

Python Research, Data Management, and Next Steps

Federal Partners



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Everglades National Park Python Management

- Continuing ENP python “authorized agents program.”
 - 27 authorized agents
 - Current authorizations expire in September
 - Planning minor revision to process, TBD
 - 152 pythons removed from ENP in 2012 (total)



Everglades National Park Python Management

- Continuing management of ongoing agreements:
 - USGS – aspects of python ecology, impacts, and management
 - UGA – I've Got 1 App and EddMaps
 - FWC – Pet Amnesty Day, Hotline
- One new project
 - Secretive marshbird baseline pilot study
 - Evaluate abundance of common python prey

Everglades National Park Python Management

- Proposal to investigate pheromones and develop attractants (failed in 2013)
- Working with a private foundation to consider a dog proposal to aid python removal
- New agreement with USGS (in prep) to improve capacity in South Florida Parks for Python management, EDRR, and invasives management
- Funding request for additional capacity in coming years is in the pipeline.

Everglades National Park Python Management

- The Legend has retired.....
- Since retiring, Skip is:
 - Working up backlogged frozen pythons & samples
 - Working with authorized agents
 - Providing technical insight
 - Investigating unusual Pymo
 - SSDD? (same Skip, different days)



USDA Detection and Monitoring of Invasive Reptiles using eDNA

Toni Piaggio, Rick Engeman, John Humphrey, Michael Avery
USDA/APHIS/Wildlife Services
National Wildlife Research Center

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USDA eDNA Project

- Aquatic organisms naturally release DNA into the environment. This eDNA can be extracted from water and used to detect presence of invasives.
- Previously used to identify species such as American bullfrog, Asian carp
- No previous reptile applications
- We tested the concept, first with captive Burmese pythons (6), and then using water samples from south Florida (6 sites)

USDA eDNA - Innovations and Successes

We detected Burmese python eDNA in all 6 captive trials, and in 5 of 6 samples collected at field locations (the negative site had no previous Burmese python records according to EDDMaps)

Our assay for detecting Burmese python eDNA is

- Easy to apply
- Inexpensive
- Does not cross-amplify other invasive python species
- Does not produce false positives

USDA eDNA

Future Plans

- Examine effects of flowing water on eDNA detection and persistence; cooperative study with USGS in Gainesville
- Develop protocol for multi-agency survey to collect samples and document python eDNA across south Florida
- Extend eDNA technique to other invasives
 - Nile monitor
 - Caiman

U.S. Army Corps of Engineers

- No new projects *per se*
- Adding language to new Corps projects on pythons and invasive species management
- The CEPP project will include authorization and potentially funding to remove pythons and other invasives during construction, with monitoring and removal during operations and maintenance

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Planning and Coordination

- Participated in Python Interagency Executive Leadership Workshop
- Participated in South Florida Ecosystem Restoration Task Force and Working Group Invasive Species Strategy efforts
- Upcoming:
 - NPS and USGS Large Constrictor Management Workshop (November)

Federal Partners Outreach

- Secretary of Interior Jewell
- Senator Marco Rubio
- National Academy of Sciences - CISRERP
- National Park Foundation Board of Directors, etc.



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