

APMS / WAPMS Joint Annual Meeting – Pre-Final Agenda

Events-at-a-Glance

Sunday – July 14:

- APMS Board of Directors Meeting
- Exhibits and Poster Setup
- Registration
- Student Meet-and-Greet
- Presidents' Reception

Monday – July 15:

- Opening Remarks, General Sessions, Special Tribute to Mike Netherland
- Student Affairs Luncheon
- Regional Chapters Presidents' Luncheon
- Symposium - Delta Region Areawide Aquatic Weed Research Program
- General Session, Student Presentations
- APMS Annual Business Meeting
- WAPMS Annual Business Meeting
- Poster Session & Reception

Tuesday – July 16:

- General Session - Student Presentations
- APMS Past Presidents' Luncheon
- Women of Aquatics Luncheon
- Awards Reception
- Awards Banquet - APMS Awards Presentations

Wednesday – July 17:

- General Session
- Meeting Adjourns – 12:00 p.m.
- APMS Board of Directors Meeting

Agenda

Sunday, July 14

Sunday's Agenda-at-a-Glance

- 7:30 am - 5:00 pm APMS Board of Directors Meeting (*Courtyard II*)
- 12:00 pm - 5:00 pm Exhibits and Posters Setup (*Gallery*)
- 1:00 pm - 5:00 pm Registration (*Courtyard Foyer*)
- 5:00 pm - 6:00 pm Student Meet-and-Greet
- 6:00 pm - 9:00 pm President's Reception (*Wood Ranch Patio*)

Monday, July 15

Monday's Agenda-at-a-Glance

- 7:00 am - 8:00 am Continental Breakfast (*Gallery*)
- 7:00 am - 7:30 pm Exhibits and Posters Open (*Gallery*)
- 7:30 am - 5:00 pm Registration (*South Foyer*)
- 8:00 am - 11:30 am Session I – Opening Remarks, General Session, Special Tribute (*Great Room IV-VIII*)
- 10:00 am - 10:30 am Refreshment Break (*Gallery*)
- 11:30 am - 1:00 pm Lunch on your own
- 11:30 am - 1:00 pm Student Affairs Luncheon (*Courtyard II*)
- 11:30 am - 1:00 pm Regional Chapters Presidents' Luncheon (*Courtyard I*)
- 1:00 pm - 4:35 pm Session II - Symposium - Delta Region Areawide Aquatic Weed Research Project, General Session, Student Presentations (*Great Room IV-VIII*)
- 3:00 pm - 3:20 pm Refreshment Break (*Gallery*)
- 4:35 pm - 5:05 pm APMS Annual Business Meeting (*Great Room IV-VIII*)
- 5:05 pm - 5:35 pm WAPMS Annual Business Meeting (*Great Room IV-VIII*)
- 6:00 pm - 7:30 pm Poster Session and Reception (*Gallery*)

Session I – Opening Remarks, General Session, Special Tribute

8:00 am - 11:30 am

Great Room IV-VIII

Moderator: Mark Heilman – APMS President Elect

SePRO, Carmel, IN

- 8:00 am **Call to Order – Announcements and WAPMS Welcome**
Mark Heilman – APMS Program Committee Chair
SePRO, Carmel, IN

Andrea Sealock – WAPMS President
Cygnets Enterprises West, Concord, CA
- 8:05 am **APMS Presidential Address**
Craig Aguillard
Winfield United, Villa Platte, LA
- 8:15 am **Sustaining APMS and Chapter Successes: Changing Ecosystems Demand New Collaborative Solutions**
Lars W. Anderson
Waterweed Solutions, Davis, CA
- 8:40 am **Overview of Risk Assessments: Ecological Risk**
Jean Holmes
U.S. Environmental Protection Agency, Environmental Fate and Effects Division, Office of Pesticide Programs, Arlington, VA

9:00 am **Balancing Invasive Aquatic Plant Management and Environmental Regulation in the Sacramento-San Joaquin Delta (Delta)**
Wendy Pratt
Crowe LLP, Sacramento, CA

9:20 am **On Trial: How Science and Public Perception Are Determining Glyphosate's Future**
Michael S. Blankinship
Blankinship and Associates, Inc., Davis, CA

9:40 am **Lake Tahoe's Aquatic Invasive Species Prevention Program: Ten Years of Success and Planning for the Future**
Dennis Zabaglo
Tahoe Regional Planning Agency, Stateline, NV

10:00 am **Refreshment Break (Gallery)**

10:30 am **APMS SPECIAL TRIBUTE: Michael D. Netherland – Scientist, Colleague, Friend**
The technical impact and special character of a unique career

Moderator: Mark Heilman – APMS President Elect

Contributors:

- Jason Ferrell** *University of Florida*
- Carole Lembi** *Purdue University (retired)*
- Kurt Getsinger** *U.S. Army ERDC - Aquatic Plant Control Research Program*
- Jeremy Slade** *UPL NA Inc.*
- Tyler Koschnick** *SePRO*
- Jeff Schardt** *Florida Fish and Wildlife Conservation Commission (retired)*
- Ryan Thum** *Montana State University*
- Rob Richardson** *North Carolina State University*
- John Madsen** *U.S. Department of Agriculture*

11:30 am **Morning Wrap-up and Announcements - Lunch on your own**

Session II – Symposium - Delta Region Areawide Aquatic Weed Research Project, General Session, Student Presentations

1:00 pm – 4:35 pm
Great Room IV-VIII

Moderator: John Madsen

U.S. Department of Agriculture-Agricultural Research Service, Davis, CA

1:00 pm **An Overview of the Delta Region Areawide Aquatic Weed Project for Improved Control of Invasive Aquatic Weeds in the Sacramento-San Joaquin Delta**
Patrick J. Moran¹, Louise Conrad², Thomas Jabusch³, John D. Madsen⁴, and Paul Pratt¹
¹U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Albany, CA
²Delta Stewardship Council, Sacramento, CA
³Sacramento-San Joaquin Delta Conservancy, West Sacramento, CA
⁴U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA

1:20 pm **Phenology of Three Invasive Aquatic Weeds in the Delta**
John D. Madsen, Christy M. Morgan, John Miskella
U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA

- 1:40 pm **Remote Sensing and Mapping of Floating Aquatic Vegetation in the Sacramento-San Joaquin River Delta**
David Bubenheim¹, Vanessa Genovese², Edward Hard³, and John D. Madsen⁴
¹*Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA*
²*California State University Monterey Bay, Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA*
³*California Department of Parks and Recreation, Division of Boating and Waterways, Sacramento, CA*
⁴*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA*
- 2:00 pm **Biological Control of Invasive Aquatic Plants in the California Delta: Past, Present, and Future**
Michael Pitcairn¹, Patrick J. Moran², Paul Pratt², Angelica M. Reddy², and Jon O'Brien³
¹*California Department of Food and Agriculture, Sacramento, CA*
²*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Albany, CA*
³*California Department of Parks and Recreation, Division of Boating and Waterways, Sacramento, CA*
- 2:20 pm **Operational Aquatic Invasive Plant Management in the Delta**
Jeffery Caudill¹, Edward Hard¹, John D. Madsen²
¹*California Department of Parks and Recreation, Division of Boating and Waterways, Sacramento, CA*
²*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA*
- 2:40 pm **Bio-economic Model of Delta Weed Management**
Karen M. Jetter¹, John D. Madsen², David Bubenheim³, Minghua Zhang⁴
¹*University of California, Agricultural Issues Center, Davis, CA*
²*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA*
³*Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA*
⁴*University of California-Davis, Land, Air and Water Resources, Davis, CA*
- 3:00 pm **Refreshment Break (Gallery)**
- 3:20 pm **Platinum Level Sponsor Presentation – UPL NA Inc**
- 3:30 pm **Gold Level Sponsor Presentation – Syngenta**
- 3:35 pm **The Effects of Invasive Aquatic Weeds on Larval Mosquito Habitat (Student Presentation)**
Maribel A. Portilla and Sharon Lawler
University of California, Davis, Department of Entomology, Davis, CA
- 3:55 pm **Non-Target Impacts of Hydrilla and Lyngbya treatments on Waterwillow (Justicia americana) (Student Presentation)**
Jens Beets¹, Erika Haug², and Robert J. Richardson²
¹*North Carolina State University, Fisheries, Wildlife, and Conservation Biology/Crop Science, Raleigh, NC*
²*North Carolina State University, Crop and Soil Sciences, Raleigh, NC*
- 4:15 pm **Estimating Lyngbya wollei Biomass Using Non-destructive Echosounding Measures (Student Presentation)**
Andrew Howell, Tyler Harris, and Robert J. Richardson
North Carolina State University, Crop and Soil Sciences, Raleigh, NC
- 4:35 pm **APMS Annual Business Meeting (Great Room IV-VIII)**
- 5:05 pm **WAPMS Annual Business Meeting (Great Room IV-VIII)**
- 6:00 pm **Poster Session and Reception (Gallery)**

Poster Session

6:00 pm - 7:30 pm

Gallery

Systematic Identification and Ecology of *Chara* (Charales) in Stormwater Treatment Areas of South Florida: A Preliminary Study (Student Presentation)

Maximiliano Barbosa¹, David E. Berthold¹, Forrest Lefler¹, Eric Crawford², and H. Dail Laughinghouse¹

¹University of Florida, Agronomy Department, Fort Lauderdale Research and Education Center, Davie, FL

²South Florida Water Management District, West Palm Beach, FL

Can Phoslock® Be Used to Bind and Sediment Microcystin-LR in Aquatic Systems? (Student Presentation)

David E. Berthold¹, Forrest Lefler¹, West M. Bishop², and H. Dail Laughinghouse¹

¹University of Florida, Agronomy Department, Fort Lauderdale Research and Education Center, Davie, FL

²SePRO Research and Technology Campus, Whitakers, NC

Air and Water Temperature Relationship and Growth of Hyacinth and Primrose

David Bubenheim¹, Greg Schlick², David Wilson², and John D. Madsen³

¹Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA

²Bay Area Environmental Research Institute, Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA

³U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA

Growth Response of Water Hyacinth to Environmental Ranges in the California Sacramento-San Joaquin River Delta

David Bubenheim¹, Greg Schlick², David Wilson², and John D. Madsen³

¹Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA

²Bay Area Environmental Research Institute, Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA

³U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA

Sediment Copper Concentrations, *in situ* Benthic Abundance, and Sediment Toxicity: Comparison of Coves Treated with Copper-Based Algaecides and Untreated Coves in a Southern Reservoir (Student Presentation)

Tyler Geer¹, Andrew McQueen², Alyssa Calomeni³, Ciera K. Baird⁴, Kyla I. Wood⁵, and John H. Rodgers¹

¹Clemson University, Department of Forestry and Environmental Conservation, Clemson, SC

²U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

³EA Engineering, Science, and Technology, Inc., PBC, Hunt Valley, MD

⁴Aquatic Control Inc., Seymour, IN

⁵Applied Polymer Systems, Inc., Marquette, MI

Evaluations of Algaecide Efficacy on North American Cultures of Cyanobacteria: Construction of a Decision Support Tool for Rapid Response

Christopher R. Grasso¹, Kaytee L. Pokrzywinski², Bradley T. Sartain², and Kurt D. Getsinger²

¹Oak Ridge Institute for Science and Education, Oak Ridge Associated Universities, Vicksburg, MS

²U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

An Update on the Development of Hydrilla Biological Control in the U.S.

Nathan E. Harms¹, Dean Williams², Matthew Purcell³, Al Cofrancesco⁴, Jialiang Zhang⁵, Hong Sun-Hee⁶, and Graham McCulloch⁷

¹U.S. Army Engineer Research and Development Center, Aquatic Ecology and Invasive Species Branch, Vicksburg, MS

²Texas Christian University, Department of Biology, Fort Worth, TX

³Commonwealth Scientific and Industrial Research Organisation, Brisbane, Australia

⁴U.S. Army Engineer Research and Development Center, Vicksburg, MS

⁵Wuhan Botanical Institute, Invasion Biology and Biocontrol Lab, Wuhan, Peoples Republic

⁶HanKyong National University, Anseong, South Korea

⁷The University of Queensland, School of Biological Sciences, Saint Lucia, Australia

Increased Ploidy is not Associated with Higher Phenotypic Plasticity in Response to N and P in the Wetland Invader, *Butomus umbellatus* L.

Nathan E. Harms¹, John Gaskin², James T. Cronin³, and Ashton B. DeRossette¹

¹*U.S. Army Engineer Research and Development Center, Aquatic Ecology and Invasive Species Branch, Vicksburg, MS*

²*U.S. Department of Agriculture, Agricultural Research Service, Sidney, MT*

³*Louisiana State University, Biological Sciences, Baton Rouge, LA*

Herbicide Concentration Exposure Time Evaluations for Loon Lake, WA: Invasive Watermilfoil Genotypes

Erika Haug¹, Kurt D. Getsinger², Ryan Thum³, Terry M. McNabb⁴, Steve T. Hoyle¹, and Robert J. Richardson¹

¹*North Carolina State University, Crop and Soil Sciences, Raleigh, NC*

²*U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS*

³*Montana State University, Bozeman, MT*

⁴*AquaTechnex, LLC, Bellingham, WA*

Successful Eradication of Monoecious Hydrilla from a Northern Indiana Lake

Mark A. Heilman¹, Eric D. Fischer², Doug Keller², J.T. Gravelle³, Nathan Long⁴, David Keister⁵, and Tyler J. Koschnick¹

¹*SePRO, Carmel, IN*

²*Indiana Department of Natural Resources, Indianapolis, IN*

³*SePRO, Traverse City, MI*

⁴*Aquatic Control, Inc., Seymour, IN*

⁵*Aquatic Weed Control, Inc., Goshen, IN*

Establishment of Aquatic Macrophytes in Mission District of the San Antonio River

Jeffrey T. Hutchinson

University of Texas at San Antonio, Department of Environmental Science and Ecology, San Antonio, TX

The Cost of Invasive Weed Management in the California Bay-Delta, 2013 – 2018

Karen M. Jetter

University of California, Agricultural Issues Center, Davis, CA

Aquatic Plant Community Restoration Following the Long-term Control of Invasive *Egeria densa* with Fluridone Treatments

Ajay R. Jones¹, Jeffery Caudill², John D. Madsen³, Lars Anderson⁴, Patricia Gilbert², Scott Shuler⁵, and Mark A. Heilman⁵

¹*SePRO, Elk Grove, CA*

²*California Department of Parks and Recreation, Division of Boating and Waterways, Sacramento, CA*

³*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA*

⁴*Waterweed Solutions, Davis, CA*

⁵*SePRO, Carmel, IN*

New Chemicals and Tank Mixes for Control of Waterhyacinth in the Sacramento-San Joaquin Delta

Guy B. Kyser¹, John D. Madsen², John Miskella², and Jon O'Brien³

¹*University of California, Plant Sciences, Davis, CA*

²*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA*

³*California Department of Parks and Recreation, Division of Boating and Waterways, Sacramento, CA*

Herbicide Trials with Brazilian *Egeria* (*Egeria densa*) for Management in the Sacramento / San Joaquin River Delta

John D. Madsen¹, Christy M. Morgan¹, John Miskella¹, Guy B. Kyser², Patricia Gilbert³, Jon O'Brien³, and Kurt D. Getsinger⁴

¹*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA*

²*University of California, Davis, CA*

³*California Department of Parks and Recreation, Division of Boating and Waterways, Sacramento, CA*

⁴*U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS*

Effect of Herbicide Application on Dissolved Oxygen Dynamics under Canopies of Waterhyacinth (*Eichhornia crassipes*)

John Miskella¹, John D. Madsen¹, Angela Llaban², and Edward Hard³

¹U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA

²California Department of Fish and Wildlife, Sacramento, CA

³California Department of Parks and Recreation, Division of Boating and Waterways, Sacramento, CA

Release and Establishment of the Shoot-Galling Wasp *Tetramesa romana* and the Armored Scale *Rhizaspidiotus donacis* for Biological Control of Arundo (*Arundo donax*) in the Sacramento and San Joaquin River Watersheds of Northern California

Patrick J. Moran¹, Ellyn Bitume², and John Goolsby³

¹U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Albany, CA

²University of Hawaii and U.S. Department of Agriculture-U.S. Forest Service, Hilo, HI

³U.S. Department of Agriculture-Agricultural Research Service, Cattle Fever Tick Research Lab, Edinburg, TX

Water Temperature and the Growth of Spongeplant (*Limnobium laevigatum*)

Christy M. Morgan and John D. Madsen

U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA

Response of Algal Assemblage to Fertilizer (Nitrogen and Phosphorous) Application Rate in California Rice

Sara Ohadi¹, John D. Madsen², and Kassim Al-Khatib¹

¹University of California, Davis, CA

²U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit,

Interaction of Florpyrauxifen-benzyl with Four Herbicides for Curlyleaf Pondweed Control (Student Presentation)

Mirella F. Ortiz¹, Mark A. Heilman², and Franck E. Dayan¹

¹Colorado State University, Fort Collins, CO

²SePRO, Carmel, IN

Variation in Cool Temperature Performance Between Populations of *Neochetina eichhorniae* and Implications for the Biological Control of Water Hyacinth in a Temperate Climate

Angelica M. Reddy¹, Paul Pratt¹, Julie V. Hopper², Ximena Cibils-Stewart³, Guillermo Cabrera Walsh⁴, and Fernando McKay⁴

¹U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Albany, CA

²University of Southern California, Caron Lab, Los Angeles, CA

³Instituto Nacional de Investigación Agropecuaria, La Estanzuela, Uruguay

⁴Fundación para el Estudio de Especies Invasivas, Hurlingham, Argentina

Establishment of the Mike Netherland and Steve Hoyle Outstanding Aquatic Weed Science Graduate Student Award Endowment

Robert J. Richardson

North Carolina State University, Crop and Soil Sciences, Raleigh, NC

Metsulfuron Methyl as a Potential Control for Southern Naiad in Arkansas Baitfish Culture Ponds

George Selden

University of Arkansas at Pine Bluff, Aquaculture/Fisheries Center, Pine Bluff, AR

Digging Deep into the Benthic Layer: Factors Threatening Its Vital Role in Lake Ecosystems

Patrick A. Simmsgeiger

Diversified Waterscapes, Inc., Laguna Niguel, CA

Spatial and Temporal Patterns of Genetic Variation in Lakes with Eurasian and Hybrid Watermilfoil in the Upper Midwest

Ryan A. Thum¹, Greg Chorak¹, Ray Newman², Jasmine Eltawely²

¹Montana State University, Plant Sciences and Plant Pathology, Bozeman, MT

²University of Minnesota, Fisheries, Wildlife, and Conservation Biology, Saint Paul, MN

Torpedograss Control Via Submersed Applications of Systemic and Contact Herbicides (Student Presentation)

Lee G. Turnage¹, Ryan M. Wersal², and John D. Madsen³

¹Mississippi State University, Geosystems Research Institute, Starkville, MS

²Minnesota State University, Mankato, Biological Sciences, Mankato, MN

³U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA

Evaluation of Selected Algacides on *Lyngbya wollei* Control (Student Presentation)

Emily Vulgamore, Erika Haug, and Robert J. Richardson

North Carolina State University, Crop and Soil Sciences, Raleigh, NC

SWAT Modeling of Nitrogen Exports to the Bay-Delta from Sacramento and San Joaquin River Basins

Ruoyu Wang¹, Huajing Chen¹, David Bubenheim², Patrick J. Moran³, and Minghua Zhang¹

¹University of California-Davis, Land, Air and Water Resources, Davis, CA

²Biospheric Science Branch, Earth Science Division, NASA Ames Research Center, Moffett Field, CA

³U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Albany, CA

Florpyrauxifen-benzyl Impact on Non-target Emergent Aquatic Plants under Various Concentration Exposure Time Scenarios (Student Presentation)

Rachel A. Watson¹ and Christopher R. Mudge²

¹Louisiana State University, Department of Entomology, Baton Rouge, LA

²U.S. Army Engineer Research and Development Center, Environmental Laboratory, Baton Rouge, LA

Use of Copper EDA Granular for Hydrilla Control in Texas

Paul Westcott¹, Kelly Duffie², David Bass³, Bill Ratajczyk⁴, and Ryan M. Wersal⁵

¹Applied Biochemists, Phoenix, AZ

²Helena Agri-Enterprises, Cypress, TX

³Lower Colorado River Authority, Austin, TX

⁴Applied Biochemists, Reedsburg, WI

⁵Minnesota State University, Mankato, MN

Tuesday, July 16

Tuesday's Agenda-at-a-Glance

7:00 am	-	7:40 am	Continental Breakfast (<i>Gallery</i>)
7:00 am	-	5:00 pm	Exhibits and Posters Open (<i>Gallery</i>)
7:10 am	-	5:00 pm	Registration (<i>South Foyer</i>)
7:40 am	-	11:40 am	Session III – General Session and Student Presentations (<i>Great Room IV-VIII</i>)
10:00 am	-	10:20 am	Refreshment Break (<i>Gallery</i>)
11:40 am	-	1:10 pm	Lunch on your own
11:40 am	-	1:10 pm	Past Presidents' Luncheon (<i>Courtyard I</i>)
11:40 am	-	1:10 pm	Women of Aquatics Luncheon (<i>Loft II</i>)
1:10 pm	-	5:30 pm	Session IV – General Session and Student Presentations (<i>Great Room IV-VIII</i>)
2:50 pm	-	3:10 pm	Refreshment Break (<i>Gallery</i>)
6:15 pm	-	7:00 pm	Awards Reception (<i>Southwest Foyer</i>)
7:00 pm	-	10:00 pm	Awards Banquet (<i>Great Room</i>)
8:30 pm	-	10:00 pm	APMS Awards Presentations – Raffle (<i>Great Room</i>)

Session III – General Session and Student Presentations

7:40 am - 11:40 am

Great Room IV-VIII

Moderator: Marc Bellaud

SOLitude Lake Management, Shrewsbury, MA

- 7:40 am **Understanding How USACE Manages Plants, Mussels, and Research**
Jeremy Crossland
U.S. Army Corps of Engineers, Washington, D.C.
- 8:00 am **Understanding the Growth Requirements of the Invasive Macroalga *Nitellopsis obtusa* (Starry Stonewort) in a Controlled Environment: A Management Perspective**
Kaytee L. Pokrzywinski¹, Bradley T. Sartain¹, Michael Greer², Kurt D. Getsinger¹, Morris P. Fields¹, and Christopher R. Grasso³
¹*U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS*
²*U.S. Army Corps of Engineers, Buffalo District, Buffalo, NY*
³*Oak Ridge Institute for Science and Education, Oak Ridge Associated Universities, Vicksburg, MS*
- 8:20 am **Management of *Nitellopsis obtusa* (Starry Stonewort) in Lake Sylvia, Minnesota, Using a Copper-Based Algaecide (Student Presentation)**
Tyler Geer¹, John H. Rodgers¹, and Steve McComas²
¹*Clemson University, Department of Forestry and Environmental Conservation, Clemson, SC*
²*Blue Water Science, Saint Paul, MN*
- 8:40 am **Identifying Gene Expression Differences to Improve Adaptive Management Outcomes of Eurasian Watermilfoil (Student Presentation)**
Gregory M. Chorak and Ryan A. Thum
Montana State University, Plant Sciences and Plant Pathology, Bozeman, MT
- 9:00 am **Distribution of Eurasian (*Myriophyllum spicatum*) and Eurasian x Northern (*M. sibiricum*) Hybrid Watermilfoil in Minnesota**
Raymond M. Newman¹, Jasmine A. Eltawely¹, and Ryan A. Thum²
¹*University of Minnesota, Fisheries, Wildlife, and Conservation Biology, Minneapolis, MN*
²*Montana State University, Plant Sciences and Plant Pathology, Bozeman, MT*

- 9:20 am **2,4-D Amine and 2,4-D Butoxyethyl Ester Behavior in Eurasian and Hybrid Watermilfoil (Student Presentation)**
Mirella F. Ortiz¹, Marcelo de Figueiredo¹, Scott J. Nissen¹, Franck E. Dayan¹, Ryan M. Wersal², and William Ratajczyk³
¹Colorado State University, Fort Collins, CO
²Minnesota State University, Mankato, Biological Sciences, Mankato, MN
³Applied BioChemists, Alpharetta, GA
- 9:40 am **Learning to Control Hybrid Milfoils in the Pacific Northwest**
Terry M. McNabb
Aquatechnex, LLC, Bellingham, WA
- 10:00 am **Refreshment Break (Gallery)**
- 10:20 am **Responding Rapidly to Elodea - The First Freshwater Invasive Plant in Alaska**
John M. Morton
U.S. Fish and Wildlife Service, Kenai National Wildlife Refuge, Soldotna, AK
- 10:40 am **Eradication Economics for Freshwater Pest Plants**
Deborah E. Hofstra, Carla Muller, and Paul D. Champion
National Institute of Water and Atmospheric Research, Freshwater and Estuaries Centre, Hamilton, NZ
- 11:00 am **Beyond Park Boundaries: Early Detection and Rapid Response to *Hydrilla verticillata* in Ohio's Lake Erie Basin**
Mark J. Warman
Cleveland Metroparks, Natural Resources, Fairview Park, OH
- 11:20 am **Comparing Vegetative Propagule Sprouting Dynamics of Northern and Southern Populations of Dioecious *Hydrilla verticillata* in the United States (Student Presentation)**
Kara Foley, Ramon Leon-Gonzalez, Tyler Harris, and Robert J. Richardson
North Carolina State University, Crop and Soil Sciences, Raleigh, NC
- 11:40 am **Morning Wrap-up and Announcements - Lunch on your own**

Session IV – General Session and Student Presentations

1:10 pm - 5:30 pm

Great Room IV-VIII

Moderator: Amy Ferriter

Nutrien Solutions, Gainesville, FL

- 1:10 pm **Screening of Metsulfuron for Control of Giant Salvinia (Student Presentation)**
William J. Prevost¹ and Christopher R. Mudge²
¹Louisiana State University, School of Plant, Environmental, and Soil Sciences, Baton Rouge, LA
²U.S. Army Engineer Research and Development Center, Environmental Laboratory, Baton Rouge, LA
- 1:30 pm **Herbicide Studies for Brazilian Peppertree Control in Mangrove Communities**
Stephen F. Enloe¹, MacKenzie Bell², and Jessica L. Solomon²
¹University of Florida, Center for Aquatic and Invasive Plants, Gainesville, FL
²University of Florida, Agronomy Department, Gainesville, FL
- 1:50 pm **Multi-scale Brazilian Peppertree (*Schinus terebinthifolia*) Research from IPT Studies to Contractor Field Trials in South Florida (Student Presentation)**
Mackenzie E. Bell¹ and Stephen F. Enloe²
¹University of Florida, Agronomy Department, Gainesville, FL
²University of Florida, Center for Aquatic and Invasive Plants, Gainesville, FL

- 2:10 pm **Effects of Grass-specific Herbicides on Twelve Grass Species in Florida (Student Presentation)**
Kaitlyn H. Quincy¹ and Stephen F. Enloe²
¹University of Florida, Agronomy Department, Gainesville, FL
²University of Florida, Center for Aquatic and Invasive Plants, Gainesville, FL
- 2:30 pm **Evaluation of New Herbicide Technologies for the Management of Old World Climbing Fern (*Lygodium microphyllum*) on Tree Islands of the Everglades (Student Presentation)**
Jonathan S. Glueckert¹ and Stephen F. Enloe²
¹University of Florida, Center for Aquatic and Invasive Plants, Boynton Beach, FL
²University of Florida, Center for Aquatic and Invasive Plants, Gainesville, FL
- 2:50 pm **Refreshment Break (Gallery)**
- 3:10 pm **Selective Control of Flowering Rush in Mesocosms and Field Sites (Student Presentation)**
Lee G. Turnage¹, John D. Madsen², Ryan M. Wersal³, John D. Byrd⁴, Brent Alcott⁵, and Tera Guetter⁵
¹Mississippi State University, Geosystems Research Institute, Starkville, MS
²U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA
³Minnesota State University, Mankato, Biological Sciences, Mankato, MN
⁴Mississippi State University, Plant and Soil Sciences, Starkville, MS
⁵Pelican River Watershed District, Detroit Lakes, MN
- 3:30 pm **Flowering Rush Biocontrol Research Progress**
Jenifer Parsons¹, Jennifer Andreas², Harriet L. Hinz³, Patrick Haefliger³, and Peter Rice⁴
¹Washington Department of Ecology, Yakima, WA
²Washington State University, Puyallup, WA
³Centre for Agriculture and Bioscience International, Delemont, Switzerland
⁴University of Montana, Missoula, MT
- 3:50 pm **Evaluation of Endothall Alone and Pre-mixed with Diquat for Flowering Rush Control (Student Presentation)**
Giuliana Piccirilli Soufia, Mirella F. Ortiz, and Scott J. Nissen
Colorado State University, Fort Collins, CO
- 4:10 pm **Flowering Rush Control in Hydrodynamic Systems: Water Exchange Processes and Herbicide Contact Time**
Bradley T. Sartain¹, Kurt D. Getsinger¹, Damian J. Walter², John D. Madsen³, Shayne Levoy⁴, and Terry M. McNabb⁵
¹U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
²U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, WA
³U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA
⁴Canadianpond.ca, Knowlton, QC, Canada
⁵AquaTechnex, LLC, Bellingham, WA
- 4:30 pm **Sequential Dry Substrate/Foliar Herbicide Applications for Suppression of Flowering Rush**
Peter M. Rice¹, Virgil Dupuis², and Ian McRyhew²
¹University of Montana, Division of Biological Sciences, Missoula, MT
²Salish Kootenai College, Pablo, MT
- 4:50 pm **Managing Aquatic Plants and Algae in Irrigation Canals with Endothall - The First Ten Years**
Cory Greer¹ and Robert C. Smith²
¹UPL NA Inc., King of Prussia, PA
²UPL NA Inc., Meridian, ID

- 5:10 pm **Flumigard™ (ai: flumioxazin): A Novel Chemistry for Pre-Emergent Canal Treatments**
Andrew Z. Skibo¹, Carl Della Torre III², Terry Corbett³
¹Alligare LLC, Aquatics - Pacific Northwest District, Missoula, MT
²Orion Solutions LLC, Birmingham, AL
³Lower Neches Valley Authority, Environmental Stewardship, Beaumont, TX
- 5:30 pm **Afternoon Wrap-up and Announcements**
- 6:15 pm **Awards Reception** (*Southwest Foyer – Outside Great Room*)
- 7:00 pm **Awards Banquet** (*Great Room*)
- 10:00 pm **Adjourn Awards Banquet**

Wednesday, July 17

Wednesday's Agenda-at-a-Glance

- 7:00 am - 8:00 am Continental Breakfast (*Gallery*)
7:00 am - 10:00 pm Exhibits and Posters Open (*Gallery*)
7:30 am - 12:00 pm Registration (*South Foyer*)
8:00 am - 12:00 pm Session V – General Session (*Great Room IV-VIII*)
9:40 am - 10:00 am Refreshment Break (*Gallery*)
12:00 pm - 12:10 pm Closing Remarks - Wrap-up and Adjourn 59th Annual Meeting
12:45 pm - 1:30 pm APMS Board of Directors Lunch (*Shutter East I & II*)
1:30 pm - 5:00 pm APMS Board of Directors Meeting (*Shutter East I & II*)

Session V – General Session

8:00 am - 12:00 pm
Great Room IV-VIII

Moderator: Amy Kay

Clean Lakes Midwest, Oakwood Hills, IL

- 8:00 am **A Comparative Review of Management Tactics for HABs**
John H. Rodgers and Tyler Geer
Clemson University, Department of Forestry and Environmental Conservation, Clemson, SC
- 8:20 am **Managing Urban Lakes with *Prymnesium parvum* (Golden Algae) Infestations**
Frederick Amalfi and Zachary Hache
Aquatic Consulting and Testing, Inc., Tempe, AZ
- 8:40 am **Accurate Risk Assessment of Copper-Based Algaecides**
West M. Bishop
SePRO Research and Technology Campus, Whitakers, NC
- 9:00 am **Line Vs. Point Aeration Designs: A Cost-Benefit Analysis**
Patrick Goodwin
Aquatic Systems Inc., Pompano Beach, FL
- 9:20 am **Evaluating Herbicide Efficacy on Floating Aquatic Invaders**
Lyn A. Gettys, Kyle L. Thayer, Ian J. Markovich, Joseph W. Sigmon, and Mohsen Tootoonchi
University of Florida, Institute of Food and Agricultural Sciences, Fort Lauderdale Research and Education Center, Davie, FL

- 9:40 am **Refreshment Break** (*Gallery*)
- 10:00 am **Seasonal Variation in Growth, Biomass and Carbon Storage Allocation of *Ludwigia hexapetala* along Water Depth Gradients in the Russian River Watershed**
Brenda J. Grewell¹, Caryn J. Futrell¹, and Michael D. Netherland²
¹*U.S. Department of Agriculture-Agricultural Research Service, Invasive Species and Pollinator Health Research Unit, Davis, CA*
²*U.S. Army Engineer Research and Development Center, Environmental Laboratory, Gainesville, FL*
- 10:20 am **Interactions of *Hygrophila polysperma* and *Ludwigia repens* Grown in Saturated Soil and Shallow Water**
Jeffrey T. Hutchinson
University of Texas at San Antonio, Department of Environmental Science and Ecology, San Antonio, TX
- 10:40 am **Effective Removal of *Hygrophila polysperma* and Reintroduction of Native Aquatic Plants to Improve Habitat for an Endangered Fish Species: Results after Seven Years**
Casey R. Williams¹, Robert Doyle², Kristina Tolman³, and Kristy Kollaus³
¹*BIO-WEST, Inc., Ecology, San Marcos, TX*
²*Baylor University, Center for Reservoir and Aquatic Systems Research, Waco, TX*
³*Edwards Aquifer Authority, San Antonio, TX*
- 11:00 am **Aquatic Invasive Plants: Battle on a New Front for Alberta**
Nicole L. Kimmel and Grace M. Young
Alberta Environment and Parks, Edmonton, AB, Canada
- 11:20 am **Evaluation of Concentration and Exposure Time Requirements of Florpyrauxifen-benzyl for Managing Hydrilla and Hybrid Watermilfoil**
Christopher R. Mudge¹, Kurt D. Getsinger², Bradley T. Sartain², and Michael D. Netherland³
¹*U.S. Army Engineer Research and Development Center, Environmental Laboratory, Baton Rouge, LA*
²*U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS*
³*U.S. Army Engineer Research and Development Center, Environmental Laboratory, Gainesville, FL*
- 11:40 am **Field Demonstration of Hydrilla Management with Florpyrauxifen-benzyl**
Jason Ferrell¹, Dean Jones², Mark A. Heilman³, Kelly Gladding⁴, and James Leary¹
¹*University of Florida, Center for Aquatic and Invasive Plants, Gainesville, FL*
²*University of Florida, Center for Aquatic and Invasive Plants, Lake Alfred, FL*
³*SePRO, Carmel, IN*
⁴*SePRO, Edgewater, FL*
- 12:00 pm **Wrap-up and Adjourn 59th Annual Meeting**