112**	**34**		**107,166**	**87,812**	**19,354**

FINANCE COMMITTEE REPORT JULY 18,2022

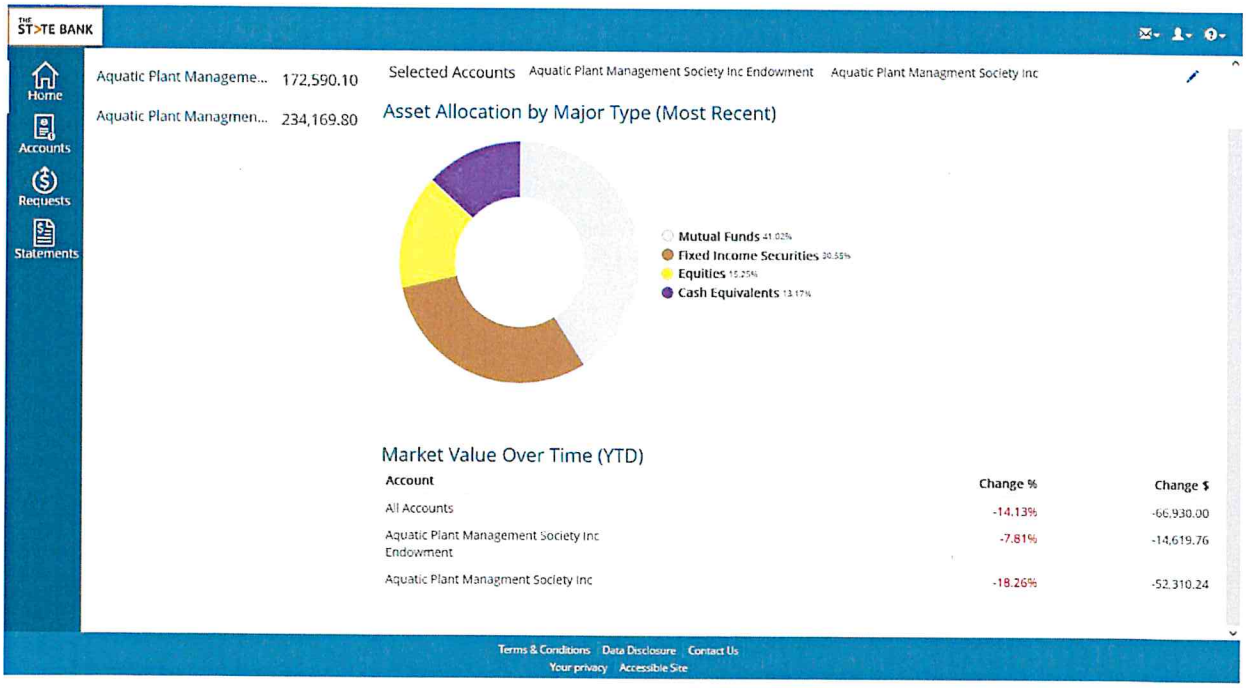
ANDY FUHRMAN COMMITTEE CHAIR

The following is the summary through June 30, 2022.

Total in investments accounts is $403,653.44.

Aquatic Plant Account- $232,138.09. There were 2 withdrawals from this account. $5,000 on January 5, 2022 to cover operating expenses and $10,000 on for the Netherland Grant. After withdrawals this account incurred a 13.06% decrease on investment this calendar year.

Aquatic Endowment Account- $171,515.35. $14,000 has been added into this account this year. Actual performance of this account shows a 15.06% decrease in investment this calendar year.



Aquatic Plant Management Society Inc

Performance Report
Jan 2022 - Jun 2022
Asset Class: Account
Returns
Total Account
-13.06%
Composite Index
0.00%
Account Performance
Beginning MV (1/1/2022) $286,573.80
Net Change -19,000.00
Additions 0.00
Subtractions -19,000.00
Ending MV (6/30/2022) $232,138.09
Net Change in MV -$35,435.71
Account -13.06% Composite 0.00%

Aquatic Plant Management Society Inc Endowment

Performance Report
Jan 2022 - Jun 2022
Asset Class: Account
Returns
Total Account
-15.06%
Composite Index
0.00%
Account Performance
Beginning MV (1/1/2022) $187,272.64
Net Change 14,000.00
Additions 14,000.00
Subtractions 0.00

Ending MV (6/30/2022) $171,515.35Net Change in MV -$29,757.29
Account -15.06% Co

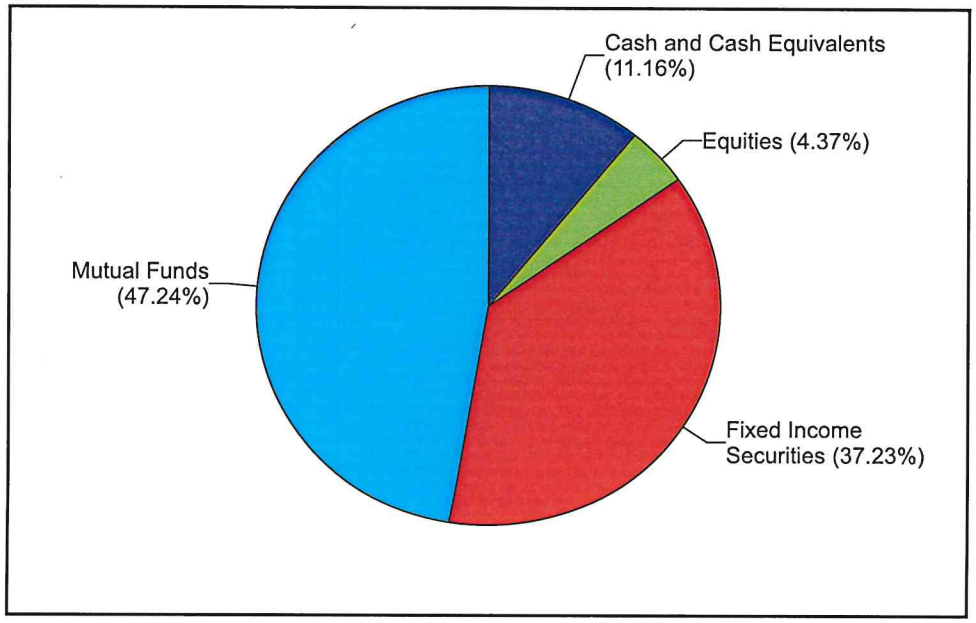
Aquatic Plant Management Society Inc Endowmen

Holding Summary

THE STATE BANK

Account: **550**

Asset Composition	3/31/2022 Valuation	% of Account	6/30/2022 Valuation	% of Account	Change in Value ($)
Cash and Cash Equivalents	17,046.27	8.95	19,115.88	11.16	2,069.61
Equities	8,271.45	4.34	7,486.72	4.37	-784.73
Fixed Income Securities	68,310.80	35.86	63,754.15	37.23	-4,556.65
Mutual Funds	96,873.12	50.85	80,888.15	47.24	-15,984.97
Grand Total	190,501.64	100.00	171,244.90	100.00	-19,256.74



Aquatic Plant Management Society Inc Endowmen

THE STATE BANK

Account Overview

Account: 550

04/01/2022 to 06/30/2022

Account Value Change

Beginning Account Value	$190,501.64
Account Activity for Period	($30.01)
Realized Gains/Losses	($2,536.46)
Unrealized Gains/Losses	($16,690.27)
Ending Account Value	**$171,244.90**

Realized Gain/Loss Summary

Long Term	$0.00
Short Term	$0.00
	$0.00
Long Term	($2,467.21)
Short Term	($69.25)
	($2,536.46)
Net Realized Gain/Loss	**($2,536.46)**

Account Activity

Cash Receipts		
Dividend - Ordinary		$432.85
	Cash Receipts Total	$432.85
Cash Disbursements		
Accrued Interest Purchased		($38.32)
Trust Department Quarterly Fee		($424.54)
	Cash Disbursements Total	($462.86)
	Grand Total	($30.01)

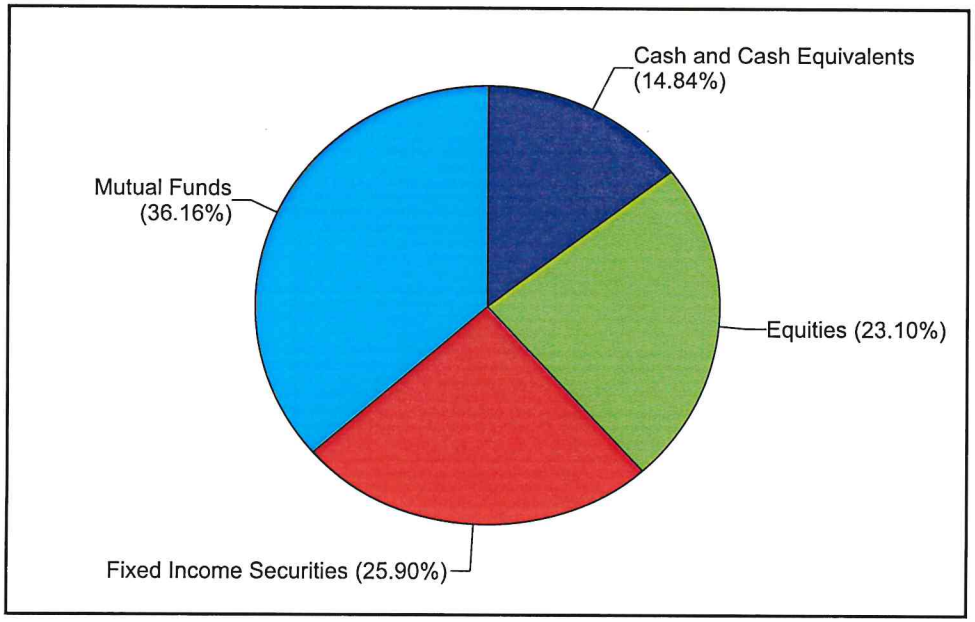
Aquatic Plant Managment Society Inc

Holding Summary

THE STATE BANK

Account: **540**

Asset Composition	3/31/2022 Valuation	% of Account	6/30/2022 Valuation	% of Account	Change in Value ($)
Cash and Cash Equivalents	6,535.05	2.58	34,429.11	14.84	27,894.06
Equities	55,171.08	21.78	53,567.55	23.10	-1,603.53
Fixed Income Securities	90,926.74	35.90	60,066.23	25.90	-30,860.51
Mutual Funds	100,665.55	39.74	83,855.33	36.16	-16,810.22
Grand Total	253,298.42	100.00	231,918.22	100.00	-21,380.20



Aquatic Plant Managment Society Inc

THE STATE BANK

Account Overview

Account: 540

04/01/2022 to 06/30/2022

Account Value Change

Beginning Account Value	**$253,298.42**
Account Activity for Period	$380.54
Realized Gains/Losses	($3,216.26)
Unrealized Gains/Losses	($18,544.48)
Ending Account Value	**$231,918.22**

Realized Gain/Loss Summary

Long Term	$0.00	
Short Term	$0.00	
	$0.00	
Long Term	($3,108.47)	
Short Term	($107.79)	
	($3,216.26)	
Net Realized Gain/Loss		**($3,216.26)**

Account Activity

Cash Receipts		
Dividend - Ordinary		$945.00
	Cash Receipts Total	$945.00
Cash Disbursements		
Trust Department Quarterly Fee		($564.46)
	Cash Disbursements Total	($564.46)
	Grand Total	$380.54

Legislative Committee
Dr. Rob Richardson

No report at this time.

Meeting Planning Committee
Dr. Rob Richardson

No report at this time.

Membership Committee
Marc Bellaud

No report at this time.

Nominating Committee
Dr. Ryan Wersal

2022 APMS Board of Directors Nominees

Vice President – Jeremy Slade

Mr. Jeremy Slade earned a B.S. in Biology from the University of Mississippi in 2002, and a M.S. in Wildlife and Fisheries Science from Mississippi State University (MSU) in 2005. From 2005 to 2008, he worked as a research associate in the Department of Wildlife and Fisheries at MSU, and a research scientist contracted by the US Army Engineer Research and Development Center, US Army Corps of Engineers, Chemical Control Team. In 2008, Jeremy accepted the position of senior biological scientist at the Center for Aquatic and Invasive Plants, University of Florida where he evaluated multi-scale herbicide applications for controlling hydrilla and other nuisance plants managed by the Florida Fish and Wildlife Conservation Commission until the end of 2010. Investigating new use patterns, including herbicide efficacy and selectivity was a large component of this work. In January 2011, Jeremy joined UPL NA Inc., previously United Phosphorus, Inc., as an Accounts Manager in Aquatics for the southeast US covering the Gulf States. Responsibilities in this role included supporting and providing technical assistance of UPL's aquatic products portfolio to ensure proper use resulting in responsible and effective aquatic plant management programs. In April 2019, Jeremy was promoted to Business Lead of UPL's Aquatics Division. In this role his primary responsibility is to oversee the sales, marketing and business development while managing a team of five territory sales managers and one field development manager. Jeremy is involved with several national and regional aquatic plant management industry affiliates including holding Board of Director's positions; The Aquatic Plant Management Society (previously Treasurer), Midsouth Aquatic Plant Management Society (Past President), Florida APMS (Past President & Scholarship Foundation Secretary/Treasurer), Aquatic Ecosystem Restoration Foundation (Gold Member), Responsible Industry for a Sound Environment, Midwest; South Florida; Texas; and Western Aquatic Plant Management Society member. In his free time Jeremy enjoys spending time with his family doing anything water related (fishing, swimming, scalloping) and traveling.

Secretary - Amy Giannotti

Amy Giannotti is the founder of AquaSTEM Consulting, LLC – an environmental consulting company specializing in lake and aquatic plant management, aquatic habitat restoration, and STEM outreach initiatives. Amy is an environmental scientist and Certified Lake Manager, and she has over 20 years of experience working in temperate and subtropical marine and freshwater systems, including coastal and freshwater vegetation dynamics, exotic species management, impacts of nutrient enrichment and remediation efforts, stormwater management and watershed hydrology, and public speaking on environmental issues affecting lakes, springs, and karst community ecology. Amy holds a B. S. in biology from Marietta College (Ohio) and earned her M.S. in environmental science from the University of Virginia, with a specialty in marine ecology. Some of her professional affiliations include APMS, FAPMS, FLMS, and NALMS.

Treasurer – Justin Nawrocki

Justin currently resides in Raleigh, NC with his wife and 1 daughter. He started his aquatic plant management career as an herbicide applicator in Michigan focusing on EWM and CLP control in large lake systems. Currently, Justin is the east coast territory manager for UPL's Aquatic division. He received his Masters and PhD from NC State University researching Hydrilla's tuber bank response to management as well as the effects on sport fish and macroinvertebrates from revegetating Piedmont reservoirs. Justin is active in numerous societies, presenting at nearly all the regional APMS chapters, and is the immediate past president of SCAPMS and is the current treasurer of APMS. In his spare time he stays as far away from water as possible and enjoys volunteering, well community service for an embezzlement charge.

Director – Gray Turnage

Gray is an Assistant Research/Extension Professor at Mississippi State University and has 13+ years of research experience in aquatic and wetland ecosystems. He has been involved with several research projects across the U.S. establishing control efforts and protocols for invasive aquatic/wetland plants as well as monitoring those efforts to analyze restoration success of native flora after control measures have been implemented. His projects range in size from entire watersheds to sub-acre sites. Gray is the MSU subject matter expert for UAS use for managing wetland and aquatic resources. Gray has also worked as a private wetland consultant in Mississippi. This work regularly includes consulting with resource managers and landowners, writing management plans, monitoring plant community dynamics over time, as well as GIS mapping of site characteristics and plant species locations. He is a member of the MidSouth and National Aquatic Plant Management Societies (APMS), the Mississippi Cooperative Weed Management Association (CWMA), and is a founding council member of the Mississippi Aquatic Invasive Species Council.

Director – Troy Goldsby

Troy as worked for Aqua Services, Inc. for 23 years. He now owns the company with his brother Bryan and their father, Terry, still helps in consulting. Troy has been on the board, and president, of the following organizations: MSAPMS (Midsouth Aquatic Plant Management Society), AFS (Alabama Fisheries Society), TVMA (Tennessee Vegetation Management Association), and SLMP (Society of Lake Management Professionals) of which he was a founding member.

Recently, Troy and Aqua Services, have begun a new project with Bill Dance as his private consultants in the new Bill Dance Signature Lake series for the state of Tennessee. Troy continues to assist on numerous fisheries management projects with a primary focus largemouth bass growth. He also coordinates many large scale aquatic plant and cyanobacteria control projects for Aqua Services throughout the southeast utilizing specialized equipment designed by Aqua Services, Inc. Collegiate course studies at University of North Alabama, University of South Alabama, and Oregon State University (wildlife/fisheries emphasis). Executive and biological responsibilities include field management of aquatic vegetation and fisheries projects throughout the United States, Mexico, and the Bahamas.

Past-President's Report
Dr. Ryan Wersal

No report at this time.

Program Committee Report - Dr. Brett Hartis

The final program for the 62nd Annual Conference will feature 50 oral presentations with a special opening session on Harmful Algal Blooms (HABs). The special session will feature summaries of HAB issues (both regionally and nationally), control strategies, a review of human health impacts, and more. Of the 50 oral presentation, 16 will be given by students. We will also have 14 posters being presented at the meeting. The program is being made available online (via APMS website) and via the EventRaft App.

Other events of interest can be found below -

Program Organization
The agenda is organized by day and time. Presentations and abstracts are organized by title number within sections (oral, in-person, poster). For more event information, please see the Agenda-at-a-Glance pages for each day in this Program. Messages will be posted at the meeting registration desk. Most events will take place in the Regency A, B, and C rooms. See the hotel site map on previous pages for event locations.

Name Badges
Your name badge is your ticket for all events at the meeting. Wear it to all activities during the meeting. All individuals participating in meeting events or activities must be registered and have a name badge. Non-registered guests may purchase tickets for the President's Reception, Poster Session Reception, and Awards Banquet at the meeting registration desk.

Meeting Registration Desk

The meeting registration desk will be in the Meeting Planning Office from noon to 5:00 pm on Monday, and will continue from 7:00 am – 5:00 pm on Tuesday, Wednesday, and Thursday.

Exhibits

Exhibits will be open from 7:00am Monday through 5:00pm Wednesday in Regency A&B.

Continental Breakfasts / Refreshment Breaks

Continental breakfasts and mid-morning and afternoon refreshment breaks will be served each day in Regency A&B Please see the Agenda-at-a-Glance for specific times. Also, take time to visit with Exhibitors while enjoying your breakfast or break.

Spur of the Moment Meeting Room

We have a room set up for break out discussion and conference needs. Check at the meeting registration desk to reserve.

Student Meet-and-Greet:

Monday, July 18th, 6:00 pm to 7:00 pm, Ink N Ivy

All students registered for the meeting are invited to gather at *Ink N Ivy* to get to know other

students prior to the Presidents' Reception. Beverages and light snacks will be provided. This students-only event is open to all students who are registered for the meeting.

Presidents' Reception:

Monday, July 18, 7:00 pm to 9:00 pm, Ink N Ivy

Join your APMS friends and colleagues at the Presidents' Reception to "kick-off" our annual meeting while enjoying southern style cuisine and beverages. The President's Reception is open to all registered delegates, guests, and students. Non-registered guests may purchase tickets at the meeting registration desk.

Past Presidents' Luncheon:

Tuesday, July 19, 12:00 pm to 1:30 pm, Dogwood

All APMS Past Presidents are invited to attend the Past Presidents' Luncheon to provide insight into matters facing APMS and aquatic plant managers. Ryan Wersal, Immediate Past President, will be the moderator. Please contact Ryan by noon Monday, July 18 to confirm your attendance.

Student Affairs Luncheon:
Tuesday, July 19, 12:00 pm to 1:30 pm, Magnolia
All students registered for the meeting are invited to attend. This luncheon, provided by our sponsors, is a great opportunity to meet other students, interact with guest speakers and APMS leadership, and learn how to become more involved in the Society. Sam Sardes, Student Affairs Committee Chair, will be the moderator. Please contact Sam by noon Monday, July 18 to confirm your attendance.

Poster Session Reception:

Tuesday, July 19th, 6:00 pm to 7:00 pm, Regency A&B.

Posters will be available for viewing from 8:00 am Monday to noon Wednesday in *Regency A&B.* Poster presenters will be on hand during the Evening Poster Reception on Tuesday, July 19th, 6:00 pm to 7:00 pm in Regency A&B.

Regional Chapters Presidents' Evening Discussion:

Tuesday, July 19, 6:00 pm to 7:00 pm, Azaela

Two representatives from each APMS regional chapter are invited to attend the Regional Chapter Presidents' Evening Discussion, provided by APMS sponsors. Regional Chapters Committee Chair Gray Turnage will be the moderator for discussions on aquatic plant management activities in each region. Please contact Gray by noon Monday, July 18 to confirm your attendance.

Women of Aquatics Luncheon:

Wednesday, July 20, noon to 1:30 pm, Magnolia

Amy Kay will host the APMS Women of Aquatics Luncheon to discuss opportunities for women in the field of aquatic plant management. Please contact Amy by noon Monday, July 18 to confirm

your attendance.

SCAPMS Duck Race:

Wednesday, July 20, 5:00 pm to 6:00 pm, Hyatt Regency Atrium

Guests are invited to participate in the South Carolina Aquatic Plant Management Society Duck Race to support student scholarship opportunities. Ducks will be sold at the registration desk throughout the meeting at $10 each.

Awards Reception/Banquet:

Wednesday, July 20, 6:00 pm to 10:00 pm, Studio 220 @ NOMA A

Registered delegates, guests and students are invited to the Awards Banquet to be held at Studio 220 in the hotel. After dinner, we will recognize those who have served APMS, welcome new officers and directors. SCAPMS will also recognize those who have served the hosting regional chapter. Our evening will conclude with a fund-raising raffle to support APMS student and other education initiatives.

APMS/SCAPMS Post-Conference Board of Directors Meetings:

Newly elected officers, directors, and committee members will attend the post-conference board of directors meeting. Members will be provided a web link for the meetings which will be held virtually following the conference.

Events-at-a-Glance

Sunday – July 17:

APMS Strategic Planning Session (*Crepe Myrtle*)

Monday – July 18:

APMS Board of Directors Meeting (*THINK TANK @ NOMA*)
Exhibits and Poster Setup (*Regency A&B*)
Registration (*Meeting Planning Room*)
Student Meet & Greet (*Ink N Ivy*)
Presidents' Reception (*Ink N Ivy*)

Tuesday – July 19:

Registration (*Meeting Planning Room*)
Continental Breakfast (*Regency A&B*)
Exhibits (*Regency A&B*)
Session 1 (*Regency C*)
Lunch on your own
Past Presidents' Luncheon (*Dogwood*)
Student Affair Luncheon *(Magnolia)*
Session 2 (*Regency C)*
APMS Annual Business Meeting
Regional Chapters Evening Discussion (*THINK TANK @ NOMA*)
Poster Session (*Regency A&B*)

Wednesday – July 20:

Registration (*Meeting Planning Room*)
Continental Breakfast (*Regency A&B*)
Exhibits (*Regency A&B)*
Session 3 (*Regency C*)
Lunch on your own
Women of Aquatics Luncheon (*Magnolia)*
Session 4 (*Regency C*)
SCAPMS Duck Race (*Hyatt Regency Atrium*)
APMS Awards Banquet Reception (*Studio 220 @ NOMA A*)
APMS Awards Banquet (*Studio 220 @ NOMA A*)

Thursday – July 21:

Registration (*Meeting Planning Room*)
Continental Breakfast (*Regency A&B*)
Exhibits (*Regency A&B)*
Session 5 (*Regency C*)
Conference Adjourns
Lunch on your own

Website/ Ed and Outreach Committee Reports

Joint Aquatic Sciences Meeting – Matt Johnson, Mark Heilman, Jay Ferrell, and Brett Hartis recently attended the Joint Aquatic Sciences meeting in Grand Rapids, Michigan. The team staffed a booth sponsored by Midwest APMS and APMS, fielding questions about the society and providing marketing and educational material to attendees. Conference attendance was estimated at around 4,000 over the span of a week, many with which the group was able to interface and provide information about both societies.

APMS and MAPMS also jointly put together a special symposium entitled "Status and Future Outlook for the Management of Invasive Aquatic Plants and Harmful Algae", which featured many speakers from the APMS membership. Speakers introduced the audience to the history, methodologies, and future of aquatic plant and algae management. This included a synopsis of various methods of control, discussions of integrated management strategies, and exploration of the wide-reaching impacts of invasive and/or noxious aquatic plants and algae to our nations water resources. The goal of the symposium was to stimulate discussion of shared interests among attendees.

Proposal Review Committee Report
Dr. Ryan Wersal

No report at this time.

Publications Committee Report
Dr. Ramon Leon

No report at this time.

APMS Annual Meeting 2022

Regional Chapters Committee – Gray Turnage

No report at this time.

6/16/2022

Scholastic Endowment Committee Report

Dr. Erika Haug

Committee Members: Erika Haug (Chair), Tom Warmouth, Sam Sardes, Ben Sperry and JJ Ferris (SCAPMS).

Zoom Meetings: 02-11-22, 02-23-22, 05-11-22, 6-30-22

The Scholastic Endowment Committee (SEC) met several times during the spring to discuss the best plans for sponsorship and fund-raising efforts. The SEC decided on a bucket raffle based on previous successful fundraising efforts by members. In keeping with SCAPMS tradition, the committee wanted to encourage attendance at the sessions. To facilitate this, a ticket will be placed in each badge of registered attendees. At the beginning of each session, one ticket will be drawn and the winner will receive 1-3 free raffle tickets for the bucket raffle. If after three draws we still do not have a winner, we will forego the winner for that session.

The exhibits committee provided a list of current and previous exhibitors to contact for sponsorship. Sponsors were contacted by Tom and JJ. Sponsors donated $200 each. A total of $4,400 was raised for the endowment and raffle. The committee met recently to solidify the list of raffle prizes to purchase. Several items were ordered on July 1 with the help of the finance committee. The remainder will be purchased in person on July 5 by the SEC and finance committee. Bill Torrez and Dean Jones have arranged for a sign to be printed with sponsor names to be displayed at the raffle table. Raffle tickets will be $5 each. SCAPMS has leant APMS 10 acrylic ticket boxes.

JJ Ferris and Brett Hartis arranged for a Golf Tournament on Monday July 18th at a par three course, 3's GOLF & GRILL. The cost will be $50 and the proceeds from the tournament will go toward the Scholastic Endowment.

Strategic Planning Committee Report
Dr. Mark Heilman

Report will be provided after the Strategic Planning Session Sunday, July 17, 2022.

Student Affairs Committee Report
Sam Sardes

No report at this time

Special Representative Reports

AERF Report
Carlton Layne

No report at this time

July 18, 2022

To: Board of Directors of the Aquatic Plant Management Society (APMS)

From: Jeremy G. Slade

Subject: Report of the B.A.S.S. Special Representative

APMS participated in yet another successful Bass Anglers Sportsman Society (B.A.S.S.) Conservation Summit held in conjunction with the Bassmaster Classic fishing tournament in Greenville, South Carolina March 3-6, 2022. Friday morning March 4, 2022, Dr. Ben Sperry gave a great overview of top aquatic invasive species introductions (e.g., hydrilla, water hyacinth, milfoils, crested floating heart, etc.) including current status by species across the United States. Then Dr. Brett Hartis and I through the assistance North Carolina State University provided a small representative sample of aquatic plants commonly encountered by anglers. There was time for each of the participants to try and provide their "best guess" of what the species were and look at the variety and architecture types of the plants (submersed, floating, emergent). Then Brett gave the true identity of each species and the problems associated with them including management techniques. Brett also gave a great presentation about management of aquatic plants and how stakeholders like B.A.S.S. and the conservation directors can and should have a seat at the table on management decisions by agencies within their specific states. There was really good dialogue between the conservation directors and Drs. Sperry and Hartis continuing to solidify the strong relationship between APMS and B.A.S.S.

In the second day of the summit, various aquatic plant introduction (revegetation) projects were discussed from several state agencies (VA, NC, GA, AR) including one from Kansas that received the APMS-AERF-B.A.S.S. conservation grant for reintroducing water willow (B.A.S.S. news blast attached). Of particular interest in the part of the session was some guidelines developed for propagating eelgrass, even including how to garner funding and supplies prior to beginning the actual growing of the plants (document attached).

Figure 1. Dr. Brett Hartis presenting information about aquatics plants and their management.

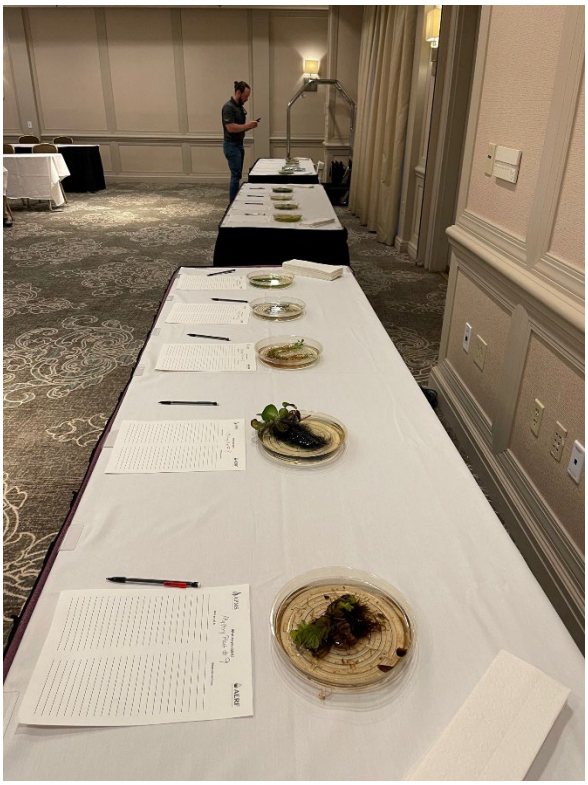


Figure 2. Dr. Brett Hartis setting up the plant identification workshop for the B.A.S.S. conservation directors.

Personally, I believe the relationship with APMS and B.A.S.S. has been a very productive and rewarding opportunity to showcase aquatic plant management and the reasoning behind it. Throughout the year various articles are published on the B.A.S.S. conservation page (https://www.bassmaster.com/conservation-news/) as well as their social media outlets (i.e., Facebook). Please visit the social media page to follow this supportive organization (https://www.facebook.com/groups/bassconservation).

2023 will be the year to fund the co-sponsored grant between APMS and B.A.S.S. I would like to make a motion to continue to support this initiative at the $1500 level.

Respectfully submitted,

Jeremy Slade

Jeremy Slade

Cc: B.A.S.S. Conservation Summit Agenda, B.A.S.S. mini grant news blast, VA Conservation eel grass document

B.A.S.S. Conservation Summit

presented by AFTCO

March 4th-6th 2022, in conjunction with the Academy Sports + Outdoors Bassmaster Classic presented by Huk, Hilton Greenville, 45 W. Orchard Park Drive, Greenville, SC

Friday Morning, March 4th Palmetto Ballroom

- 7:30 am Registration
- 8:00 am Introductions
- 8:30 am Grants, grants, and more grants
    - Jeff Boxrucker – Friends of Reservoirs & NFHP √
    - Gene Gilliland – AFTCO, BFHOF, APMS √
- 9:00 am Invasive species update
    - Ben Sperry UFL √

- 9:30 am Coffee Break sponsored by the Aquatic Plant Management Society

- 9:45 am Aquatic Plants – Plant ID Session
    - Bret Hartis Duke Energy √
    - Jeremy Slade APMS √
    - Q&A
- 11:15 am Chat with B.A.S.S. Leadership

Friday Lunch on your own

- 12:00 pm Board bus for Expo at Hilton front entrance

- 7:00 pm Board bus at Bons Secours Wellness Arena for return to Hilton*

Friday Evening Palmetto Ballroom

- 8:00 pm Reception sponsored by Mercury Marine & the Congressional Sportsmen's Foundation
    - Robert Boyle, SC DNR √
    - Chris Horton CSF √
    - SC Legislator Panel √

Saturday Morning March 5th Palmetto Ballroom

- 8:00 am Welcome & introductions, CDs and fisheries reps
- 8:15 am Aquatic plant introduction projects
    - Joan Blankenship VA BASS √
    - Corey Oakley NC WRA √
    - Scott Robinson GA DNR √
    - Bryan Sowards KS FGP √
    - Jeff Buckingham AR GFC √

Saturday March 5th (continued) Palmetto Ballroom

- 9:30 am Coffee Break sponsored by Mossback Fish Habitat

- 9:45 am Artificial Structures - Habitat is where it's at
  - Earl Conway NM BASS √
  - Dave Terre TX BASS √
  - Jake Davis TN BASS & Jason Henegar TN WRA √
  - Ben Page PA FBC √
  - Lee Mitchell USACE √
  - Bill Wilson CO BASS √
  - Bill Frazier NC BASS √
  - Stephen Jones FL FWC √
  - Q&A

Saturday Noon Luncheon – Palmetto Ballroom

- 12:00 pm Partner-with-a-Payer sponsored by Yamaha Rightwaters
  - Gabe Gries USFWS √
  - Ross Self SC DNR √
  - Gettys Brannon SCBFA √
  - Conner Bevan ASA √
- 1:00 pm Board bus for Expo at Hilton front entrance

- 7:00 pm Board bus at Bons Secours Wellness Arena for return to Hilton*

Saturday Evening Piedmont Ballroom (note room change)

- 8:00 pm Conservation Awards Banquet sponsored by AFTCO
  - Bill Shedd AFTCO √
  - 2022 Conservation Awards

Sunday Morning March 6th Palmetto Ballroom

- 8:00 am Websites & social media – bring laptops, tablets & cell phones
  - Kristin Coulter & Jessica Egan SC DNR √
- 10:00 am Web Content
  - Chris Mitchell Bassmaster.com √
- 10:15 am Working with local media, news releases
  - Emily Harley BASS √

- 10:30 am Coffee Break sponsored by the Aquatic Ecosystem Restoration Foundation

- 11:00 am Understanding angler values for better communication
  - Vic DiCenzo AR GFC √
- 11:45 am Summit Wrap-up

- 12:00 pm Grab-n-Go Box Lunch provided by the American Sportfishing Association.
  For those staying over Sunday night, board bus for Expo at Hilton front entrance

* Bus schedule subject to change. Announcements will be made during the sessions as necessary

BIRMINGHAM, Ala. — The Kansas B.A.S.S. Nation and the Leavenworth Bassmasters have been awarded the 2021 Aquatic Ecosystems Restoration Foundation (AERF) & Aquatic Plant Management Society (APMS) grant for a project designed to improve bass habitat in Kansas reservoirs.

The Kansas Department of Game, Fish & Parks (KDGFP) has identified a need to re-establish water willow in Hillsdale Lake, near Kansas City. The $3,000 AERF-APMS grant will make it possible to both purchase water willow and to possibly build a nursery to culture additional plants for this and future projects. Purchasing plants from commercial sources may be necessary initially to prevent the transfer of aquatic invasive species. Water willow is a very hardy plants that is relatively easy to establish and provides habitat for many micro- and macro-invertebrates which are food for juvenile sportfish like black bass. As the water willow beds mature, thicken, and spread, they make excellent shallow-water cover for adult bass as well. In addition to being good fish habitat, stands of water willow help hold bottom sediments, reducing erosion and turbidity caused by wave action.

Biologists from KDGFP have identified several areas on the lake shore where plantings will be the most beneficial. Volunteers for the Leavenworth Bassmasters and students from nearby Missouri State University will assist with the culture and planting.

About AERF-APMS: The Aquatic Ecosystem Restoration Foundation (www.aquatics.org) is a non-profit foundation committed to sustainable water resources through the science of aquatic ecosystem management, working with industry, academia, government, and other stakeholders. The Aquatic Plant Management Society (www.apms.org) is an international organization of scientists, educators, students, commercial pesticide applicators, administrators and concerned individuals interested in the management and study of aquatic plants. AERF and APMS are the longest standing B.A.S.S. Conservation partners, collaborating on the preservation and enhancement of fish habitat through the responsible management of aquatic vegetation and the control of invasive species for more than 25 years.

Vallisneria Americana Steps

Depending on your location and local state and Federal requirements start working on getting any needed permits to plant this grass.

STEP 1

APPLY FOR FUNDING **AFTCO IS THE SOURCE FOR THIS PROJECT**

FIND SOME SEED

REFRIGERATE IT

CREATE YOUR TEAM USING AS MANY PARTNERS AS YOU CAN FIND

Our team for this project: John Copeland VA DWR, Brooke Carver DWR asst,. Carley Paven-Ballard, Agriculture, Pulaski County High School,,,Laura Walters , FOCL, Joan Blankenship, VA BASS Nation.

STEP 2

PURCHASE YOUR SUPPLIES

BUILD YOUR GROW TANK ADDING LIGHT HEAT AND AERATION

FILL IT WITH EITHER LAKE WATER OR TAP WATER THAT HAS BEEN AERATED FOR AT LEAST 2 DAYS

STEP 3

MIX SEED WITH GARDEN SOIL IN A PASTE LIKE PEANUT BUTTER

PUT SEED MIX IN PLASTIC SEED STARTER POTS

SPREAD THIN LAYER OF COURSE SAND OVER GARDEN SOIL

CAREFULLY SUBMERGE POTS IN GROW TANK

- If Vallisneria is grown locally growing medium can be improved by matching substrate.

STEP 4

WAIT FOR IT TO START GROWING

IF ALGAE FORMS JUST REMOVE IT CAREFULLY

CHECK WATER pH IF PLANTS STOP GROWING

PLANTS SHOULD APPEAR WITHIN 14 TO 20 DAYs

LET IT GROW

IT CAN BE PLANTED AT THIS POINT BUT SURVIVAL GOES UP WHEN PLANT IS AT LEAST 2 FEET TALL. DEEPER TANKS WITH HIGHER FLOW THROUGH HELP. HARDER TO TRANSPORT BUT EASIER TO PLANT UNDER WATER.

Vallisneria Americana Basic Supply List

You can make this as big or small as you like.

Anything from a large plastic pan with a fish tank aerator pump to the large grow tanks that we use will work to start. Small projects are good for classrooms while large projects are good for lake and river restoration projects.

3	2x8x8 treated lumber
2	4x4x8 treated lumber
1	4 foot by 8 foot sheet of 3/8 inch treated plywood
1	box of 3 inch deck screws
1	roll of plastic liner 6 mil
1	670 GPH pond pump
1	pump filter box with filter
1	280 GPH pond pump
2	project Source Commander 40 gallon tote
1	300 Watt 169 gallon aquarium heater

Water Storage

4	32 gallon Heavy Duty Rubbermaid trash cans with lid
1	Ace Bond utility pump ½ HP

This is enough to create one tub

You will also need garden soil or native substrate and a bag of course sand. Do not use beach sand or play sand.

Final supply will be seed trays or large pots.

The grow tank can be made smaller or using many different configurations'. Some projects have used fish aquariums.

BASS VIRGINIA CONSERVATION

CAST Report
Lyn Gettys

No report at this time

NALMS Update
Terry McNabb, Chair

The NALMS annual meeting will be held in Minneapolis, MN November 14th through the 17th this fall. The theme is "Leveraging Experiences to Manage Diverse Lakes, Landscapes and People". In the past few years, NALMS has had informative sessions on Harmful Algae Bloom Management and Invasive Aquatic Plant Control. I get a similar benefit of attending this meeting as I do from APMS. We generally provide each other booth space at our meetings. We should consider organizing that for this meeting, there should be good attendance as it is in the land of 10,000 lakes.

Another key thing we would be aware of is that NALMS has started discussion with the US EPA on revitalizing and re-authorizing Section 314 of the Clean Water Act. This section in the past was one of three legs of the Clean Water Act. The point source program largely reduced point source pollution inputs to our nations waters, and unfortunately resulted in NPDES permits for the herbicide work we do. The Non-point program funds watershed studies and best management practices construction. Section 314 used to fund lake restoration studies and implementation of in lake strategies for corrective action. I worked on a number of these projects in the 1970's. Over time funding shifted to the non point source program, and over time there have been billions of dollars on watershed and non point source controls around lakes, with nothing changing in the lake. NALMS indicated that they are focusing the need for restoring this funding on HAB Programs and Invasive Aquatic Species. We need to have our Washington people track this and participate where it would benefit us.

RISE Report
Sam Barrick

No report at this time

Women of Aquatics Report

Amy Kay

No report at this time

WSSA Report
Dr. Rob Richardson

No report at this time

Science Policy Report
Lee Van Wychen

No report at this time.