Everglades Cooperative Invasive Species Management Area

University of Florida Reptile Research & Monitoring

Jennifer H. Nestler and Frank J. Mazzotti

2019 Everglades Invasive Species Summit

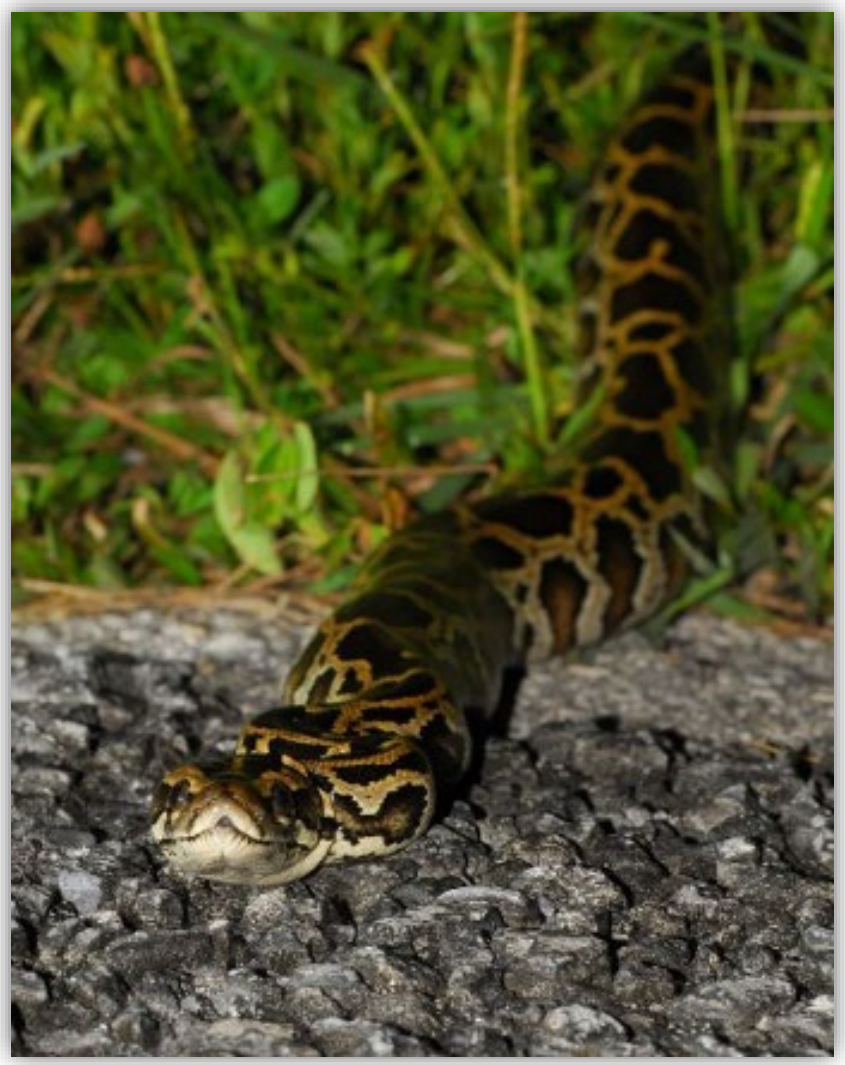
July 17-18 2019

Ongoing Projects

- Python contractor data analysis
- Mammal inventory of A.R.M. Loxahatchee N.W.R.
- Large Reptile Trap field test
- Tegu research
- Green iguana population modeling
- Caiman research
- EIRAMP surveys
- Rapid Response calls

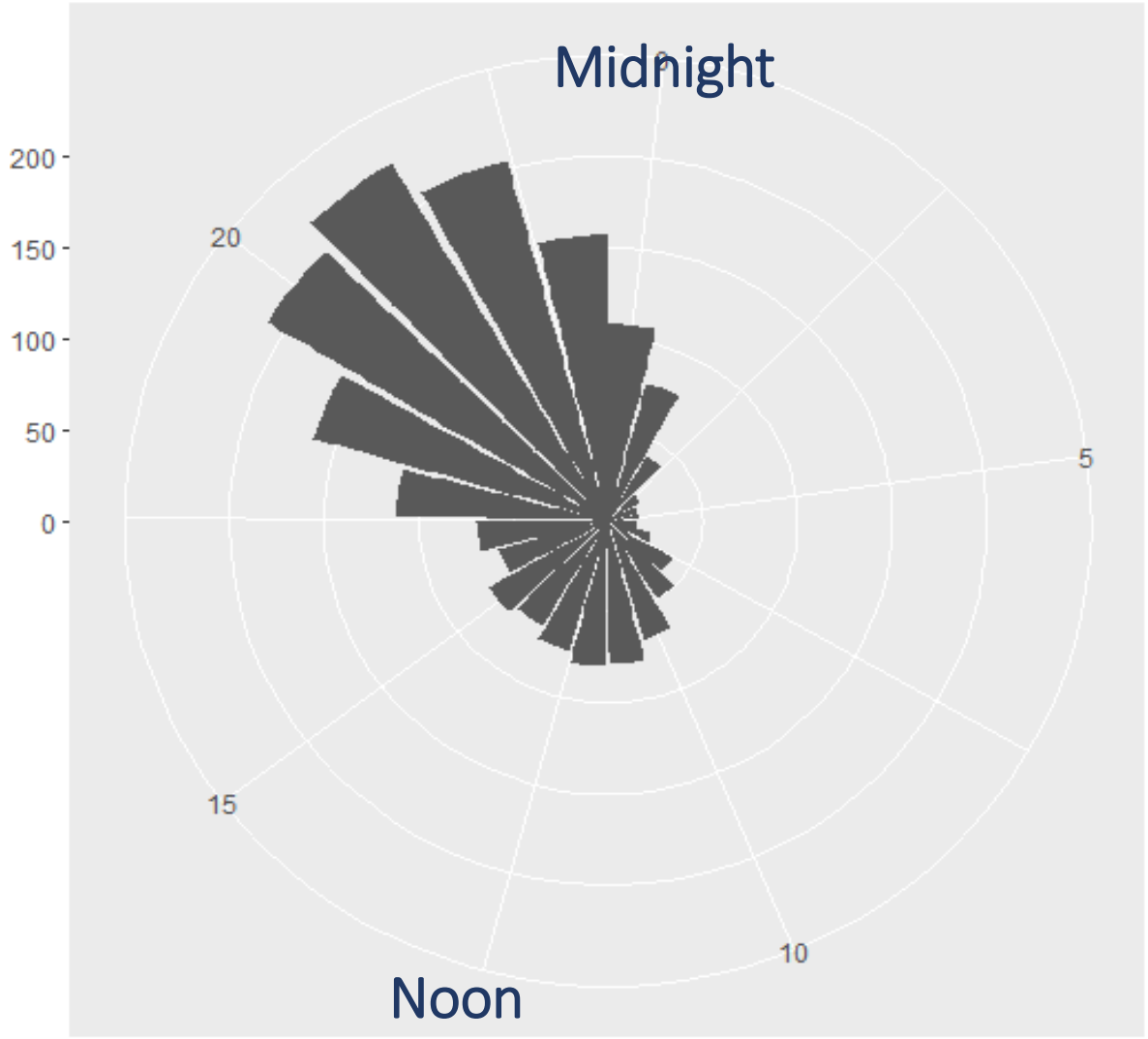
Python Contractor Data

- Analyzing data from contractor programs
- Modeling optimal capture conditions



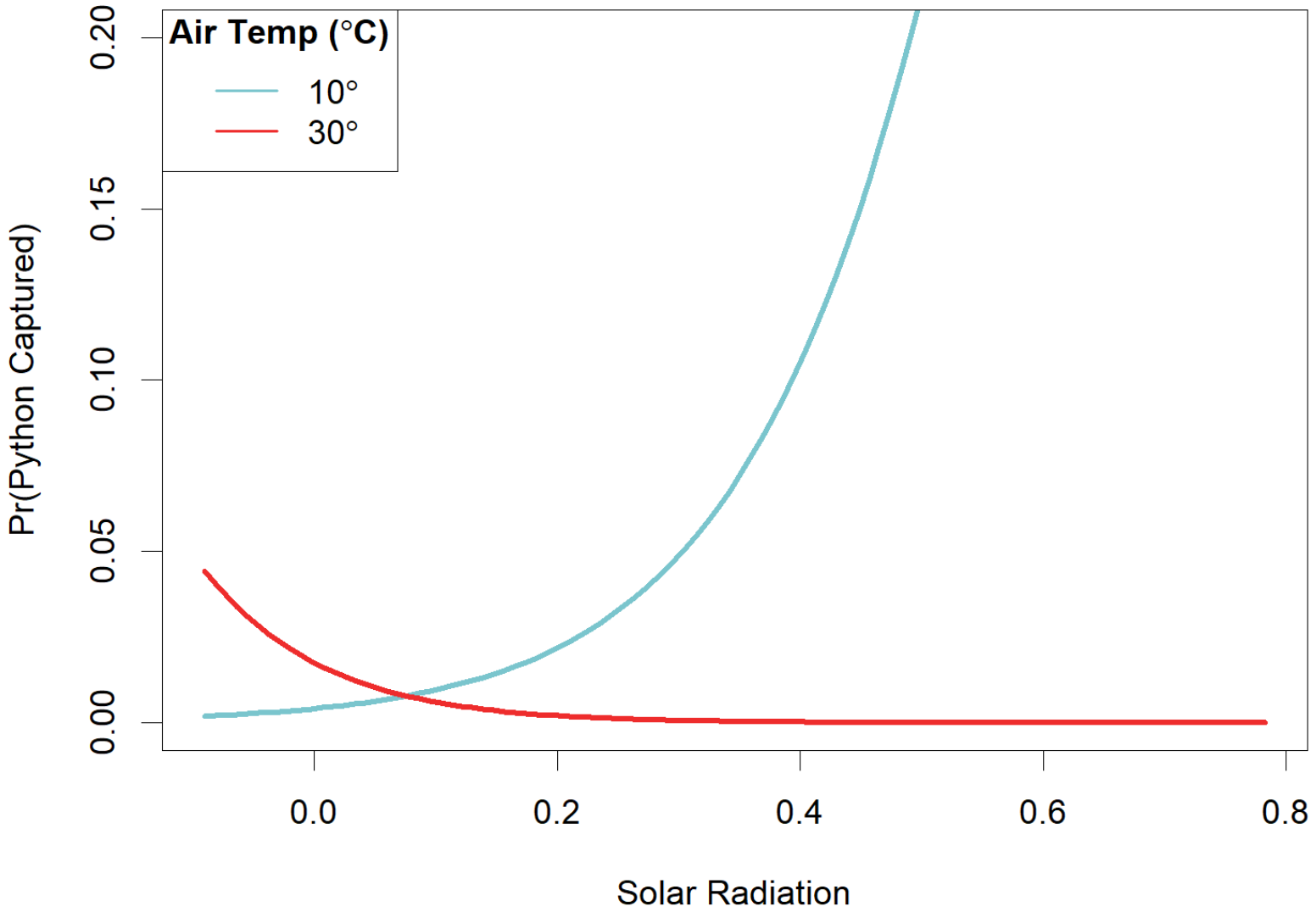
Python Contractor Data

- We are looking at hourly survey effort
- Incorporating non-detection data



Python Contractor Data

- Looking at factors like weather, etc.
- Currently expanding analysis



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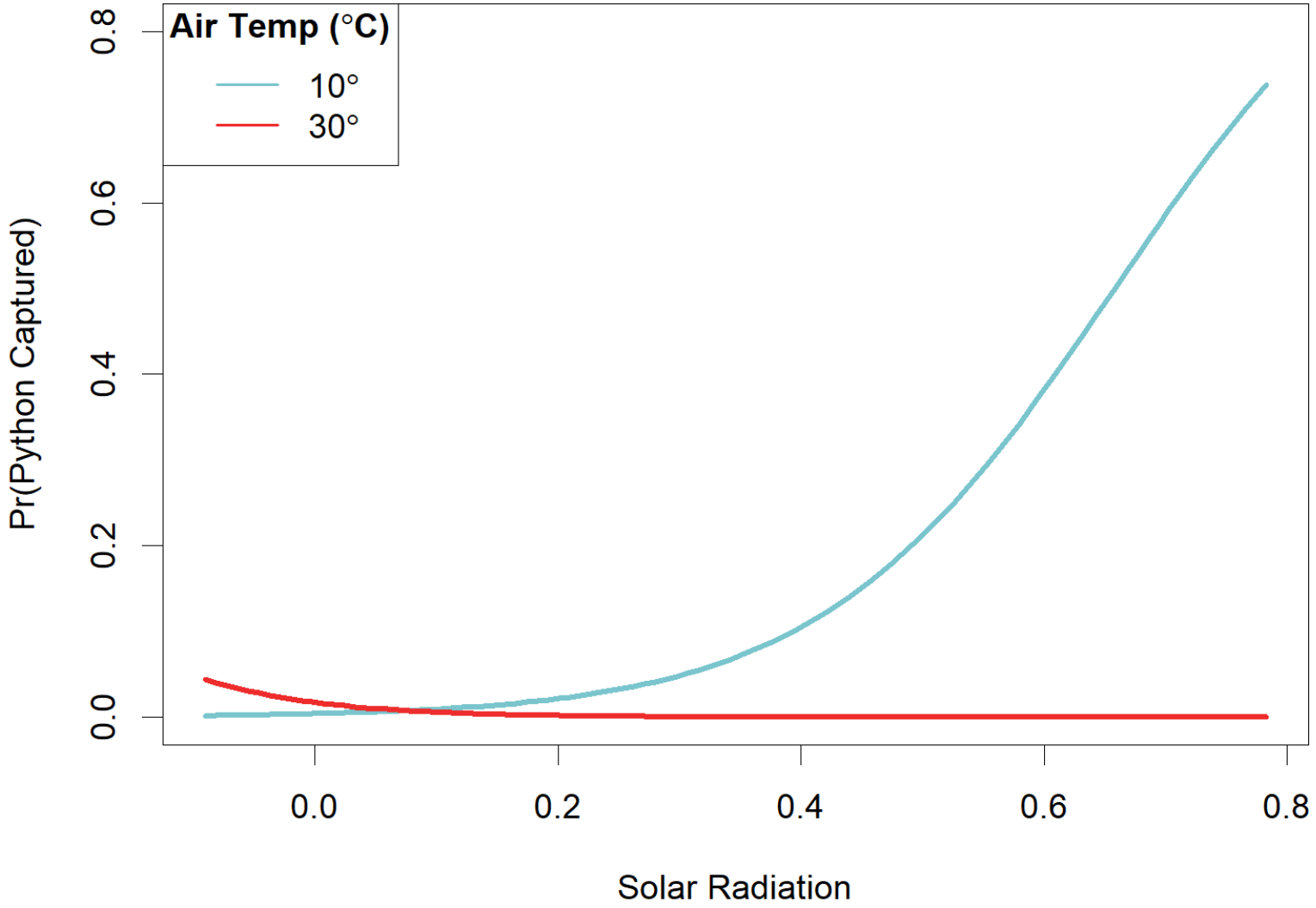
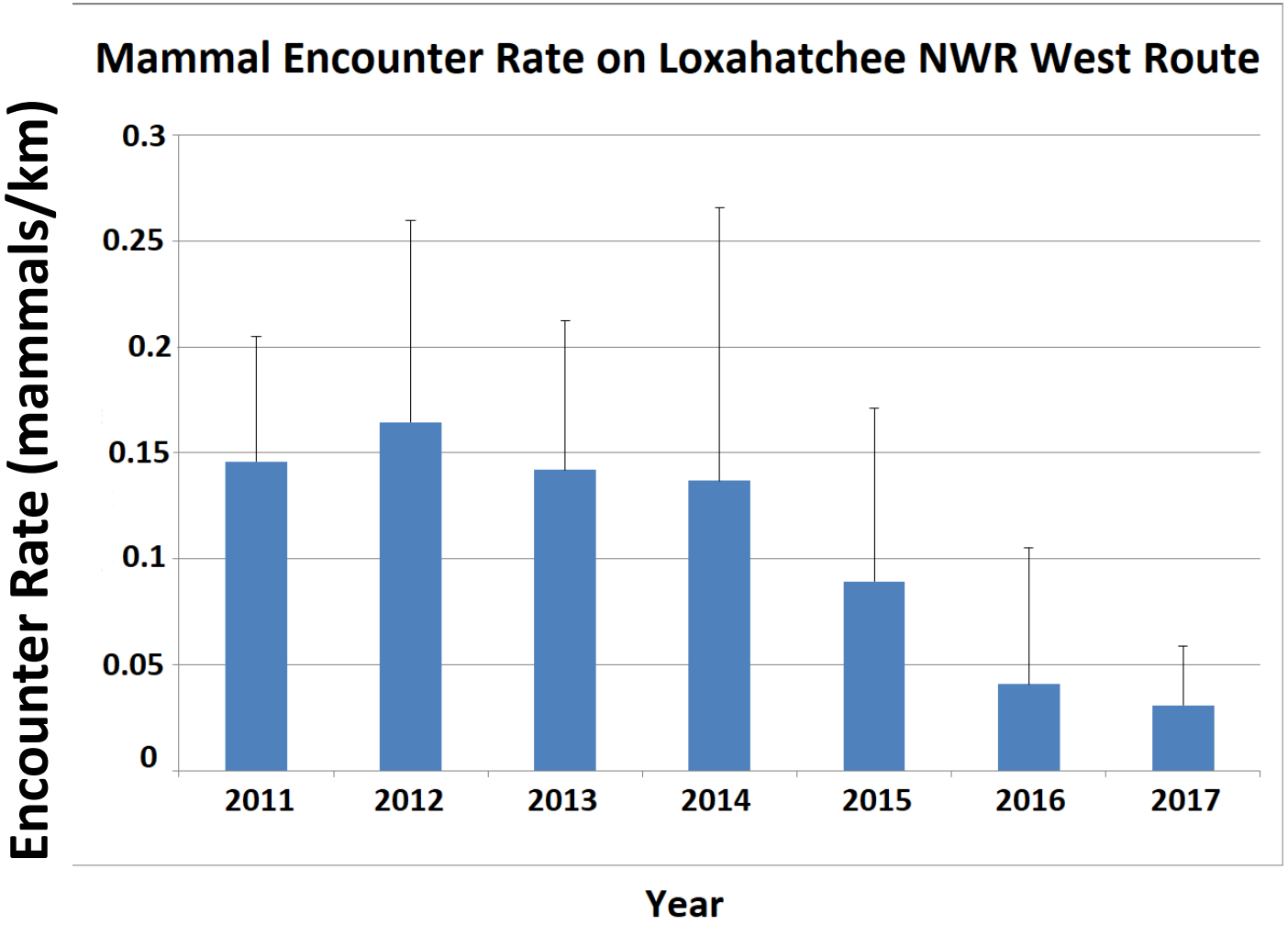


LOX Camera Trapping

- Inventory of mammals at A.R.M. Loxahatchee N.W.R.

LOX Camera Trapping

- Mammal inventory at A.R.M. Loxahatchee N.W.R.
  - Pythons?



LOX Camera Trapping

- 40 camera traps on 20 tree islands
- N-S and E-W transects for spatial coverage

Field Testing the Large Reptile Traps

- Large Reptile Trap developed and tested by John Humphrey at the USDA

- Designed to exclude non-target captures

Palm Beach Post

Field Testing the Large Reptile Traps

- Field tests of the traps in LOX and Everglades and Francis S. Taylor
- Testing remote camera setup to monitor traps

Argentine Black & White Tegus

Modeling tegu occupancy using camera trap surveillance network

- Factors that affect occupancy and detection

- Goal is to improve removal methods

Argentine Black & White Tegus

Modeling tegu movement using telemetry data

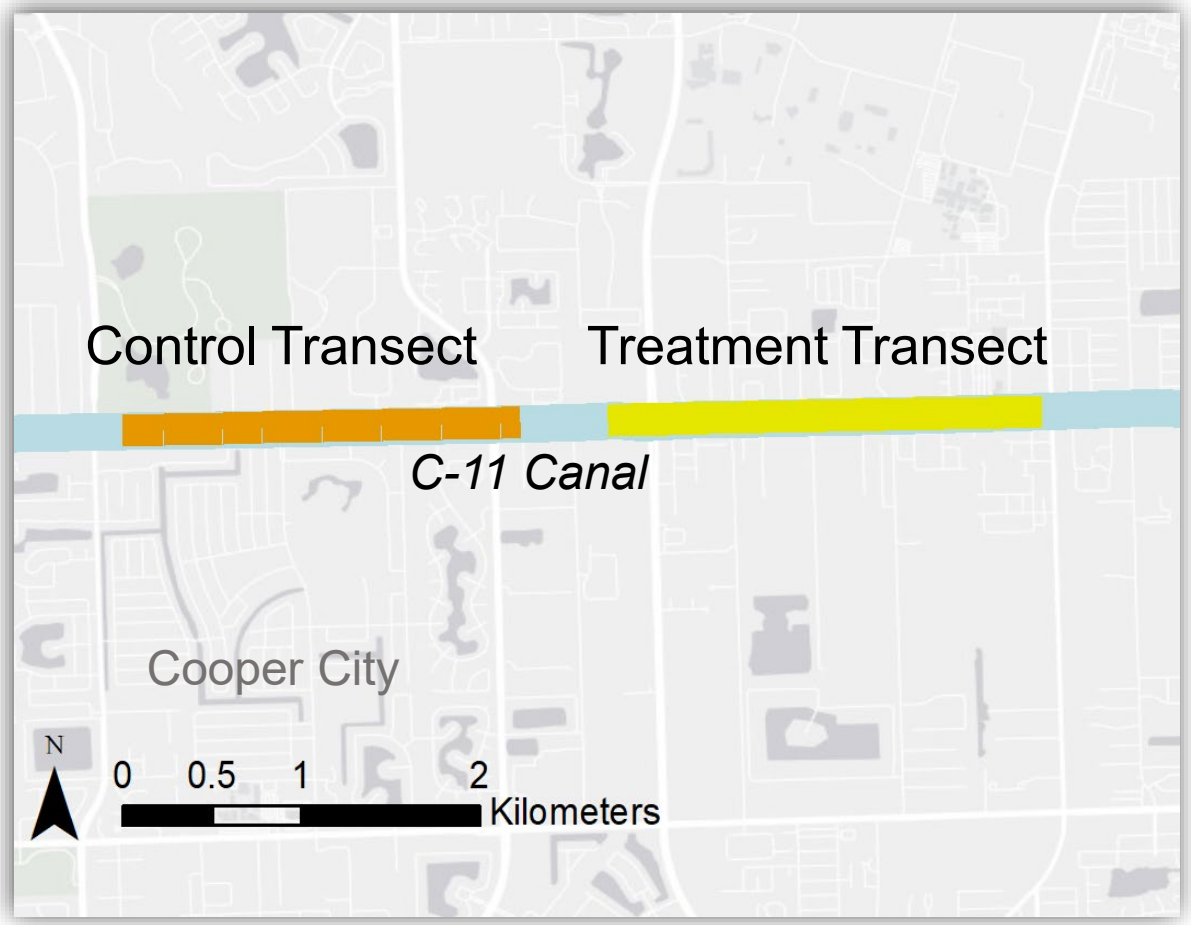
- Habitat selection
- Potential movement corridors
- Check out Brittany Mason's poster!

Green Iguanas

Modeling iguana populations after removals

- Counted iguanas along a canal
  - Control and treatment transects

- Removed >800 iguanas in 3 months



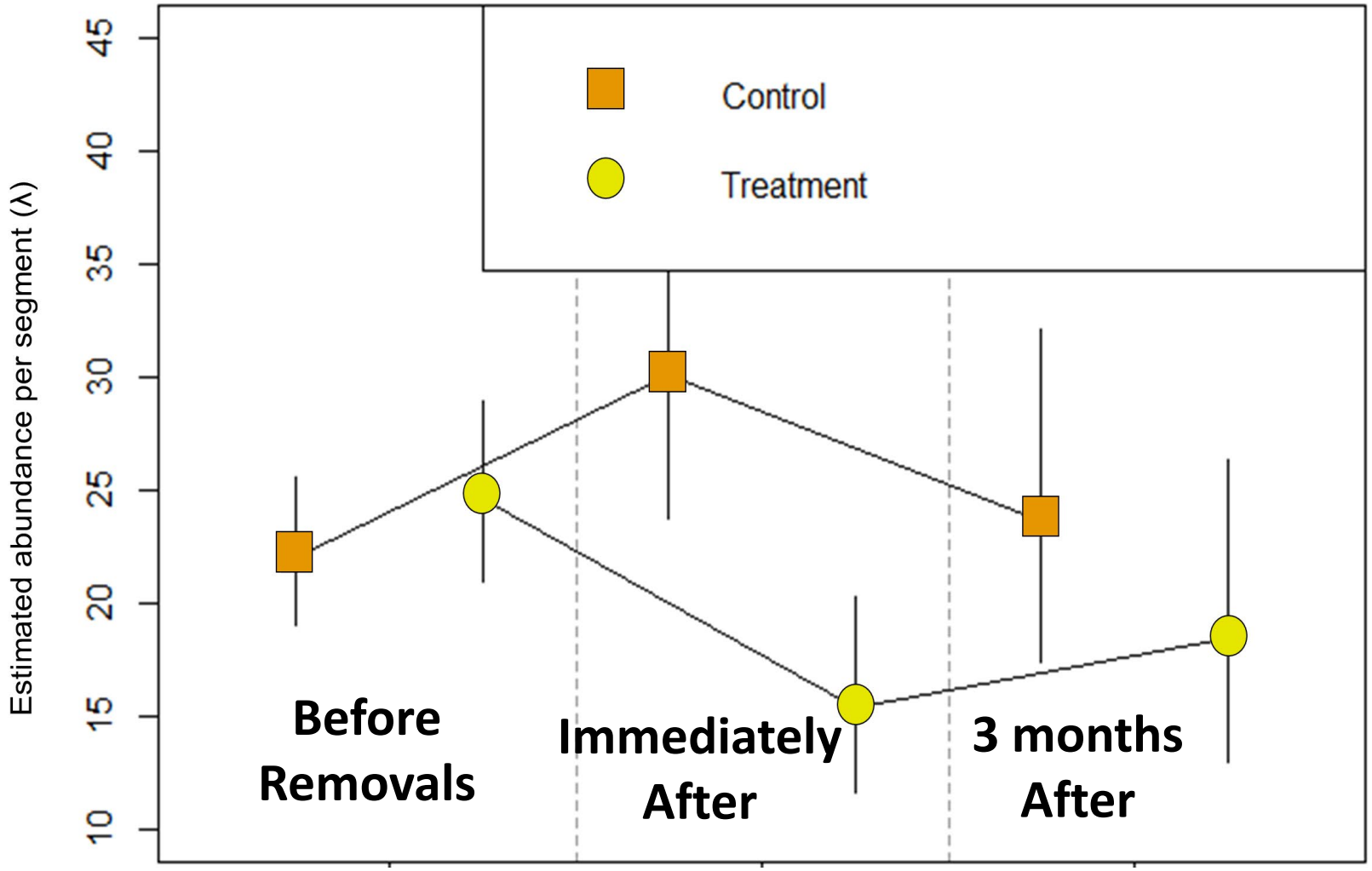
Green Iguanas

- Modeled the population over time to look at effect of removals

- Conducted follow-up surveys
  - Immediately after removals
  - 3 months later

Green Iguanas

- We did see an effect!
- Next step: Looking at the population 1 year later



Spectacled Caiman Removal

Two caiman projects (through June 2019)

- Biscayne Bay Coastal Wetlands
- C-111 Spreader Canal Western Project

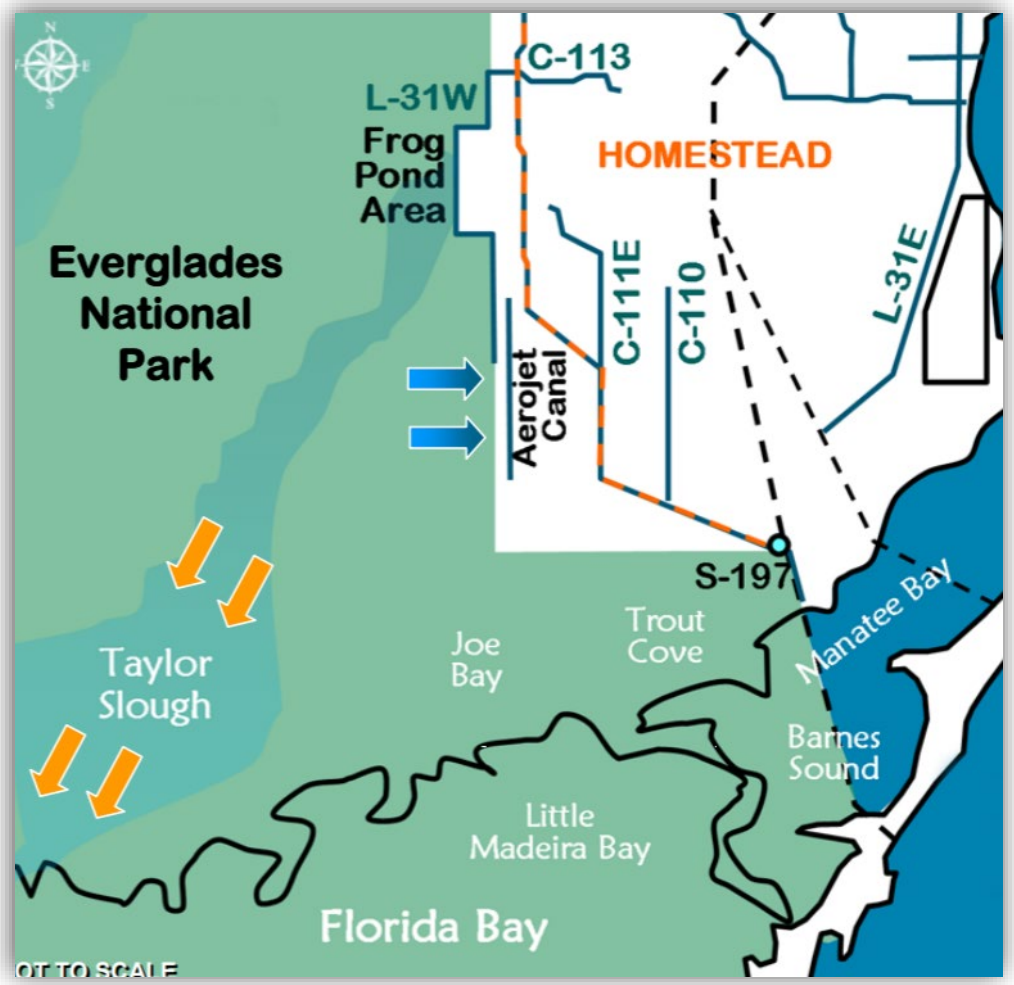
Spectacled Caiman Removal

- Caimans persist at low levels
- Potential for eradication or containment
- Check out Sid Godfrey's poster!

Spectacled Caiman Removal

Concerns

- Effect of habitat improvement in Biscayne Bay Coastal Wetlands
- Effect of C-111 Spreader Canal Western Project



EIRAMP Update

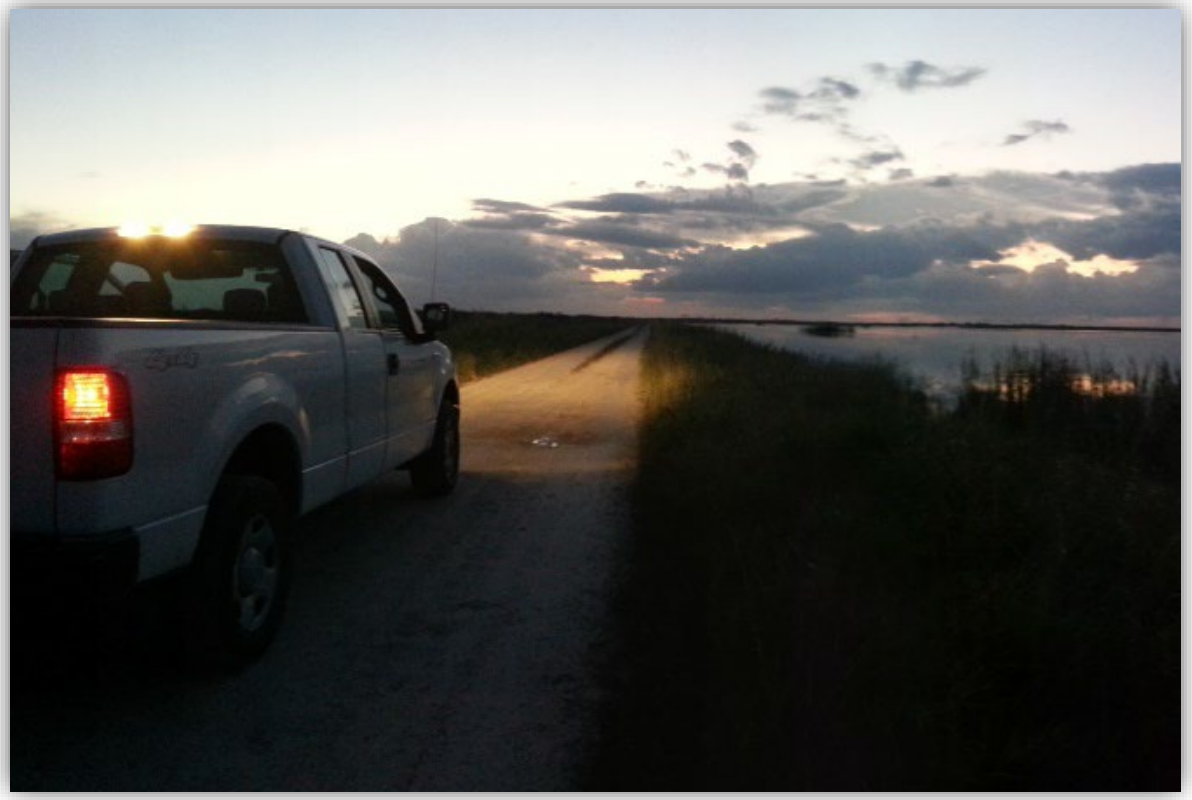
Everglades Invasive Reptile, Amphibian, and Mammal Monitoring Program

- Road-cruising surveys throughout Greater Everglades
  - Document native and exotic animals

EIRAMP Update

2019 focus:

- Eastern Everglades and WCA 3B
  - Tracking mammal encounter rates before and after start of python contractor programs



EIRAMP Update

2019 focus:

- ENP Main Park Road
  - Weekly surveys
  - Long-term dataset

EIRAMP Update

2019 focus:

- Surveys for Nile Monitors
  - C-51 Canal
  - Update from Justin on outreach

EIRAMP Update

2019 focus:

- Additional caiman surveys

Early Detection & Rapid Response

2019: Year of the Large Lizards?

Early Detection & Rapid Response

Several success stories!

- Monitor sightings led to…

Early Detection & Rapid Response

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- Monitor sightings led to…
- Water monitor

Early Detection & Rapid Response

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- Water monitor
- Spiny-tailed iguanas

C. Mehlführer

Early Detection & Rapid Response

Several success stories!

- Monitor sightings led to…
- Water monitor
- Spiny-tailed iguanas
- Rhinoceros iguana

Conclusions

- Importance of establishing active Early Detection and Rapid Response network
  - Interagency coordination

- Quantitative work enhances detection and removal of exotic species

Acknowledgements

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UF: The Croc Docs Team