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FALL 2014

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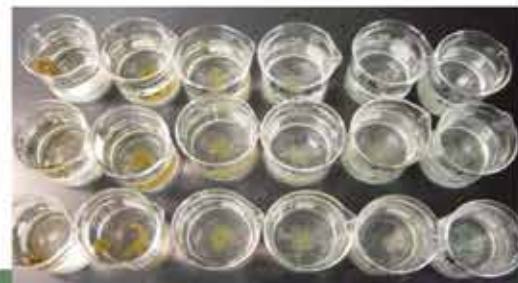
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Crested floatingheart (*Nymphoides cristata*) is one of the newest additions to the Florida Noxious Weed List – see story, page 8. Photo courtesy Lyn Gettys.



Eurasian *Phragmites* in Lake Seminole, Pinellas County – see story page 5. Photo courtesy MP Sowinski

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Figure 1. Eurasian *Phragmites* in Lake Seminole, Pinellas Co. in October 2013. Photo courtesy MP Sowinski.

Early detection and rapid response to an exotic *Phragmites* population in Florida

by William A. Overholt, Michael P. Sowinski, Don C. Schmitz, Jeffrey Schardt, Vicky Hunt, Daniel J. Larkin and Jeremie B. Fant

Phragmites is a broadly distributed genus of wetland grasses found on every continent except Antarctica (Tucker 1990, Saltonstall 2004). North American populations of *Phragmites* have been divided into three genetic groupings: a native lineage (*P. australis* subsp. *americanus* Saltonstall, P.M. Peterson and Soreng), a Gulf Coast lineage [*P. australis* subsp. *berlandieri* (E. Fourn.)

C.F. Reed], and a non-native Eurasian lineage [*P. australis* (Cav.) Trin. ex Steud.] (Saltonstall 2002, Saltonstall 2004). The native lineage historically occurred throughout much of North America, but its distribution did not extend into the Gulf Coast area (Saltonstall 2004). The Gulf Coast lineage is morphologically distinct, meaning it has a different appearance from

the other two lineages, and Ward (2010) suggested that it may actually be the species *P. karka* (Retz.) Trin. ex Steud., which occurs in Australia, Polynesia and tropical Asia. The non-native Eurasian type was introduced to the East Coast of the United States from Europe in the late 1700s or early 1800s and now dominates Atlantic coastal areas as far south as Georgia. It has also invaded the Midwest and a few western sites (Saltonstall 2003). A survey supported by the Florida Fish and Wildlife Conservation Commission (FWC) was conducted in 2010 to determine whether exotic Eurasian *Phragmites* occurred in Florida. Patches of *Phragmites* were sampled by University of Florida and FWC personnel throughout the Gulf Coast, including 69 locations in Florida, but the exotic type was found only in South Carolina, Georgia, Mississippi and Louisiana. The closest exotic populations to Florida were found in Georgia about 40 miles north of the Florida border along Interstate 95 and on Petit Bois Island, Mississippi, about 60 miles west of Florida (Williams et al. 2012).

This changed in October 2013 when a



Figure 2. Inflorescence of Eurasian (left) and Gulf Coast (right) *Phragmites*. Photos courtesy WA Overholt.

small patch of *Phragmites* was found in Lake Seminole in St. Petersburg (Pinellas Co.) that was morphologically distinct from typical Gulf Coast *Phragmites*. The inflorescence of this *Phragmites* was compact and

erect, as opposed to the open and drooping inflorescence of Gulf Coast *Phragmites*. Upon closer inspection, we noted that the stems were finely ribbed, which differs from the very smooth-textured stems of the Gulf Coast type. Leaf tissue samples from these plants were sent to the Chicago Botanic Garden for DNA analyses and confirmed to be the Eurasian type. How these plants arrived in Lake Seminole is unknown but the plants were found in a public park surrounded by a highly urbanized area, suggesting that human-assisted transport may have been involved. FWC treated the patch of non-native *Phragmites* in August 2014. Periodic surveillance of the site and the surrounding area will be made during the next two years to insure that eradication is successful.

The early detection and rapid response to the Eurasian *Phragmites* in Lake Semi-

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Figure 3. Stem texture of Eurasian (left) and Gulf Coast (right) *Phragmites*. Photo courtesy WA Overholt.

nole demonstrates the importance of networking and information exchange in invasive plant management. Awareness was first raised when FWC staff attended an Aquatic Plant Management Society annual meeting where several presentations highlighted ecological and management problems associated with the invasive *Phragmites* lineage in the Midwest and Northeast. *Phragmites* samples were evaluated from populations in more than thirty of the public lakes and rivers in which FWC conducts inventories and manages aquatic plants. At that time, no exotic populations of *Phragmites* were discovered. However, the involvement of FWC biologists in the 2010 survey raised awareness of the existence of exotic *Phragmites*, and a "Weed Alert" (Overholt et al. 2012) provided a tool to easily distinguish between Eurasian and Gulf Coast *Phragmites*. The *Phragmites* population in Lake Seminole was recognized from its distinct leaf ribbing and inflorescence shown in the Weed Alert, and was genetically verified as the invasive lineage. Please contact the Invasive Plant Management Section of FWC if you spot

any suspected Eurasian populations of *Phragmites* (<http://myfwc.com/wildlife-habitats/invasive-plants/contacts/>).

LITERATURE CITED

- Overholt WA, DA Williams and R Diaz. Weed Alert: *Phragmites* spp. Available at: http://plants.ifas.ufl.edu/weedalert/invasiveplants_commonreed.pdf
- Saltonstall K. 2002. Cryptic invasion by a non-native genotype of the common reed, *Phragmites australis*, into North America. *Proc. Nat. Acad. Sci. USA* 99:2445-2449.
- Saltonstall K. 2003. A rapid method for identifying the origin of North American *Phragmites* populations using RFLP analysis. *Wetlands* 23:1043-1047.
- Saltonstall K, PM Peterson and RJ Soreng. 2004. Recognition of *Phragmites australis* subsp. *americanus* (Poaceae: Arundinoideae) in North America: Evidence from morphological and genetic analyses. *SIDA* 21:683-692.
- Tucker GC. 1990. The genera of Arundinoideae (Gramineae) in the southeastern United States. *J. Arnold Arboretum* 71:145-177.
- Ward DB. 2010. North America has two species of *Phragmites* (Gramineae). *Castanea* 75: 394-401.
- Williams DA, M Hanson, R Diaz and WA Overholt.

2012. Determination of common reed (*Phragmites australis* (Cav.) Trin. ex Steudel) varieties in Florida. *Journal of Aquatic Plant Management* 50: 69-74.

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A close-up photograph of coral ardisia berries. The berries are bright red, round, and clustered together on a thin brown stem. The background is a soft-focus green, showing the leaves of the plant.

New additions to the Florida Noxious Weed List

by Lyn A Gettys

The Florida Department of Agriculture and Consumer Services Division of Plant Industry has amended the Florida Noxious Weed List (also known as Rule No. 5B-57.007) to include four new species – the upland invaders coral ardisia and Chinese privet and the aquatic weeds crested floatingheart and yellow floatingheart. These species have been in Florida for a long time and there is now enough documented evidence of the damage they've caused to our ecosystems to justify their addition to the List. They join a rogue's gallery of some of the state's worst weeds, including Australian pine, melaleuca, Brazilian peppertree, cogongrass, Japanese and Old World climbing ferns and air potato. The new list became effective on July 21, 2014 and can be accessed at <https://www.flrules.org/gateway/ruleno.asp?id=5B-57.007&Section=0>

What does this mean to you? Well, it's illegal to introduce, multiply, possess, move or release any noxious weed or invasive plant regulated by the Florida Department of Agriculture except under permit issued by the Department. So if you're a resource manager and need to remove listed weeds from an infested site, do you need a permit? No; regulations state that "if the noxious weed species arrived at your property by biological, hydrological or other natural means, and you do not intend to sell or spread the species, you do not need a permit." This means you can remove listed noxious weeds from the sites you manage without a permit, but you **MUST** dispose of them in a way that will prevent their spread. If you're already familiar with these newly listed weeds, you can breathe a sigh of relief because nurseries will no longer be allowed to grow and sell them in Florida. If you haven't yet encountered these species, consider this a formal introduction and an opportunity to become acquainted with more of Florida's bad actors.

Upland invaders

Coral ardisia (*Ardisia crenata*) is native to Japan and northern India and has been extensively cultivated as an ornamental landscape plant. This small (to 6' tall) perennial shrub has persistent bright-red berries and glossy leaves. Many people like the look of the berries, but birds and raccoons prefer to eat them, which contributes to the spread of the species. Plants start heavy seed production when they are as young as two years old; since germination ranges from 84 to 98%, mature plants are often surrounded by large colonies of seedlings. Dense thickets of coral ardisia can disrupt woodland ecosystems by shading out native seedlings and understory



Figure 2. Chinese privet leaves and berries. Photo courtesy James H. Miller and Ted Bodner, Southern Weed Science Society, Bugwood.org

Figure 1. Coral ardisia berries. Photo courtesy Chris Evans, Illinois Wildlife Action Plan, Bugwood.org

plants. Coral ardisia escaped cultivation in the 1980s and has invaded hardwood hammocks, woods and other upland areas, especially in central and northern Florida. The species joins its cousin, shoebutt ardisia (*A. elliptica*), which has been on the Florida Noxious Weeds List for several years.

Chinese privet (*Ligustrum sinense*) is native to China and has been extensively cultivated as an ornamental landscape plant. This perennial shrub can grow to 20' tall; it has smooth tan to grey bark and persistent blue to black fruits. Leaves are small (to 3" long) and elliptic, with hairs on the underside along the midrib. As with coral ardisia, Chinese privet produces hundreds of seeds which are dispersed into natural areas by animals, and dense thickets can disrupt floodplain and woodland ecosystems by shading out native seedlings and understory plants. Chinese privet has invaded disturbed sites throughout Florida from the northern counties south to Hillsborough and Miami-Dade Counties. Although Chinese privet is now a Florida Noxious Weed, the cultivar 'Variegatum' is exempt and may be planted if desired.



Figure 4. Chinese privet infestation. Photo courtesy David J. Moorhead, University of Georgia, Bugwood.org

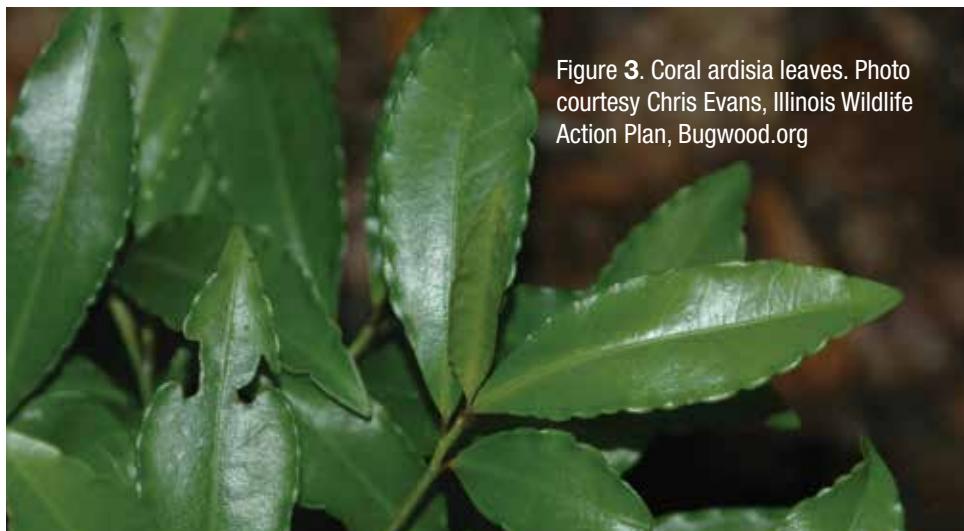


Figure 3. Coral ardisia leaves. Photo courtesy Chris Evans, Illinois Wildlife Action Plan, Bugwood.org

Control methods for coral ardisia and Chinese privet

The best way to avoid problems with coral ardisia and Chinese privet is to prevent their escape into the ecosystem. Existing landscape plants should be removed and disposed of, and seeds on and around the plants should be collected as well. Small plants can be hand-pulled or dug up, but care should be taken to make

sure all of the underground parts of the plants are removed because both species can regrow from root and rhizome fragments. Dense or established populations of coral ardisia and Chinese privet can be difficult to manage, particularly when plants are growing among desirable native species. Foliar applications of glyphosate or triclopyr may provide some control of these noxious woody weeds, but a surfactant

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should be used to facilitate penetration of the herbicide through the waxy surface of the leaves. Basal and cut-stump applications of triclopyr plus basal oil may be effective for larger, more mature plants.

Aquatic invaders

Crested floatingheart (*Nymphoides cristata*) is native to Asia and has been extensively cultivated as an ornamental water garden plant. This perennial floating-leaved species is rooted in the substrate and has petioles (leaf stalks) that can be up to 15' long. The heart-shaped leaves of crested floatingheart are up to 8" long and usually look red along the margins. The flowers are white and have five petals with a ridge or crest along the center of the petals. The species produces clusters of banana-like rhizomes at the base of the leaves; these structures allow the plant to spread and to recolonize areas after herbicide treatments. Crested floatingheart appears similar to our native bananalily (*Nymphoides aquatica*), but the native species has round leaves and the flowers have smooth petals without a central ridge. Crested floatingheart forms dense populations that shade out submersed plants and restrict water flow, which is a serious problem when the species invades flood control systems. Although the worst infestations of crested floatingheart are in the lakes and canals of southern Florida, the species is becoming a common invader in central Florida as well and is arguably one of the most problematic plants in the Santee Cooper Reservoir in South Carolina.

(Continued on page 13)



Figure 6. Crested floatingheart. Photo courtesy Lyn Gettys



Figure 5. Coral ardisia infestation. Photo by Ann Murray, courtesy University of Florida.

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Figure 7. Yellow floatingheart. Photo courtesy Lyn Gettys

(Continued from page 10)

Yellow floatingheart (*Nymphoides peltata*) also is native to Asia and has invaded our waters after escape from cultivation as a water garden plant. This perennial floating-leaved species is rooted in the substrate and has round to heart-shaped leaves that are up to 6" long with crinkled edges. The flowers are yellow and have five petals with ruffled edges. The species produces clusters of banana-like rhizomes at the base of the leaves; these structures allow the plant to spread and to recolonize areas after herbicide treatments. Yellow floatingheart is primarily a problem in northern Florida, but populations of the species are becoming more common in south Florida as well.

Control methods for crested floatingheart and yellow floatingheart

As with coral ardisia and Chinese privet, the best way to avoid problems with floatinghearts is to prevent their escape into the ecosystem. Existing water garden plants should be removed and disposed of, and all rhizome clusters on and around the plants should be collected as well. Small infestations in shallow water can be hand-pulled or dug up, but care should be taken that all underground parts of the plants are removed because both species can regrow from root and rhizome fragments. Dense or established populations of floatinghearts

can be difficult to manage; many different herbicide treatments have been evaluated, but unfortunately there is no silver bullet that will control these species under all conditions. Endothall has provided good control in most greenhouse and field studies; imazamox, imazapyr and penoxsulam may be effective as well.

Now that you've been formally introduced to Florida's newly listed Noxious Weeds, be on the lookout and treat them like the bad actors that they are. Just remember – if you have to physically

remove them from an infested site, be sure to dispose of them in a manner that will prevent their spread such as bagging them and placing in a dumpster. Happy hunting!

For more information:

CAIP. nd. Chinese privet: *Ligustrum sinense*. Online at <http://plants.ifas.ufl.edu/node/231>

Demers C, A Long and R Williams. 2012. Controlling invasive exotic plants in North Florida forests.

Online at <http://edis.ifas.ufl.edu/pdffiles/FR/FR13300.pdf>

FDACS. 2013. FDACS Weed of the Month: *Nymphoides cristata*, crested floatingheart; *Nymphoides peltata*, yellow floatingheart, fringed water lily – a pair of perennial aquatic plants with high invasive potential in Florida. Online at <http://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Plant-Industry-Publications/Weed-of-the-Month/Weed-of-the-Month-October-2013>

Sellers BA, S Lancaster, KA Langeland, JA Ferrell, M Meisenberg, and J Walter. 2013. Identification and control of coral ardisia (*Ardisia crenata*): A potentially poisonous plant. Online at <http://edis.ifas.ufl.edu/pdffiles/AG/AG28100.pdf>

Wiley LN and KA Langeland. 2011. Aquatic weeds: crested floatingheart (*Nymphoides cristata*). Online at <http://edis.ifas.ufl.edu/pdffiles/AG/AG35400.pdf>

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Figure 8. Crested floatingheart infestation. Photo courtesy Lyn Gettys



by Brett Hartis

CAST: Benefits of Controlling Nuisance Aquatic Plants Now Available for Download

The Council for Agricultural Science and Technology has recently developed a paper discussing growing concerns caused by nuisance aquatic plants that invade rivers, lakes, and other aquatic ecosystems. Led by Kurt Getsinger (Chair), the authors of this commentary emphasize the necessity for the skillful management of nuisance aquatic plants. This document provides scientific insight regarding aquatic plant management for regulators, managers, stakeholders, and legislators. Using specific examples, tables,

and detailed explanations of the situation, the paper thoroughly examines the negative impacts of nuisance plants and the need to be aware, informed, and—when possible—proactive about the problems. The paper is available for download at www.cast-science.org by searching “Benefits of Controlling Nuisance Aquatic Plants”.

FAPMS, TAPMS and SCAPMS Annual Meetings

The Florida, Texas, and South Carolina Aquatic Plant Management Society Meetings are almost here! The FAPMS meeting will be held October 13 through 16 at the Hilton Daytona Beach Resort in Daytona, FL. Reduced-rate early registration for the meeting ends on September 27 and FAPMS has negotiated a block of rooms at a special rate that must be reserved before September 22, so finalize your travel plans today! We’ve included the FAPMS meeting registration form and hotel reservation information in this issue of *Aquatics* for your convenience. The Texas APMS meeting will be held October 12 through 14 at the Circle T Ranch in Hamilton, TX and the

South Carolina APMS meeting will be held October 8 through 10 at Springmaid Resort in Myrtle Beach, SC. For more information about these meetings, visit www.fapms.org, www.tapms.org and www.scapms.org

54th Annual Meeting of APMS Recap – In Case You Missed It!

The 54th Annual Meeting of the Aquatic Plant Management Society was held July 14 through 16 in Savannah, GA and featured some of the best in aquatic plant research, management, and industry! For those of you who may have missed it, check out the recap of the 2014 meeting on the APMS Blog at <http://apms.org/category/apms-blog/>! Blog postings occur weekly so please subscribe to find out what is going on in aquatic plant management from around the country! Want to follow along with regional meetings and research as they happen? Check out APMS on Twitter @APMSociety

AERF Best Management Practices Handbook – Third Edition Release

Looking for information on the biology and control of aquatic plants? The Third Edition of the popular BMP manual is now available with updated management practices and new weed species! It can be found online as a PDF file on the AERF website at: <http://www.aquatics.org/bmp.html>. Editions one and two became some of the most widely read and used references in the aquatic plant management community. The third edition has been specifically designed with the water resource manager, management association, homeowners, and operators of aquatic plant management companies in mind. While not intended to provide the answers to every question, the new BMP provides scientifically sound information to assist in decision making. The print edition is now available; contact AERF Executive Director Carlton Layne at clayne@aquatics.org and ask him to send you a copy. Also, check out AERF on Facebook and visit the AERF blog for more information at aquatics.org

Herbicide Resistance Modules Released

APMS, working in cooperation with the Weed Science Society of America (WSSA),



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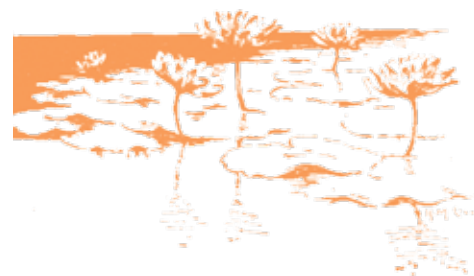


has developed modules addressing herbicide resistance in aquatic plant management. An associated white paper compares aquatic plant control with crop management and addresses how the types of aquatic plants, settings in which they are controlled, and the relatively few available control options, influence herbicide resistance management strategies. Resistance management measures that applicators routinely implement into aquatic plant control programs are reviewed, along with challenges associated with incorporating stewardship actions. These lessons summarize key points and examples to illustrate complexities in managing aquatic plants with herbicides. The modules can be found at <http://apms.org/resources/resistance-management/>

NC State University New Aquatic Plant ID App – Now available for Android
The NC State University Aquatic Plant

ID App is now available for download on your favorite android device! Whether you're a professional botanist, applicator, or casual nature enthusiast, the app has detailed information on a wide variety of aquatic weeds to assist in identification. This app contains well-organized and detailed information, as well as clear and highly detailed pictures, and is invaluable for making an accurate identification in a field situation. It's a must-have app for any aquatics professional, botanist, or fresh water preservationist. Available for FREE download for Apple and Android. Like what you see? Give them a rating and review!

Dr. Brett Hartis (bmhartis@ncsu.edu) is an Aquatics Extension and Research Associate at North Carolina State University in Raleigh.



Calendar of Events 2014-15

October 8-10, 2014
SCAPMS Annual Conference
Myrtle Beach, SC
www.scapms.org

October 12-14, 2014
TAPMS Annual Conference
Circle T Ranch in Hamilton, TX
www.tapms.org

October 13-16, 2014
FAPMS Annual Conference
Daytona Beach, FL
www.fapms.org

November 12-14, 2014
Southeast Exotic Pest Plant Council (SE-EPPC) & Georgia Exotic Pest Plant Council (GA-EPPC) - A Joint Annual Symposium
Athens, Georgia
www.se-eppc.org/2014/

January 26-28, 2015
Southern Weed Science Society
Savannah, GA
<http://www.swss.ws/>

February, 2015
Weed Science Society of America
Lexington, KY
<http://wssa.net/meeting/annual-meeting/>

March 2-3, 2015
Florida Weed Science Society
Haines City, FL
<https://sites.google.com/site/floridaweedsocietysociety/2010location>

Too Many Weeds Spoil the Fishing



Exotic invasive aquatic plants such as Hydrilla, Eurasian Watermilfoil and Curlyleaf Pondweed, can be detrimental to a healthy fishery in lakes across the country.

These invasive plants when left unmanaged can alter the ecosystem of lakes and reservoirs, cause a decline in the fishery, and interfere with other valued uses of waterbodies.

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A broad-spectrum herbicide and algaecide. Hydrothol® 191 provides a companion product or an alternative to copper algaecides when controlling difficult algae species.
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CALL FOR EXHIBITORS

FAPMS is now accepting exhibitor applications for the 37th Annual FAPMS Conference being held October 13 – 16 in Daytona Beach. There are a number of sponsorship levels (Grand, Diamond, Platinum, Gold and Silver) to choose from. The meeting will provide an excellent forum for you to exhibit your goods and services and to interact with key individuals and organizations involved in aquatic plant management in Florida. A Vendor Registration Form and additional conference information can be found on the FAPMS website: www.fapms.org. Vendor support has always been critical to the success of this meeting and 2014 will be no exception. Your generous contributions will be most appreciated! The final date to sign up for any sponsorship level (excluding Silver) is September 14th. Please direct questions to Scott Jackson, FAPMS Vendor Committee Chair, Scott.Jackson@Syngenta.com; 561-402-0682.

CALL FOR NOMINEES: FAPMS Aquatic Plant Manager of the Year Award

Now is the time to start thinking of someone you believe is worthy of winning the FAPMS Aquatic Plant Manager of the Year Award. Please think about the aquatic plant manager you respect the most and why. The cash award for this honor is \$500. Winners also receive an engraved plaque. Eligibility requirements and the official nomination form are on the FAPMS website at: <http://www.fapms.org/awards/manager.html> where you can also view the list of previous winners. You may complete the form online and save it using your name in the filename (for example: GLASSCOCK-manager_form.pdf). You may also print the form or cut it out of the last FAPMS newsletter and complete it by hand or typewriter but you must stay within the space provided to allow for uniform evaluation. Extra pages will not be considered. The deadline for submission is September 30th. The winner will be announced at the FAPMS Annual Training Conference Banquet on October 15, 2014.

Please send completed nomination forms to:

Scott Glasscock, Awards Committee
Chair
2200 South Service Lane
Lake Buena Vista, FL 32830
Fax: 407-824-7054
Scott.Glasscock@Disney.com

Good luck, nominees!

CALL FOR PHOTOS

The annual VIC RAMEY PHOTO CONTEST will also be held at the Annual Training Conference in Daytona Beach. The contest was created to inspire photographs to promote education, discussion and competition towards the Society's objective of aquatic plant management. There are two categories:

Aquatic Scene (any natural aquatic scene); and Aquatic Operations (operation equipment, application method, or field applicator).

Requirements for entry:

- Photos must be taken by a FAPMS member during the contest year.
- Photos must be submitted as a 5" x 7" or 8" x 10" print, with or without mat or frame.
- Back of photo must contain photographer's name, contact number, photo category, location of photo, and description or title.
- Prizes are first, second, and third place ribbons for each category.

Photos are judged on category relevance (40%), creativity or artistic impression (40%), composition and arrangement (10%), and focus and sharpness (10%). Judges are selected from attending conference members. Photo entries may be submitted at the registration desk.

NOTE:

Winning photos may be used in *Aquatics* magazine at the editor's discretion. Set your camera to 1MB or 5 megapixels or higher for best results. Photos may also be posted on the FAPMS website.

Good luck, photographers!