



US Army Corps
of Engineers®

Stewardship

news

Volume 3, Issue 4: December 2020

YOUR Thoughts

We are looking for contributors and ideas .

✱ If you have a topic, success story, lesson learned, or helpful suggestion—let us know.

Send to: Tara.J.Whitsel@usace.army.mil

Stewardship News is an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced quarterly with the purpose of providing its readers information about the USACE Stewardship Program.

Editorial views and opinions expressed are not necessarily those of the Department of the Army.

Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.

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Your Stewardship HQ Update

POC: Roseana Burick, Environmental Stewardship Business Line Manager, 202-761-4988

As we roll into this new year of 2021, many of us are in a strange position of flux. How long will it take to get a COVID vaccine, when will I be headed back to the office, what will budgets look like in this new administration, and how can we keep visitors from overcrowding and degrading our project resources?

In January we will start preparing our FY23 Environmental Stewardship budget, and at least that hasn't changed from last year's budget development. We tried to keep things easy for the FY23 budget build knowing that for FY24 we will see changes. A small team has started working on the ENS version of "S3," which will be comparing Similar Activities, at Similar Projects, for Similar Costs. The team is currently looking at activities across the ENS program and will soon start looking at projects where those activities are similar. Then, the team will associate a range of costs for those activities. We'll use this information in the budget development process to help find outliers that may need to be evaluated. The team will be pulling in additional expertise and seeking input as needed. If you are interested in learning more, you may contact me.

I hope everyone has a wonderful holiday season, and I look forward to continuing this exciting work in the upcoming year!

Tioga-Hammond Lakes and the Endless Mountains Resource and Conservation District Work To Develop Riparian Buffers

POC: Molly Wilson, Tioga-Hammond & Cowanesque Lakes, 570-835-0112

A Memorandum of Understanding between Tioga-Hammond Lakes (USACE) and the Endless Mountains Resource and Conservation District (EMRCD) (non-profit group 501c3) was executed on October 28, 2020. The Pennsylvania Department of Conservation and Natural Resources awarded EMRCD a riparian grant for improving riparian buffers throughout the Tioga County Region. EMRCD awarded Tioga-Hammond Lakes a portion of the grant totaling \$36,000 dollars to purchase and install 900 native trees and 400 shrubs along a 6.5 acre long section of Hammond Lake with the utilization of a local vendor, Hale Forestry from Westfield, Pennsylvania.

The buffer along Hammond Lake is vitally needed due to the location having minimal tree and shrub coverage and erosion along the shore line. Riparian buffers provide erosion control, maximize water quality, and provide substantial benefits for the wildlife. The location was prepped for the riparian buffer plantings by Tioga-Hammond Project personnel the last week of October 2020 and plantings began on November 3, 2020. Preparation that took place included spraying invasive plant species with herbicide treatment and mechanically mowing the location. **Article continued on page 3. Photo: Hale Forestry plantings at Tioga –Hammond Lakes.**





Threatened and Endangered Species Team (TEST)

TEST works to accelerate the development of solutions for threatened and endangered species issues that will improve budget planning capabilities and operational flexibility to reduce future costs and adverse impacts to USACE mission execution.



These factsheets are intended to complement the Threatened and Endangered Species Team (TEST) initiative by highlighting unique project efforts and promote collaboration. For the NRM program, birds (both migratory and non-migratory) have been the first general taxa completed. These factsheets are available on the NRM Gateway.

If you are working on conservation efforts for a species, please share with us so we can in turn share with others. Over the next several months we will work to complete many of the additional taxa groups reported through the NRM Assessment. Please check back often for updates! POC to share species information is Tara Whitsel, Tara.J.Whitsel@usace.army.mil.



[Click here to access the TEST](#)



[Click here for factsheet access!](#)

USACE Natural Resource Management Migratory Birds



Least Bell's Vireo

REASONS FOR CURRENT STATUS: Least Bell's Vireo was listed as an endangered species wherever found in 1986. In the U.S. this species is only known to be found in California. Once one of California's most common birds, the dramatic decline of the species to only 300 pairs in 1986 was driven by both the loss of habitat and brood parasitism by the Brown-headed Cowbird.

MANAGEMENT AND PROTECTION: The Least Bell's Vireo is one of four subspecies of the Bell's Vireo species. The other three subspecies are not endangered.

Least Bell's Vireos are extremely vulnerable to cowbird parasitism. The Brown-headed Cowbird makes no nest of her own, but instead lays her eggs in the nests of other birds such as the vireo. In heavily parasitized areas, up to four cowbird eggs may be found in vireo nests.

The invasion of exotic plant species into the severely fragmented and degraded riparian habitat further decreases suitable nesting habitat. Invasive plants species found in Least Bell's Vireo habitat include castor bean, cocklebur, tamarisk, and giant reed to name a few.

HABITAT NEEDS: Least Bell's Vireo occupies dense shrub and small tree habitat along rivers and streams. California Partners in Flight Riparian Bird Conservation Plan identifies the following management needs:

- Preserve and enhance existing riparian habitat within the vireo historic range.
- Control exotic vegetation.
- Continue cowbird removal and/or develop alternative means of controlling cowbird parasitism.
- Management on a community level in order to reduce predation levels.

FAST FACTS

Height: Least Bell's Vireos are small birds. They are only 4.5 to 5 inches long.

Color: Wings are short and rounded, with feathers that are mostly gray above and pale below. They have a short, straight bill with a faint white eye ring.

Migration: Least Bell's Vireos winter in southern Mexico leaving summer habitat by September and returning in March.

Information and photos provided by USFWS, Cornell Lab, the Center for Biological Diversity, California Partners in Flight Riparian Bird Conservation Plan.

Natural Resource Management (NRM)

This fact sheet has been prepared as an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced to provide its readers information about best management practices related to special status species. Editorial views and opinions expressed are not necessarily those of the Department of the Army. Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.

USACE NATURAL RESOURCE MANAGEMENT
ROLE: The USFWS designated critical habitat for the Least Bell's Vireo which includes 10 areas encompassing approximately 38,000 acres. Federal land within the consists of approximately 10,979 acres of

Known Least Bell's Vireo occupied USACE Projects on Canyon Dam, Hansen Dam, Mojave, Prado Dam, San Antonio Dam, Santa Pulveda Dam, and Whittier Narrows Dam Chino Creek Levee, all located in southern the Los Angeles District.

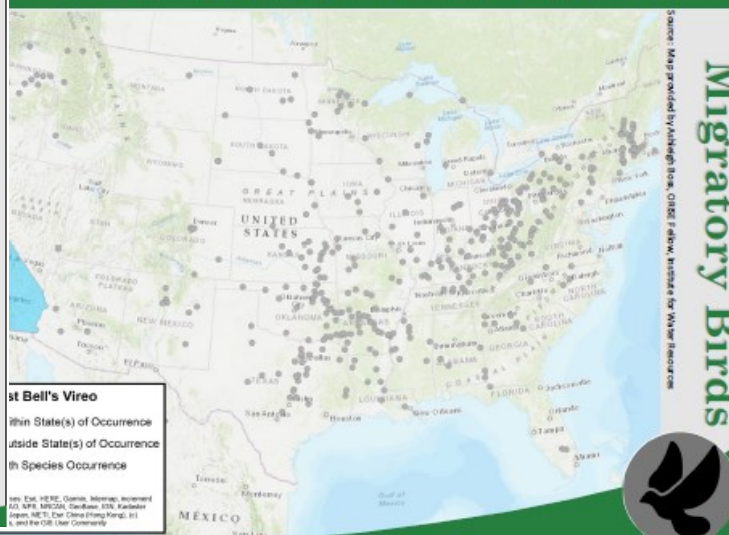
USACE NRM DOING:

Port to the Least Vireo in USACE lands, Los District staff routinely surveys for Bell's Vireo or others.

- The Whittier Narrows Dam Basin is currently (2020) undergoing a major habitat restoration project for the Least Bell's Vireo and the California Coastal Gnatcatcher, a federally threatened species. The project entails restoration of approximately 60-acres of vireo habitat (riparian willow scrub habitat) and 286-acres of invasive plant removal to aid in vireo recovery.



Map Above: This Partner's In Flight map for the Least Bell's Vireo depicts monitoring sites and current range of the species in southern California.



August 2020

Migratory Birds



New Hydrilla Introduction in the Connecticut River and Implications for Management.

3

POC: Nathan Harms, ERDC-EL-EEA

Hydrilla (*Hydrilla verticillata* L.f. Royle) is an invasive aquatic weed that has been introduced in the United States multiple times over the last 70 years. A dioecious hydrilla strain was first identified in the 1950s in Florida, then a monoecious strain was found in the 1980s in the Washington D.C. area. Hydrilla now infests waterbodies in 28 states where it causes large economic and ecological impacts through dense, canopy-forming growth which shades out other submersed species and negatively impacts recreation by fouling watercraft motors. In the US, hydrilla reproduces clonally through fragmentation, so populations can be identified with molecular tools and matched to the monoecious and dioecious strains from original introductions. Until 2019, only these two strains were thought to exist in the US and research has found that they have unique ecologies and biologies, requiring different approaches to control them. However, in 2019 a third, unique introduced strain of hydrilla was discovered in the Connecticut River, MA leading to concern in the northeastern US about potentially large impacts given the history of other hydrilla types in the US.

Because this new introduction is genetically distinct from previous populations, it may require unique management approaches. Researchers at the US Army Engineer Research and Development Center have been conducting overseas surveys since 2013 to locate biological control agents for monoecious hydrilla that can be used in the US. Along with field surveys for potential agents, they collect plant tissues for genetic analysis in order to match hydrilla populations in the native and introduced ranges, in the hopes that biological control agents will perform best on their home-hydrilla strains. Because of these extensive surveys, scientists were able to quickly genetically match the new CT River introduction to a handful of populations in northeast China. Future research is needed to determine whether the CT River hydrilla is localized to the River or occurs in other nearby locations, whether it can be managed with herbicides in the same way as other hydrilla introductions, and whether biological control is a feasible management option. The ERDC is currently engaging Corps' District, State, and local partners to determine how widespread the newly introduced strain is in the northeastern US, and whether biological control is a feasible management option to control these populations.

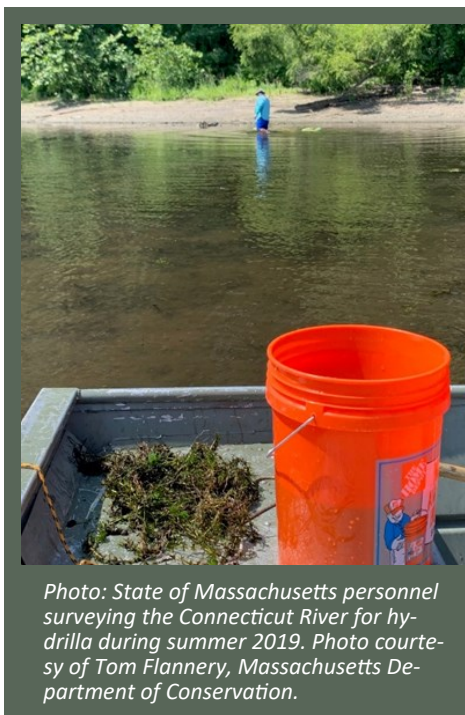


Photo: State of Massachusetts personnel surveying the Connecticut River for hydrilla during summer 2019. Photo courtesy of Tom Flannery, Massachusetts Department of Conservation.

Tioga-Hammond Lakes & EMRCD Continued.

Tioga-Hammond Lakes staff will perform random inspections of trees/shrubs, remove invasive species from the planted area, and mow the location when necessary. The EMRCD will replace any damaged plantings due to natural loss. The plantings will provide a lifetime of erosion control prevention, improved water quality, enhanced habitat for wildlife and make the lake more aesthetically pleasing for the recreating public.

Photo Below: Trees protected by tubing that were planted as part of the MOU with Tioga-Hammond Lakes and the EMRCD.



Photo: USACE and collaborating scientists examining hydrilla for potential biological control agents in Beijing, China





Patoka Lake

Patoka Lake was authorized under the Flood Control Act of 1965, is located in southern Indiana, operated and maintained by the Louisville District. Patoka Lake exists as a cooperative management effort between the Corps of Engineers and the Indiana Department of Natural Resources. The lake has 8,880 acres of water in the summer for fishing, boating, swimming and other water-related activities.

The State of Indiana, Department of Natural Resources, operates and maintains the recreation facilities at the lake, except the denoted area operated and maintained by USACE at the dam site area.



**Check out
Patoka Lake
on Facebook!**

The Invasive Species Leadership Team (ISLT) held a fall virtual meeting in September. During the meeting, team members shared several invasive species success stories within their respective divisions.

1 Mount Morris Dam

USACE personnel at the Mount Morris Dam and Recreation area, Buffalo District, continue working with New York State Office of Parks and Recreation Letchworth State Park to collaboratively reduce target invasive species such as tree-of-heaven, purple loosestrife, black swallow-wort, and autumn olive. Additionally, USACE

Park Rangers work with NYS Parks biology staff and volunteer groups such as the SUNY (State University of New York) Genesee Friends of Recreation, Conservation, and Environmental Stewardship (FORCES) outdoor group, and the Genesee Valley Educational Partnership (GVEP) Conservation Class.

Work in 2019-2020 concentrated on the thinning of purple loosestrife along the Genesee River and associated wetlands on project property. Efforts also focused on the removal of tree-of-heaven and black swallow-wort on 3,800 acres of fee owned USACE property and leased lands. For more information: Thomas Wenzel, Mount Morris Dam, 585-658-4790.



2 Patoka Lake

During the COVID-19 pandemic, Patoka Lake Manager Greg Carpenter and staff were able to partner and work with the Patoka Watershed Steering Committee, the Patoka Regional Water Manager, and an advertising firm to design and produce a watershed welcome sign. Entirely partner funded, this welcome sign stands at the busiest traffic area of Patoka Lake where the majority of recreation visitors funnel through. For both visitors and the community, the text and pictures are intended to increase awareness of what the word "watershed" means, and convey that individual actions affect drinking water, wildlife, fishing, and recreational waters.

For more information: Greg Carpenter, Patoka Dam & Lake, Project Manager, Louisville District, 812-678-3761.



3 B Everett Jordan Dam

USACE staff and the North Carolina Wildlife Resources Commission (NCWRC) are working together to remove nonnative vegetation and establish native grassland species in the B Everett Jordan Dam spillway. Currently nonnative plants such as tall fescue and sericea lespedeza dominate the area. The conversion of this area to native grasses, legumes, and wildflowers will create nearly 50 acres of grassland habitat for game and nongame wildlife.

The dam and spillway were constructed in the 1960's via the blasting of rock and earth moving activities. The use of nonnative plant species to stabilize disturbed areas was and continues to be a common practice due to quick growth rates and low cost. Unfortunately, this practice results in the spread of invasive and exotic plant species into native plant communities and creates poor habitat for native wildlife. In the piedmont, loss of piedmont prairies to agriculture and development has also been a significant factor in the decline of many species.

A combination of herbicide treatments, prescribed fire, tilling, and mowing have been used to remove undesirable vegetation and establish native species. The establishment of tall native grasses, such as eastern gamagrass and Indiangrass, will also aid in reduced exotic presence by depriving species like sericea lespedeza of light.

The native grass community will provide nesting and foraging habitat for mice, rabbits, and birds such as the eastern meadowlark, bobwhite quail, and turkey. This area also provides an excellent opportunity to increase public understanding of the USACE mission and the benefits of active wildlife management. This project received funding from the Handshake Partnership Program.

For more information: John Rochevot, Natural Resource Specialist, 919-542-4501. *Photo right bottom: Invasive cutting at Abiquiu Lake.*



4 Abiquiu Lake

At Abiquiu Lake in northern New Mexico, USACE staff are working in partnership with the Bureau of Land Management (BLM) in a five phase project through 2022 to successfully control the invasive terrestrial plants Russian olive and tamarisk.

During 2020, USACE completed a MIPR with BLM, who in turn provided a work crew. The crew was able to complete 20 acres of cutting this year followed by herbicide treatment. The project is being conducted in phases to ensure minimum disturbance to mule deer that utilize the area. Goal is for restoration of the site with willow and cottonwood in addition to reseeding and plantings with native species if necessary.

Abiquiu Lake is a 5,200 surface-acre reservoir and is 6,220 feet above sea-level which makes it the highest reservoir in the continental United States for USACE.

Check out this video on the functions and operations of Abiquiu Dam which highlights the cultural background of the area.

For more information on the invasive removal partnership, contact Austin Kuhlman, 505-685-4371.



[Click here for Abiquiu video!](#)



National Initiatives



Click here to access information about natural resource management and conservation initiatives developed for USACE Environmental Stewardship program staff.

Photo credit: USACE SWF

3 Publication

A new article was recently published in the journal *Biological Control* by Dr. Nathan Harms, of ERDC-EL. "A Review of the Causes and Consequences of Geographical Variability in Weed Biological Control Successes" describes an extensive literature and database review to investigate the frequency and implications of large-scale spatially variable outcomes in invasive plant management with biological control. This research was partially funded by the Aquatic Plant Control Research Program.

[Click here for article!](#)

4 National Initiatives Viewer

The Environmental Stewardship National Initiatives Viewer is now available for use by USACE staff, and accessible via the NRM Gateway.

[Click here to access the viewer!](#)

1 [Click here to access the article!](#)



HOME FEATURES CONTE

Park Ranger Leads Charge to Conserve Natural Resources at Lewisville Lake



Photo By Trevor Welsh | LEWISVILLE, Texas (July 16, 2020) – Thomas Hungerford from Texas Parks and Wildlife Inland Division, left, and Matt Schwolert from Marcus High School Bass Club plant aquatic vegetation inside a wire cage enclosure as part of the Lewisville Lake Fisheries Restoration Project. (U.S. Army photo by Rob Jordan) [see less | View Image Page](#)

LEWISVILLE, TX, UNITED STATES

07.16.2020

Story by Trevor Welsh

U.S. Army Corps of Engineers, Fort Worth District

[Subscribe](#) 7

2 AIS Art Sail. The Lake Champlain Basin Program worked with the Burlington Community Sailing Center on Lake Champlain to support a local artist design of aquatic invasive species that would be printed on a sailboat sail and will be flown on a sailboat on the Burlington waterfront for the next three years.

A local Burlingtonian artist was selected, Nikki Lazar, and she created this stunning black and white piece that was printed on the sail. The mussels in the center represent zebra mussels, surrounded by sea lamprey mouths, strands of Eurasian watermilfoil and alewife, which have a landlocked population in Lake Champlain.



Some Interesting Reading

4 Article—Seven US Species Invading Other Countries.
 Click here to access this article!

5 Excerpts from “Wildlife Forever Unveils Invasive Species Resource Center” Press Release.

Contact: Julia Luger JLuger@WildlifeForever.org.

White Bear Lake, MN – Wildlife Forever and the national Clean Drain Dry Initiative™ have developed a new **Invasive Species Resource Center**. Invasive species impact property values and are a leading cause of population decline in fish and wildlife. The cost to the United States economy is more than \$120 billion every year. With support for the USDA Forest Service, this clearinghouse will serve as a powerful tool for sharing important invasive species information with researchers, resource managers, policy makers and the public.

States, federal organizations, non-profits, scientists and local lake associations have all independently created important resources about invasive species. Individuals interested in learning more about invasive species can be overwhelmed trying to find the information they need. The Invasive Species Resource Center is a free digital library offering invasive species information organized into three categories: Management, Research, and Outreach & Education.

This one-of-a-kind data center allows individuals to quickly locate and download the information they need. Built with public submissions, the **Invasive Species Resource Center** will hold information created by state and federal agencies, researchers, non-governmental organizations and local counties and lake associations. Organizations or individuals interested in sharing their invasive species related resources should visit: www.wildlifeever.org/resource-center to support this important tool.

The **Clean Drain Dry Initiative™** is the national campaign to educate outdoor recreational users on how to prevent the spread of invasive species. Strategic communications, marketing, outreach and educational services provide access to consistent messaging, and resources for local communities to implementing prevention programs. To learn about services, contact Dane Huinker at DHuinker@WildlifeForever.org or visit www.CleanDrainDry.org.

Wildlife Forever: The Wildlife Forever mission is to conserve America's wildlife heritage through conservation education, preservation of habitat and management of fish and wildlife. Wildlife Forever is a 501c3 non-profit dedicated to investing resources on the ground. www.WildlifeForever.org.

A Century of Injurious Wildlife Listing Under the Lacey Act: A History

Jewell, S. D. (2020). A century of injurious wildlife listing under the Lacey Act: a history. Management of Biological Invasions, 11(3), 356-371.

Abstract: In its 120-year history, the major injurious wildlife provision of the Lacey Act has remained nearly intact. The purpose of the Federal law has always been to protect the United States from the introduction of invasive and otherwise harmful species. Amendments along the way have transformed the law, sometimes narrowing and sometimes broadening.

Here for the first time, the major changes to the injurious wildlife law from 1900 to the current law are compiled to provide a history that is critical to understanding how the nations oldest invasive species law has varied in its ability to prevent wildlife invasions. In 1900, under the oversight of the U.S. Department of Agriculture, the newly enacted law prohibited the importation of any foreign wild mammal or bird to protect agriculture and horticulture, with exceptions only by permit. A small designated subset of wild mammals and birds could not be imported under any circumstance, and these were the first injurious species.

For almost a half century, little changed. The 1939 amendment transferred authority of injurious wildlife to the U.S. Department of the Interior, a change affecting little except the oversight. Then a 1948 amendment removed a critical clause. The deletion suddenly removed the prohibition on the importation of any wild mammal or bird, except for the designated injurious species, which were still unconditionally prohibited. In 1960, Congress expanded the injurious provisions of the Lacey Act (18 U.S.C. 42) by authorizing additional vertebrate and some invertebrate taxa that may be designated as injurious and by authorizing additional categories of interests that could be affected. Simultaneously, however, the unconditional prohibition for injurious species was replaced with a permit exception system, and the 1960 amendments have remained to this day. By presenting how the law varied over the decades, this history will allow scientists to determine the effectiveness of a law that is well into its second century.



The screenshot shows the top of the Federal Register website. At the top, there is a navigation bar with links for "Browse", "Search", and "Reader Aids". Below this is the "FEDERAL REGISTER" logo, followed by the text "The Daily Journal of the United States Government". The main heading of the document is "Lacey Act Implementation Plan: De M". At the bottom of the screenshot, it says "A Rule by the Animal and Plant Health Inspection Service on 03/02/202".



From October 7 through November 12, the Invasive Species Leadership Team (ISLT) in partnership with the Aquatic Plant Management Society hosted a fall webinar series focused on aquatic invasive plant species and harmful algal blooms. Presenters from USACE's Engineer Research Development Center (ERDC), various universities, federal partners, and organizations provided information on the latest research and management strategies related to aquatic invasive plants. Attendance in the webinars series averaged 100 participants! Each of the presentations have been recorded and are available on the NRM Gateway in case you were not able to view them on the scheduled day.

Web Meetings (Webinars)



Click here to access the webinars!

2020

- Nov 4: **Flowering Rush: Phenology, Genetic Variability, and Management** Dr. John Madsen, USDA-AP
- Oct 28: **Concepts And Strategies For Emergent Plant Management** Dr. Stephen Enloe, University of F
- Oct 21: **Giant Salvinia and Other Floating Weeds** Dr. Christopher Mudge, ERDC Environmental Labor
- Oct 14: **Management of Harmful Algal Blooms** Dr. Ken Wagner, WRS Inc., and Dr. John H. Rodgers, J
- Oct 7: **Monoecious hydrilla biology, management, and stakeholder engagement** Dr. Rob Richardson, J

Giant Salvinia and Other Floating Weeds

This webinar featured three presenters each sharing about Giant Salvinia. First, Dr. Christopher Mudge, USACE ERDC, provided an update on new chemical control technologies being used throughout the U.S. to combat the ever spreading floating fern, giant salvinia, as well as new challenges that impact aquatic herbicide use throughout the southeastern

U.S. Then, Ms. Julie Nachtrieb, USACE ERDC, shared an overview of USACE giant salvinia biological control efforts with regard to rearing/release efforts and salvinia weevil field establishment. Lastly, Dr. Rodrigo Diaz, Louisiana State University Department of Entomology, discussed the mass rearing program, external cooperation, research summary, and cold tolerance development at LSU, as well as a new project in cooperation with ERDC regarding salvinia biocontrol efforts.



FALL SERIES 2020



USACE INVASIVE SPECIES WEBINARS

The USACE Invasive Species Leadership Team in collaboration with the Aquatic Plant Management Society will summarize the latest research and technical information on management strategies for a variety of invasive aquatic plants and harmful algal blooms. Topics include:

- **MONOECIOUS HYDRILLA MANAGEMENT**
- **HARMFUL ALGAL BLOOMS**
- **INVASIVE WATERMILFOILS**
- **FLOWERING RUSH**
- **"TOUGH EMERGENTS"**
- **GIANT SALVINIA AND OTHER FLOATING WEEDS**

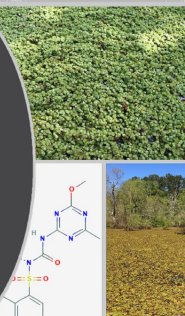
**7 OCTOBER - 11 NOVEMBER
WEDNESDAYS @ 1:00ET**

The final seminar schedule including technical presenters will be provided shortly.



Chemical Control of Giant Salvinia: Updates and Challenges

- Christopher R. Mudge, Ph.D.
Research Biologist – U.S. Army Engineer Research & Development Center, Environmental Laboratory, Baton Rouge, LA
Adjunct Professor – LSU School of Plant, Environmental & Soil Sciences



ISLT/APMS Webinar Oct 2020

