

PROGRAM

FORTY-FIRST ANNUAL MEETING
"SPREADING THE KNOWLEDGE
THROUGH SCIENCE EDUCATION"

THE AQUATIC PLANT
MANAGEMENT SOCIETY, INC.



MARRIOTT CITY CENTER
MINNEAPOLIS, MINNESOTA U.S.A.
JULY 15-18, 2001

APMS BOARD OF DIRECTORS

2000 - 2001

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PROGRAM SUMMARY

SUNDAY, JULY 15, 2001

- 8:00 am - 5:00 pm APMS Board of Directors Meeting (*Lake Nokomis, 8th Floor*)
- 8:00 am - 5:00 pm Exhibit Set-up (*Atrium, 4th Floor*)
- 8:00 am - 5:00 pm Poster Set-up (*Deer Lake and Elk Lake, 4th Floor*)
- 8:00 am - 5:00 pm Presenter's Slide Viewing (*Silver Lake, 4th Floor*)
- 1:00 pm - 5:00 pm Registration (*Atrium*)
- 7:00 pm - 9:00 pm President's Reception (*St. Croix, 6th Floor*)

MONDAY, JULY 16, 2001

- 8:00 am - 5:00 pm Registration (*Atrium, 4th Floor*)
- 8:00 am - 5:00 pm Exhibits (*Atrium, 4th Floor*)
- 8:00 am - 5:00 pm Posters (*Deer Lake and Elk Lake, 4th Floor*)
- 8:00 am - 5:00 pm Presenter's Slide Viewing (*Silver Lake, 4th Floor*)
- 8:00 am - 5:00 pm General Session - Sessions I, II, and III (*Ballrooms 3 and 4, 4th Floor*)
- 9:00 am - 2:00 pm Guest Tour and Luncheon (*Board Motorcoach in Front of Hotel*)
- 11:00 am - 11:45 am APMS Annual Business Meeting (*Ballrooms 3 and 4, 4th Floor*)
- 11:45 am - 1:00 pm AERF Luncheon and Meeting - AERF Members and Invited Guests (*Lafayette Bay, 8th Floor*)

TUESDAY, JULY 17, 2001

- 6:30 am - 8:00 am APMS Regional Chapters Presidents' Breakfast (*Lake Nokomis, 8th Floor*)
- 8:00 am - 5:00 pm Registration (*Atrium, 4th Floor*)
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- 8:00 am - 5:00 pm General Session - Sessions IV, V, VI, and VII (*Ballrooms 3 and 4, 4th Floor*)
- 12:00 pm - 1:45 pm Awards and Installation of Officers Luncheon (*Ballrooms 1 and 2, 4th Floor*)

WEDNESDAY, JULY 18, 2001

- 8:00 am - 5:00 pm Registration (*Atrium, 4th Floor*)
- 8:00 am - 5:00 pm Exhibits (*Atrium, 4th Floor*)
- 8:00 am - 5:00 pm Posters (*Deer Lake and Elk Lake, 4th Floor*)
- 8:00 am - 5:00 pm Presenter's Slide Viewing (*Silver Lake, 4th Floor*)
- 8:00 am - 4:00 pm General Session - Sessions VIII, IX, and X (*Ballrooms 3 and 4, 4th Floor*)
- 4:15 pm - 5:30 pm APCRP Review - Corps of Engineers Representatives Only (*Lake Nokomis, 8th Floor*)
- 5:30 pm - 10:00 pm Banquet / Mississippi River Cruise (*Board Motorcoach in Front of Hotel*)

THURSDAY, JULY 19, 2001

- 8:00 am - 12:00 pm APMS Board of Directors Meeting (*Lake Nokomis, 8th Floor*)
- 8:30 am - 1:30 pm Field Trip of the Minneapolis Chain of Lakes (*Board Motorcoach in Front of Hotel*)

The Program was developed from the best information available at the time of printing. Please bring any omissions or errors to the attention of David Tarver, Program Chair. Thank you for your understanding.

SPECIAL FUNCTIONS

President's Reception

Sunday, July 15, 7:00 p.m. – 9:00 p.m., St. Croix Room on the 6th Floor

The APMS cordially invites all registered delegates, guests, and student paper competition participants to the President's Reception, graciously sponsored by Griffin Corporation. Non-registered guests and regular students may purchase tickets at the registration desk. Enjoy a casual gathering visiting with old friends and meeting new friends, while savoring delicious hors d'oeuvres and your favorite beverage.

Guest Tour and Luncheon

Monday, July 16, 9:00 a.m. – 2:00 p.m., board motorcoach in front of Marriott City Center

The APMS cordially invites all registered guests to the Guest Tour and Luncheon, graciously sponsored by Applied Biochemists. Non-registered guests may purchase tickets at the registration desk. Enjoy a guided tour featuring the Minneapolis and St. Paul downtown areas, Guthrie Theater/Walker Art Center, mansion-lined Summit Avenue, the State Capitol, the mighty Mississippi River, Minneapolis' famed chain of lakes, and the University of Minnesota. Tour stops will be made at the Minneapolis Sculpture Garden, Minnehaha Falls, and the Cathedral of St. Paul. The tour will be complemented with lunch at Forepaugh's restaurant, a restored Victorian home serving traditional French and American cuisine.

APMS Regional Chapters Presidents' Breakfast

Tuesday, July 17, 6:30 a.m. – 8:00 a.m., Lake Nokomis on the 8th Floor

Two representatives from each APMS regional chapter are invited to attend this breakfast. Richard Hinterman, APMS Vice President and Regional Chapters Committee Chair will be the moderator for discussions on aquatic plant management activities within each region.

Awards and Installation of Officers Luncheon

Tuesday, July 17, 12:00 p.m. – 1:45 p.m., Ballrooms 1 and 2 on the 4th Floor

The APMS cordially invites all registered delegates, guests, and student paper competition participants to the Awards and Installation of Officers Luncheon, graciously sponsored by Syngenta Professional Products. Non-registered guests and regular students may purchase tickets at the registration desk. After an excellent lunch, we will recognize those who have served and contributed to the society, welcome new officers and directors, and present awards to the student paper participants.

Banquet / Mississippi River Cruise

Wednesday, July 18, 5:30 p.m. – 10:00 p.m., board motorcoach in front of Marriott City Center

The APMS cordially invites all registered delegates, guests, and student paper competition participants to the Banquet and Mississippi River Cruise, graciously sponsored by SePRO Corporation. Non-registered guests and regular students may purchase tickets at the registration desk. Recapture the thrill of a river cruise on a stern wheel paddleboat. We will travel through the Upper St. Anthony Falls Lock, which is the northern most lock and deepest (descent of 50 feet) of the 29 locks on the Mississippi River. In addition, the cruise will feature spectacular views of the Minneapolis skyline, St. Anthony Falls, and the Old Stone Arch Bridge. After an exceptional dinner the evening will be highlighted with the Scholastic Endowment drawing. The Grand Prize, graciously sponsored by Cygnet Enterprises, Inc., is a choice of either a trip to Cozumel or Puerto Vallarta, Mexico. In addition, two other prizes will be given away, a trip to Cancun, Mexico, and a Benelli Super Black Eagle 12 gauge shotgun, graciously sponsored by Professional Lake Management and Syngenta Professional Products, respectively.

Field Trip of the Minneapolis Chain of Lakes

Thursday, July 19, 8:30 a.m. – 1:30 p.m., board motorcoach in front of Marriott City Center

Participation is limited to the first 47 who register and pay the \$35.00 fee by 10:00 a.m., Monday, July 16. A guided tour of the intensively used and managed Minneapolis Chain of Lakes will feature nutrient management (street sweeping, education, grit chambers, wetlands, goose removal, alum treatments), bank and shoreline management, and macrophyte (Eurasian watermilfoil) management. A box lunch will be served before returning to the hotel.

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- 11:45 am - 1:00 am AERF Luncheon and Meeting - AERF Members and Invited Guests (*Lafayette Bay*)

Session I: Plenary (*Ballrooms 3 and 4*)
Moderator: Jim Schmidt, APMS President

- 7:30 am **Continental Breakfast**
- 8:00 am Call to Order and Opening Announcements
Jim Schmidt, APMS President, David Tarver, Program Chair and President-Elect, Bob Gunkel, Local Arrangements Chair, and Tyler Koschnick, Scholastic Endowment Chair
- 8:15 am Presidential Address - The "Business" of Aquatic Plant Management - Why Do We Do What We Do?
Jim Schmidt, APMS President, Applied Biochemists, Germantown, WI
- 8:40 am APMS Regional Chapter Reports: Brazil, Florida, MidSouth, Midwest, Nile Basin, Northeast, South Carolina, Texas, Western
Selected Chapter Officer or Delegate
- 9:45 am National Invasive Species Management Plan - Roadmap to the Future?
Randall K. Stocker, UF/IFAS, Center for Aquatic and Invasive Plants, Gainesville, FL
- 10:00 am **Break**
- 10:15 am Update on Federal Liaison Activities, WSSA
Rob Hedberg, National and Regional Weed Science Societies, Washington, D.C.
- 10:30 am The Aquatic Ecosystem Restoration Foundation - Five Years of Progress
Michael D. Moore, AERF, Lansing, MI
- 10:45 am APMS Strategic Planning Committee Report
Lewis Decell, Strategic Planning Committee Chair
- 11:00 am - 11:45 am APMS Annual Business Meeting
- 11:45 am - 1:00 pm **Lunch**

Session II: More Regulations on the Way? (Ballrooms 3 and 4)

Moderator: Kurt Getsinger

- 1:00 pm Keynote Address - "I ain't never birthed no babies missy"
Carlton Layne, Region 4, Pesticides and Toxic Substances Branch, EPA Atlanta, GA
- 1:30 pm Talent Irrigation District Case - A Challenge to Aquatic Plant Management
Allen James, RIJE, Washington, D.C.
- 1:45 pm California's Waterhyacinth and *Egeria densa* Control Programs: Compliance with the National Pollution Discharge Elimination System (NPDES) Permit Requirements and U.S. Fish and Wildlife "Section Seven"
Lars W. J. Anderson, USDA-ARS Exotic and Invasive Weed Research, UC-Davis, CA, and **Patrick Thalkan**, California Dept. of Boating and Waterways
- 2:00 pm State and Federal Pesticide Regulatory Agencies - Their Roles and the Need for Communication
Paul Liemandt, Environmental Response and Enforcement Section, Agronomy and Plant Protection Division, MN Dept. of Agriculture, St. Paul, MN
- 2:15 pm - 3:00 pm **Panel Discussion** - Potential Impact of New Federal Regulations on Aquatic Plant Management
- 3:00 pm **Break**

Session III: Education and Outreach - Aquatic Plant Management Endeavors (Ballrooms 3 and 4)

Moderator: Heather Crawford

- 3:15 pm APMS Cooperative Elementary Education Project
Jeffrey D. Schardt, Florida Dept. of Environmental Protection, Tallahassee, FL
- 3:30 pm Our Plants, Their Plants, These Plants, Those Plants
Vic Ramey, UF/IFAS, Center for Aquatic and Invasive Plants, Gainesville, FL
- 3:45 pm MN DNR Aquatic Plants Education and Outreach
Michelle Bratager, MN DNR Ecological Services, St. Paul, MN
- 4:00 pm Invasive Aquatic and Wetland Weeds: The Educational Role of North Carolina Sea Grant
Stratford H. Kay and **Barbara A. Doll**, Crop Science Dept., North Carolina State University, Raleigh, NC
- 4:15 pm AQUAPLANT: A Web-Based Outreach Program for Management of Aquatic Vegetation
Michael P. Masser, Dept. of Wildlife and Fisheries Section, TAMUS, College Station, TX
- 4:30 pm Great Lakes Region's Information/Education Strategy for Nonindigenous Aquatic Nuisance Species
William (Jay) Rendall, MN DNR, St. Paul, MN
- 4:45 pm No One Way: Reaching Diffuse Target Audiences to Reduce the Spread of Invasive Aquatic
Heather Crawford, Connecticut Sea Grant Extension Program, New Haven, CT
- 5:00 pm **Adjourn**

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Session IV: Aquatic Ecological Studies (*Ballrooms 3 and 4*)

Moderator: R. Michael Smart

- 7:30 am **Continental Breakfast**
- 8:00 am **Does Fish Predation Limit Milfoil Weevil Populations? (Student Presentation)**
Darren M. Ward and Raymond M. Newman, University of Minnesota, Fisheries and Wildlife Department, St. Paul, MN
- 8:15 am Distribution of Cape Ivy, a South African Vine Threatening Riparian Zones of Coastal California
Joe Balciunas, USDA-ARS Exotic Weed Research Unit, Western Regional Research Center, Albany, CA, Elizabeth Grobbelaar, Plant Protection Research Institute, Biosystematics Division, South Africa, Ramona Robison, University of California, Weed Science Program, Davis, CA, and Stefan Naser, Plant Protection Research Institute, Biosystematics Division, South Africa
- 8:30 am *Euhrychiopsis lecontei* Attraction to Watermilfoil Exudates (Student Presentation)
Michelle D. Marko, Water Resources Science, University of Minnesota, Dept. of Fisheries and Wildlife, St. Paul, MN, Florence K. Gleason, Dept. of Plant Biology, University of Minnesota, St. Paul, MN, and Raymond M. Newman, Fisheries, Wildlife and Conservation Biology, University of Minnesota, St. Paul, MN
- 8:45 am Restoration of Native Vegetation in Lake Bellwood, Texas (WU 33084)
Gary O. Dick, University of North Texas, Institute of Applied Science, Denton, TX, R. Michael Smart, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, and Richard Ott, Texas Parks and Wildlife Dept., Tyler, TX
- 9:00 am Fish Population Recovery Following a Hydrilla Management Strategy in Lake Bellwood, Texas (WU 33186)
Richard Ott, Texas Parks and Wildlife Department, Tyler, TX
- 9:15 am Shoreline Restoration in Minnesota - Advances and Challenges
Jennifer S. Winkelman and Michael G. Halverson, MN DNR, Division of Fisheries, St. Paul,
- 9:30 am Allelopathic Studies Between the Red Tide Organism *Gymnodinium breve* and the Wild Green Alga *Nannochloris spp.* (Student Presentation)
Melissa L. Derby, Michael Galliano, Dean F. Martin, and Joseph J. Krzanowski, University of South Florida, Tampa, FL

9:45 am **Between a Dark and a Dry Place: Establishing Native Aquatic Plants in Turbid Reservoirs with Fluctuating Water Levels (WU 33084)**
R. Michael Smart, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, Gary O. Dick, University of North Texas, Institute of Applied Science, Denton, TX, Mark Webb, and Richard Ott, Texas Parks and Wildlife Dept., Tyler, TX

10:00 am **Break**

Session V: Federal, State, and Local Aquatic Plant Management Efforts (Ballrooms 3 and 4)
Moderator: Nancy Allen

10:15 am **Aquatic Plant Management on the St. Johns River**
Nancy Allen, U.S. Army Corps of Engineers, Jacksonville District, Jacksonville, FL

10:30 am **The Oregon Aquatic Nuisance Species Management Plan (Student Presentation)**
Erik D. Hanson and Mark Sytsma, Center for Lakes and Reservoirs, Environmental Sciences and Resources, Portland State University, Portland, OR

10:45 am **Aquatic Plant Management Regulation in Michigan**
Laura A. Esman, Dept. of Environmental Quality, Land and Water Management Division, Lansing, MI

11:00 am **Aquatic Plant Management in Minnesota**
Steve Enger, MN DNR, St. Paul, MN

11:15 am **Aquatic Plant Management in Iowa, 1993 to 2000**
Gary S. Philipps, Iowa Lakes Community College, Estherville, IA

11:30 am **Aquatic Plant Management and Protection in Wisconsin**
Frank J. Koshere, Aquatic Plant Management Statewide Coordinator, WI DNR, Superior, WI

11:45 am **Eurasian Watermilfoil in Minnesota: Where We've Been and Where We're Going**
Chip Welling, Coordinator, Eurasian Watermilfoil Program MN DNR, St. Paul, MN

12:00 pm - 1:45 pm **Lunch - Awards and Installation of Officers Luncheon (Ballrooms 1 and 2)**

Session VI: All About Aquatic Plants in the Midwest (Ballrooms 3 and 4)
Moderator: Chip Welling

1:45 pm **Biological Control of Purple Loosestrife in North America - An Emerging Success Story**
Luke Skinner, MN DNR, Division of Ecological Services, St. Paul, MN

2:00 pm **Control of Eurasian Watermilfoil Using Sonar Herbicide: Effects on Littoral and Pelagic Zone Foodwebs**
Mary T. Bremigan, K. S. Cheruvilil, S. M. Hanson, V. O. Moore, K. L. Rogers, P. A. Soranno, R. D. Valley, Michigan State University, Dept. of Fisheries and Wildlife, East Lansing, MI, and John D. Madsen, Minnesota State University, Dept. of Biological Sciences, Mankato, MN

- 2:15 pm **Fluridone Herbicide Use in Minnesota for the Control of Eurasian Watermilfoil**
Wendy Crowell, Aquatic Biologist, Exotic Species Program, MN DNR, Ecological Services, St. Paul, MN
- 2:30 pm **Causes of Invasion and the Development of Management Strategies for Hydrophytes in**
Susan M. Galatowitsch, University of Minnesota, Dept. of Horticultural Science, St. Paul, MN
- 2:45 pm **Managing Shallow Lakes and Deep-Lake Expectations**
Dick Osgood, Ecosystem Strategies, Shorewood, MN
- 3:00 pm **Break**
- Session VII: Select Biological Case Studies (Ballrooms 3 and 4)**
Moderator: David Spencer
- 3:15 pm **Mangrove Restoration for Sustainable Fish Pond Production: A Case Study in the Northern**
Coast of Java Island
T. Taufikurahman, Dept. of Biology, Institute Teknologi Bandung, Indonesia
- 3:30 pm **The Response of Largemouth Bass to Applications of Aquathol K in Lake Seminole, Georgia**
Michael J. Maceina, Auburn University, Dept. of Fisheries, Auburn University, AL
- 3:45 pm **Economic Value of Aquatic Vegetation to Fisheries: Economic Impact of Increased Aquatic**
Plants at Two Lakes (WU 33307)
Jim E. Henderson and James P. Kirk, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 4:00 pm **Shear Stress and Sediment Resuspension in Canopy- and Meadow-Forming Submersed**
Macrophyte Communities (WU 33128)
William F. James, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Eau Galle Aquatic Ecosystem Research-Facility, Spring Valley, WI, and John W. Barko, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 4:15 pm **Managing Curlyleaf Pondweed and Eurasian Watermilfoil Without Herbicides**
Steven McComas, Blue Water Science, St. Paul, MN
- 4:30 pm **Barley and Bacteria: What Have We Learned?**
Carole A. Lembi and Paul Wigginton, Purdue University, Dept. of Botany and Plant Pathology, W. Lafayette, IN
- 5:00 pm **Adjourn**

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4:15 pm - 5:30 pm APCRP Review - Corps of Engineers Representatives Only (*Lake Nokomis*)
5:30 pm - 10:00 pm Banquet / Mississippi River Cruise (*Board Motorcoach in Front of Hotel*)

Session VIII: Aquatic Herbicides and Surfactants - Chemical Studies (*Ballrooms 3 and 4*)

Moderator: Bill Haller

- 7:30 am **Continental Breakfast**
- 8:00 am New Approach to Long-Term Control of Curlyleaf Pondweed
John G. Skogerboe, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, and Angela G. Poovey, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 8:15 am Use of Plant Assay Techniques to Screen for Tolerance and to Improve Selection of Fluridone Use Rates
Michael D. Netherland, Brad Kiefer, SePRO Corporation, Carmel, IN, and Carole A. Lembi, Purdue University, W. Lafayette, IN
- 8:30 am Renovate: Finally in the EPA Cue and Under Review
Shaun Hyde, SePRO Corporation, Sacramento, CA, and David Tarver, SePRO Corporation, Tallahassee, FL
- 8:45 am Herbicide Evaluation Against Giant Salvinia
Linda S. Nelson, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and John G. Skogerboe, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX
- 9:00 am Herbicide Evaluation for Control of *Cabomba caroliniana* and Subsequent Impact on the Non-Target Species, *Megalodonta beckii* (WU 33199)
Linda S. Nelson, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, Anne B. Stewart, Dyntel Corporation, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and Kurt D. Getsinger, U.S. Army Engineer Research and Development Center, Environmental Laboratory,
- 9:15 am Polymers 2001
Stephen P. Brewer, Brewer International, Vero Beach, FL
- 9:30 am Surfactant Effects on Copper Herbicide Uptake in Submersed Weeds
Tyler Koschnick, University of Florida, Center for Aquatic and Invasive Plants, Gainesville, FL
- 9:45 am Herbicide Combinations and Interactions (WU 33304)
John G. Skogerboe, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, Angela G. Poovey, and Kurt D. Getsinger, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 10:00 am **Break**

- 10:15 am Concentration / Exposure Time Relationships for Fluridone to Control Eurasian Watermilfoil
Angela G. Poovey and Kurt D. Getsinger, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 10:30 am Levels of Fluridone in Interstitial (pore) Water at Clear Lake, CA Following Applications for Eradication of Monoecious Hydrilla (*Hydrilla verticillata*)
Lars W. J. Anderson and Chris Pirosko, USDA-ARS Exotic and Invasive Weed Research / Weed Science Program, Davis, CA
- 10:45 am Selective Control of Eurasian Watermilfoil Using Fluridone (WU 32841)
John G. Skogerboe, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, Angela Poovey, and **Kurt D. Getsinger**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 11:00 am Endothall Field Trials for the Control of Hydrilla and *Ceratophyllum* in New Zealand
Deborah E. Hofstra, P. D. Champion, and J. S. Clayton, National Institute of Water and Atmospheric Research, New Zealand
- 11:15 am Using Barrier Curtains to Isolate Eurasian Milfoil Treatment Areas During a Sonar Herbicide Application
Terry McNabb, AquaTechnex, Inc., Olympia, WA
- 11:30 am - 12:30 pm **Lunch**

Session IX: Quantification and Monitoring Aquatic Plants (Ballrooms 3 and 4)
Moderator: John Madsen

- 12:30 pm An Evaluation and Comparison of Methods for Estimating Whole Lake Submersed Macrophyte Occurrence and Abundance
Raymond M. Newman, Kerry L. Holmberg, and John L. Foley, Fisheries, Wildlife and Conservation Biology, University of Minnesota, St. Paul, MN
- 12:45 pm Upper Mississippi River Aquatic Plant Quantification for Natural Resource Management
Megan J. C. Moore, Mississippi River Station - MN DNR, Lake City, MN
- 1:00 pm Submersed Aquatic Vegetation Early Warning System (SAVEWS): Technology and Operational Status (WU 33118)
Bruce M. Sabol, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 1:15 pm Use of Remote Sensing and Hydroacoustic Approaches for Integrated Assessment of Submersed Aquatic Vegetation (WU 33127)
Mark A. Heilman, ReMetrix, LLC, Carmel, IN, R. Michael Stewart, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and D. M. Morgan, U.S. Army Corps of Engineers, Lake Seminole Resource Management Office, Chattahoochee, FL
- 1:30 pm Databases for Determining Long-Term Trends in Aquatic Plant Communities
Stanley A. Nichols, Wisconsin Geological and Natural History Survey, Madison, WI
- 1:45 pm Plant Quantification for Minnesota's Statewide Lake Assessment
Donna J. Perleberg, MN DNR, Division of Ecological Services, Brainerd, MN

- 2:00 pm Quantification of Aquatic Plants in Two Vermont Lakes for Evaluation of Whole-Lake Treatments with Fluridone
John D. Madsen, Minnesota State University, Dept. of Biological Sciences, Mankato, MN, R. Michael Stewart, Kurt D. Getsinger, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, Chetta S. Owens, Analytical Services, Inc., U.S. Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, and Holly A. Crosson, Vermont Dept. of Environmental Conservation, Waterbury, VT
- 2:15 pm **Break**
- Session X: Biological Aquatic Plant Control (Ballrooms 3 and 4)**
Moderator: Judy L. Shearer
- 2:30 pm Population Management of Triploid Grass Carp (WU 33200)
James P. Kirk, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 2:45 pm Impacts of *Hydrellia pakistanae* on the Growth and Photosynthetic Potential of *Hydrilla verticillata* (WU 33028, 33117, 33305)
Robert D. Doyle, University of North Texas, Denton, TX, Michael J. Grodowitz, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, Chetta S. Owens, Analytical Services, Inc., U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, and **R. Michael Smart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX
- 3:00 pm *Hydrellia pakistanae* and *H. balciunasi* - Insect Biological Control Agents of Hydrilla: Boom or Bust??? (WU 33028, 33117, 33305)
Michael J. Grodowitz, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS
- 3:15 pm Impact of *Euhrychiopsis lecontei* on Eurasian Watermilfoil (WU 33189)
Alfred F. Cofrancesco, Dwilette G. McFarland, Harvey L. Jones, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS and **John D. Madsen**, Minnesota State University, Dept. of Biological Sciences, Mankato, MN
- 3:30 pm Water Quality Impacts Following Hydrilla Control Using Triploid Grass Carp in the Santee Cooper Lakes, South Carolina
Robin Socha, U.S. Army Corps of Engineers, Charleston District, Charleston, SC, and **Steven de Kozlowski**, South Carolina Dept. of Natural Resources, Columbia, SC
- 3:45 pm Partnering to Develop an Endemic Fungal Pathogen as a Bioherbicide for Management of *Hydrilla verticillata* (WU 32863)
Judy F. Shearer, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and **Mark A. Jackson**, U.S. Dept. of Agriculture, Agricultural Research Service, National Center for Agricultural Utilization Research, Peoria, IL
- 4:00 pm **Adjourn Forty-First Annual Meeting**

THURSDAY, JULY 19, 2001

- 8:00 am - 12:00 pm APMS Board of Directors Meeting (*Lake Nokomis*)
8:30 am - 1:30 pm Field Trip of the Minneapolis Chain of Lakes (*Board Motorcoach in Front of Hotel*)

ALTERNATE SUBMITTED PAPERS

The Need for Retractable Fencing as a Goose Deterrent

Dick Steensland, Goose D-Fence, Division of Lake Restoration, Rogers, MN

An Update on the Status of *Salvinia molesta* in North Carolina

Stratford H. Kay, David DeMont, David T. Patterson, and Steve T. Hoyle
North Carolina State University, Crop Science Department, Raleigh, NC

HELP: Habitat Enhancement Lake Project

Sharon A. Wood, Science Educator, Marcus High School, LISD, Flower Mound, TX

NEXT YEAR

Keystone Resort, Colorado

July 21-24, 2002

POSTERS

Preliminary Investigations of Low Temperature Limits of *Salvinia molesta* in the United States

Chetta S. Owens, Analytical Services, Inc., U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, **R. Michael Smart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, and **R. Michael Stewart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Investigation of Aquatic Plant Fragment Dispersal in the San Marcos River Below Spring Lake, Texas (WU 33188)

Chetta S. Owens, Analytical Services, Inc., U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, **John D. Madsen**, Department of Biological Sciences, Minnesota State University, Mankato, MN, **R. Michael Smart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, and **R. Michael Stewart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Concepts for Modeling Competition Between Submersed Macrophyte Species (WU 33308)

Elly P. H. Best, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and **William F. James**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Eau Galle Aquatic Ecosystem Research Facility, Spring Valley, WI

Impacts of Sediment Dewatering and Reflooding on Emergence of Aquatic Plant Propagules (WU 33029, 33309)

Dwilette G. McFarland, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and **William F. James**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Eau Galle Aquatic Ecosystem Research Facility, Spring Valley, WI

Studies of Seed Germination in *Trapa natans* L. (Water Chestnut) with Emphasis on Impacts of Cold Stratification (WU 33029)

Dwilette G. McFarland, **R. Michael Stewart**, **David J. Rutland**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and **Annette M. Wessman**, Mevatec Corporation, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Direct and Indirect Impacts of Submersed Aquatic Vegetation on the Nutrient Budget of an Urban Oxbow Lake

William F. James, **Harry L. Eakin**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Eau Galle Aquatic Ecosystem Research Facility, Spring Valley, WI, and **John W. Barko**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Changes in Aquatic Sediment Characteristics Due to Desiccation: Implications of Submersed Aquatic Macrophyte Growth and Water Quality Conditions in Shallow Lakes (WU 33309)

William F. James, **Harry L. Eakin**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Eau Galle Aquatic Ecosystem Research Facility, Spring Valley, WI, and **John W. Barko**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Suspended Sediment Dynamics and Light Attenuation Characteristics in Peoria Lake: Can Submersed Macrophytes Improve Water Quality in This Shallow System? (WU 33128)

William F. James, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Eau Galle Aquatic Ecosystem Research Facility, Spring Valley, WI, **Elly P. H. Best**, and **John W. Barko**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Preliminary Evaluation of the Ecological Effects of Giant *Salvinia* (WU 33186)

David R. Honnell, University of North Texas, Institute of Applied Science, Denton TX, **R. Michael Smart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, and **Erin Tanski**, University of North Texas, Institute of Applied Science, Denton, TX

U.S. Army Corps of Engineers Aquatic Plant Control Research Program (WU 31577)

Robert C. Gunkel, Jr. and **John W. Barko**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Mass-Rearing *Hydrellia pakistanae* and *H. balciunasi*, Biological Control Agents of *Hydrilla verticillata*, Using Fish Hatchery Ponds (WU 33028)

Robin Bare, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, **Jan E. Freedman**, **Michael J. Grodowitz**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and **R. Michael Smart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX

Sensitive Area Survey – A Management Tool for Critical Habitat Protection

Carolyn Scholl and **Frank J. Koshere**, Wisconsin Department of Natural Resources, Superior, WI

Plant Quantification for Minnesota's Statewide Lake Assessment

Donna J. Perleberg, Minnesota Department of Natural Resources, Division of Ecological Services, St. Paul, MN

Current Status of Introduced *Hydrellia* spp. at Sixteen Southeast Field Sites Surveyed in 2000 (WU 33028)

Jan E. Freedman, **Harvey L. Jones**, **Michael J. Grodowitz**, and **Alfred F. Cofrancesco**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Endophytic Fungi Associated with *Myriophyllum spicatum* (WU 33306)

Judy F. Shearer, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Assessing Wild Rice (*Zizania palustris*) Productivity and the Factors Responsible for Decreased Yields on Rice Lake, Rice Lake National Wildlife Refuge, McGregor, MN

Tara L. Carson, University of Minnesota, Water Resources Science Graduate Student, St. Paul, MN

Interactive Effects of Water Depth and Propagule Type on Short-Term Establishment of American Waterwillow, *Justicia americana* (WU 33084)

Joe R. Snow and **Gary O. Dick**, University of North Texas, Institute of Applied Science, Denton, TX, **R. Michael Smart**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX

Integrating Fluridone with a Fungal Pathogen for Control of Eurasian Watermilfoil (WU 32953)

Linda S. Nelson and **Judy F. Shearer**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Preliminary Ecosystem Analysis of Experimental Ponds Vegetated with Native or Exotic Plant Species (WU 33186)

R. Michael Smart, **JoEtta Smith**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Lewisville Aquatic Ecosystem Research Facility, Lewisville, TX, **Gary O. Dick**, **David R. Honnell**, and **Joe R. Snow**, University of North Texas, Institute of Applied Science, Denton, TX

Technology Transfer for Invasive Species via Computer-Based Information Systems (WU 31557)

Sherry G. Whitaker, **Michael J. Grodowitz**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, **Lavon Jeffers**, **Sonya F. Lewis**, **Dyntel Corporation**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and **Alfred F. Cofrancesco**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Use of Hydroacoustic Survey Techniques to Quantify SAV Changes Following an Upstream Sonar Injection Treatment in Spring Creek, Lake Seminole, Georgia (WU 33127)

R. Michael Stewart, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS, and **Adam S. Way**, **Dyntel Corporation**, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

Changes in Plant Response to Aquatic Herbicides (WU 74001)

Kurt D. Getsinger, U.S. Army Engineer Research and Development Center, Environmental Laboratory, Vicksburg, MS

HELP: Habitat Enhancement Lake Project

Sharon A. Wood, Science Educator, Marcus High School, LISD, Flower Mound, TX

An Update on the Status of *Salvinia molesta* in North Carolina

Stratford H. Kay, David DeMont, David T. Patterson, and Steve T. Hoyle, North Carolina State University, Crop Science Department, Raleigh, NC

Development of a New Sonar* Aquatic Herbicide Pellet Formulation and Evaluation of Performance Characteristics

Mike Netherland, David Tarver, Brad Keifer, and **Mark Mongin**, SePRO, Carmel, IN

Genetic Diversity Among Brazilian Elodea Accessions From Sao Paulo State – Brazil by RAPD Analysis

Dagoberto Martins, Luciana R. Cardoso, Robson H. Tanaka, and Edson S. Mori, Sao Paulo State University – UNESP, Brazil

NOTES

SUSTAINING MEMBERS / EXHIBITORS

The following will be exhibiting their products and services at the Forty-First Annual Meeting. Please visit the exhibits on the 4th Floor Atrium.

Applied Biochemists

Aquarius Systems

Aquatic Control, Inc.

Aquatic Ecosystem Restoration Foundation

Becker Underwood, Inc.

Brewer International

Cerexagri, Inc.

Cygnnet Enterprises, Inc.

D&D Products

Griffin LLC

Lake Restoration, Inc.

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