

Highlights:

- Invasive Coyotes
- Eradicating Mammals with Male Sterilization
- FWC Rules for Large Constrictor Snakes in Effect
- Get REDDY!
- Keys Lionfish Derby—Win \$\$!

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Focal Species: Coyote

Scientific name:

Canis latrans

Size:

Body = 39–59 in.

Tail = ~16 in.

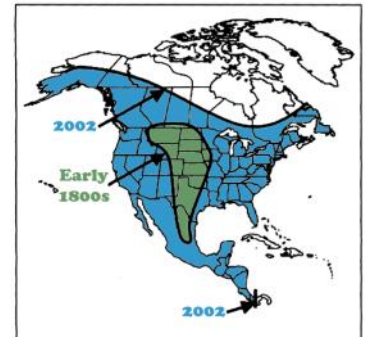
Weight = 24–37 lbs.

Native range:

Central United States



Coyote (*Canis latrans*)
Justin Johnsen, 2003, Wiki



Coyotes expanded their range from the early 1800s (green) to the present (blue).

Modified from Gompper 2002

Historically, the range of the Coyote was limited to the Great Plains region of central North America west of the Mississippi River. However, since the early 1800s, Coyotes have dramatically expanded their range. In 2002, Gompper reported that the range of the Coyote included all areas of North America south of the Arctic Circle and Central America north of the Panama Canal.

Coyote range expansion has been facilitated by humans in many ways. As humans have built bridges across rivers and altered habitats, we have opened new areas for Coyote invasion. Often, these habitat modifications

have allowed deer to thrive, particularly in agricultural areas, providing a food source for Coyotes. In eastern areas of their range, Coyotes are much larger than their western relatives, suggesting that genetic flexibility has allowed them to grow larger and exploit White-tailed Deer as an important food source.

Coyotes are mid-sized mesopredators that usually prey upon small mammals—much like the extinct Red Wolf would have done in the Southeast. Scientists were initially concerned that Coyotes might compete with native Bobcats, but found that they are able to coexist by hunting in different core areas. Many of the small mammals these

mesopredators prey on, such as Raccoons, rats, squirrels, and opossums become pests in urbanized areas. Coyotes are also able to thrive in areas with high human density, where they may perform an important ecosystem service by helping to control these pest species.

Unfortunately, Coyotes also prey on livestock in rural areas, causing more than \$10 million in damages each year. In urbanized areas, Coyotes have also been known to kill small pets. However, Coyotes are territorial, and individuals that do not prey on livestock may actually help to keep others away. [Learn More...](#)

Science: Sterilization for Eradication

Large, invasive vertebrates such as feral goats and hogs can considerably alter habitats, with devastating results. Prevention of introductions is the best management tool – attempts to control and eradicate vertebrate pests are extremely difficult.

Hunting is often considered an effective management tool for use with large vertebrates, because it is target-specific and avoids the need for troublesome poisons or traps. However, hunting can be problematic when a management site is inaccessible, or when local residents are opposed to hunting activities (such as at a county park).

Sterilization methods, including contraceptives, to reduce breeding have been suggested as a humane

alternative to hunting.

Dr. da Silva of Columbia University and colleagues used mathematical modeling techniques to evaluate the potential effectiveness of male sterilization as an eradication technique, using goats as a model species.

Although female sterilization has been favored by researchers in the past, the male sterilization technique (i.e., vasectomy) is a much less costly option.

Their models showed that release of sterilized males would only be an effective eradication technique for small populations with fewer than 100 animals.

However, they found that a combination of hunting and release of sterilized males

could be highly effective.

Such an approach would simultaneously target survival and reproductive success. Although males could be captured, sterilized, and released, release of additional, sterilized males into the population would skew the sex ratio of the population and have even greater effects.

The researchers recommend using a few sterilized, radio-collared males as “Judas” animals to locate and shoot other animals until the population is small enough for sterile males to be effective. Males captured onsite may be most competitive with other males, and a few should be maintained indefinitely to prevent future reinvasions.

[Learn More...](#)



Most pythons can no longer be legally sold as pets in Florida.

Patrick Lynch, SFWMD



Legislation: Reptiles of Concern

On Monday, 23 August 2010, the Florida Fish and Wildlife Conservation Commission (FWC) rules regarding former Reptiles of Concern (ROCs) went into effect.

A similar law signed into effect by Gov. Crist also went into effect on 1 July 2010. Together, the law and

the FWC regulations have relisted the former ROCs as Conditional Species that may no longer be bought and sold as pets in the state of Florida. These species include Burmese, African (Northern and Southern), Reticulated, Amethystine, and Scrub Pythons, Green Anacondas, and Nile Monitor Lizards. Anyone

who owned a properly-licensed ROC is permitted to keep the animal and can make provisions for transfer of ownership in their will. However, breeders may sell remaining stocks to buyers outside the state.

[Learn More...](#)

Innovations: REDDy Training & Lionfish Derbies



The Introduced Reptile Early Detection and Documentation program is a free, online educational tool designed by the University of Florida and the National Park Service to train observers to identify several large, non-native snakes and

lizards and accurately report sightings of these species. We hope to train a variety of audiences, including outdoor enthusiasts, delivery drivers, agricultural and transportation workers, water management departments, and the interested general public. These REDDy-trained observers will become part of a much-needed early detection and rapid response network in Florida.

[Learn More...](#)



The REEF organization and sponsors have organized the first annual Florida Keys Lionfish Derby series, with three separate events from Sept-Nov 2010. Divers can win cash and prizes and try a lionfish dinner! [Learn More...](#)

Managing Invasive Species With The Help of Trained Citizens

News Updates: Lionfish on Gulf Coast

In the Summer 2010 issue of the Invader Updater, we focused on the Lionfish. The invasion of the Eastern Seaboard of the United States by the Lionfish is considered to be the fastest finfish invasion in history. This invasion is especially troublesome for a variety of reasons, including the fact that this is a venomous species that

is frequently encountered by divers – and could impact the tourist industry. Sightings earlier this year north of the Dry Tortugas suggested that invasion of the Gulf Coast of Florida was inevitable. In early July of 2010, REEF (www.reef.org) received the first confirmed reports of invasive lionfish in the Gulf

off of Marco Island. A month later, in early August of 2010, two individuals were captured farther north near Anna Maria Island on the coast of Sarasota County.

[Stay up to date on invasive species news by visiting our website or by following the Invader Updater on Facebook.](#)



Noteworthy: Exotic Birds Nest in Exotic Palms

Blue-and-yellow Macaws are large, colorful parrots native to South America that were imported to Florida for the pet trade. A small macaw population resulting from escapes in the Miami-Dade area has persisted at low

levels since the mid-1980s. A recent study of this macaw population found that it consisted of at least 24 birds and was mainly limited to the Coral Gables/Kendall area. These birds were observed nesting only in exotic palms

and primarily eating fruits of non-native plants, suggesting that these plants may have helped them to persist.

[Learn More about Invasive Species...](#)



Blue-and-yellow Macaw
[Luc Viatour, 2009, Wiki](#)



In Focus...

This photo, by Ann Lambeth of Englewood, Florida, shows an invasive Cuban Treefrog (*Osteopilus septentrionalis*) taking refuge in an outdoor wall ornament. Cover openings to possible refuges or use Sniff'N'Stop animal deterrent (www.sniffnstop.com) to treat refuges that help these invaders to avoid cold and predators, stay moist, and thrive in suburbia.



Photo © Ann Lambeth, 2010

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Do you have questions, comments, suggestions, or have an In Focus photo to submit? Email Monica at monicaem@ufl.edu

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

- The Coyote (*Canis latrans*): Florida's Newest Predator – <http://edis.ifas.ufl.edu/uw127>
- Rancher Perceptions of the Coyote in Florida – <http://edis.ifas.ufl.edu/uw143>
- Interpreting the Physical Evidence of Predation on Domestic Livestock – <http://edis.ifas.ufl.edu/uw135>
- Managing Coyote Problems in Kentucky – <http://www.ca.uky.edu/agc/pubs/for/for37/for37.pdf>
- Introduced Reptile Early Detection and Documentation (REDDy) Training – <http://ufwildlife.ifas.ufl.edu/reddy.shtml>
- REEF Lionfish Derbies in the Keys – <http://www.reef.org/lionfish/derbies>
- USGS-NAS Lionfish Distribution Map – <http://nas.er.usgs.gov/taxgroup/fish/lionfishdistribution.aspx>
- Florida Invasive Species Partnership – <http://www.floridainvasives.org/>
- U.S. Department of Defense Invasive Species Toolkit – <http://www.dodinvases.org/>
- Using EDDMapS for mapping invasive species sightings: a step by step video guide – <http://www.floridainvasives.org/eddmeps/>
- Know of an important resource not listed here or in our archives? Let us know – email a description and URL to monicaem@ufl.edu