#### What is being done to combat invasive species?

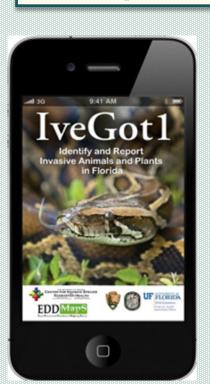
Federal, state, and local governments, conservation partners, and volunteers are working collaboratively to control the introduction and spread of invasive species in the Keys. The aim is to locate and remove invasives species and protect native species.

- **Research and removal** Efforts include scout pythons (male snakes that are radiotracked during the breeding season to detect and remove reproductive females), detector dogs, and invasive species removal programs. Information gathered from invasive species that are removed furthers our understanding of their biology and impacts.
- **Monitoring** Monitoring the absence and presence of invasive and native populations determine the effectiveness of management techniques. These populations trends aid in our understanding of habitat selection, species distribution and areas of importance.
- **Reporting** More trained eyes on the ground are able to identify and report invasive and non-native species and prevent future invasions and impacts.

#### What can you do to help?

Report observations of invasive wildlife to the Exotic Species Hotline (888-IVEGOT1, 483-4681), or use the IveGot1 smart phone app. Citizens are encouraged to find ways they can participate, including removing invasive species when it is safe to do so.

# How to report an invasive species sighting





## If spotted in your area

## IMMEDIATELY

Take a picture Note the location

Download the IveGot1 app from the app store or call 1-888-IVEGOT1 1-888-483-4681



A python located and removed thanks to the efforts of the USFWS team and their detector dog. Credit: USFWS





**Authors: Jenna Cole** Melissa A. Miller **Paul Evans** 

**Rosemarie Moore** Frank J. Mazzotti **Illustrations by: Jenna Cole** 

# THE UNNATURAL HISTORY OF INVASIVE SPECIES IN THE FLORIDA KEYS:

Paradise Threatened But Not Lost

#### The Florida Keys: A Unique Ecosystem

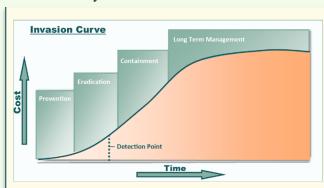
The Florida Keys are a chain of rocky, tropical islands south of the Florida Peninsula stretching west into the Gulf of Mexico. These islands are home to many endemic animal and plant species that live only in the Keys. Several of these species are threatened from habitat loss, climate change, and invasive species.

#### What are invasive species and why should you care?

Non-native species are animals and plants living outside of their native range as a result of human activity. The specific introduction of a species to an area occurs intentionally or unintentionally. A small proportion of non-native species will become established (breeding) and can become an invasive species, capable of causing harm to the ecosystem, economy, or human health and safety.

The establishment of invasive species can follow a trend known as the "invasion curve". The longer invasive species are in an area the greater their impact, the higher the chance for dispersal and the more costly management becomes. Early detection of non-native species is vital to saving the Keys native species.

The Florida Keys are particularly susceptible to invasion because of their tropical climate, island geography and disturbed habitats that help introduce and spread invasive species. Invasive species, like the Burmese python and the lionfish, have had negative impacts on the Keys ecosystem.



The invasion curve is a trend introduced species follow as their population grows and establishes in an ecosystem. As time passes, the cost of long term management increases. Adapted from Inva-

### Who is impacted by invasive species?

- Small native mammals, like the Key Largo woodrat and Key Largo cotton mouse
- Nests of ground-nesting shore birds, endangered sea turtles, and federally threatened American crocodiles
  - Larvae of endangered insects, such as Schaus' swallowtail butterfly and other native invertebrates



A Key Largo wood rat climbing through forests. Credit: USFWS An American crocodile hatchling resting on a shoreline. Credit: UF



# Native and Invasive Species of the Florida Keys

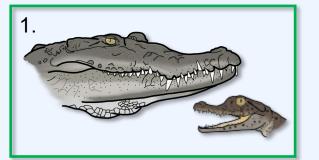
# **Keys Native Wildlife**

- 1. American crocodile *Threatened*
- 2. Lower Keys marsh rabbit *Endangered*
- 3. Key deer Endangered
- 4. Stock Island tree snail Threatened
- 5. Miami blue butterfly Endangered
- 6. Schaus' swallowtail butterfly Endangered
- 7. Key Largo cotton mouse Endangered
- 8. Key Largo wood rat Endangered





- 9. Argentine back and white tegu Not yet established
- 10. Burmese python Established
- 11. Peter's agama Established
- 12. Spiny-tailed iguana Established
- 13. Feral cat Established
- 14. Ball python Not yet established
- 15. New Guinea flatworm Established
- 16. Lionfish Established



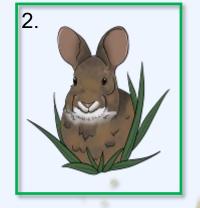






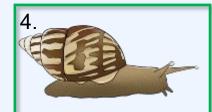




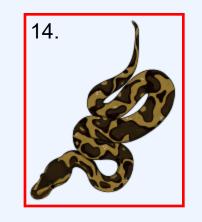














Nearly all native species in the Florida Keys are susceptible to invasive predators.

