Free Online Educational Tool—Trains Observers to Document Invasive Reptile Species

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Invasive species pose a serious threat to our health, ecosystems, and economy. More than 50,000 non-native species, ranging from viruses to vertebrates, have been introduced in the United States. Costs associated with these invasive species have been estimated at an astounding $120 billion per year. According to the Florida Museum of Natural History (http://www.flmnh.ufl.edu/herpetology/), at least 45 of the more than 120 non-native reptile species that have been accidentally or intentionally introduced in Florida are now established and breeding. Introduced lizards well outnumber native lizard species, and the introduced reptile fauna now also includes large, carnivorous lizards and snakes.

The Introduced Reptile Early Detection and Documentation program is a free, online educational tool designed to train observers to identify several large, non-native snakes and lizards that could pose a threat to Florida's ecology, economy, and human well-being and accurately report sightings of these species. EDIS publication #WEC292 is intended to familiarize you with the REDDy program and provide you with all of the necessary resources to enable you to present the course concept and basic instructions to potential trainees and answer their questions. Your trainees will need to complete the online training individually in order to certify as REDDy observers. With your help, we hope to extend this training program to a variety of audiences, including Master Gardeners, Master Naturalists, outdoor enthusiasts, delivery drivers, agricultural and transportation workers, water management departments, and the interested general public.

The REDDy online course is a resource provided by the Everglades Cooperative Invasive Species Management Area (ECISMA; www.evergladescisma.org) and was created by the University of Florida in collaboration with the National Park Service (www.nps.gov) and The Nature Conservancy (www.nature.org). Funding for this project was provided in part by the South Florida National Parks Trust, the Ferris Greeney Family Foundation, and the USDA Renewable Resources Extension Act.

To learn more about REDDy training visit Dr. Johnson’s University of Florida/IFAS Wildlife Ecology and Conservation website at http://ufwildlife.ifas.ufl.edu/reddy.shtml
Life cycle assessment of nutrient remediation and bioenergy production from the harvest of hydrilla (Hydrilla verticillata)


Hydrilla (Hydrilla verticillata) is one of the world’s most problematic invasive aquatic plants. Although management of hydrilla overgrowth has often been based on use of chemical herbicides, issues such as the emergence of herbicide-resistant hydrilla biotypes and the need for in situ nutrient remediation strategies have together raised interest in the use of harvester machines as an alternative management approach. Using a life cycle assessment (LCA) approach, we calculated a range of net energy and economic benefits associated with hydrilla harvests and the utilization of biomass for biogas and compost production. Base case scenarios that used moderate data assumptions showed net energy benefit ratios (NEBRs) of 1.54 for biogas production and 1.32 for compost production pathways. NEBRs for these respective pathways rose to 2.11 and 2.68 when labor was excluded as a fossil fuel input. Base case biogas and compost production scenarios respectively showed a monetary benefit cost ratio (BCR) of 1.79 and 1.83. Moreover, very high NEBRs (3.94 for biogas; 6.37 for compost) and BCRs (>11 for both biogas and compost) were found for optimistic scenarios in which waterways were assumed to have high hydrilla biomass density, high nutrient content in biomass, and high priority for nutrient remediation. Energy and economic returns were largely decoupled, with biogas and fertilizer providing the bulk of output energy, while nutrient remediation and herbicide avoidance dominated the economic output calculations. Based on these results, we conclude that hydrilla harvest is likely a suitable and cost-effective management program for many nutrient-impaired waters. Additional research is needed to determine how hydrilla harvesting programs may be most effectively implemented in conjunction with fish and wildlife enhancement objectives.

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Recent Research

Upcoming Events

- Natural Areas Training Academy: Managing for Diversity Across Florida’s Diverse landscapes, November 16-18, 2010. This course is designed to introduce students to the rich biological diversity of Florida and to ensure that students have an understanding of the strategies used to protect biodiversity in Florida. This workshop is part of the series that leads to the Certificate in Natural Areas Management. To learn more go to http://nata.snre.ufl.edu/diverse.htm

- Forest Stewardship Tour: Evans Farm, November 16, 2010. Flagler / Volusia County, 9 am - 1:00 pm ET. Cost is $10 per person. Lunch and materials included. Details and registration on-line: http://fsp-tour111610.eventbrite.com/

- Forestry Webinar: Silvopasture: A viable Agroforestry Enterprise System, November 17, 2010 at 12:00 EDT. This webinar will focus on issues and establishment practices that landowners and planners need to consider when converting their existing land management to silvopasture. To register go to http://www.forestrywebinars.net/webinars/silvopasture/

- CFEOR Workshop: Groundcover Restoration in Forests of the Southeastern US, Vernon, FL, November 18, 2010 from 10 am to 3 pm, Sandhill Lake Mitigation Bank Tract, Chain Lake Road, Vernon, FL. To learn more and register go to http://www.sfrc.ufl.edu/CFEOR/index.html
Upcoming Events

- **15th Annual SW FL Invasive Species Conference, December 1, 2010** at the Florida Gulf Coast University in Ft. Myers. This free event is an exceptional resource for invasive species information for land managers and other specialists. Earn CEU’s in hands on workshops. For details and to register go to: [http://www.floridainvasives.org/southwest/Conference2010/index.html](http://www.floridainvasives.org/southwest/Conference2010/index.html)

- **Forest Stewardship Videoconference: Greenbelt Update – Conservation Use Assessments, December 14, 2010** 2-4 pm, ET, G001 McCarty Hall, UF Campus, Gainesville, broadcast to UF-IFAS Extension facilities across Florida. For details and registration on-line go to: [http://fsp-videoconference121410.eventbrite.com/](http://fsp-videoconference121410.eventbrite.com/)

- **Forest Stewardship Workshop: Invasive Exotic Plants and Their Control, January 12, 2011.** 9 am - 3 pm ET, Trout Lake Nature Center, Eustis, FL. Lunch, materials, FDOACS pesticide applicator CEUs and SAF CFEs will be provided. For details and registration on-line go to: [http://fspworkshop011211.eventbrite.com/](http://fspworkshop011211.eventbrite.com/)

- **CFEOR Tour of Green Circle Bio-Energy Plant, January 20, 2010, 10am – 12pm, Cottondale, FL.** Details and registration go to: [http://www.sfrc.ufl.edu/CFEOR/Upcoming%20Events.html#green](http://www.sfrc.ufl.edu/CFEOR/Upcoming%20Events.html#green)