

# Everglades Cooperative Invasive Species Management Area



# Python Removal Programs

FWC –Melissa Miller

SFWMD – Mike Kirkland

NPS - Jenny Ketterlin



2019 Everglades Invasive Species Summit

July 17-18 2019



# SFWMD Python Elimination Program






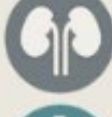


- Began March 25, 2017
- 2,157 pythons removed
- Over 22,375 survey hours completed
- Over 26,600 lbs
- Over 14,000 linear feet



# SFWMD Python Elimination Program



### The effects of stress on the body

-  Mood issues including anger, depression, irritability. Lack of energy, concentration problems, sleeping issues, headaches. Mental issues including anxiety disorders and panic attacks.
-  Increased blood pressure, increased heart rate, higher cholesterol and risk of heart attack
-  In the immune system, there is reduced ability to fight and recover from illness
-  Stomach cramps, reflux, and nausea
-  Loss of libido, lower sperm production for men, and increased period pain for women
-  Aches and pains in the joint and muscles
-  Lower bone density

Over 15 years removed  
from Kirkland's  
expected life span!



# SFWMD Python Elimination Program

## Target Species:

- **Burmese Python (*Python bivittatus*)**
- **Northern African Python (*Python sebae sebae*)**
- **Reticulated Python (*Python reticulatus*)**
- **Southern African Python (*Python sebae natalensis*)**
- **Amethystine/Scrub Python (*Morelia amethystina*)**
- **Boa Constrictor (*Boa constrictor*)**
- **Yellow Anaconda (*Eunectes notaeus*)**
- **Green Anaconda (*Eunectes murinus*)**
- **Beni Anaconda (*Eunectes beniensis*)**
- **DeSchauensee's Anaconda (*Eunectes deschauenseei*)**

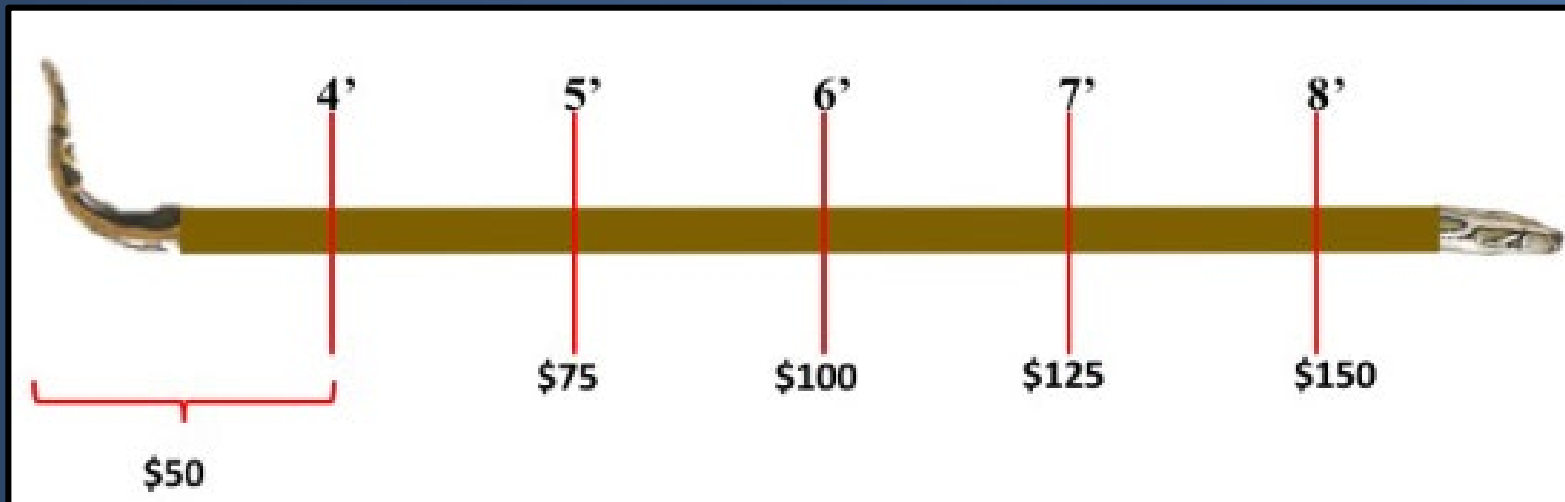
**Agents are now able to humanely remove other invasive reptiles and amphibians, excluding crocodilians and venomous species (no additional incentive however).**



# SFWMD Python Elimination Program

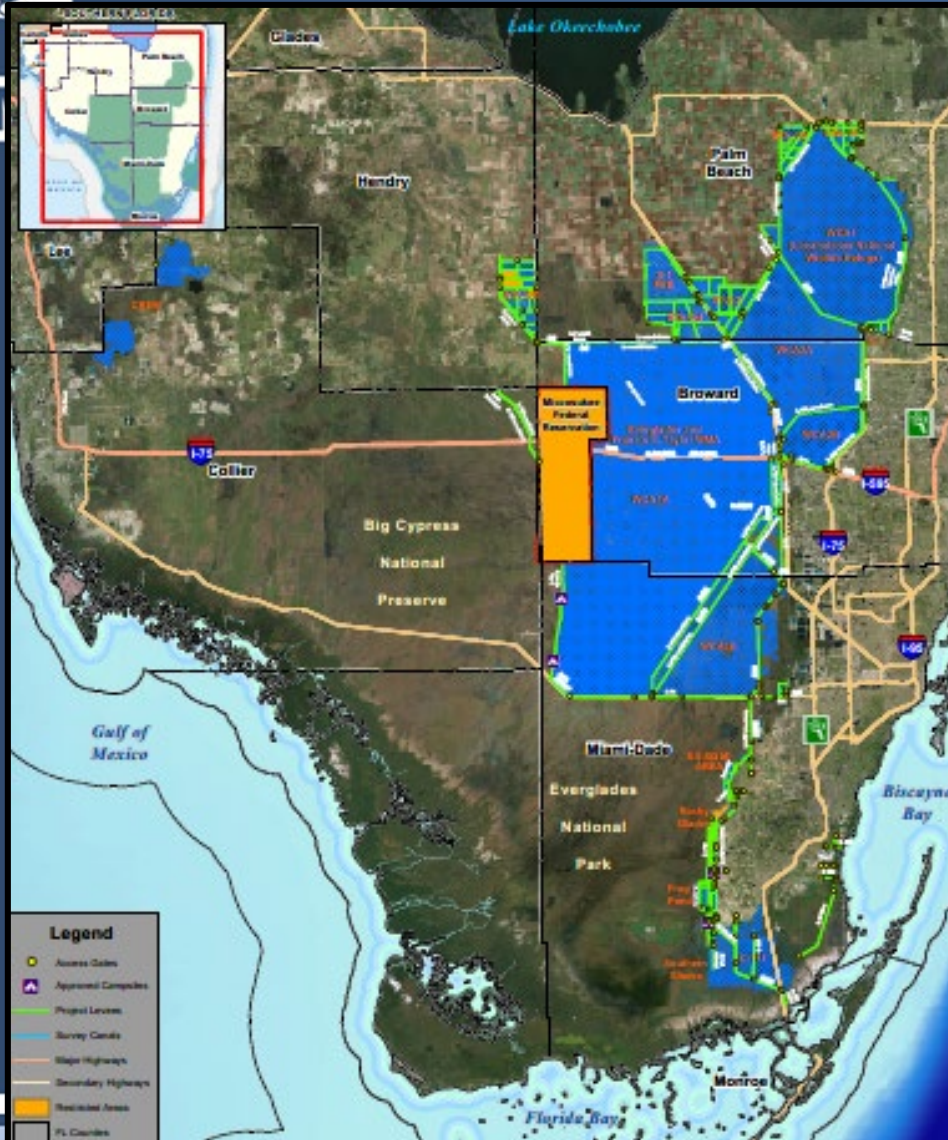
Agents earn \$8.46 / hour for up to 10 hours each day to survey the designated project area plus an additional incentive for every target species removed:

***We have eliminated our cash system and now provide payment via direct deposit on a weekly schedule.***





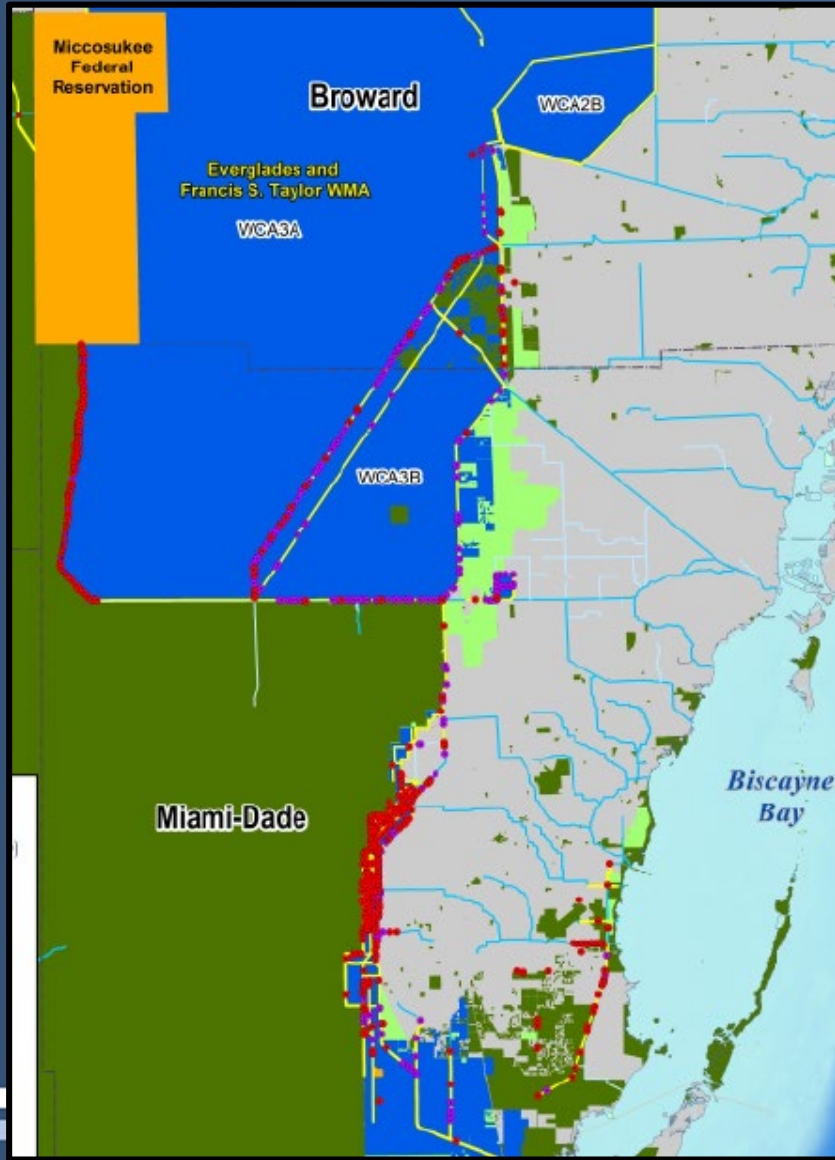
# SFWMD Python Elimination Program



- Expanded project area that now covers five counties: Miami-Dade, Broward, Collier, Palm Beach, and Hendry.
- This includes the Loxahatchee National Wildlife Refuge from a partnership with the U.S. Fish and Wildlife Service.
- All primary Stormwater Treatment Areas have been added.
- Soon to include the A-1 Flow Equalization Basin.



# SFWMD Python Elimination Program



Continuously  
adding red dots to  
the capture map!



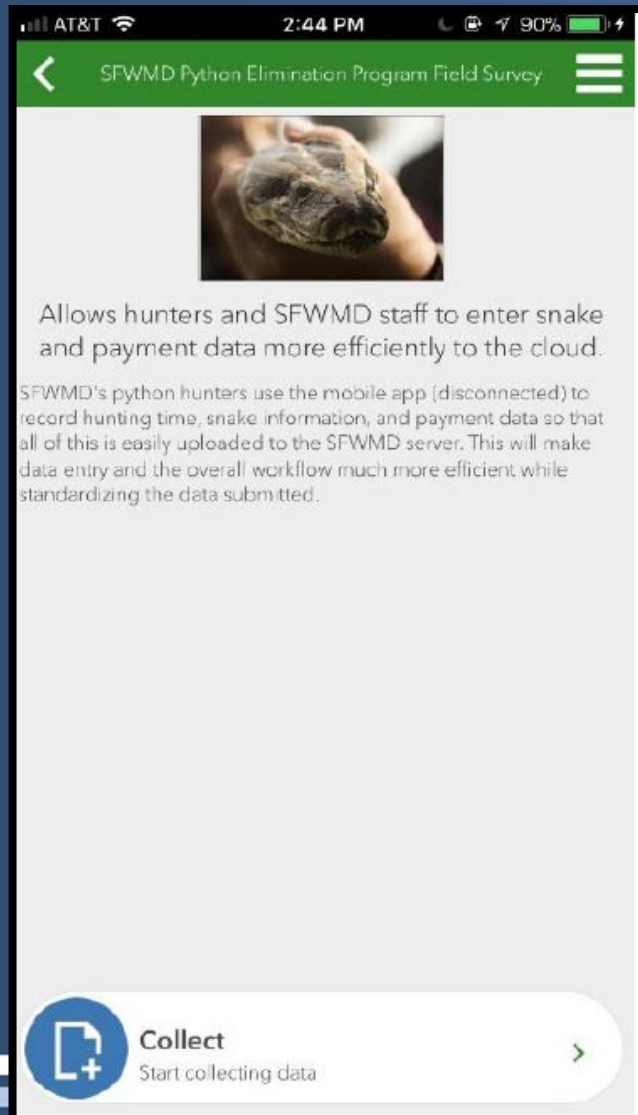
# SFWMD Python Elimination Program



Through an app on their smart device, contractors can see where they are in real-time in relation to the designated project area.



# SFWMD Python Elimination Program



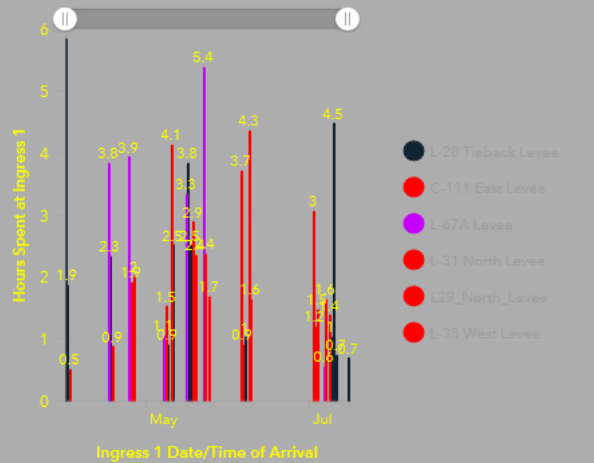
## Survey123

- Electronic data collection and submission
- Records all field data to include ingress/egress time and location, capture information, photos, GPS points, and environmental data
- No more paper datasheets
- Improves field data quality and consistency
- Provides for program efficiencies and instant analytics

# SFWMD Python Elimination Program



Ingress 1 Location and Time Spent



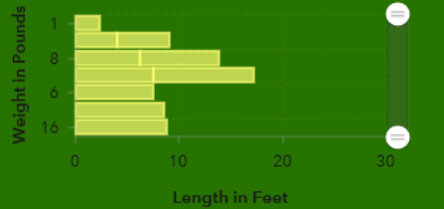
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## Total Snakes Submitted

73

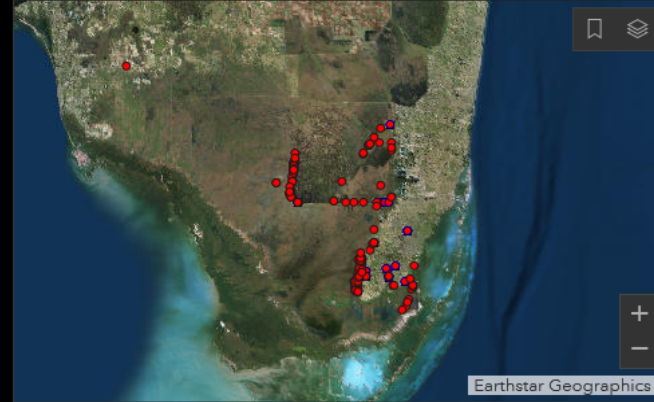
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Snake Lengths /Weights Since 3/31/18



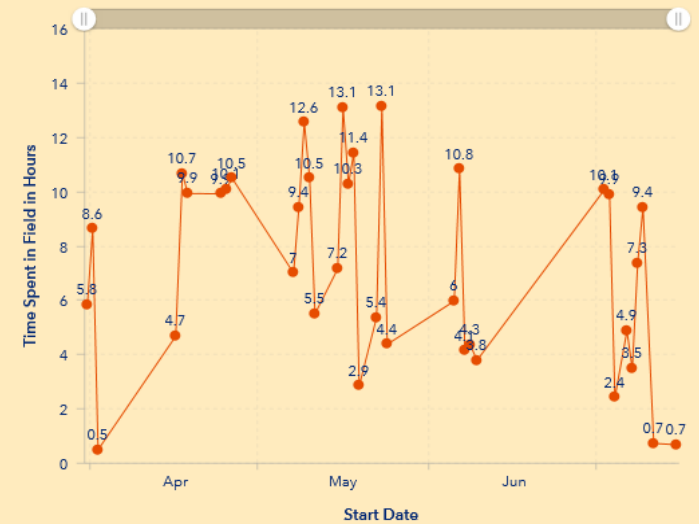
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All Snake Capture Locations by All Hunters Since 3/31/18



Earthstar Geographics

Total Time Spent in Field by Day



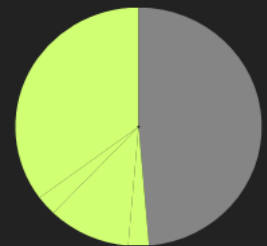
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Ingress 2 Location and Time Spent



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Assistant Names by Survey %



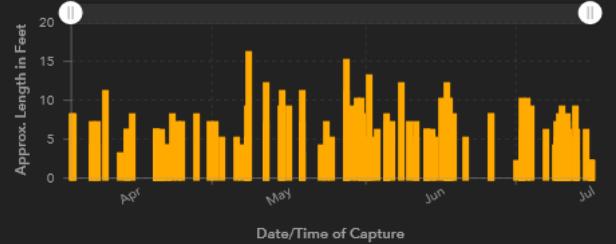
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Number of Surveys Submitted Since 3/31/18



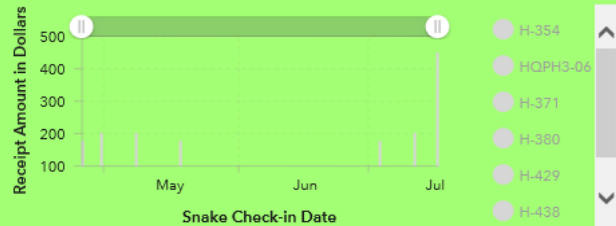
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Date/Time of Captures by All Hunters Since 3/31/18



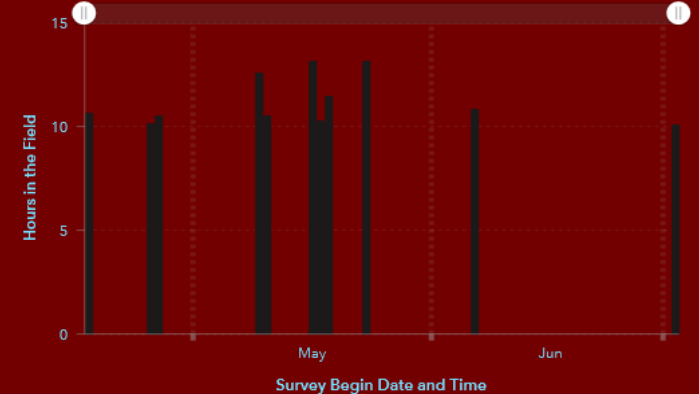
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Sum Payment (\$) and Receipt Number by Date



Last update: a few seconds ago

Hunting Hours Exceeding 10 hours per Survey



Last update: a few seconds ago

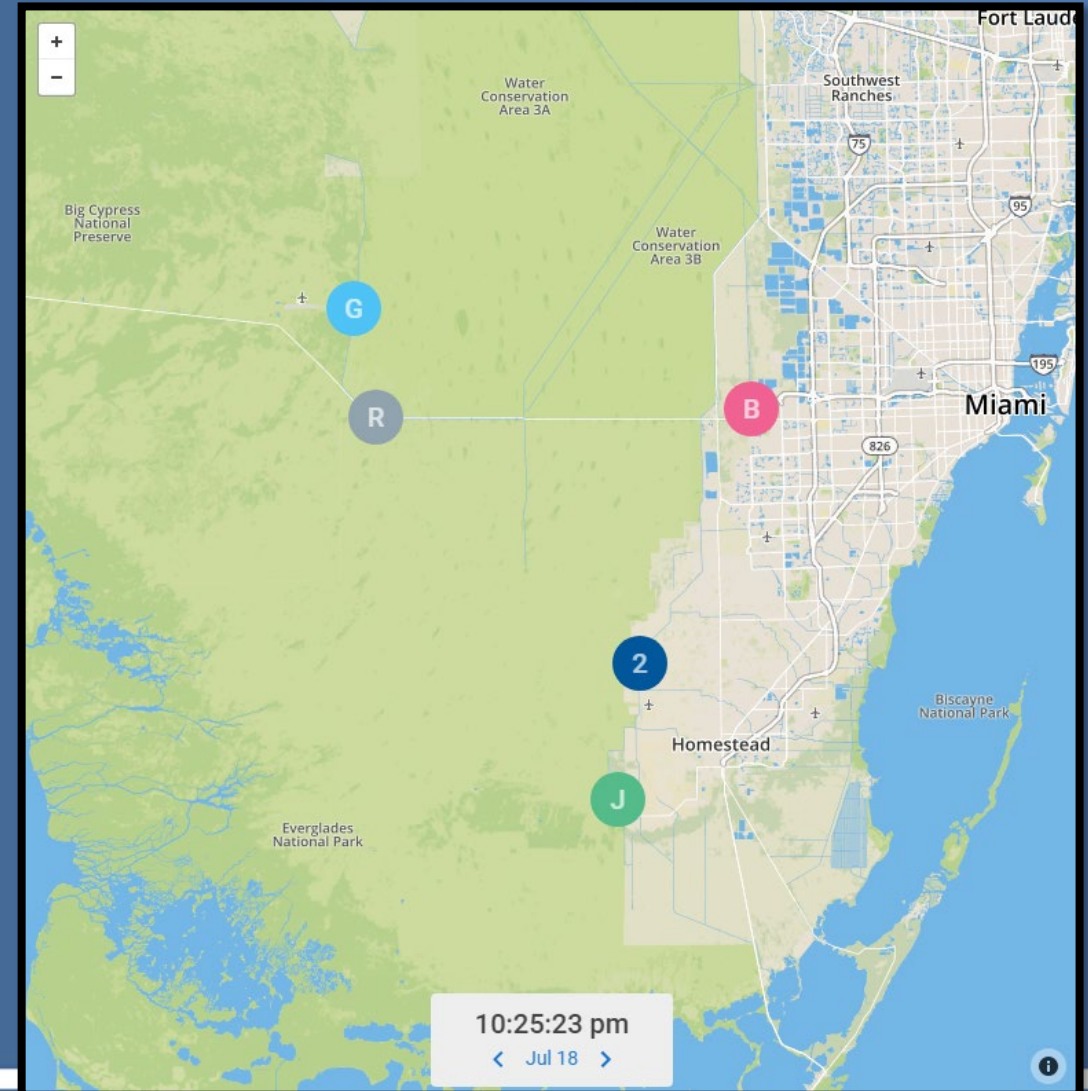


# SFWMD Python Elimination Program



## Tracking Software “Labor Sync” for contractor smart phones:

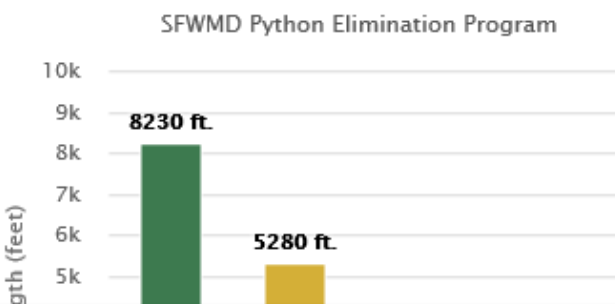
- Tracks agent movements in real-time
- Useful management tool
- Accountability
- Optimize coverage of the project area
- Safety



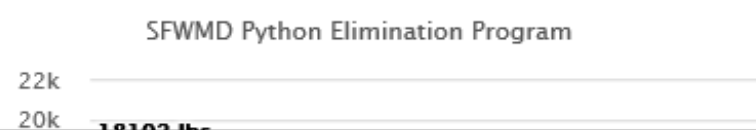
# SFWMD Python Elimination Program



## Total Length of Pythons Eliminated



## Total Weight of Pythons Eliminated

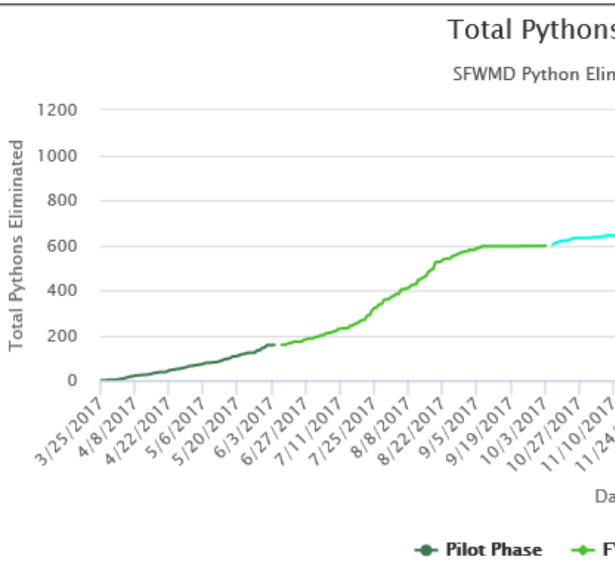


### News, Presentations and More

- [News Release: Hissssssssstory Made in the Everglades! SFWMD Python Hunters Eliminate 1,000th Snake - May 23, 2018](#)
- [News Release: SFWMD Python Elimination Program Grows Bigger And More Aggressive With Broward and Collier Counties Expansion - June 16, 2017](#)
- [SFWMD Governing Board: Python Pilot Program Updates - June 8, 2017 \[PDF\]](#)
- [Python Elimination Program Update Presentation to SFWMD Governing Board - March 9, 2017](#)
- [SFWMD Governing Board: Python Pilot Program - March 9, 2017 \[PDF\]](#)
- [SFWMD Governing Board Takes Action to Protect the Everglades - March 9, 2017](#)

### Python Tracker

The charts below track the ongoing progress of program participants in turning in pythons to SFWMD staff for measurement.



## Python Elimination Program

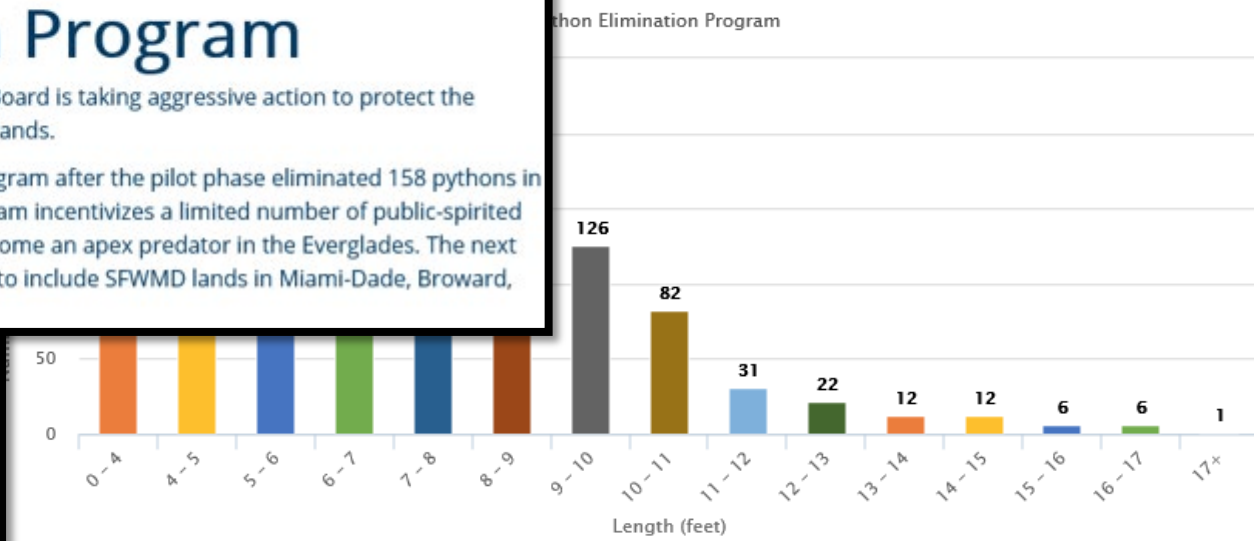
The South Florida Water Management District Governing Board is taking aggressive action to protect the Everglades and eliminate invasive pythons from its public lands.

The Governing Board renewed the Python Elimination Program after the pilot phase eliminated 158 pythons in little over two months. The monetary compensation program incentivizes a limited number of public-spirited individuals to kill these destructive snakes, which have become an apex predator in the Everglades. The next phase of the program also expands access to participants to include SFWMD lands in Miami-Dade, Broward, Collier and Palm Beach counties.



After less than 14 months, the SFWMD Python Elimination Program reached 1,000 Burmese pythons eliminated. Joined by

## Pythons Eliminated

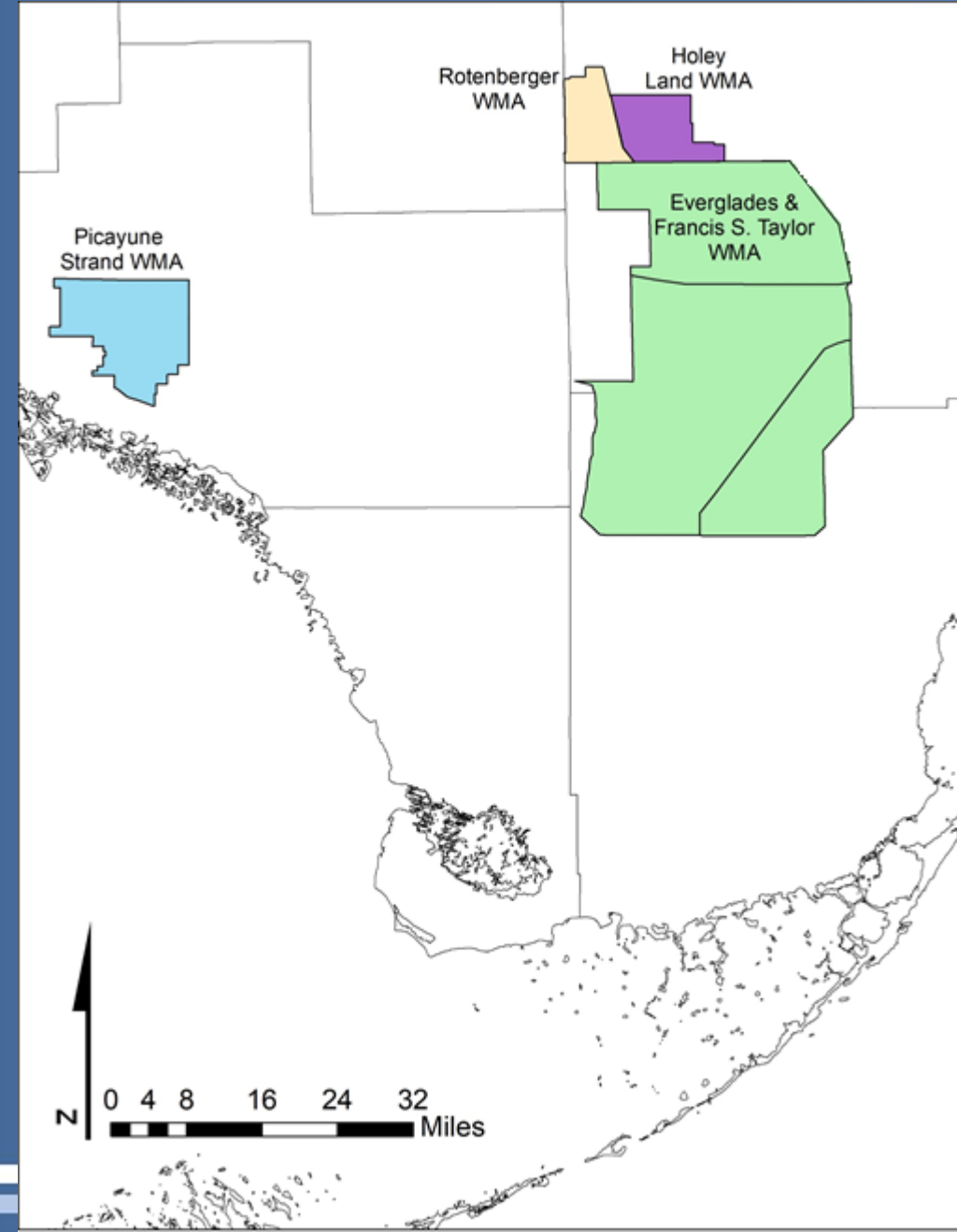






# FWC Python Action Team

- Survey areas in 5 counties
  - Miami-Dade
  - Broward
  - Monroe
  - Collier
  - Palm Beach
- State Lands
  - Everglades and Francis S. Taylor WMA
  - Holey Land WMA
  - Rotenberger WMA
  - Picayune Strand WMA

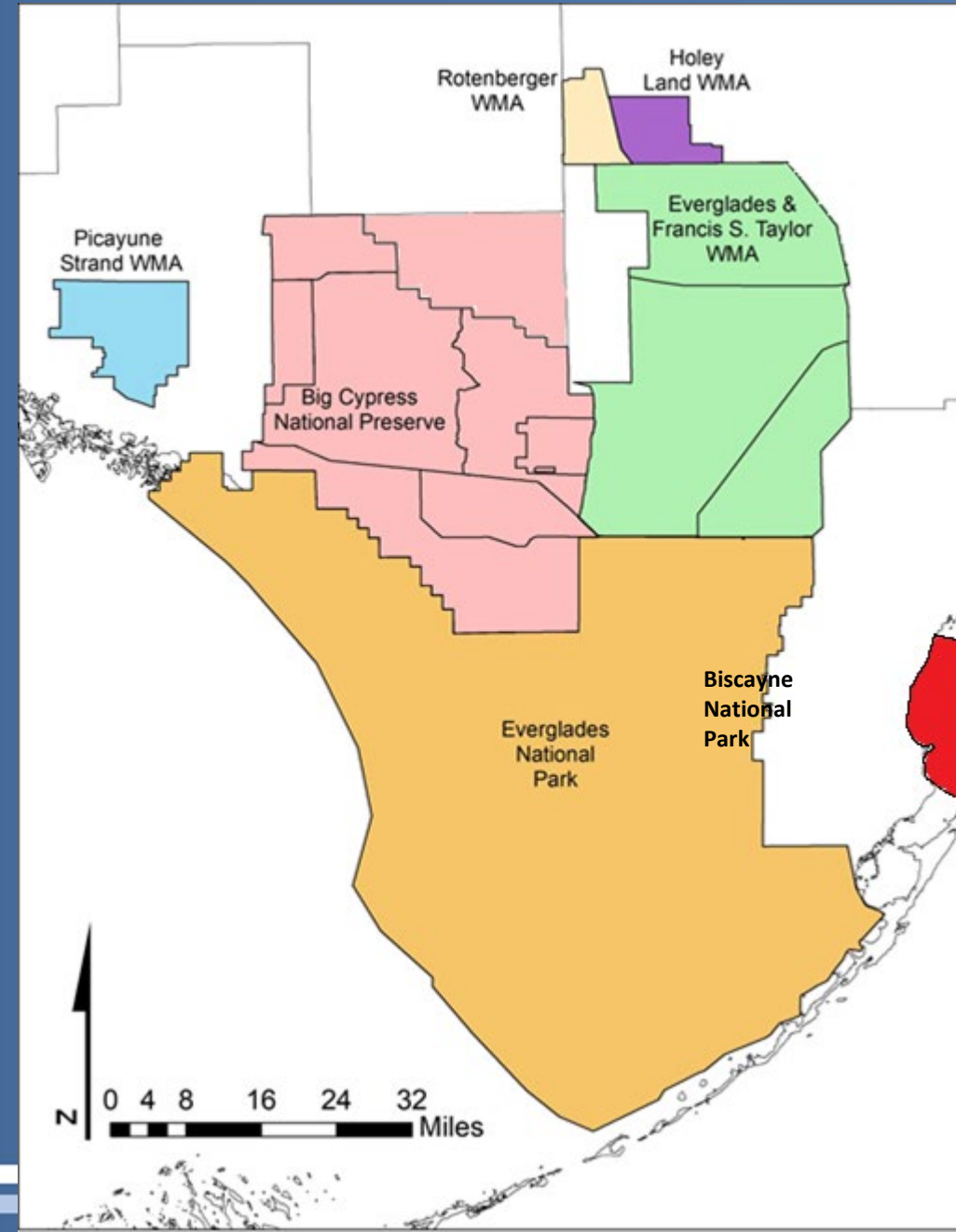


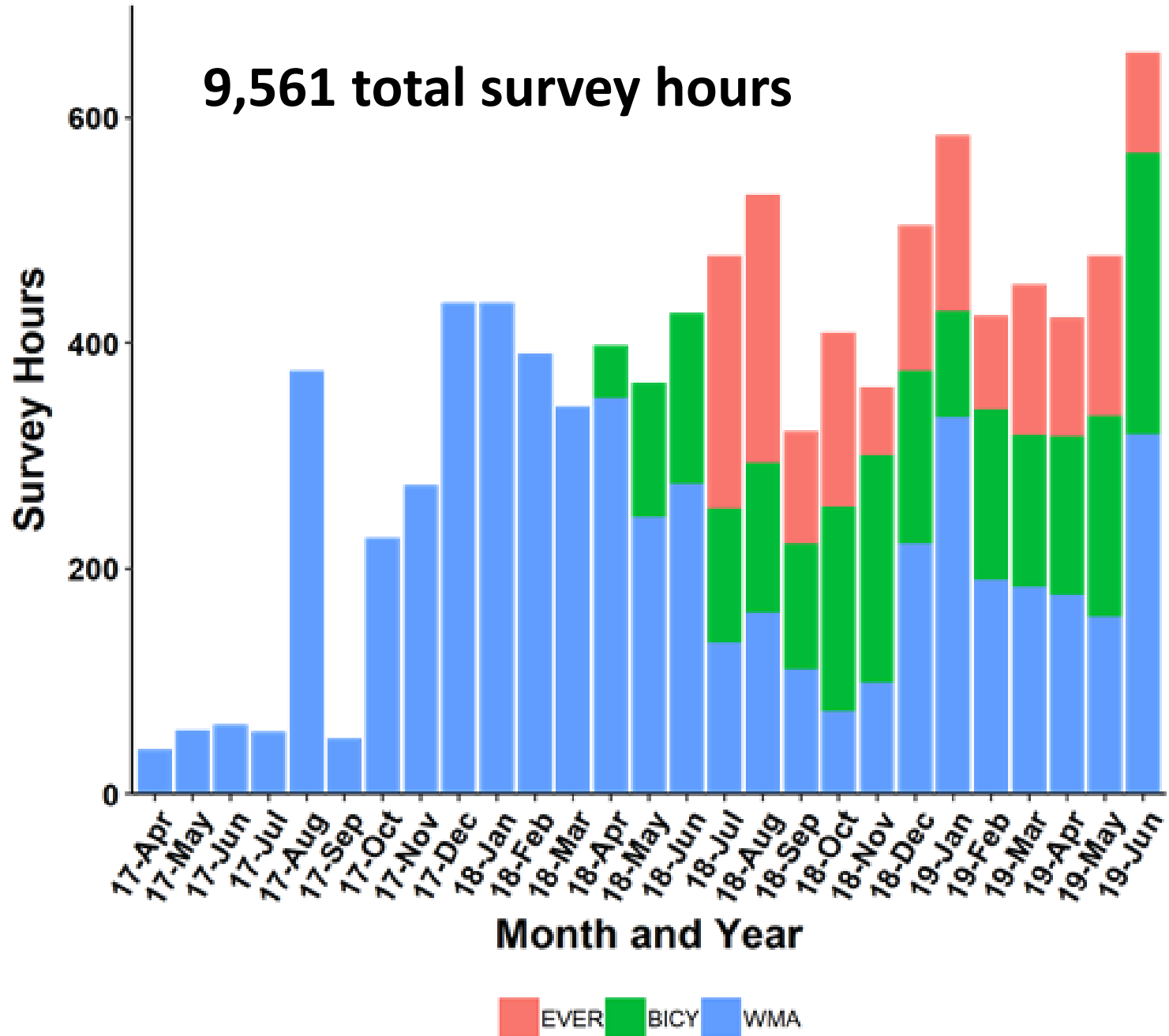


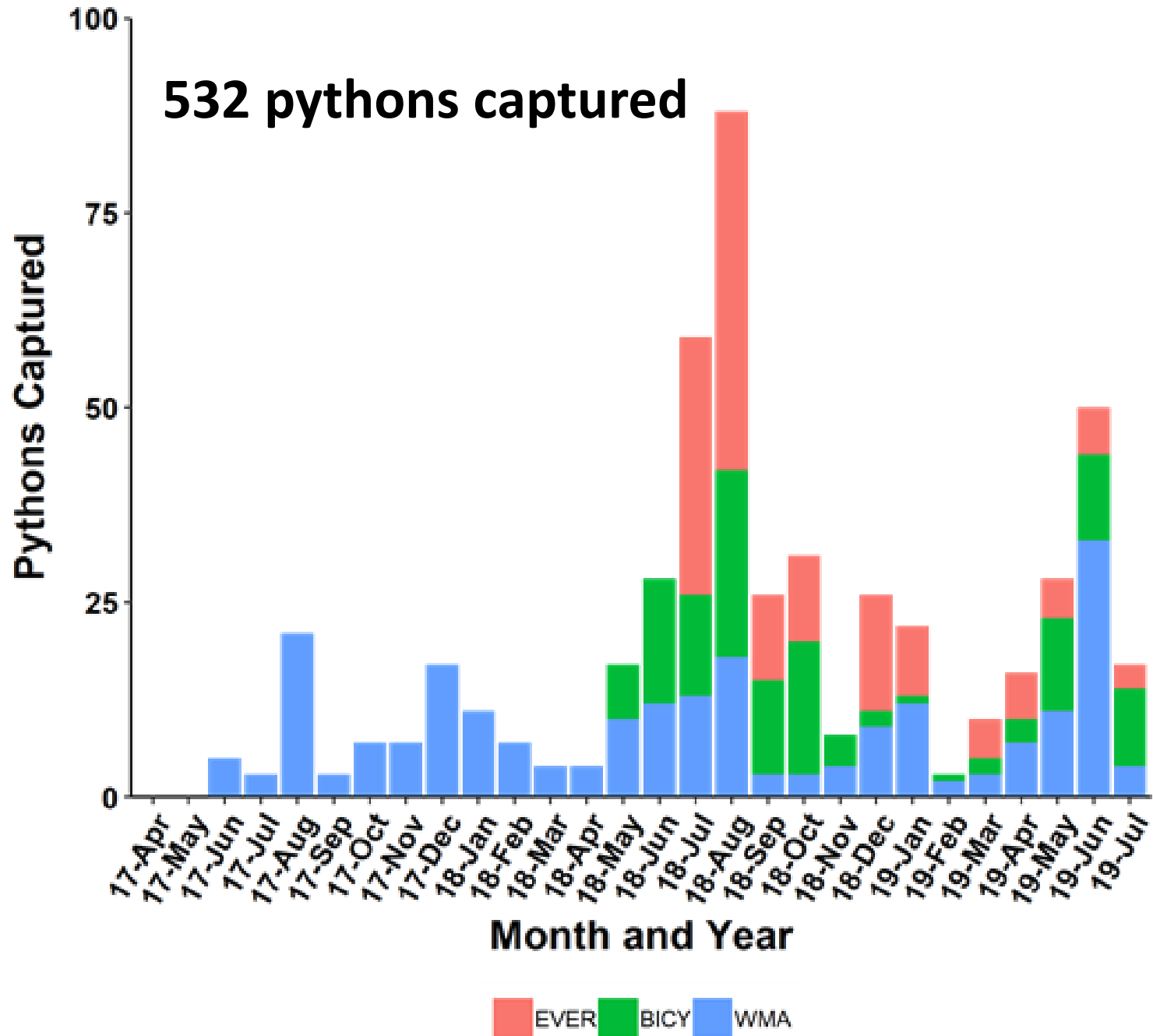
# FWC Python Action Team

- State Lands
  - Everglades and Francis S. Taylor WMA
  - Holey Land WMA
  - Rotenberger WMA
  - Picayune Strand WMA
- Federal Lands
  - Big Cypress National Preserve
  - Everglades National Park
  - Biscayne National Park

**Payment increase \$8.46/hr to \$15/hr to promote surveys in locations searched less frequently**









# FWC Python Action Team



- Remove barriers to python removal
  - Increase access to public lands
  - Increase number of contractors
- Create a passive responder network
  - Respond to 1 of 3 requests for EDRR





# Everglades National Park (EVER) & Big Cypress National Preserve (BICY) Authorized Agent Program

- Volunteer citizen science program in EVER for 10+ years and in BICY since 2017
- Participants include members of the public, partners, and staff (n=43)
- USGS has been a partner in managing program and collecting scientific data since 2013
- Pythons collected have provided a wealth of information on diet, life history, habitat use, and more
- Participants may capture all non-native herps (with the exception of venomous and crocodylians)





# NPS Authorized Agent Program

## 2018

- Programs expanded to increase number of volunteer participants and include FWC contractors

## 2019

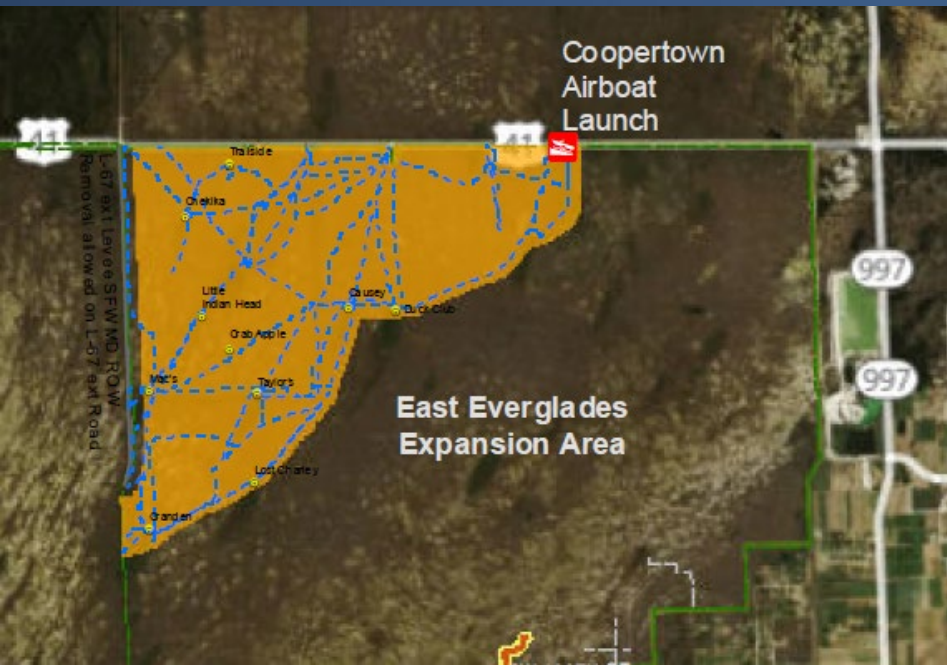
- EVER and BICY agent programs combined
- Expansion 2.0 increased access for both agents and, especially, FWC contractors
- Contractor surveys can now be conducted in Biscayne National Park





# FWC Contractors Allowed:

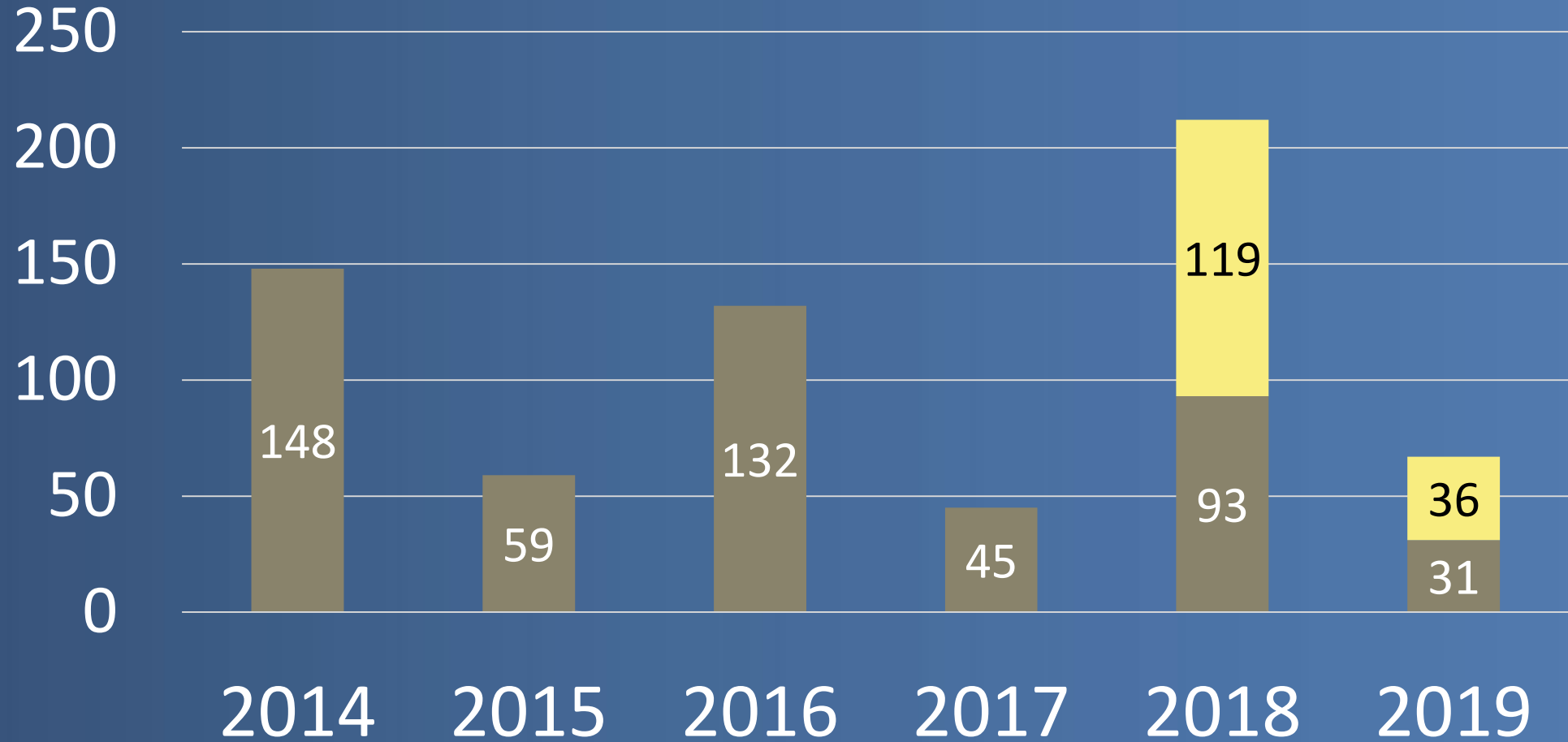
- To conduct surveys by airboat in limited areas of EVER
- Vehicle and bicycle access in some wilderness areas in EVER
- To conduct nighttime driving surveys on the Shark Valley Tram Trail in EVER
- To obtain an ORV permit for no cost in BICY





# EVER Pythons Removed by Program

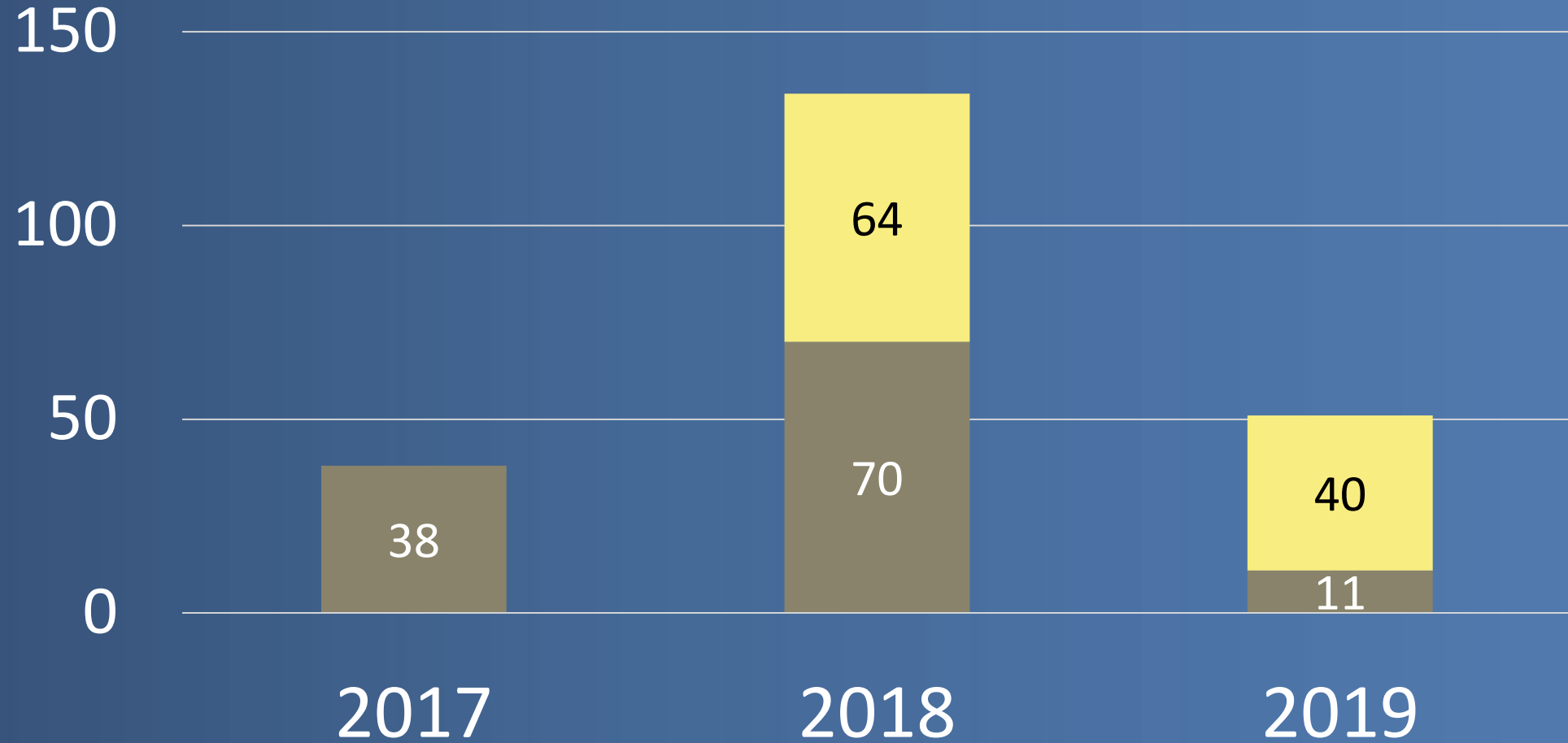
■ Contractors  
■ Agents

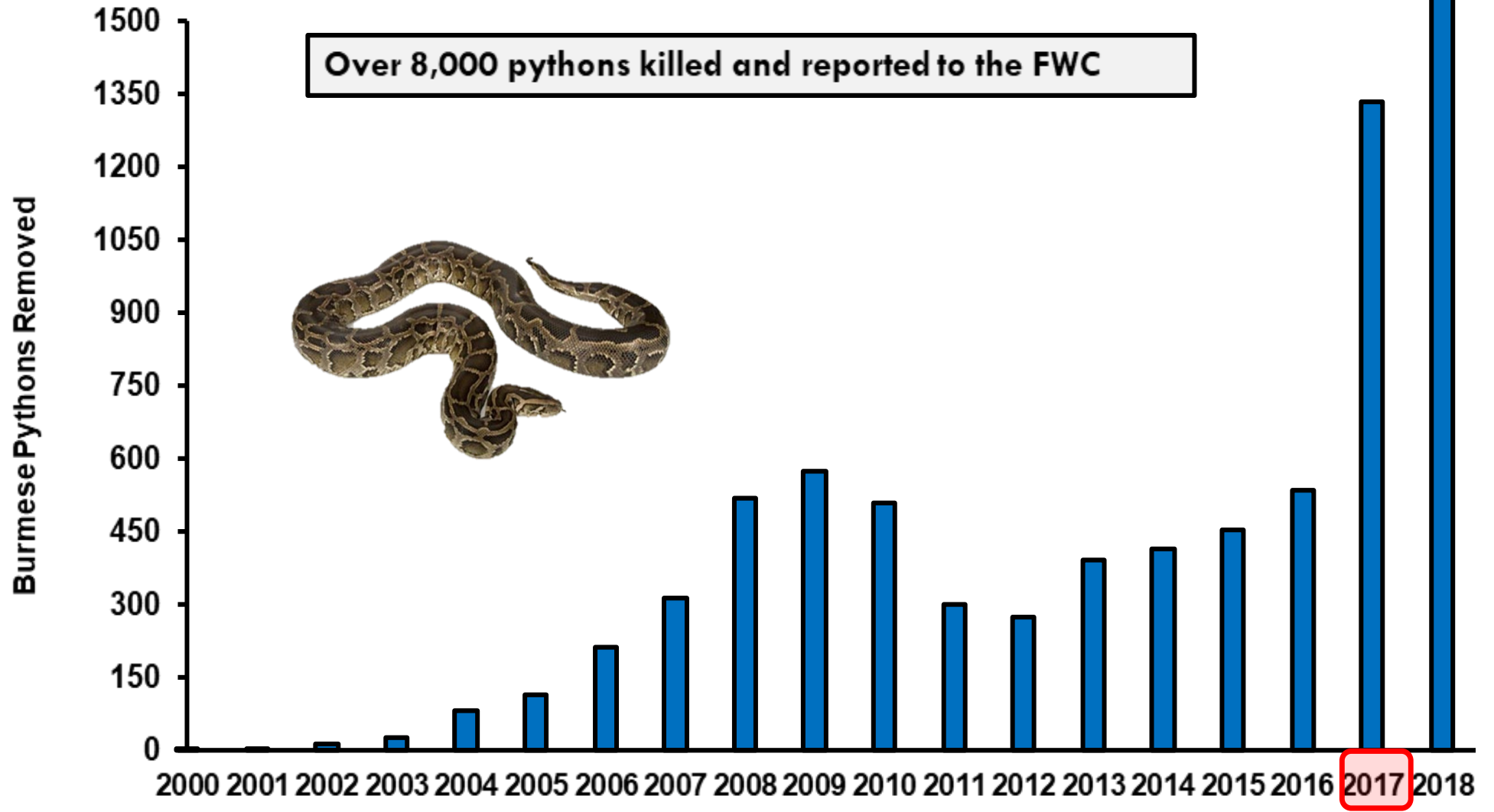




# BICY Pythons Removed by Program

■ Contractors  
■ Agents





Launch of paid removal programs



# Python Stats – All Python Removal Programs

- Total budget: **\$637,950**
- Total pythons removed: **2,788**
- Total survey hours: **32,869**
- Total members: **113**
- Hours surveyed per python captured: **11.79**
- Average cost to capture a python: **\$228.82**

# As always, thank you to all of our partners!

