

## Highlights:

- Greenhouse Frogs “native” to Florida?
- Python detection dogs on the hunt
- Biological invasions could cause a future biodiversity crisis!
- New wild hog management guide available

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## Focal Species: Domesticated Cat

### Scientific name:

*Felis catus*

### Size:

8 – 20 lbs.

### Native range:

Mediterranean species domesticated ~3,000 years ago

### Notes:

Four classifications of domestic cats, see text



Cat kills a wild bird.

Photo: Dr. Relling, Wikimedia

Although the potential impacts of domesticated cats on native wildlife are often ignored, this species is listed among the “[Top 100 of the World’s Worst Invasive Alien Species](#)” by the Global Invasive Species Programme. Domesticated cats have been introduced around the globe, and are having considerable impacts on native wildlife.

Cats compete with native mesopredators and prey on wildlife, thereby reducing biodiversity and often causing harm to endangered species. Domestic cats are especially problematic on islands, or in habitat fragments, where they can decimate native wildlife rapidly. On

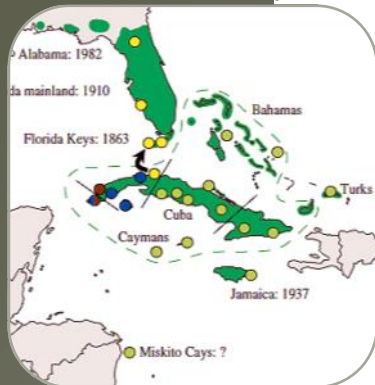
many islands, cat eradication programs must be used to save wildlife from extinction.

In the United States, cats are believed to kill billions of small vertebrates each year—even well-fed, bell-wearing cats kill wildlife! Cats kill small mammals such as rabbits, squirrels, shrews, and other species, many of which are important prey for birds such as owls. Cats also kill a variety of birds, from common songbirds to endangered shorebirds and scrub-jays, as well as some amphibians and reptiles. Surprisingly, they *don’t* kill many rats!

Domesticated cats can be classified as indoor, feral (completely wild), limited-range (allowed outdoors within limits), or free-range

(e.g., barn cats or outdoor pets). Many cat owners have the common misconception that their cat does not hunt—yet when pressed, most can recall at least one instance when they have observed their pet doing just that. Only truly indoor cats do not impact wildlife, therefore allowing cats outdoors without direct supervision (e.g., on a leash) is ecologically irresponsible. In addition, feral cats can spread many diseases to wildlife, humans, or pets, some of which may be fatal to pets. Therefore, it is important to educate cat owners about the many dangers of allowing cats outdoors in order to promote responsible pet ownership.

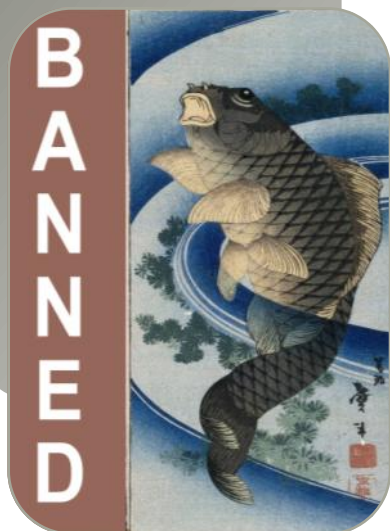
Feeding feral cats is illegal in most areas and should be discouraged. When possible, *any* cat outdoors should be trapped humanely and surrendered to animal control—they often have traps available for check-out. Lastly, proper sanitation and rodent traps should be used instead of barn cats for more effective rodent control. [Learn More...](#)



Greenhouse Frog range and genetic analysis for Florida— colors show genetic similarity.

(Figure excerpt from Heinicke et al 2011)

Asian bighead carp (*Hypophthalmichthys nobilis*) listed as injurious species



## Science: Non-native Frog Origins

Some scientists have wondered whether two of Florida's earliest and most successful introduced vertebrates, the Greenhouse Frog and Cuban Treefrog, could possibly have colonized the mainland naturally from their nearby, native range in Cuba. Greenhouse Frogs lay terrestrial eggs that might have floated on plant debris, and Cuban Treefrogs are slightly salt-tolerant and might themselves have hitchhiked on debris. Pennsylvania State's Dr. Heinicke and colleagues used

mtDNA analysis to test this hypothesis by tracing the lineages of both frogs in the Caribbean, Florida, and Hawaii.

Greenhouse Frogs' genetics suggest that their presence in Florida is likely the result of an introduction from a single western Cuban source population long ago, although more research is needed to fully explore other possibilities. These researchers suggest that the long-term presence of Greenhouse Frogs in Florida and lack of gene flow from Cuba may have

helped them to adapt to the colder climate and expand their range throughout peninsular Florida.

In contrast, Cuban Treefrogs' genetics suggest that their presence in Florida is most likely the result of multiple, human-mediated introductions (e.g., in cargo) from at least two source populations in Cuba.

Most importantly, this study found that Florida populations of these frogs were a source of introductions to new areas, such as Hawaii. [Learn More...](#)

## Legislation: Updates

**Federal**—New legislation signed into law by President Obama on 14 Dec 2010 adds Asian bighead carp to the list of species listed as injurious under the Lacey Act. Injurious species, which already include two silver carp and one black carp species, cannot be imported, purchased, sold, or transported without a permit.

**Ohio**—On 6 Jan 2011, outgoing governor Ted Strickland signed an emergency executive order, effective for 90 days, that bans purchase, sale, or breeding of exotic pets

deemed harmful to human health and safety. Current pet owners will be required to register exotic pets. Ohio has historically been lax on exotic pet regulations, and has been among the highest-ranked states for the number of exotic pet-related injuries and deaths. Incoming governor John Kasich has no intention of repealing the order, and will consider potential new permanent legislation.

**Michigan**—A new bill banning feral hogs will go into effect on 7 July 2011.

Michigan is plagued by thousands of wild hogs that arose from escapees from game preserves—a problem the bill aims to prevent in the future.

**Payson, Arizona**—A new town ordinance will soon require residents to obtain written permission from the police department to keep animals that require a higher standard of care than is normally required for most pets or farm animals. These restricted species will include monkeys, bison, deer, raccoons, alligators, large reptiles, and wolf-dog hybrids.



# Innovations: Python Detection EcoDogs



**By: Dr. Christina Romagosa**

To date, the detection of pythons by humans has been difficult given their cryptic nature and habitats occupied. [Auburn University's EcoDogs](#) has been contracted by Ever-

glades National Park to train and handle two dogs to be used for detection of Burmese Pythons (*Python molurus*) and African Pythons (*P. sebae*). After two months of training, the dog team began a pilot program that will run through May and will not only evaluate the use of dogs for python detection but will also provide support to the other search efforts for pythons that will occur in and around southern Florida. The

EcoDogs team consists of the dogs, their handler, and two snake handlers. With multi-agency cooperation, the dog team has been successful in finding and capturing pythons over the past few months. Use of the dogs has provided information as to areas where pythons have been present recently, as well as alerting the snake handlers to the presence of pythons that have been subsequently captured. [Learn More...](#)

"With multi-agency cooperation (USDA, SFWMD, FWC, USGS and University of Florida), the dog team has been successful in finding and capturing pythons..."

## News Updates: Mass Extinctions?

Recently, many popular news sources have reported on a new scientific study that suggests that widespread species invasions could trigger mass extinction events. Many paleontologists have suspected that one of the five major mass extinction events in the evolutionary history of our planet, at the end of the Devonian period, was just a bit

different. Instead of an increase in the number of extinctions, this biodiversity crisis was marked by a dramatic decrease in the number of new species. Dr. Alycia Stigall at Ohio University recently studied certain marine invertebrates in order to shed some light on this mystery. What she found was newsworthy as well as concerning.

During the Devonian, conditions changed, the number of species invasions increased, and speciation processes shut down almost entirely. Dr. Stigall suggests that the number of human-mediated introductions in recent years could be setting the stage for a similar crisis, and therefore protecting speciation processes is imperative. [Learn More...](#)

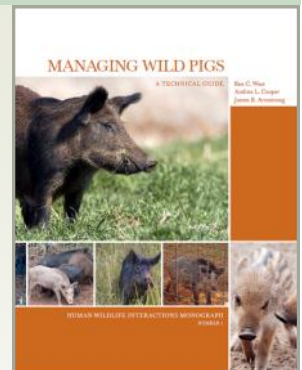


## Noteworthy

**Heartland CISMA Invasive Species Workshop**— On Feb 10, participants gathered in central Florida to learn more about invasive species research, identification, and new alerts. [Find out about similar events in your area...](#)

**Managing Wild Pigs: A Technical Guide**— download this new guide for free from the [Berryman Institute](#) or order hard copies for \$3-5 each (depending on quantity desired). The 54-page guide provides detailed information for land owners / managers on

wild hog ecology, damage, disease threats, and damage management techniques. The guide contains color photos and diagrams that demonstrate the use of various trapping, hunting, and fencing techniques. [Learn More...](#)







## In Focus...

This photo, by Joan Bausch, shows an invasive knight anole lizard (*Anolis equestris*) that she found cold-stunned at her home near Stuart, Florida in December 2010. You should euthanize cold-stunned, non-native amphibians and reptiles if possible and submit an online report with photos via [EDDMapS](#) – see Resources below.

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Do you have questions, comments, suggestions, or an In Focus photo?

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Photo © Joan Bausch, 2010

The Invader Updater is a quarterly newsletter focused primarily on providing information on invasive vertebrate animals in Florida and the southeastern U.S., and was first published in Fall 2009.

## Resources

- ◆ [Feral Cats and Their Management](#) is a comprehensive, new, 7-page guide from the University of Nebraska Lincoln Extension.
- ◆ The [American Bird Conservancy's Cats Indoors](#) program offers information and a variety of educational materials for download.
- ◆ [Domestic Cat Predation on Birds and Other Wildlife](#) is an excellent fact sheet from the American Bird Conservancy.
- ◆ [What to Do About Your Neighbors' Cats in Your Yard](#) is another helpful fact sheet from the American Bird Conservancy.
- ◆ ["Managing Wild Pigs: A Technical Guide"](#): download as a pdf or order hard copies for \$3-5 each (depending on the quantity desired).
- ◆ [Playing Smart Against Invasive Species](#) is a new, informative video presentation (26 min + 19 min bonus) from the USDA Forest Service.
- ◆ [EDDMapS](#) is the preferred online reporting system for non-native species sightings – live or dead. Be sure to report sightings of cold-killed animals. In Florida? Skip a few steps by pointing your browser to [www.IveGot1.org](http://www.IveGot1.org).
- ◆ [The Great Lakes and Mississippi River Interbasin Study \(GLMRIS\) website](#) provides information on this US Army Corps of Engineers study of the Great Lakes aquatic nuisance species threat.
- ◆ Know of an important resource not listed here or in our archives? Let us know – email a description and URL to [monicaem@ufl.edu](mailto:monicaem@ufl.edu)