2022

Florida Python Control Plan

ANNUAL REPORT

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Implementation Annual Report for 2022
March 2023
Florida Python Control Plan

Contributing Florida Python Control Plan Workgroup Organizations:

- Broward County
- Charlotte County
- Collier County
- Conservancy of Southwest Florida (CSWF)
- Florida Department of Environmental Protection (FDEP)
- Florida Fish and Wildlife Conservation Commission (FWC)
- Florida Forest Service (FFS)
- Miami-Dade County (MDC)
- Miccosukee Tribe of Indians of Florida
- Monroe County
- National Park Service (NPS)
- Rookery Bay National Estuarine Research Reserve (RBNERR)
- Seminole Tribe of Florida
- South Florida Water Management District (SFWMD)
- United States Army Corps of Engineers (USACE)
- US Fish and Wildlife Service (USFWS)

EXECUTIVE SUMMARY

The Florida Python Control Plan (FPCP) was finalized in August 2021. The FPCP Annual Report (AR) was prepared by the Florida Python Control Plan Workgroup (FPCPW). It acts as a summary of the tasks that were ongoing, partially completed, or completed by the FPCP Workgroup, in congruency with the FPCP, from August 2021 through December 2022. The AR highlights a subset of five projects: 2022 Florida Python Challenge®, Vehicle Mounted Near-Infrared Camera Project, Python Removal Contractor Program, Scout Snake Program, and the NAISMA Conference Python Panel.

FPCPW organizations contributed to and reviewed the AR before completion. The projects summarized in this report further the overall goals outlined in the FPCP with respect to each organization's available authorities and resources.

Goal of the FPCP

Through unified, interorganizational collaboration, minimize adverse impacts of Burmese pythons (*Python molurus bivittatus*) and protect Florida's native ecosystems. There are four themes central to effective python control: 1) Policy and Regulations, 2) Control and Monitoring, 3) Research, and 4) Communication.

The FPCP outlines specific goals, strategies, and recommendations related to each theme and the 2022 FPCP Implementation Plan (IP) outlines specific projects within each goal. The 2022 FPCP Annual Report (AR) focuses on the FPCP Workgroup's actionable items towards continued implementation of the FPCP.

FPCP Workgroup (FPCPW)

Purpose: The FPCP Workgroup and its Subgroups serve as a collaborative forum for developing strategies, projects, and measures to implement the FPCP.

- Seven meetings: September, October, and December 2021 (Figure 1), March, June, November (in-person), and December 2022 (Figure 2)
- Completed Projects in 2022
  - Creation of the FPCP Workgroup (FPCPW)
  - Finalized the FPCP Workgroup's Operating Procedures (Attachment 1)
    - Outlines detailed purpose, objectives, guidelines, organizational structure, and organizational operations for the FPCPW.
  - Created the FPCP Python Website Subgroup (FPCP PWS)
  - Created the FPCP Research Subgroup (FPCP RS)
  - December 2021, Finalized the 2022 FPCP Implementation Plan (IP) (Attachment 2)
    - Included an overview of recommended implementation actions in 2022 and eight strategic topics for focusing control efforts over the next few years: 1) Staffing and Related Resources, 2) Population Estimates, 3) Efficacy of Control, 4) Innovative Tools and Technologies, 5) Targeted Location Monitoring and Control, 6) Information Sharing, 7) Training, and 8) FPCP Distribution and Updates.

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- December 2022, finalized the 2023 FPCP Implementation Plan (Attachment 3)
  - Included an overview of recommended implementation actions in 2023 and the same eight strategic topics for focusing control efforts over the next few years mentioned in the 2022 FPCP IAP.
- Projects started in 2022
  - Began developing the 2022 FPCP Annual Report

FPCP Python Website Subgroup (FPCP PWS)

Purpose: Create an interorganizational FPCP website consisting of management and research information and updates from a variety of organizations including Federal, State, and local agencies, Tribes, research entities, and non-governmental organizations (NGOs).

- Four meetings: September and November (in-person) 2021 (Figure 1), April and November 2022 (Figure 2)
- Completed Projects in 2022
  - Detailed first outline of an FPCP python website
  - Finalized funding for the website's creation through the FWC
- Ongoing Projects started in 2022
  - Website creation began in September 2022 and it is expected to be completed and available to the public by Summer 2023.
  - Started drafting FPCP Website Operating Procedures

FPCP Research Subgroup (FPCP RS)

Purpose: Including research goals into python control.

- Three meetings: June, July (in-person), September 2022 (Figure 2)
- Completed Projects in 2022
  - Python Special Session at The North American Invasive Species Management Association (NAISMA) annual conference in Kissimmee, FL in November 2022

- Organized and executed a two-hour special session on pythons at the NAISMA conference where current python managers and researchers discussed important python control topics with an international audience.
- A detailed overview of the NAISMA python panel project can be found on page 12 of this report.
- Ongoing Projects started in 2022
  - Annual Python Researcher and Manager Meeting
    - Started discussing the objectives and logistics of an annual meeting between python researchers and managers.

FPCP Workgroup Summary Timelines

Figure 1: 2021 timeline of Florida Python Control Plan (FPCP), Florida Python Control Plan Workgroup (FPCPW), Python Website Subgroup (PWS), and Research Subgroup (RS) meetings and annual products. Operating Procedures (OP), Annual Report (AR), and Implementation Plan (IP).
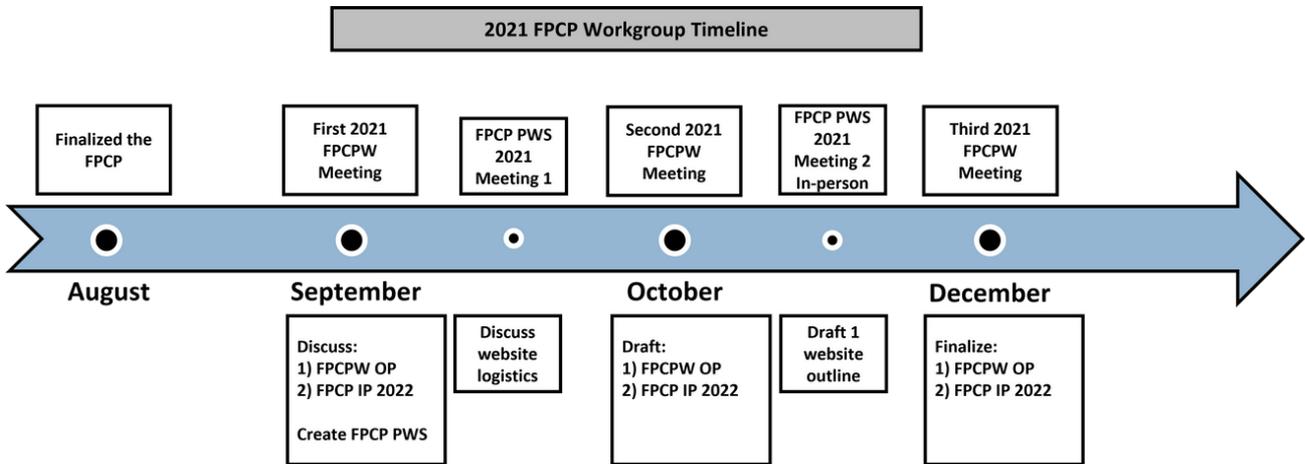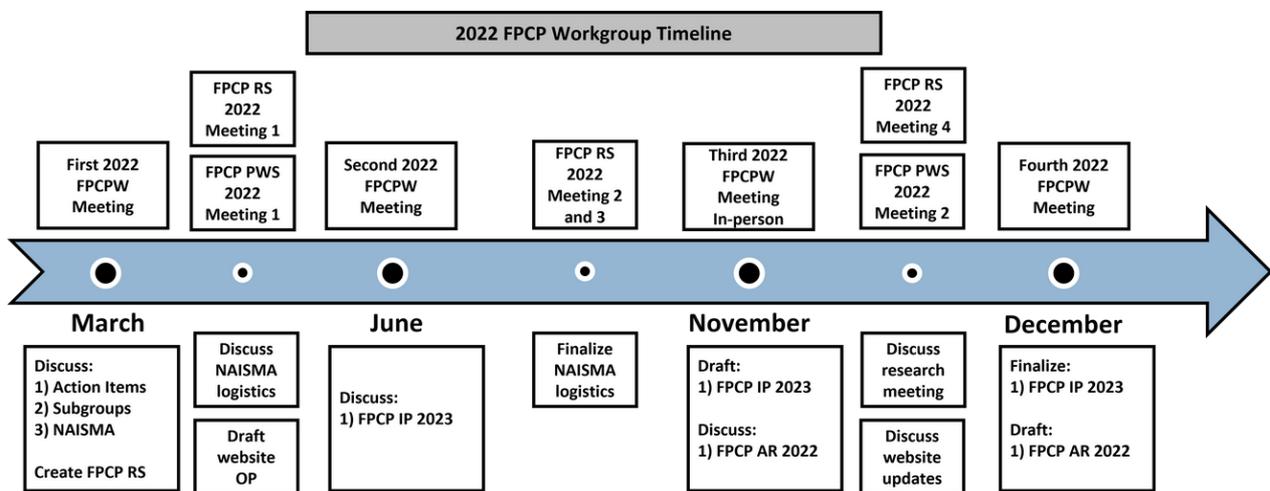

Figure 2: 2022 timeline of Florida Python Control Plan (FPCP), Florida Python Control Plan Workgroup (FPCPW), Python Website Subgroup (PWS), and Research Subgroup (RS) meetings and annual products. The North American Invasive Species Management Association (NAISMA), Operating Procedures (OP), Annual Report (AR), and Implementation Plan (IP).

Highlighted Projects 〜

A small subset of completed or ongoing projects identified in the FPCP Implementation Plan 2022 are summarized below. Currently the statistics described within the different control tools are not directly comparable, as effort levels were substantially different between the methodologies.

2022 Florida Python Challenge®

Background:

The annual Florida Python Challenge® brings continued awareness to invasive species issues in south Florida and engages the public to participate in Everglades conservation through invasive species removal.

Status in 2022:

As of 2020, the Florida Python Challenge® became an annual event. The 2022 Florida Python Challenge® was the fifth event and occurred from August 5-14, 2022. Nearly 1,000 participants from 32 states, Canada and Latvia came together to remove hundreds of Burmese pythons from south Florida. Participants removed 231 invasive Burmese pythons during the 10-day competition.

977 Participants from 32 US States and 2 Countries

231 Pythons Removed

Participant removing a python during the competition.

Vehicle Mounted Near-infrared Camera Project

Background:

Detection remains the biggest obstacle to python management and currently human detection is the most productive means to find Burmese pythons. FPCP Workgroup organizations are investigating innovative methods and tools to aid in visual detection methods. Humans search within the visible light spectrum, detecting wavelengths from 380 to 700 nanometers (nm), but pythons can more easily be detected at 850nm, outside the human's visible band. In July 2020, the FWC contracted the University of Central Florida (UCF) to create a vehicle mounted 850nm near-infrared camera to improve our ability to detect pythons during visual surveys.

Status in 2022:

In June 2022 the first vehicle mounted 850nm near-infrared camera prototypes were completed and FWC staff started using the cameras for large constrictor surveys. Over 30 hours of near-infrared camera surveys have been completed, focusing on locations on the edges of the current python established range. On August 30, 2022, the near-infrared camera detected, and FWC staff removed, a 9.5 foot, 40 pound female python from Holey Land Wildlife Management Area. This python was the first detected and removed using this new technology. This project is in its early stages and surveys are ongoing.

Bottom left: Near-infrared camera mounted on the vehicle in the field. Top: Real-time camera image on the monitor, red box around the python.

Bottom right: Zoomed in image of the python in the grass.

Python Removal Contractor Programs

Background:

In 2017, the SFWMD and the FWC began a collaboration to develop independent, but parallel, incentivized python removal programs. Both agencies developed these programs to expand one of the few control options available—hand removal by trained python removal agents. Upon the direction of Governor Ron DeSantis, the two programs have since aligned in location access, program regulation, and removal requirements. The continued objectives of both programs are to deploy experienced python removal experts to specific areas and compensate them for conducting surveys, while collecting useful data on search effort and humanely removing as many pythons as possible from lands in Florida. Based on length, an additional incentive payment is made for every target nonnative constrictor removed from the environment.

Status in 2022:

The two programs, the FWC Python Action Team Removing Invasive Constrictors and the SFWMD Python Elimination Program, have contributed to the removal of over 11,000 Burmese pythons. In 2022, the two programs gained additional access for contractors into seven USFWS Refuges in south Florida (see Appendix 1 for a full list of contractor survey locations).
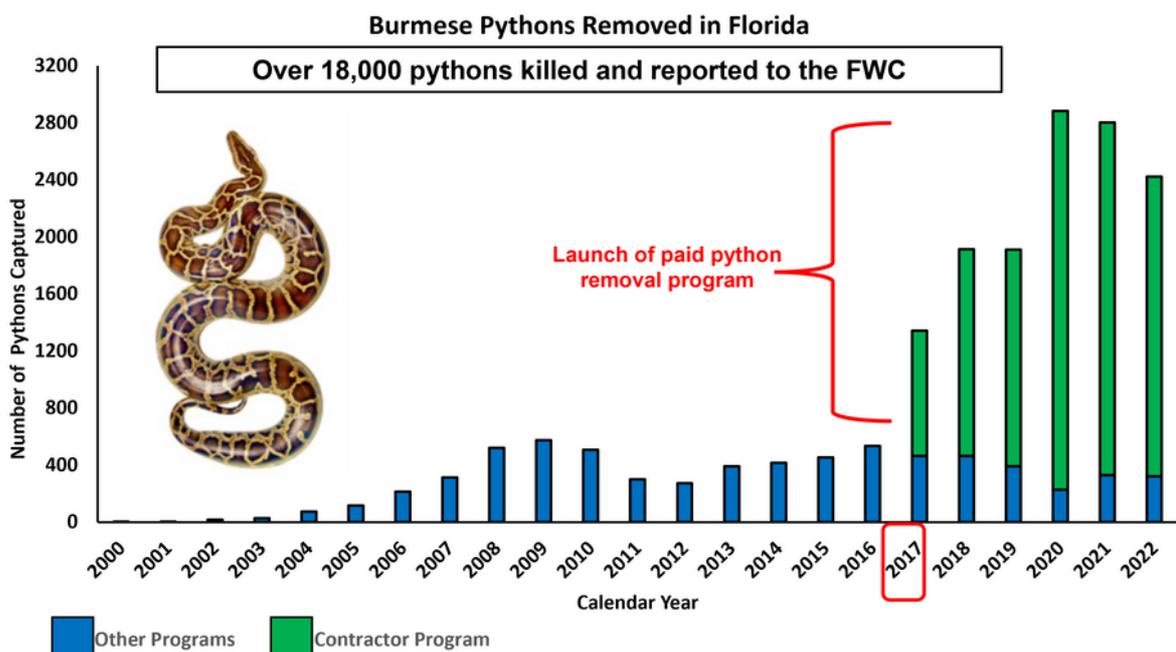
Scout Snake Programs

Background:

Increasing our understanding of python behavior and life history in their nonnative range is critical for assessing current management strategies and helps inform future control measures. The use of radio telemetry is an established and valuable tool to meet these objectives and can also be used as a control tool in areas where traditional sight searching is difficult. In 2015 the Conservancy of Southwest Florida (CSWF) started an organized Scout Snake Program (SSP) in southwestern Florida with the goal of tracking male pythons to detect gravid female pythons during the breeding season. In 2017 the U.S. Geological Survey (USGS) and NPS started a second SSP in Big Cypress National Preserve, expanding the use of the control tool in a new location with different habitats. Both programs not only remove pythons from the environment but have expanded our knowledge of python behavior and biology in south Florida.

Status in 2022:

The CSWF SSP team of three biologists tracked 34 male scout snakes and removed 58 associated pythons containing 1,088 eggs from an area of approximately 100 square miles in southwestern Florida.

The USGS and NPS joint SSP in Big Cypress National Preserve tracked 24 different pythons and removed 18 associated pythons. They removed five nests comprising of 305 eggs.

The University of Florida (UF) and USGS entered into an agreement with the SFWMD and FWC to start a third SSP within Everglades and Francis S. Taylor Wildlife Management Area, an area with sensitive tree island habitats, where there is currently important knowledge and management gaps.

Radio Telemetry

photo: CSWF

NAISMA Conference Python Panel

Background:

The FPCP Workgroup was offered the opportunity to organize a two-hour Python Panel special session at The North American Invasive Species Management Association (NAISMA) 2022 conference. NAISMA represents a network of organizations

photo: Jackie Guzy

implementing management programs to prevent negative impacts of invasive species on a national scale, offering the FPCP the opportunity to share Florida's python control methods with a diverse audience.

Status in 2022:

The Python Panel special session took place on November 8, 2022 at the NAISMA conference in Kissimmee, FL.

- Six panelists participated: Dr. Christina Romagosa (UF), Dr. Maggie Hunter (USGS), Dr. Amy Yackel-Adams (USGS), Dr. Kristen Hart (USGS), Sarah Funck (FWC), and Dr. Bryan Falk (National Invasive Species Council)
- Two facilitators: Jan Fore (FWC) and McKayla Spencer (FWC)
- Two audience participation surveys:
  - Invasive species populations, 27 participants
  - Invasive species innovative tools, 25 participants

photo: Jackie Guzy

NEXT STEPS

The Florida Python Control Plan (FPCP) is a living document with goals that will continue to be implemented by the FPCP Workgroup. Management of Burmese pythons will be a reality in Florida for the foreseeable future and the FPCP is meant to provide a formal framework for organizations to collaborate on the problem for as long as is needed and subject to revision as appropriate.

Appendix I: Contractor Program Survey Locations

- Everglades and Francis S. Taylor Wildlife Management Area
- Everglades National Park
- Big Cypress National Preserve
- C-111 Basin
- East Coast Buffer
- Biscayne Bay Coastal Wetlands
- Southern Glades Wildlife and Environmental Area
- Rocky Glades Public Small Game Hunting Area
- Frog Pond Public Small Game Hunting Area
- Tamiami Trail (between Krome Ave. and SR 29)
- Biscayne National Park
- Holey Land Wildlife Management Area
- Rotenberger Wildlife Management Area
- Picayune Wildlife Management Area
- Corkscrew Regional Ecosystem Watershed Wildlife and Environmental Area
- Site 1
- Stormwater Treatment Area-1 East and West
- Stormwater Treatment Area-2
- Stormwater Treatment Area 3/4
- Stormwater Treatment Area 5/6
- A1 FEB
- Dagny Johnson Key Largo Hammock Botanical State Park
- John Pennekamp Coral Reef State Park
- Collier-Seminole State Park
- Fakahatchee Strand Preserve State Park
- Rookery Bay National Estuarine Research Reserve
- Spirit-of-the-Wild Wildlife Management Area
- Okaloacoochee Slough Wildlife Management Area
- Dinner Island Ranch Wildlife Management Area
- Specific Map Marked Tree Islands, Spoil Islands, and Surrounding Waterways in Water Control Area 3
- Arthur R. Marshall Loxahatchee National Wildlife Refuge
- Crocodile Lake National Wildlife Refuge
- Everglades Headwaters National Wildlife Refuge and Conservation Area
- Florida Panther National Wildlife Refuge
- Hobe Sound National Wildlife Refuge
- J.N. "Ding" Darling National Wildlife Refuge National Key Deer Refuge
- Ten Thousand Islands National Wildlife Refuge
- National Key Deer Refuge