

Wildland Weeds

WINTER/SPRING 2012





Want to Hunt Down Invasive Plants in Your Forest? There's an App for That...

USDA Forest Service Research and Development Announces New Invasive Plants iPhone App

On February 1, USDA Forest Service Research and Development at the Southern Research Station (SRS) Director Rob Doudrick announced the release of the first version of a new iPhone/iPad app designed to help southern forest land owners and managers identify and manage nonnative invasive plants in the field. This is the first ever iPhone/iPad application developed by the world's largest forest research organization, USDA Forest Service Research and Development.

Funded by a grant from the SRS Insects, Diseases and Invasive Plants unit, the University of Georgia's Center for Invasive Species and Ecosystem Health (also known as Bugwood) developed the app, which is based on the popular SRS publication *A Field Guide for the Identification of Invasive Plants in Southern Forests* and a companion management guide.

"Jim Miller, who is lead author for both of the source publications, is one of the foremost authorities on invasive plants in the South," said Doudrick. "We're proud to offer this free app, called appropriately *Invasive Plants in Southern Forests*, as another of our efforts to reach specific users who can more readily identify and learn about invasive plants."

To download the free app, go to the Apple iTunes store and search for "invasive plants in southern forests" or go directly to <http://itunes.apple.com/app/invasive-plants-in-southern/id495852751?mt=8>

Provide comments at the iTunes Website or contact Chuck Barger on at Bugwood at cbarger@uga.edu.

Access the field guides online:

A Field Guide for the Identification of Invasive Plants in Southern Forests: <http://www.srs.fs.usda.gov/pubs/35292>

A Management Guide for Invasive Plants in Southern Forests: <http://www.srs.fs.usda.gov/pubs/36915>

Request print copies: <http://www.srs.fs.usda.gov/pubs/>

Headquartered in Asheville, NC, the Southern Research Station is comprised of more than 120 scientists and several hundred support staff who conduct natural resource research in 20 locations across 13 southern states (Virginia to Texas). The Station's mission is "...to create the science and technology needed to sustain and enhance southern forest ecosystems and the benefits they provide." Learn more about the Southern Research Station at: <http://www.srs.fs.usda.gov/>.

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- **Membership** – Dan Hill, Kalmia Gardens-Coker College, dhill@coker.edu
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- **President** – Andrea Shea Bishop, TN Dept. of Environment & Conservation (TDEC), Natural Areas, Andrea.Bishop@tn.gov
- **Vice President** – LinnAnn Welch, Metropolitan Nashville Parks & Recreation, Linnann.Welch@nashville.gov
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- **Past-President** – Terri Hogan, Congaree National Park, terri_hogan@nps.gov

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The mission of the Exotic Pest Plant Councils is to support the management of invasive exotic plants in natural areas by providing a forum for the exchange of scientific, educational and technical information.

An **exotic plant** has been introduced, either purposefully or accidentally, from outside of its natural range. A **naturalized exotic plant** is one that sustains itself outside of cultivation (it is still exotic; it has not “become” native). An **invasive exotic plant** not only has become naturalized, but is expanding its range in native plant communities.

Wildland Weeds (ISSN 1524-9786) is published quarterly by the Southeast Exotic Pest Plant Council (SE-EPPC) and distributed to members to provide a focus for the issues and for information on exotic pest plant biology, distribution and control. The Charter issue of *Wildland Weeds* was published by the Florida Exotic Pest Plant Council in Winter 1997.

Direct all editorial inquiries to:

Karen Brown, Editor
Wildland Weeds
7922 NW 71st Street
Gainesville, FL 32653
352/273-3667; FAX 352/392-3462
kpbrown@ufl.edu

Editorial Committee:

Chuck Barger, Nancy Loewenstein



Please contact your EPPC chapter secretary for mailing address changes: www.se-eppc.org



On the Cover:

Kalanchoe houghtonii was identified in coastal St. Johns County, Florida in sand dunes along the beach. While this species is not listed on the 2011 FLEPPC List of Invasive Plant Species, another species in this genus is a Category II. Read about the values of a list-serv for plant identification and early detection/rapid response on pages 5-6. Photos by Emily Montgomery.

Editor's Note

Welcome to the first issue of *Wildland Weeds* without commercial advertisements. Ads have long contributed valuable support toward defraying the publication costs of the magazine and this support has been greatly appreciated. The poor economy, however, has caused a significant decline in ad support and the additional work involved with obtaining advertisements is considerable. Last year, the SE-EPPC board of directors agreed to the production of *Wildland Weeds* with no commercial advertisements. To offset this change, SE-EPPC voted to increase financial support of the magazine and to reduce the number of issues per year from four to two. Fewer issues and less space devoted to ads should result in lower production costs. Other methods of trimming expenses also are being employed.

The idea of converting *Wildland Weeds* from a print to an online publication has been discussed many times. All issues are available online at www.se-eppc.org and the individual chapter websites. The primary function of the magazine, though, is an education and outreach tool that can be used to inform the public, share news and experiences among members, and promote unity of purpose for all chapters of the Southeast Exotic Pest Plant Council. And after all, the problems with invasive plants take place in the great outdoors. While electronic tools are changing our personal and professional lives in so many ways, many of us still enjoy a magazine. It can sit in our vehicle to be read during down time, it can be handed out to people interested in learning more about exotic pest plants and the SE-EPPC chapters, it can be left with a neighbor who has just planted an invasive species in their yard, shared with garden groups or native plant societies, or left in the nature center of your choice.

Send me your stories so we can pass them around – by hand. I also enjoy hearing your thoughts on *Wildland Weeds* magazine. We greatly appreciate the support of all our members as we work together to manage and raise awareness about invasive exotic plants.

—Karen Brown, Editor

What You Learn on the FLEPPC List-Serv



On Saturday, February 4, 2012, Emily Montgomery wrote:

Here is something we are seeing around St. Johns County to maybe look out for: We have been alerted by St. Johns County that *Kalanchoe delagoensis* has been showing up in the dunes at various points from Vilano down to Butler Beach. Looking at both the University of South Florida Plant Atlas and EDDMapS, there are two species that seem to have rather conspicuous distributions: *K. delagoensis* and *K. daigremontiana*. While the latter seems to occur more in South Florida, I think that it is what we are seeing here. I wonder how much confusion there may be in the records between these two.

At the site I am most familiar with in Vilano Beach, the plant seems to have migrated from private lots where it must have been planted. The county has gone out on occasion and pulled bags of it out. It is definitely one for us to watch as we manage about 10 miles of undeveloped dunes just down the beach.

It will also be one to watch on how/if it competes with the sea oats. Has anyone observed this already or treated this plant with any success?

Thanks!

Emily Montgomery
Coastal Training Program Coordinator
Guana Tolomato Matanzas National Estuarine Research Reserve
Ponte Vedra Beach, FL
(904) 823 2291, Emily.Montgomery@dep.state.fl.us



PHOTO #1



PHOTO #3



PHOTO #4



PHOTO #5



PHOTO #6



PHOTO #7

**Response from Keith A. Bradley, Assistant Director,
The Institute for Regional Conservation:**

Hi Emily,

It looks like you have two species. Photos 1-3 look like *Kalanchoe delagoensis*. Photos 4-7, surprise surprise, look like *K. houghtonii*. *K. delagoensis* (formerly called *K. tubiflora*), is distinctive in having cylindrical leaves in cross section (the others discussed below have wider leaves). *K. houghtonii* was formally named in 2006, but has been known in cultivation for a long time. It is a hybrid of *K. delagoensis* and *K. daigremontiana*. It differs from *K. daigremontiana* by having deep red flowers instead of lighter “dusky rose” colored flowers.

Because *K. houghtonii* was described so recently we have very poor data on its distribution, since populations of it were formerly referred to as *K. daigremontiana*. So your reports and others are important. Please do report on EDDMaps. It would also be great to get herbarium specimens. For a key to Florida species, see Keys to the flora of Florida: 18, *Kalanchoe* (Crassulaceae) by D.B. Ward, Phytologia 90: 41-46 (2008).

Keith A. Bradley, Assistant Director
The Institute for Regional Conservation, Miami, FL
(305) 247-6547; bradley@regionalconservation.org

Control of *Cayratia japonica*, Bushkiller, in an Urban Habitat in Charlotte, NC

by James Matthews Ph.D., Gary Marshall and Michael Hodges

The highly invasive *Cayratia japonica* (Thunb.) Gagnep. (Vitaceae) [Bushkiller] is a severe pest in the tropical areas of the southern United States, Texas, Louisiana, Mississippi, Alabama and in North Carolina (Hansen and Goertzen (2006), Krings and Richardson (2006). The first North Carolina population was discovered in Winston-Salem (2005), as reported by Krings and Richardson (2006). In June 2007 a population was discovered in Charlotte, North Carolina by John T. Soule during a stream restoration project in which Habitat Assessment and Restoration Professionals (HARP) was the botanical contractor. Very quickly, with the aid of local publicity, five other populations were documented (J.T. Soule *et al.* (2008). The largest of the six populations occurred in Charlotte in an urban habitat where it dominated the lower parts of the trees and shrubs on a slope above the stream and invaded the lawns, fences and gardens of five residential lots (Figure 1 close up of leaves and flowers; Figure 2 overgrown habitat).

Upon hearing of this new population, a Master's graduate student, Amanda M. West, in the Crop Science Department at North Carolina State University in Raleigh, contacted HARP asking to use the Charlotte population for a series of test plots for research on chemical control. HARP assisted Ms. West in setting up control plots in the summer of 2007. A local invasive species committee, Council on Locally Invasive Plants and Pests (CLIPP) operating under the Mecklenburg County Soil and Water Conservation District, expressed interest in investigating ways to control the species but decided to await the results of the research by Ms. West. In the summer of 2008 the results of the various trials were supplied to HARP by Ms. West as she completed her thesis research. Her thesis was submitted in 2009. A report of the research was published in 2011 in *Invasive Plant Science and Management* (A.M. West *et al.* 2011). The data reported were from one season of treatments (2007) with an analysis of the long-term regrowth results during the 2008 growing season. In her thesis (2009) and in the 2011



Figure 1. Leaves and flowers of *Cayratia japonica*. Note the center leaflet is stalked.

report it was noted “that multiple-season treatments may be required at well-established bushkiller infestation sites.” The special projects subcommittee of CLIPP focused on extending Ms. West’s studies.

West’s studies (West *et al.*, 2011) in the field showed no long-term control by glyphosate, triclopyr, triclopyr + 2,4-D, and triclopyr + aminopyralid. Better long-term control was achieved by imazapyr, sulfometuron, and sulfometuron + metsulfuron, particularly the latter which was marketed under the name Oust Extra™ (DuPont™). Figure 3 shows the results of the treatment with Oust Extra at the end of the 2008 growing season. Note the two logs at the base of the slope in both Figures 2 and 3. In addition to the slope, five residences at the top of the slope were strongly affected by the growth of the bushkiller, which overgrew the gardens, fences, became the dominant plant in hedgerows and grew into the cultivated trees in the lawns.

CLIPP received written permission from the property owners to do whatever seemed feasible to reduce the impact of the species. We have worked since 2008 until the summer of 2011 when we feel confident that we now have a better understanding of the biology of the species in the Piedmont region and have the infestation almost under control. We noted that spraying with Oust Extra™ in September 2008 gave a reduction of about 60% in vigor in the spring of 2009, but there was significant regrowth of new shoots.

The initial 2008 treatment of the area along the slope and floodplain was 60 gallons (8 oz./100 gallons/acre). Treatments were repeated in 2009 the last of April and monthly thereafter until frost. Since the species is tropical, new shoots appear all during the growing season. Working in the temperate Piedmont gave us an opportunity to plan during the dormant season and treat the stems in the spring before they reached high into the trees the next year. Not having a temperate climate in the Gulf coast means that the plant may not stop growing all year, which requires additional planning for treat-

ment. Although treatment with Oust Extra™ gave the best results, it required several years to reduce the sprouting and vigor of the regrowth. New sprouts occurred at random from the underground stems all during the season.

As Amanda West (West 2009) completed the 2007 treatment season, she obtained a new chemical not yet on the market, DPX-KJM44, being tested by DuPont. The preliminary results showed this chemical provided the best control 10 months after treatment. Our examination of her plots the next spring showed the best over-winter reduction in growth and vigor resulted from the treatment with DPX-KJM44. We contacted the DuPont VMF representative in Raleigh, North Carolina, G. Neil Loyd to ask about the new herbicide and found it was in a pre-release to the public condition, to be labeled as DuPont™ Streamline® (MAT 28 + Escort®) [Aminocyclopyrachlor + Metsulfuron]. We arranged for a demonstration of the new herbicide on July 22, 2010. The results of the trial on one lawn and woods ecotone were excellent and a limited amount of Streamline® (150 gm.) was made available for testing in Charlotte. All of the residential areas (lawns and fence infestations) were treated with 15 gallons of herbicide (50 gm./5 gallons of water) on August 5. There had been no regrowth in the areas treated on July 22 by August 5. Based on these results, DuPont, through Neil Loyd, provided several pounds of Streamline® to Michael Hodges, a representative of Crop Production Services, Timberland Division of Monroe, North Carolina, to support the continued activity. A final treatment of the entire area of untreated woodland was performed on October 21, 2010, using five gallons of herbicide. Michael Hodges has overseen the application activity in Charlotte and in Davidson and Forsyth counties.

Streamline® has been applied at 7 oz. per acre, in 20 gallons of water per acre with a nonionic surfactant. Several

surfactants were tested. The most effective results were obtained with LI-700, an acidifying, penetrating, soy-oil derived nonionic surfactant that enhances penetration by temporarily relaxing the wax structure on the leaf surface. LI-700 was added at a rate of one-fourth oz. per gallon of spray mix. LI-700 was supplied by Loveland Products, Inc., Greeley, Colorado, through Crop Production Services, Timberland Division, Monroe, North Carolina.

In 2011, the first application of the growing season was on April 25 when five gallons were applied over the entire area. As is typical of areas with heavy infestations, new sprouts appear during the growing season and not in the same area as the previously treated sprouts. On June 2, twelve gallons were applied to the regrowth; on June 24, five gallons were applied; on July 22, two and one-half gallons were applied; on August 23, one and one-half gallons were applied. The last application for 2011 was on October 21, again using one and one-half gallons. The decrease in number of gallons indicates that the infestation is becoming less aggressive (less new sprouts) as the underground food supply is reduced.

Control of a bushkiller infestation will require continual treatment over several years, depending on the degree of infestation. The longer an area has been infested, the more massive the underground storage/meristem system and the longer it will take to eventually kill the underground meristems and deplete the nutrition. Streamline® appears to act in a limited area on underground parts and although it does eliminate local underground areas of growth, sprouting occurs away from the previously treated area. We have noted that regrowth in areas is unpredictable and the entire area has to be examined/treated initially every 10 to 14 days, then three to four weeks. As the control develops (lack of new sprouts), monitoring can be extended to six to eight



Figure 2. Bushkiller population at the time of discovery in June 2007. Note the two logs, with the bushkiller covering the vegetation on the bank and up 25 ft. into the canopy.



Figure 3. Reduction of the bushkiller growth after herbicide application during the 2008 growing season. Compare the vegetation in relation to the two logs in Figure 2.



14th Annual SE-EPPC Conference

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weeks. However, periodic treatment over the growing season is necessary. Waiting late into the season before treating allows the plants to grow and store food, which seems to prolong the problem of control of new sprouts.

In areas where control is just beginning and where the vines have become attached to the shrubs and trees, we have found that gently pulling on the vines will break the tendrils, allowing the vines to be piled on the ground and sprayed. This spray procedure reduces the amount of spray needed, as the entire plant receives a concentrated dose of herbicide. This technique also reduces the chance of overspray on to desirable species.

In an experimental treatment for an area without desirable woody species, the typical mixture of Streamline[®] and LI-700 was supplemented with 3 oz. per gallon of Tailspin[™] containing Fluroxypyr 5.6% and Triclopyr 16.1%. Tailspin[™] is labeled for broadleaf control in cool season turf, industrial and non-crop areas. This combination of chemicals stopped re-sprouting better than a mixture containing only Streamline[®]. However, it should not be used near desirable woody species.

We wish to acknowledge the cooperation of the CLIPP Subcommittee, particularly Jack McNeary and Tom Martin who assisted in some of the early site work. We also wish to thank Neil Loyd, District Sales Manager for DuPont, Raleigh, North Carolina, for providing materials for the project.

James Matthews, Habitat Assessment and Restoration Professionals, Charlotte, North Carolina; mrjimmathews@gmail.com; Gary Marshall, Mecklenburg County Park and Recreation, Charlotte, North Carolina, Gary.Marshall@mecklenburgcountync.gov; Michael Hodges, Crop Production Services – Timberland Division, Monroe, North Carolina, Mike.Hodges@cpsagu.com

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Invasive Plants Know No Boundaries

by Robert L. Farley

Invasive plants know no boundaries, nor do they discriminate against potential habitat targets. The invasion of wild and natural areas by invasive plants is of primary concern in Florida, but one state agency recently took aim on a different sort of environment.

The Florida Department of Transportation (FDOT) committed to removing and excluding invasive plants from the right of way on State Road 20 within sight of the State Capitol Building in Tallahassee. This urban road, home to many state agency buildings, was the recipient in 1985 of a beautification project performed by Arbor Green, a Tallahassee non-profit group promoting and implementing community beautification. A large number of trees and shrubs were donated and planted by hundreds of community volunteers. Plantings included a group of memorial live oak trees that bear plaques commemorating past governors and other community leaders.

As often happens, this effort was diminished over the years by invasion from the usual suspects; kudzu, mimosa, privet, camphor tree, chinaberry, and ligustrum were the primary culprits crowding out the shrubs and invading the canopies of the memorial trees.

Twenty five years after installation, the FDOT Midway Operations Center mobilized its maintenance forces and removed the offending plants and liberated the long suffering beautification project. Over the course of several weeks, the maintenance crews worked diligently (and carefully) on



FDOT maintenance crews removing a large camphor tree (Cinnamomum camphorum) from Apalachee Parkway (SR 20) within sight of the State Capitol Building.

the heavily travelled road to cut vegetation, treat stumps, and chip and haul the trimmings. The result is a safer, more scenic gateway road to our State Capitol. Kudos to the Florida Department of Transportation.

Robert L. Farley, Planning and Landscape Architecture, Atkins North America, Inc., Tallahassee, Florida, 850.575.1800, Robert.Farley@atkinsglobal.com

**Help protect *your* natural areas
from exotic pest plants – join an
Exotic Pest Plant Council in your state!**

www.se-eppc.org



Invasive Species Community of Practice

by Karan A. Rawlins, Samuel Chan, Charles T. Barger, and Karen Jeannette

eXtension is an Internet-based collaborative learning environment where participants from the nation's Land Grant Universities work and learn together to create educational content through groups called Communities of Practice (CoP). Each CoP focuses on identifying and providing information to specific interest-based audiences. The eXtension Invasive Species CoP has developed and maintains a national website at www.extension.org/invasive_species. This website is designed to connect and mobilize audiences and groups through an Invasive Species Learning and Action Network. It is through this network that the Invasive Species CoP seeks to involve or connect Cooperative Extension invasive species educators, researchers, and outreach and communications experts from leading universities across the U.S. with Master Gardeners, outdoor hobbyists, natural resources professionals and decision-makers. Our goal is to deliver current, practical, research-based information from a wide array of sources, enabling people to make informed decisions regarding the prevention and mitigation of the environmental, economic, and health impacts from invasive species.

The initial launch of the Invasive Species CoP website has been focused on invasive plants. Invasive animals and other organisms will also be included. The Invasive Species CoP will continue to grow as more people join the community and as additional species, resource links, training events and educational materials are added. Information on how to join the Invasive Species CoP is at the end of this article.

Invasive Species Profiles

Information for each invasive species is arranged in a species profile. Species descriptions, identification, taxonomy and images aid in identification and verification. Distribution maps show which invasive species are found in a specific region. Because the maps provide information from across the U.S., you can also see which invasive species are found near your region that may be headed your way. Information on how and where to report different types of invasive species is included in each profile. There are links to prevention, management and control recommendations from both university and government resources. Because some invasive species are found across the United States in a variety of habitats, control recommendations can differ from region to region. A variety of reliable resources allows the user to choose the information and plan to best fit their needs and situation.



Kudzu (*Pueraria montana* var. *lobata*) overtaking a structure.

REBEKAH D. WALLACE, UNIVERSITY OF GEORGIA, BUGWOOD.ORG

Got a Question? Ask an Expert!

“Ask an Expert” is another resource available through eXtension. Search Frequently Asked Questions (FAQs) to find simple, clear, research-based answers from invasive species experts. New or regionally specific questions may be submitted, as well. They will go directly to an invasive species expert. Experts from around the country, including invasive species researchers, educators and Master Gardeners, have volunteered to assist with the “Ask an Expert” program. With 50

Our goal is to deliver current, practical, research-based information from a wide array of sources, enabling people to make informed decisions regarding the prevention and mitigation of the environmental, economic, and health impacts from invasive species.

states and so many invasive species to cover, we will need more experts to help. If you would like to volunteer, please join the Invasive Species CoP.

Calendar of Invasive Species Events

Check the calendar for invasive species events and training opportunities in your area. Events cover a wide range of activities from workshops with hands-on training in identification or management of invasive species to help in removing invasive plants from your local park. If you know of an invasive species related event in your area that has not been posted, please send us the information so we can share it.

>> http://www.extension.org/invasive_species <<

Invasive Species Articles

Articles in eXtension Invasive Species CoP discuss:

- Why people should care about invasive species
- How to identify and learn more about invasive species
- “Priority” early-detection species to look out for and how to report them
- Prevention, avoidance, monitoring, and suppression of invasive species
- Instructional videos, on-line training courses, and other tools
- How to help with invasive species efforts in your community
- Links to additional web-based resources and printable public outreach and educational materials are also provided.

Thank You Master Gardeners

Thank you to the Master Gardeners and Master Gardener Coordinators across the U.S. who participated in our initial survey. 196 people gave us their advice on information they thought would be most helpful on invasive species. Images were deemed the most important by well over half the survey participants. Many also provided helpful advice along the way, such as the best format to use for the invasive species profiles. Their help, advice and encouragement were invaluable.

Instructions to Join

All are invited to join the Invasive Species CoP in eXtension. Professionals with a Cooperative Extension affiliation (personnel with U.S. Cooperative Extension, Land-Grant Institutions, U.S. Government personnel affiliated with Cooperative Extension, Extension-related organizations working on projects with Cooperative Extension staff, and State colleges) are encouraged to contribute their expertise to the Invasive Species CoP by signing up at www.extension.org/people/signup. Check Invasive Species as one of your Communities of Practice.

People without a Cooperative Extension affiliation should contact Karan Rawlins (krawlins@uga.edu). This includes

- Invasive species management professionals
- Land managers
- Land owners
- Citizen scientists
- CISMA/PRISM/CWMA members
- Volunteers collecting data on invasive species distribution
- Volunteers working to manage invasive species

The public is encouraged to use the Invasive Species Community of Practice. Homeowners and other non-professionals can look up information on a specific invasive plant without joining the community. Please visit www.extension.org/invasive_species

Karan A. Rawlins, *Invasive Species Coordinator, University of Georgia, Center for Invasive Species and Ecosystem Health; krawlins@uga.edu;*
Samuel Chan, *Oregon Sea Grant, samuel.chan@oregonstate.edu;*
Charles T. Bergeron, *Technology Coordinator, University of Georgia, Center for Invasive Species and Ecosystem Health, cbergero@uga.edu;*
Karen Jeannette, *Community of Practice Support, eXtension Initiative*



APRIL 16-19, 2012 | OCALA, FLORIDA

The Florida Chapter of The Wildlife Society in conjunction with the Florida Exotic Pest Plant Council will hold their Spring Conference in Ocala, Florida, April 16-19, 2012.

The conference will feature:

- “Invasive Wildlife” symposium
- “Invasive Species Policy” plenary session
- oral presentations
- poster session
- field trips
- workshops

Social highlights include:

- outdoor feast
- concert by *The Weeds*
- awards ceremony
- banquet dinner

This meeting provides an excellent opportunity for students and professionals working on wildlife and/or invasive species research, management, and control in Florida to present results of recent studies, discuss works in progress, and share ideas.

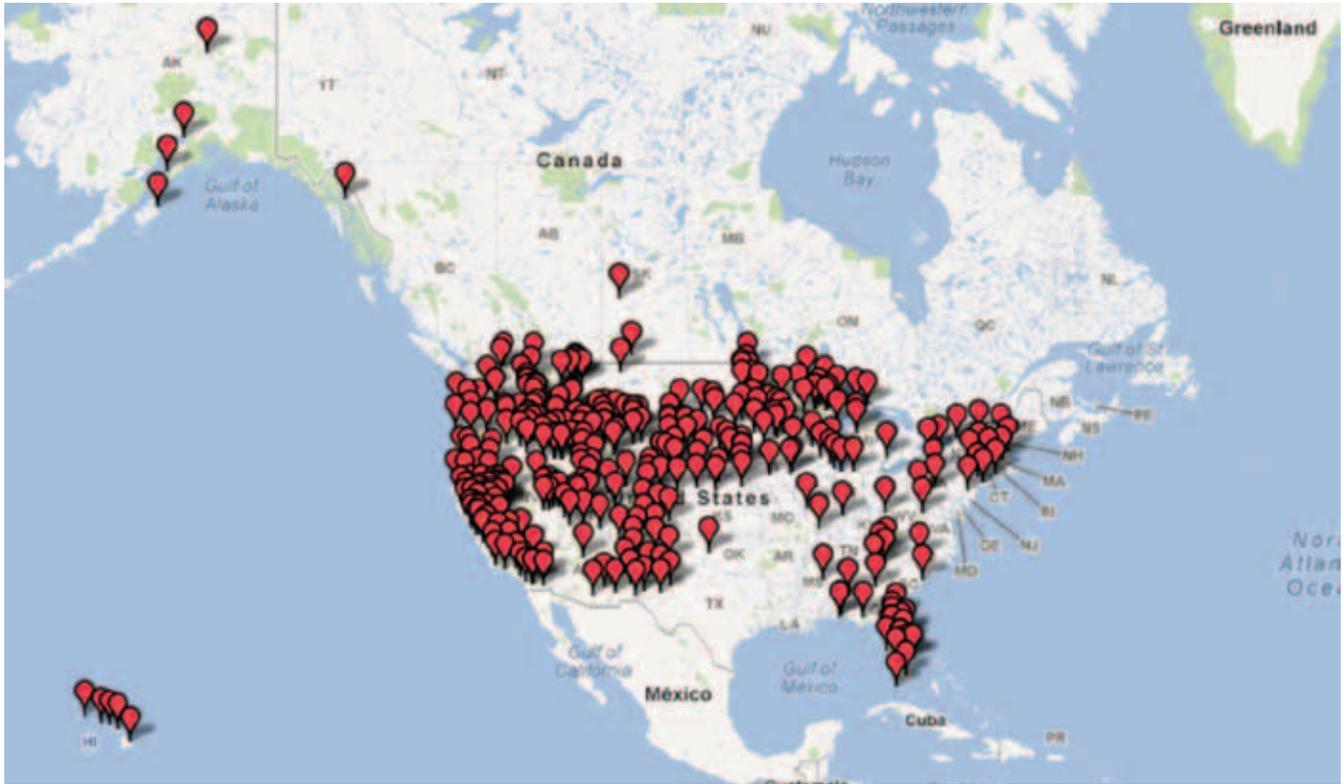
For more details go to the FLTWS website at

<http://www.fltw.org/>



Strengthening Grassroots Partnerships: Summer 2011 Survey Results

by Karan A. Rawlins, Kristina Serbesoff-King, and Charles T. Bargeron



Points represent CWMAs, CISMAs and PRISMs. Map provided by the National Association of Exotic Pest Plant Councils (<http://www.naepcc.org/cismas.html#map>)

In summer 2011, participants from many states completed a short survey to help gather information about invasive species partnerships throughout the U.S. Partnerships included Cooperative Weed Management Areas (CWMAs), Partnerships for Regional Invasive Species Management (PRISMs) and Cooperative Invasive Species Management Areas (CISMAs). Thank you, one and all, for participating!

Results from the survey (see facing page) were used to help draft an agenda for the second Grassroots Invasive Species Forum & Webcast held on March 1, 2012 at the National Invasive Species Awareness Week (NISAW) in Washington, DC. (Visit www.nisaw.org/webcast2012.html to hear the recorded webcast.)

Partnership and cooperation between all stakeholder groups in a region—public and private, professional and volunteer, and regardless of political boundaries—is important for group sustainability and effective management of invasive species problems. In addition, working in cooperation with other groups across the nation provides a better picture of invasive species problems across the national landscape.

There are many ways to help with this effort: searching for solutions, providing reliable information, public outreach, control projects and funding are just a few of the ways you can contribute to the CWMAs/CISMAs/PRISMs or invasive species working group in your region. The National Association of Exotic Pest Plant Councils serves as a contact hub and can be found at www.naepcc.org.

People from many states participated in the survey. Many added their name and contact information to help us build a national listserv for CWMAs/CISMAs/PRISMs that will facilitate national communication and help local partnerships.

To be added to this list to be part of the conversation and receive information on future webinars and other events, please send your name and email address to Karan Rawlins at krawlins@uga.edu.

Karan A. Rawlins, Invasive Species Coordinator, University of Georgia, Center for Invasive Species and Ecosystem Health, krawlins@uga.edu; Kristina Serbesoff-King, The Nature Conservancy, kserbesoffking@tnc.org; Charles T. Bargeron, Technology Coordinator, University of Georgia, Center for Invasive Species and Ecosystem Health, cbarger@uga.edu

Survey Results

- Partnerships and public outreach were listed as the two greatest accomplishments for these invasive species working groups. Establishing their CWMA/CISMA/PRISMs was ranked highly, as was training and sharing information. (Fig. 1)

- 83% of the CWMA/PRISM/CISMA work with other groups in their region and 70% are listed on the current National CWMA Map at <http://www.naeppc.org/cismas.html>.

- Funding for control efforts, a paid coordinator, Early Detection & Rapid Response (EDRR), group sustainability and raising public awareness all ranked high as topics people want to discuss in future national webinars. (Fig. 2)

- Top resources for CWMA/CISMA/PRISMs information and assistance are the local Exotic Pest Plant or Invasive Plant Councils; Department of Natural Resources, Forest Service, and Department of Agriculture; web-sites; and other partners.

- Sustainability was listed as the greatest challenge for CWMA/CISMA/PRISMs, which is related to and closely followed by recruiting and retaining volunteers and partners. Time management was also listed as challenging. (Fig. 3)

- Just over 75% of respondents reported that private landowners are working with their CWMA/CISMA/PRISMs. More than half reported that legal barriers such as state or county lines reduce their effectiveness as a working group. The vast majority also had very limited funding to help their program move forward. Less than 10% had funding that continued into the future for longer than two years. (Fig. 4)

- 50% of respondents said they would be interested in participating in semi-annual national conference calls/webinars as opposed to quarterly calls/webinars or “No, can’t attend.”

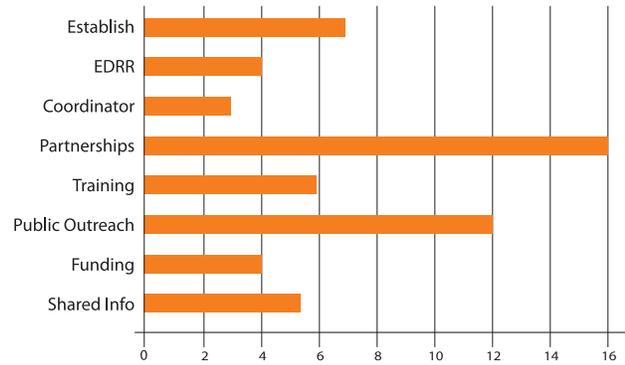


Fig. 1

At the end of the NISAW panel discussion, audience members voted on their top three discussion topics for future national webinars.

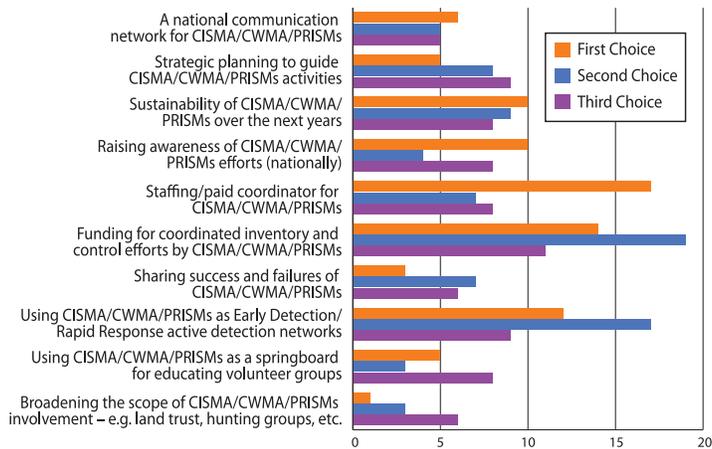


Fig. 2

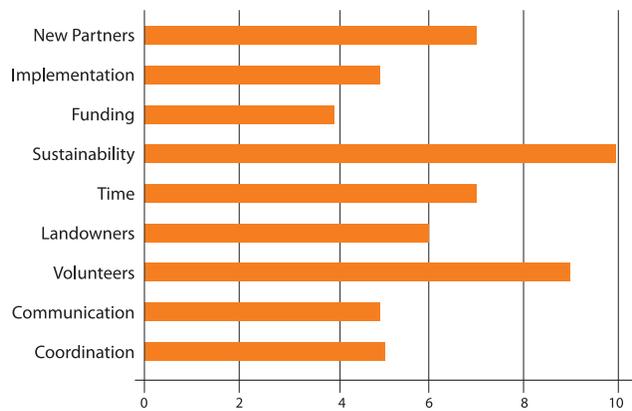


Fig. 3

As of today, my CWMA/CISMA/PRISM has base funds (choose one)

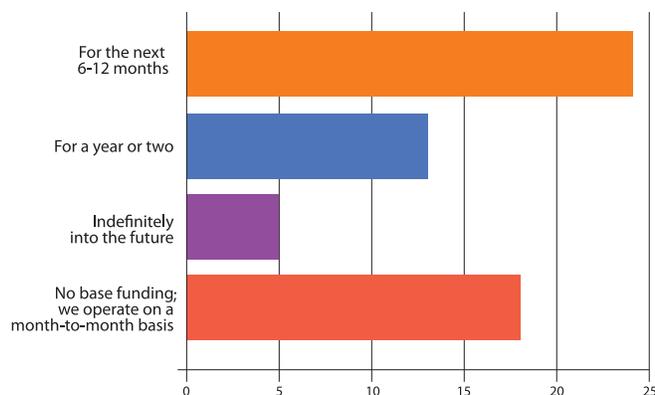


Fig. 4

Deciphering Nativity in the Botanical World

Editor's note: The following narrative was taken from a discussion among members of the Florida Keys Invasive Exotics Task Force (FKIETF) regarding a species suggested for placement on their invasive plant list. The discussion includes a detailed account of the methods and resources used in determining the native range (or nativity) of a plant species – a task clearly outside the realm of experience for non-botanists.

Dear FKIETF members,

I would recommend against adding *Pluchea carolinensis* to any exotic list. It has been somewhat common in the lower Florida Keys for more than 35 years. It appears rapidly and sometimes abundantly after land clearing or fire. It favors early successional and degraded habitat types adjacent to natural areas. It rarely persists for more than several years after the event that favored its establishment. In short, it behaves like a native, and the evidence to the contrary is slim...

As money becomes more short, it would benefit all involved to prioritize all action towards the true problem species. The situation has become more critical in recent years and it appears that in some areas the battle is being lost. This is a hard job that some of you do. The real bad species are the ones that grow fast and spread fast and need fast action if they can be stopped.

Thanks,
Robert Ehrig, ehriuanaxx@aol.com

From Keith A. Bradley
Assistant Director, The Institute for Regional Conservation
Chair, Florida Exotic Pest Plant Council Plant List Committee

Hello all,

I've been asked by a few people to weigh in on *Pluchea carolinensis*, so let me summarize the data to supplement the discussion on our web page on this species (<http://regionalconservation.org/ircs/database/database.asp>, click on Plants of South Florida and scroll down to *Pluchea carolinensis*) in which we state that it is probably introduced in southern Florida, but we note that there is disagreement on that.

Many books say this species is an introduced exotic (listed below from new to old):

- *Flora of North America* (2006)
- Nelson – *The Shrubs & Woody Vines of Florida* (1996)
- Cronquist – *Asteraceae* volume of the *Flora of the Southeastern United States* (1980)
- Ledin – *Compositae of Southern Florida* (1951)
- JK Small – *Manual of the Southeastern Flora* (1933)
- JK Small – *Flora of the Florida Keys* (1913)
- JK Small – *Flora of the Southeastern United States* (1903) – which is the first published record for Florida that we've seen.

In addition to books covering the flora, when we address nativity we should always look at any taxonomic monographs dealing with the species because authors of these treatments have taken the most detailed look at a species' global range, and have observed as many herbarium specimens as possible, including the oldest ones known.

This allows them to understand where a species originated and where it was moved. In this case we have Godfrey, R. K. (1952) *Pluchea*, section *Stylimnus*, in North America, *Journal of the Elisha Mitchell Scientific Society* 68:238-271, which includes a comprehensive treatment of all of our *Pluchea* species. In it he writes, "Introduced in Southern Florida and the Hawaiian Islands."

As we've pointed out, there are exceptions to the above:

Long & Lakela's *Flora of Tropical Florida* (1971) isn't specific (which generally indicates they thought it was native).

And most relevant to us in Florida would be all editions of Wunderlin & Hansen's *Guide to the Vascular Plants of Florida* (1998-2011), and their online Atlas of Florida Vascular Plants, which all say native [Note: this has since been changed to non-native as a result of these investigations]. I e-mailed Bruce Hansen about his thinking and his reply was:

"I did some checking and the clearest statement comes from Godfrey (*J. Elisha Mitchell Sci. Soc.* 68: 248. 1952), where he says "Mexico, Central America, northern South America, and from Bermuda and the Bahama Islands through the West Indies to Trinidad; introduced in Southern Florida and the Hawaiian Islands". Why he thinks it's native to the entire Caribbean basin but introduced in Florida is probably because the first report of it (that I can find) is in Small's 1903 Flora. Maybe we should change it on the Atlas and in the Flora to introduced, since our definition is "those that have become part of the Florida flora following the occupation by Europeans in the

early sixteenth century.” As always in these borderline cases, no one knows what’s native and what’s like us.”

When we address nativity we should also look at historical herbarium specimens. Unfortunately we haven’t really done that for this species. We can presume from the literature above that this was a late addition to our flora since Small (1903) was our first report. It was not, for instance, in any volume of Chapman’s *Flora of the Southern United States* (editions from 1860 to 1897), or Torrey & Gray’s *Flora of North America* (1840). Torrey and then Chapman were very careful in recording species being collected in the Florida Keys. Both had access to specimens of Rev. A. Bennett, the first notable collector in the Keys (1834-5), and both obtained specimens from and corresponded with the prolific lower Keys collector Dr. John Loomis Blodgett (1838-1853). Based on the literature it doesn’t look like either collected *Pluchea*. The earliest records from Florida seem to be from the very end of the 1890s. If someone really wanted to get into this they would need to inspect the collections at the New York Botanical Garden and at the Smithsonian, but I don’t think they’d find anything older than the 1890s, almost 80 years after Key West was settled.

So, the pattern seems to be a pretty late discovery in Florida, indicating a late arrival was most likely. It subsequently spread up the peninsula to central Florida. We’ll never know for sure, but the evidence points to this being an introduced species in the Florida Keys and the rest of Florida.

That leaves us with the question of what to do as managers. As with any species, we have to decide on whether to control it whether or

not it is native. For some native species there are times when we should definitely control them – e.g. morning glories can be aggressive weeds when a habitat is disturbed. Hypothetically, there are cases when exotics shouldn’t be killed – for example, short-lived species that may be serving as nurse plants for other hardwoods following a hurricane, or a species which is only of ephemeral occurrence following a disturbance event like a fire or a storm (there are lots of species like this that are typically just roadside weeds).

Despite thinking this is an exotic based on all of the evidence, I personally have never seen a situation *in a natural area* in the Keys where I thought control was warranted because it only occurred at very low densities and I would not expect it to persist. There are, however, situations where *Pluchea* is probably too dense in disturbed habitats because it is interfering with succession, and in such situations, control would be warranted. Control needs should be evaluated on a case by case basis. In some places *Pluchea* may slowly senesce and eventually disappear with no intervention. It has been a weed in the Florida Keys for over a century, but I don’t believe it is a threat to natural areas.

Keith A. Bradley

Assistant Director, The Institute for Regional Conservation
Chair, Florida Exotic Pest Plant Council Plant List Committee
bradley@regionalconservation.org, (305) 247-6547,
www.regionalconservation.org

WEEDS ACROSS BORDERS 2012

MEETING THE CHALLENGES OF THE FUTURE
HOTEL OASIS SENS | CANCUN, MEXICO | APRIL 24–27, 2012



MALEZAS SIN FRONTERAS 2012

ENFRENTANDO LOS RETOS DEL FUTURO
HOTEL OASIS SENS | CANCÚN, MÉXICO | 24–27 ABRIL, 2012

Weeds Across Borders is a biennial trilateral conference series that strives to advance the formation of partnerships, sharing of information, and coordination of programs that transcend traditional jurisdictional boundaries. The conference brings together representatives from agencies, organizations, and other stakeholder groups from Canada, Mexico, and the United States, that share a common interest in promoting invasive plant management efforts and coordination throughout the continent.

This year’s conference is being organized and sponsored by Mexico’s National Commission for Knowledge and Use of Biodiversity (CONABIO) and will be held in Cancun, Mexico from April 24-27, 2012. The conference theme, “Meeting the Challenges of the Future,” will be conveyed through a diverse program that will include presentations on the economic, ecological, and sociological impacts of invasive plants and how the three countries can work together more effectively and meet the challenges of invasive plant management now and into the future.

Additional information on Weeds Across Borders 2012, including the agenda, full list of sponsors, registration information, and links to past conferences is available on the conference website:

www.weedcenter.org/wab/2012

or contact us at weedsacrossborders2012@gmail.com

Invasive Species in Florida?



Yep, we've built an App for that!

IveGot1 now brings the power of EDDMapS to both your iPhone® and Android™ devices.

IveGot1 was developed by the University of Georgia Center for Invasive Species and Ecosystem Health through a cooperative agreement with the National Park Service, in cooperation with the Florida Fish and Wildlife Conservation Commission and the University of Florida Center for Aquatic and Invasive Plants.

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