Contributions to Ecology and Management of the Burmese Python In Florida

UF UNIVERSITY of FLORIDA

THE CROC DOCS

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

The 2013 Python Challenge
12 January – 10 February 2013
Goals

- Increase public awareness
- **Increase knowledge of python ecology and management**
- **Remove pythons**

The 2013 Python Challenge: Evaluating **Ecology** and Management

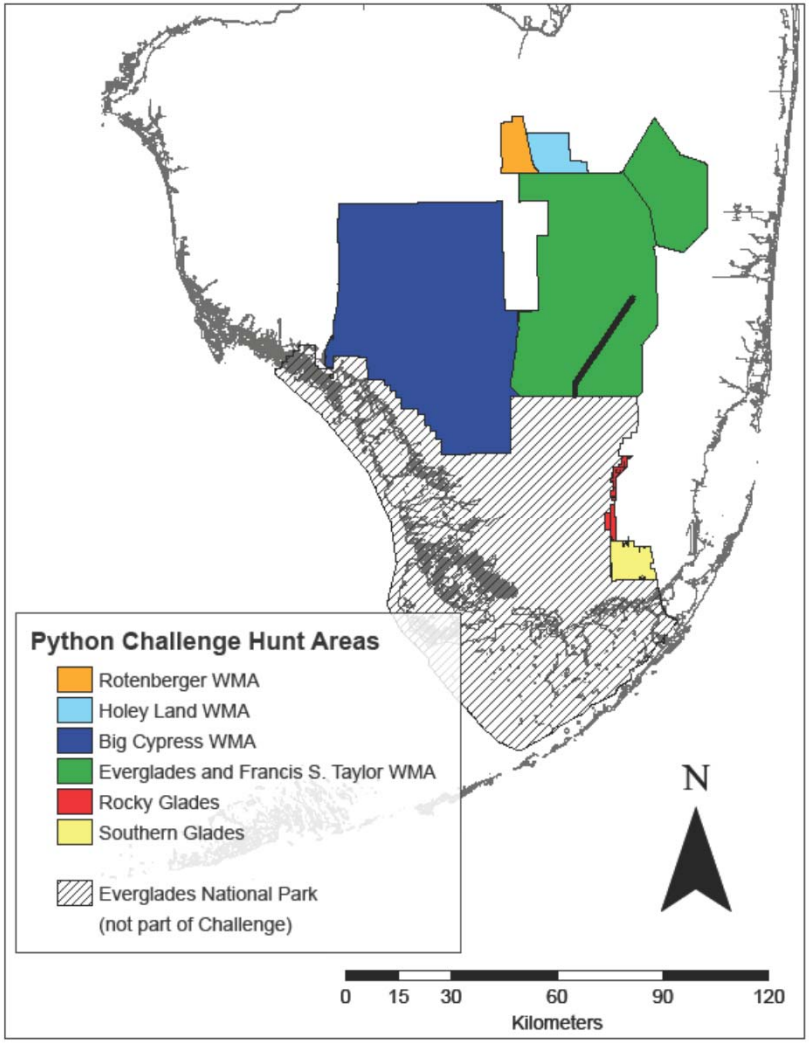
- What were the demography and diet of the pythons removed?
- Were native species removed? (0 turned in)
- How did the number and location of pythons removed during the Challenge compare to previous years?
- How did the CPUE differ among participants, habitats, and locations?

The 2013 Python Challenge: Evaluating Ecology and **Management**

We asked the following management questions

- Do incentives increase python removal?
- Does increased participation by hunters and general public in remote areas increase python removals?

- There were 1582 participants, 1558 general/hunter, and 24 permittees.
- All participants underwent training
- Pythons were turned in at established drop-off locations w/in 24 hrs of capture for necropsy.

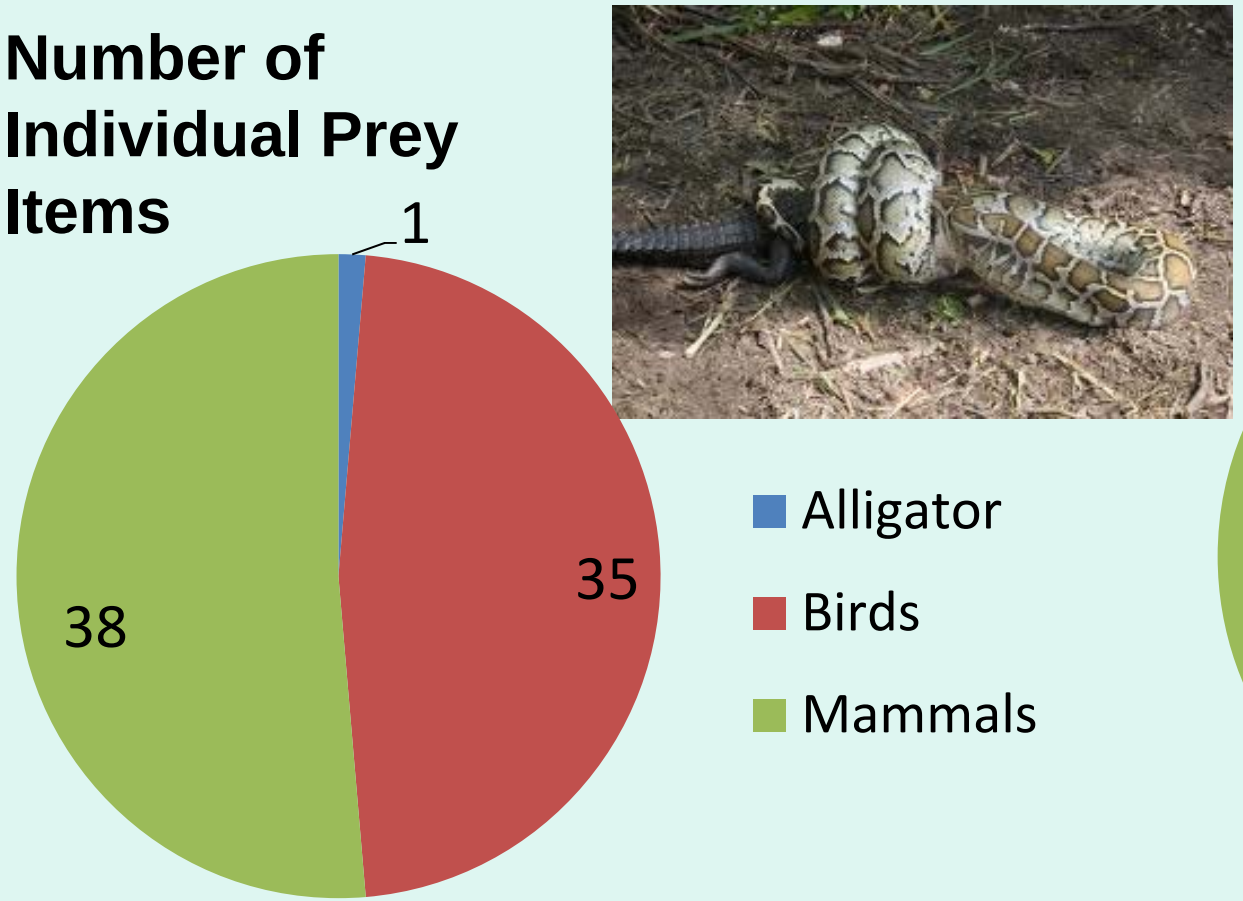


The 2013 Python Challenge: Demography

- 68 python were removed by all participants
- Mean TL was 252.1 cm (min 94.4 - max 434.5
- 4 (6%) were YOY, 6 (9%) were juveniles, and 58 (85%) were adults
- 13 (19%) females, 54 (79%) males, and one (1%) YOY (1%) were captured

The 2013 Python Challenge: Diet

- 66 (97%)GI tracts were examined, 64 (97%) had prey 74 prey items

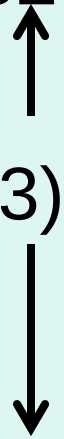


The 2013 Python Challenge: Diet

- Rallidae were the most common bird,10 pythons w/ grebes, followed by ardeidae and threskiornithidae
- Cotton rats (10 pythons) and black rats (5 pythons) were most common mammals, followed by round-tailed muskrats, and marsh rabbits (4 pythons ea)

Pythons Removed (12 Jan – 10 Feb)

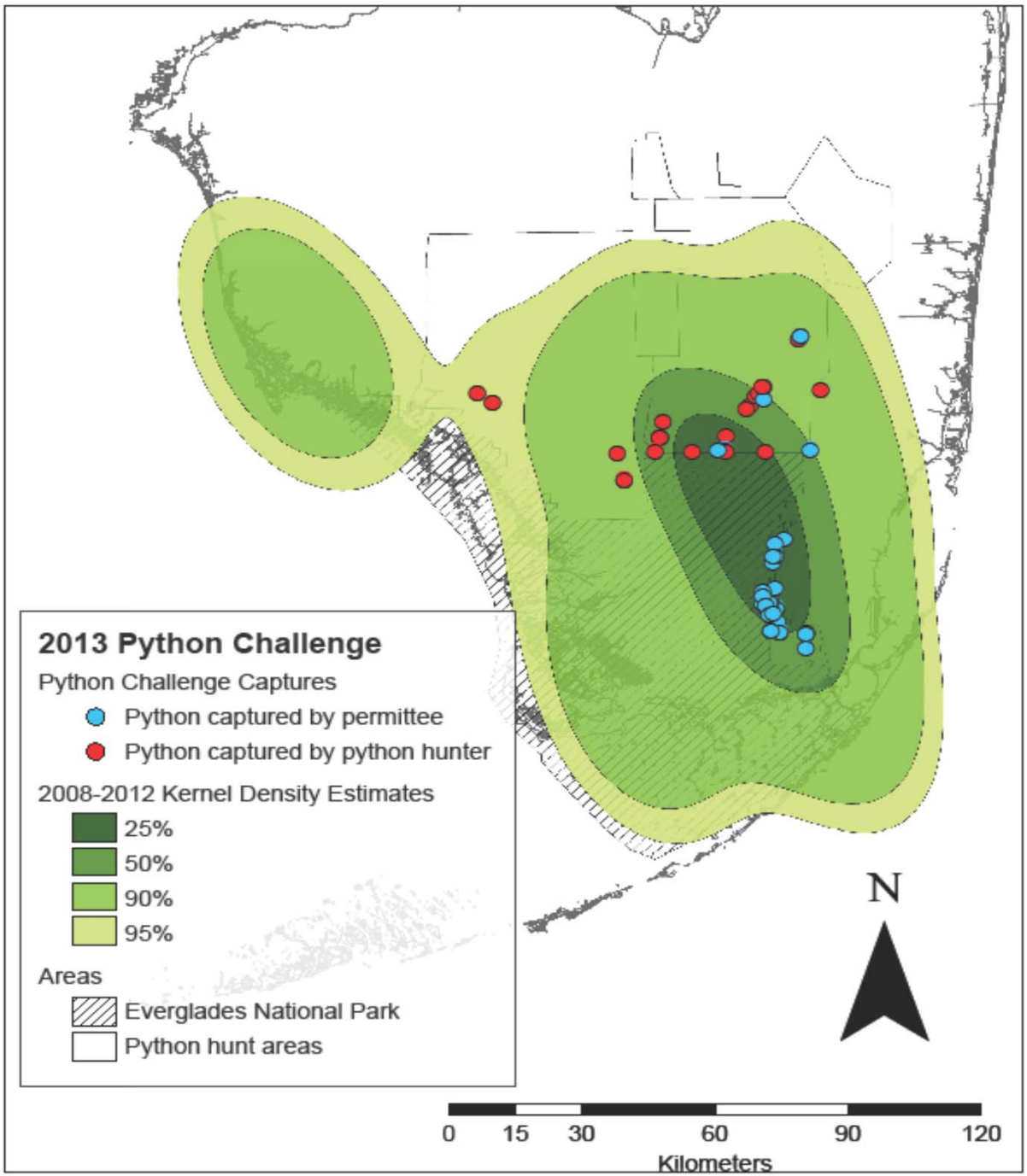
	Total	Permittee	General
	1582	**24**	**1558**
		#PyMo Captured	
Challenge	**68**	**42**	**26**
2013	**73**	**42**	**31**
2012	27	11	
2011	11	5	(3)
2010*	70	7	
2009	26		
2008	47		



*Historic freeze

The 2013 Python Challenge: Habitats and Locations

- Fifty-three pythons (78%) were caught on levees or roads which comprised 13 square km (0.002%) of the study area.
- Fifteen pythons (22%) were caught in marshes or on tree islands which comprised 5,435 square km (99%) of the study area.

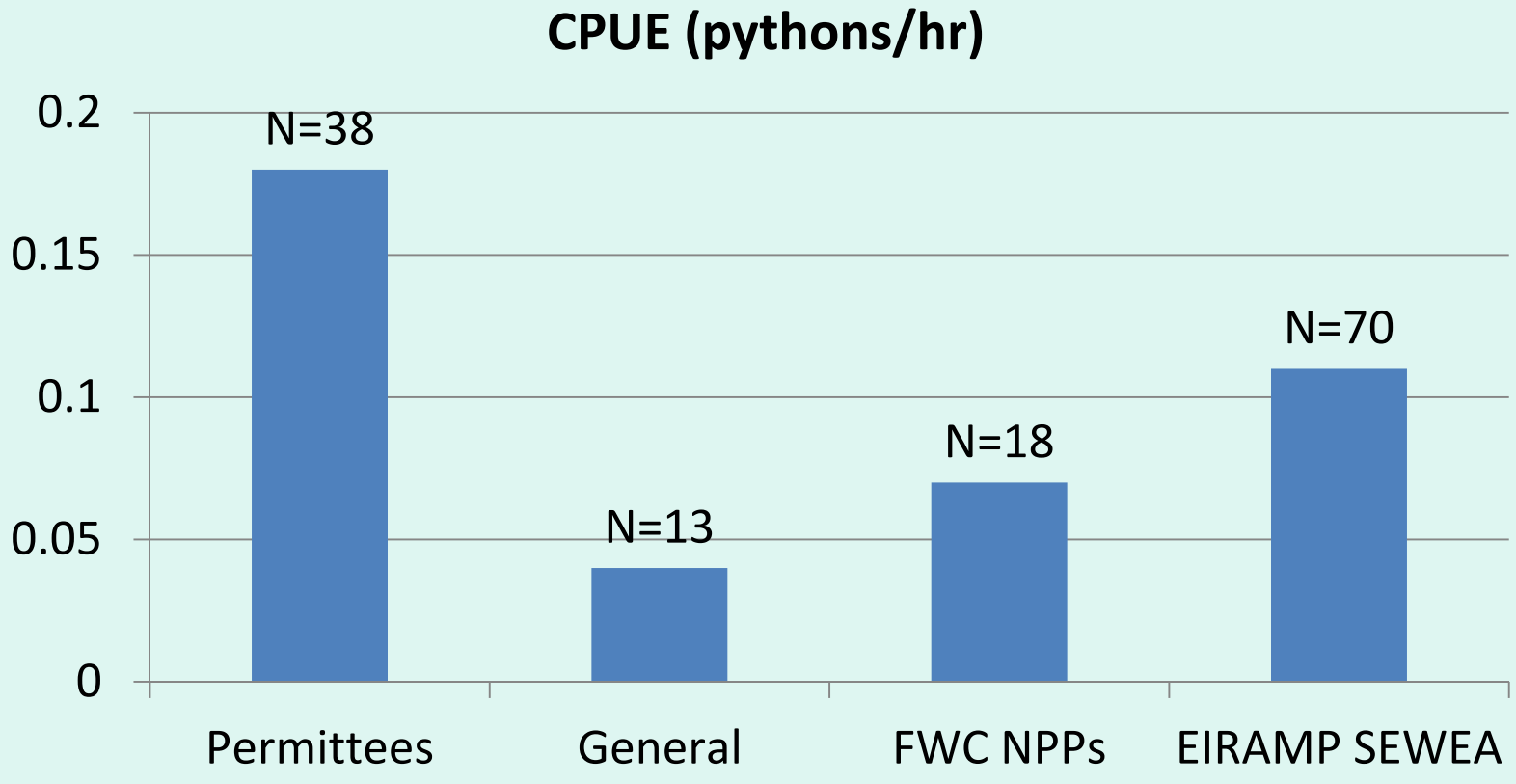

2013 Python Challenge
Python Challenge Captures
Python captured by permittee
Python captured by python hunter
2008-2012 Kernel Density Estimates
25%
50%
90%
95%
Areas
Everglades National Park
Python hunt areas
N
0
15
30
60
90
120
Kilometers

Capture Rates (CPUE)

- To account for effort we developed a GPS protocol, conducted training, & provided data forms
- Permittees and general participants hunted in different places
- Time and distance

Capture Rates (CPUE)

- Individuals with ability and proclivity to catch snakes caught the most snakes
- Differences in probability of detection

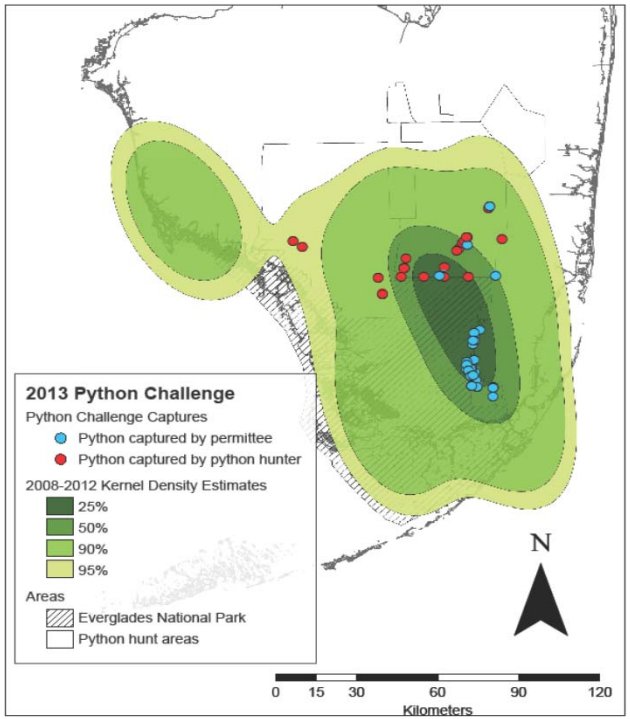


Summary

- Adult males were most frequently removed, 19% were females
- Water birds and small mammals were most frequently consumed
  - Impacts on birds remain unknown
  - Is there a shift in diet in correlation with decline in medium mammals?
- More pythons were caught during the 2013 Challenge month than in similar time periods in previous years.

Summary

- Pythons were caught at same locations during the Challenge as during previous years
  - We cannot separate effects of numbers of pythons at these locations, with the effort expended looking for them, or the probability of detecting them
- The CPUE for permittees increased during the Challenge



The 2013 Python Challenge: Management Hypotheses

- Do incentives increase python removal?
  - Yes, both number and rate
- Does increased participation by hunters and general public in remote areas increase python removals?
  - Yes in number, no idea of rate
- In neither case does the increase in number and rate suggest that population control or reduction is feasible

The 2013 Python Challenge: Lessons

- Underscores importance of estimating effort and detection
- While Challenges, Round-ups, Derbies and more increase removal of non-native invasive species they do more for public awareness than population control
- Why do some hunts work while other don’t?
- Incentives have proven to be a two-edged sword
- Diligence and evaluation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The End
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