2022

Implementation Action Plan

Florida Python Control Plan

Table of Contents

Implementation Action Plan for 2022
December 2021
Florida Python Control Plan

Contributing Florida Python Control Plan Workgroup Organizations:

- Collier County
- Conservancy of Southwest Florida
- Florida Department of Environmental Protection
- Florida Fish and Wildlife Conservation Commission
- Florida Forest Service
- Miami-Dade County
- Miccosukee Tribe of Indians of Florida
- Monroe County
- National Park Service
- Rookery Bay National Estuarine Research Reserve
- Seminole Tribe of Florida
- South Florida Water Management District
- United States Army Corps of Engineers
- US Fish and Wildlife Service

Executive Summary

The Florida Python Control Plan Implementation Action Plan (IAP) 2022 is a description of recommendations, prepared by the Florida Python Control Plan Workgroup (FPCPW), to support the interorganizational control of invasive Burmese pythons (*Python molurus bivittatus*) in Florida.

The Florida Python Control Plan (FPCP) was completed in August 2021. The FPCP and IAP are meant to be complimentary to each other and the FPCP can be used as a reference for a more detailed description of items described in the IAP. The IAP considers the most current science on pythons to advance the goals outlined in the four themes of the FPCP— Policy and Regulations, Control and Monitoring, Research, and Communication. The IAP focuses on recommending actions to organizations to work together to control pythons and includes a list of strategic topics to consider for focusing efforts over the next few years.

The projects recommended in this report further the overall goals outlined in the FPCP with respect to organization's available authorities and resources. The FPCPW will continue to use an adaptive management approach to python control using the most updated science to refine new control tools and management approaches.

List of Acronyms

Catch per unit effort	CPUE
Conservancy of Southwest Florida	CSWF
Early Detection and Rapid Response	EDRR
Environmental DNA	eDNA
Everglades Cooperative Invasive Species Management Area	ECISMA
Everglades Invasive Reptile and Amphibian Monitoring Program	EIRAMP
Executive Order	EO
Exotic Pet Amnesty Program	EPAP
Florida Department of Environmental Protection	FDEP
Florida Fish and Wildlife Conservation Commission	FWC
Florida Forest Service	FFS
Florida Python Control Plan	FPCP
FPCP Python Portal Subgroup	PPS
FPCP Workgroup	FPCPW
Greater Everglades Ecosystem Restoration	GEER
Implementation Action Plan	IAP
Law Enforcement	LE
National Park Service	NPS
Rookery Bay National Estuarine Research Reserve	RBNERR
Science, Technology, Engineering, and Mathematics	STEM
South Florida Water Management District	SFWMD
University of Central Florida	UCF
University of Florida	UF
US Fish and Wildlife Service	USFWS
United States Geological Survey	USGS

Strategic Topics for Python Control

The FPCP describes Goals, Strategies, and Recommendations for python control. The FPCPW identifies a few strategic topics to focus efforts over the next few years that are supported in multiple sections of the FPCP.

- Staffing and Related Resources
- Population Estimates
- Efficacy of Control
- Innovative Tools and Technologies
- Targeted Location Monitoring and Control
- Information Sharing
- Training
- FPCP Distribution and Updates

Staffing and Related Resources

Current Status

Most recommendations in the FPCP require an increase in existing control efforts. Substantial progress towards achieving FPCP goals is not possible with existing staffing, equipment, and other related resources.

Benefits

Increasing staff, available equipment, and related resources will enable participating organizations to implement more aspects of the plan, thereby improving control of Burmese pythons in Florida.

FPCP Sections

(1) FPCP All; (2) Control and Monitoring-Goal 3-Strategy 3.1-Recommendations 3.1.2

Population Estimates

Current Status

There are not any well supported population estimates for pythons due, in part, to their low detectability and the inability to use standard catch and release methodologies to determine realistic estimates. Vital rate information must be acquired prior to achieving a defendable python population estimate within a specific landscape, given differences in terrain and predictive behavior. As work is being conducted to fill in these gaps, the best available current science should be used to characterize python population using tools such as catch per unit effort (CPUE) and stoplight indicators. Stoplight indicators are a visual metric showing progress made towards a target goal.

Benefits

Without accurate population estimates it is not possible to evaluate the efficacy of different control tools. Once control methods are evaluated, control methods can be tailored to increase removal efficiency and better estimate future budgetary requirements

FPCP Sections
(1) Control and Monitoring-Goal 1-Strategy 1.1-Recommendation 1.1.1; (2) Research-Goal 1-Strategy 1.1-Recommendations 1.1.6, 1.2.1 through 1.3.3, 1.4.1; (3) Communication-Goal 1-Strategy 1.2-Recommendation 1.2.3

Efficacy of Control

Current Status

Organizations are using a multi-pronged approach to python control. Tactics include scout snakes, python contractors, python detector dogs, wildlife cameras, staff, volunteers, and sponsored initiatives. However, it can be difficult to know which technique will have the most efficacy on different land areas and habitats. Evaluations of control methodology will be more accurate once we have reliable population estimates. In the interim, we can use tools, such as CPUE, to adjust approaches to be more effective and direct resources to approaches that have a higher efficiency of removing pythons. It is understood that employing CPUE is not comparable across different habitat types, unless data is normalized for logistics, terrain, etc., which is not appropriate at this time.

Benefits

Determination of what control method yields better results can aid in the development of a tabular treatment matrix or a flow chart to advise land managers on which method is likely to work best given their land characteristics and environmental variables. These tables/flowcharts could delineate the best control method in a localized area based on variables such as habitat, season, spatial components, temporal components, and resources. This can also aid in creating performance metrics to measure the effectiveness of individual control programs. Increased efficacy in removal efforts will result in more pythons removed from the environment.

FPCP Sections
(1) Control and Monitoring-Goal 2-Strategy 2.1-Recommendation 2.1.1, 2.1.1.1, 2.1.2.1; (2) Research-Goal 1-Strategy 1.1; (3) Research-Goal 1-Strategy 1.2

Innovative Tools and Technologies

Current Status

Organizations currently assess innovative tools and technologies such as python near-infrared cameras, eDNA, mammalian lures, pheromones, and trap designs.

Benefits

Continuing to explore innovative tools and technologies for python control will increase the likelihood that we find more effective approaches to monitoring and controlling python populations in Florida.

FPCP Sections
(1) Control and Monitoring-Goal 1-Strategy 1.1-Recommendation 1.1.2, 1.1.3.2; (2) Research-Goal 1-Strategy 1.3-Recommendation 1.3.4; (3) Research-Goal 2-Strategy 2.1-Recommendation 2.1.2

Targeted Location Monitoring and Control

Current Status

Organizations are focusing monitoring and control efforts across multiple land areas in south Florida. A few organizations have started focusing control efforts in specific locations to slow expansion. These efforts are generally focused at the edge of the known python range, and in sensitive habitats, such as the nesting locations of federally endangered key largo wood rats. Further information is needed on the geographic range of pythons, population of pythons, and the effects of pythons in specific habitats. Creating a site prioritization tool for land managers could assist in determining which locations to target for control.

Benefits

Selecting locations for prioritization and directed control and monitoring efforts in areas that do not currently have pythons, have a low number of pythons, are suspected to be at the prevention phase on the Invasion Curve, and/or have habitats that are especially vulnerable to irreparable effects from pythons will help conserve these areas from negative python effects.

FPCP Sections
(1) Control and Monitoring-Goal 1-Strategy 1.1-Recommendations 1.1.1, 1.1.2; (2) Control and Monitoring-Goal 2-Strategy 2.1-Recommendation 2.1.5; (3) Research-Goal 1- Strategy 1.1- Recommendation 1.1.3

Information Sharing

Current Status

Organizations have different methods and locations for sharing information regarding pythons. There is a lot of diversity in levels of data sharing among organizations as each organization has a different set of requirements to be able to share data.

Benefits

Creating and maintaining a single source location, such as an FPCP website, for the public, land managers, and/or researchers to acquire information and even share information

would likely streamline interorganizational cooperation and reduce duplicate efforts. Expanding the available privacy settings of shared data on current websites, such as EDDMaps, could allow for more data sharing and analysis on a larger landscape scale.

FPCP Sections
(1) Rules and Regulations-Goal 3-Strategy 3.1-Recommendation 3.1.2; (2) Research-Goal 2-Strategy 2.1-Recommendations 2.1.1, 2.1.1.3, 2.1.1.4, 2.1.2.2; (3) Research-Goal 2-Strategy 2.2-Recommendations 2.2.1.1, 2.2.3; (4) Research-Goal 2-Strategy 2.3-Recommendations 2.3.1, 2.3.3.3; (5) Communication-Goal 1-Strategy 1.2-Recommendation 1.2.2; (6) Communication-Goal 2-Strategy 2.2-Recommendation 2.2.1

Training
Current Status
The FWC currently has a Python Patrol Program that educates and trains staff, organizations, and the public on proper identification, safe handling, safe capture, humane euthanasia, and reporting of pythons. This program currently includes a training component for identification and reporting of scout snakes. The SFWMD has a contract with University of Florida (UF) to expand awareness through education and training to the Keys.

Benefits
Continuously updating and increasing the number and types of available trainings, such as trainings on any new python regulations, will likely increase the number of pythons properly removed and decrease the effect removal has on research projects.

FPCP Section
(1) Research-Goal 2-Strategy 2.3-Recommendation 2.3.6; (2) Communication-Goal 1-Strategy 1.1-Recommendation 1.1; (3) Communication-Goal 1-Strategy 1.2-Recommendation 1.2.3

FPCP Distribution and Updates
Current Status
The FPCP was completed in August 2021. The Workgroup started quarterly meetings in September 2021. The 2021 FPCP was distributed in 2021 through participating organizations.

Benefits
The FPCPW updating and re-distributing the FPCP every 3 to 5 years, based on the most current available science, will be important to streamline initiatives, eliminate actions or efforts that no longer support the FPCP, and include new information for python control.

FPCP Sections

(1) Policy and Regulations-Goal 2-Strategy 2.4-Recommendation 2.4.2; (2) Communication-Goal 3-Strategy 3.1-Recommendation 3.1.1

Overview of Recommended Implementation Actions for 2022

This section provides a short overview of some of the recommended projects, programs, and suggestions to support the FPCP's goals in 2022.

Policy and Regulations

Goal 1: *Implement or enhance existing policies and regulations that reduce the likelihood of future python release or introduction to limit population size and spread.*

- The Exotic Pet Amnesty Program (EPAP)
  - Continue supporting this program where owners of nonnative pet species face no legal penalties, regardless of the regulatory status of their pet, and do not pay any fees to surrender their pet.
- Annual meeting with Law Enforcement (LE)
  - An annual meeting hosted by FWC where organizations can foster better coordination among law enforcement and management agencies.
- Continue supporting other established programs
  - Example: Wildlife Alert, an anonymous reporting website for suspected illegal wildlife activity.

Goal 2: *Encourage and facilitate python removal and reporting to advance python control efforts.*

- Executive Order (EO) 20-17
  - Continue supporting EO 20-17 which allows for the take of non-native reptiles on 25 specified Commission-Managed Areas in the South Region and allows for non-native reptiles to be taken any time of the year on private lands without a hunting license or permit.
- Python mercury levels project
  - A study evaluating mercury levels in pythons to determine if python meat is safe for human consumption and if so, how much is safe to consume.
- Clarify commercialization of pythons
- Additional contracted python control
  - In addition to the current python contractor programs, supporting new contracts that target specific locations for python control.
- Evaluate current control methods

Goal 3: *Align python removal policies and regulations to be consistent across jurisdictions, where possible, and clearly communicated to other stakeholders and the public to limit confusion and maximize efficiency.*

- Interorganizational agreements
  - Renew and expand current interorganizational agreements to increase python control across the landscape through shared resources and/or land access.

- Organizational websites
    - Continue communicating python policy and regulation information on websites.

Goal 4: *Clarify and streamline policies and regulations governing research projects and permitting to facilitate research that can aid in improved python control.*

- The FPCP Python Portal Subgroup (PPS) will discuss including permitting information on the FPCP website.

Control and Monitoring

Goal 1: *Prevent the expansion of the python population to areas outside of the known, established range, focusing on areas most vulnerable to impacts.*

- Focused control efforts
    - Focus control efforts by python contractors and organizational staff on the edges of the established range and in vulnerable areas.
- Early Detection and Rapid Response (EDRR) efforts
    - Maintain and expand current efforts through IveGot1 hotline and reporting websites.
    - Expand the current network of individuals that can respond to EDRR reports.

Goal 2: *Reduce and contain the established python population and protect sensitive areas and areas of high ecological value.*

- Python removal contractor programs
    - Programs that engage qualified individuals through paid nonnative constrictor control efforts.
    - Maintain and expand current python removal contractor programs.
    - Maintain and expand current contractor removal access to land areas.
    - Continue allowing assistants in the field with contractors.
- Scout snake programs
    - Programs where pythons are radio-tracked with a goal of finding and removing breeding aggregations, evaluating spatial extent and life history traits that can be used to better target python removal.
- Python detector dog programs
    - Programs with dogs trained to find pythons by scent instead of site.
    - Implementing dogs in sensitive habitats.
- Create tabular treatment matrix or flow chart
    - Combine tools, techniques, and technologies according to the season, characteristics of area and effectiveness to improve detection and increase removal rates.
- Python Patrol Program

- o Python Patrol is a no-cost training program that aims to create a network of individuals throughout south Florida who know how to identify Burmese pythons, and report sightings, as well as search for, safely capture, identify research animals, and humanely kill invasive constrictors.
  - o Expand the availability of trainings.
- Host audience specific python removal efforts
  - o Continue youth python hunts, directed at educating and training the next generation of people interested in python removal.

Goal 3: *Facilitate coordination and planning among land managers, researchers and other stakeholders regarding effective control tools and management strategies.*

- Everglades Cooperative Invasive Species Management Area (ECISMA)
  - o Governmental agencies, nonprofit organizations, and universities are working together to address the growing invasive species problem within the ECISMA.
- FPCP Workgroup (FPCPW)
  - o Will continue to facilitate coordination and planning among land managers through meetings, the distribution of the FPCP, of an annual implementation action plan, and of an implementation annual report.

Research

Goal 1: *Advance science to assist land managers in decision-making on python control using the best-available science.*

- Everglades Invasive Reptile and Amphibian Monitoring Program (EIRAMP)
  - o Monitoring project to aid in determining the status and spread of invasive reptiles and amphibians on lands within the ECISMA.
- Scout snake research projects
  - o Through telemetry projects radio tracking pythons, collect data on python physiology, behavior, habitat use, and life history traits.
  - o Analyze scout snake removal data to refine this approach of removal in remote areas and within different habitats and conditions.
- Environmental DNA (eDNA) research project
  - o Research project collecting samples from the environment to test for the presence of pythons.
- Support to research novel detection methods
  - o Implement methods to fund research into novel detection methods
  - o Vehicle mounted near-infrared cameras project
    - The creation of a vehicle mounted near-infrared cameras that, with the assistance of artificial intelligence, will improve our ability to detect pythons.
  - o Mammalian lures research project

- Research testing the efficacy of using live mammalian lures to attract pythons to specific areas.
- Diet research project
  - Through the collection and identification of python diet samples, characterize the direct impact of Burmese pythons.
- Evaluate efficiency of current python control efforts
  - Python removal contractor programs
  - Python detector dog programs
  - EDRR programs
  - Scout snake programs
- Pheromone research projects
  - Assess whether feminizing hormones can be used to manipulate the sex pheromones of male snakes and make them attractive to females.

Goal 2: *Increase alignment of research priorities, investments, and protocols across land managers and partners to increase efficiency so researchers are focusing on questions that will have the greatest impact on management decisions.*

- Distribute RFP's for python related research.
  - Proposals to improve organizations abilities to detect and remove pythons.
- FPCPW creating an annual IAP
  - The plan outlines recommended priorities for the following year.
  - Meeting quarterly to discuss recommended actions.

Communication
Goal 1: *Increase public awareness of the harmful impacts of pythons, the efforts being conducted to control them, and promote the ecological value of native species to inform, empower, and engage the public in python control efforts.*

- Targeted training and outreach efforts
  - Creating and implementing training and outreach that are targeted at specific audiences, such as members of the public located in the Keys.
  - Target trainings and outreach with organizational staff.
- Training to humanely euthanize pythons
  - Create and distribute a video training proper humane euthanasia technique.
- Training to identify research animals
- Promote and expand current awareness efforts
  - Python Patrol Program
  - IveGot1 hotline
  - Exotic Pet Amnesty days
  - Outreach and festival events
  - Schools and STEM educators

- o Zoos
- o Social media platforms
- o Dalton Discovery Center invasive species wing
- Create a Florida Python Control Plan website
    - o A website for the FPCPW to share with the public updated information on pythons.
- Create and expand current outreach tools
    - o Invasive animal ID decks
- 2022 Florida Python Challenge®
    - o An event that provides awareness to the public about the impacts of invasive species in Florida while engaging participants in a competition to remove Burmese pythons from public lands.

Goal 2: *Increase interorganizational communication, data sharing, and collaboration.*

- FPCP Workgroup (FPCPW)
    - o The Florida Python Control Plan Workgroup will continue to meet regularly throughout the year.
- Attend and present at conferences
    - o Greater Everglades Ecosystem Restoration (GEER) conference
    - o ECISMA conference
    - o Southwest CISMA conference
    - o Other relevant conferences

Goal 3: *Create a communication strategy to support implementation of the Florida Python Control Plan.*

- The FPCPW will create a communication strategy.

Recommended Organizational Support for Goals, Strategies, and Recommendations for 2022

*Goals, Strategies, and/or Recommendations from the FPCP may be missing from this summary if the FPCPW did not include it as a recommended item for the following year. ***The material in this section does not include each organization's participation and is therefore incomplete and is included only as a partial reference.**

Policy and Regulations- Goal 1			
Strategies and Recommendations	**Actions**	**Potential Participating Organizations**	**Completion Level**
Recommendation 1.1.1: Evaluate penalty structure for illegal possession or other activities with Burmese pythons and identify areas where it could be strengthened.	The penalty structure is set by the Florida Legislature in state statutes. Many of the relevant penalties for python-related issues are set forth in Sections 379.4015 and 379.401, Florida Statutes.	FWC, SFWMD with legislature	Ongoing
Recommendation 1.1.4: Promote and expand the Exotic Pet Amnesty Program to ensure this alternative to releasing pythons into the wild in Florida is known and understood by the public.	FWC plans to continue efforts at the current level while SFWMD and NPS will continue to support this program by increasing awareness through outreach.	FWC, NPS, SFWMD	Ongoing
Recommendation 1.2.1: Foster collaboration among natural resource workers and FWC, NPS, USFWS, Tribal and local Law Enforcement to provide training and coordination on management actions and enforcement issues.	NPS, SFWMD, RBNERR, and FFS will present at and attend an annual meeting hosted by FWC to foster better coordination among law enforcement and management agencies.	FWC, NPS, SFWMD, FFS, Rookery Bay NERR	Complete, Ongoing
Recommendation 1.2.2: Provide training opportunities to collaborate on current regulations and restrictions and programs that are addressing pythons on public conservation lands.	Coordinate with LE regularly. FWC has held several internal webinars specifically for LE on proposed rule changes.	FWC, SFWMD	Complete, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 1.2.3: Work with law enforcement agencies to identify priority patrol areas where patrol efforts could be focused.	This is done throughout the year re: PATRIC, PEP, and Python Challenge especially.	FWC, SFWMD	Complete, Ongoing
Recommendation 1.2.4: Collaborate with law enforcement and State Attorneys to successfully prosecute illegal activity pertaining to pythons.	FWC- Currently work with LE on enforcement issues continue to build better communication and coordination on those efforts. NPS- NPS natural-resource staff will coordinate as-needed with NPS law-enforcement staff on legal matters related to pythons on NPS lands, including commercialization.	FWC, SFWMD, NPS	Ongoing
Recommendation 1.2.5: Encourage citizens to report illegal activity/violations through rewards, educational programs, and promoting the Wildlife Alert system.	Promote reporting illegal activities through PATRIC. Encourage contractors to call Wildlife Alert if they see something illegal in field.	FWC	Ongoing
Policy and Regulations- Goal 2			
Strategy 2.1: Facilitate python removal by the public.	Currently direct the public to the regulations for python removal on public and private lands via FWC and SFWMD's website and answering public emails and phone calls.	FWC, SFWMD	Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 2.1.1: Provide policies and rules for the public to take immediate action when encountering a python that are well-publicized and easy to understand and follow.	FWC- FWC currently has EO 20-17. NPS now has decision allowing contractors and volunteers to keep pythons captured. NPS- NPS natural-resource staff provided protocols to staff with available options for when staff and visitors encounter a python on NPS lands (e.g., presentations for interpretive and law-enforcement staff, protocols for law-enforcement staff).	FWC, NPS	Complete, Ongoing
2.1.1.1: Seek regulatory exceptions for pythons (on an agency-basis; not property-basis) for lands where removing wildlife is not allowed.	See Recommendation 2.1.1	See Recommendation 2.1.1	See Recommendation 2.1.1
2.1.1.2: Work to remove obstacles to python removal by the public.	See Recommendation 2.1.1	See Recommendation 2.1.1	See Recommendation 2.1.1
Recommendation: 2.2.1: Explore potential incentives to encourage private landowners to control pythons on their properties.	CSWF has Python Pickup Service in Collier County.	CSWF	Ongoing
Recommendation: 2.2.2: Evaluate food and python product commercialization and regulate as appropriate working with Florida Department of Agriculture and Consumer Services (FDACS).	FWC and SFWMD are working with the DOH on evaluating mercury to assess safety for human consumption.	FWC, SFWMD	Complete
2.2.2.3: Evaluate need for and apply health advisories consistent with policy to inform use of pythons for food due to potentially high mercury levels.	See Recommendation 2.2.2	See Recommendation 2.2.2	See Recommendation 2.2.2

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation: 2.2.3: Clarify what commercial activities are allowed under different jurisdictions such as National Park Service, State Parks, National Wildlife Refuges, state conservation lands, or private lands, including areas where harvest for python products and commercial activities such as tours, etc. can occur.	NPS staff works with SFWMD and FWC to clarify the rules (CFR) about commercialization as it relates to python-removal contractors.	NPS, SFWMD, FWC	Ongoing
Recommendation 2.2.4: Develop and update a policy statement on recommendations for commercialization, incentivization, and/or compensation for python removal.	FPCPW will create a Policy and Regulations Subgroup to address this issue.	FPCPW	Partial, Ongoing
Strategy 2.3: Explore the potential for development of professional python removal small business contractor entities (as opposed to individual contractors).	Start the discussion on other potential models for python removal outside of individual contractors. FWC is considering on supporting some type of additional contracted python control in specific areas.	FWC, SFWMD	Ongoing
Strategy 2.4: Formally and regularly evaluate python removal programs against standards of cost-effectiveness and support for management objectives.	FWC and SFWMD have tasked UF with evaluating contractor python data. CSWF is continuing to evaluate telemetry and other control methods as they become available.	FWC, SFWMD, CSWF	Complete, Ongoing

Policy and Regulations- Goal 3			
Strategies and Recommendations	**Actions**	**Potential Participating Organizations**	**Completion Level**
Recommendation 3.1.2: Provide policy and regulation information using clear language in accessible formats and reinforce in public training materials.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
3.1.2.1: Provide information to the public in multiple platforms.	Outreach contract with UF to continue through SFWMD's FY22.	SFWMD	Complete, Ongoing
3.1.2.2: Provide multi-lingual information in, at a minimum, Spanish/English.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Strategy 3.2: Develop and maintain agreements that support stakeholder collaboration on python management.	FWC, SFWMD and NPS have an agreement on python removal programs. FWC, DEP and FFS also have agreement in place. CSWF has agreements with Big Cypress and MOUs with private landowners. NPS- NPS provides Letters of Authorization to the FWC and the SFWMD to allow their python removal contractors on NPS lands, but it does not authorize other potentially beneficial activities, for which additional work may be required (e.g., the FWC detector dog program has not yet been submitted for compliance and so is not authorized to work on NPS lands). NPS also has an active interagency agreement with USGS to conduct research and other activities that support python management on NPS lands (e.g., euthanasia and necropsy, telemetry). A draft of the ECISMA MOU was developed by the SFWMD and has been reviewed and signed by NPS, FWC, and other partners.	FWC, SFWMD, NPS, FFS, CSWF	Partial, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 3.2.1: Develop agreements to better align procedures and support science.	NPS- NPS achieves alignment with partners on the python removal programs via weekly calls and allows the work via Letters of Authorization, but there are no other agreements to facilitate alignment. NPS has an active interagency agreement with USGS to conduct research and other activities that support python management on NPS lands and a cooperative agreement with University of Florida to provide interns to support science and management activities conducted by NPS.	NPS, FWC, SFWMD, USFWS	Ongoing
Recommendation 3.2.2: Develop agreements to promote access.	FWC- NPS, FFS, CSWF, USFWS will work to expand access. NPS- NPS provides access to FWC and SFWMD for their python removal contractors via Letters of Authorization.	FWC, SFWMD, NPS, FFS, CSWF, USFWS	Partial, Ongoing
Recommendation 3.2.3: Develop agreements to share resources and provide support.	FWC- SFWMD, FWC, NPS, FFS and others are advancing the ECISMA MOU. NPS- NPS will sign the ECISMA MOU to formalize coordination with other signatory agencies, but the MOU is not necessarily expected to be an instrument to share resources or provide interorganizational support.	SFWMD, FWC, NPS, FFS, CSWF, others	Partial

Policy and Regulations- Goal 4			
Strategies and Recommendations	**Actions**	**Potential Participating Organizations**	**Completion Level**
Strategy 4.2: Ensure that permitting agencies have clear research project permit application requirements that are communicated on their website and on the application to help disseminate this information to potential researchers interested in developing research projects in Florida on pythons.	FWC is currently working on this and continually working to provide the best information possible on applications and webpages.	FWC	Ongoing
Recommendation 4.3.2: Make permitting fulfillment reports from researchers available across agencies, as allowable (reports to funding agencies and reports to permitting agencies).	FPCP Python Portal Subgroup will consider whether this is something that could be included in a Python Portal.	FPCP Python Portal Subgroup, FPCPW	Partial, Ongoing
Control and Monitoring- Goal 1			
Strategy 1.1: Develop comprehensive Early Detection and Rapid Response (EDRR) strategy to increase efficiency of detection and removal of incipient populations, especially on priority conservation lands.	FWC has EDRR capacity. FWC and SFWMD contractor program has access to many edge areas of known range and will be expanding available contractor survey areas into federal refuges.	FWC, SFWMD, USFWS Refuges, and other partners on their lands	Partial, Ongoing
Recommendation 1.1.1: Work with land managers and researchers to characterize the python population in South Florida in a standardized way (e.g., the South Florida Environmental Report 'stop light' format and/or the invasion curve), delineate the leading edge of the python invasion and identify priority lands just outside of the established range where efforts may be prioritized.	See Recommendation 1.1.1.1 and 1.1.1.2	See Recommendation 1.1.1.1 and 1.1.1.2	See Recommendation 1.1.1.1 and 1.1.1.2

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
1.1.1.1: Obtain from, or work with researchers to create site prioritization tool to characterize lands where EDRR should be a priority.	SFWMD will evaluate current eDNA study.	SFWMD	Complete
1.1.1.2: Prioritize removal on population boundaries (including urban areas) and identify and take measures to protect non-impacted, sensitive lands.	FWC- See Strategy 1.1. SFWMD- FWC PATRIC and SFWMD PEP will continue to offer "premium pay" for contractors conducting surveys along fringe of known range.	See Strategy 1.1.	Ongoing
Recommendation 1.1.2: Create monitoring guidelines that include the use of innovative technologies along with existing reporting and monitoring programs (e.g., EDDMapS and the UF Everglades Invasive Reptile and Amphibian Monitoring Program (EIRAMP)) to monitor along the leading edge of the invasion on public and private lands in urban, suburban, and rural areas where possible.	FWC has EDRR policies in place and operates the 888-IVEGOT1 hotline, SFWMD, NPS and other agencies have EDRR capacity on their lands.	FWC, SFWMD, NPS	Partial, Ongoing
Recommendation 1.1.3: Maintain, expand, and improve existing detection and reporting tools and response capabilities: FWC Exotic Species Reporting Hotline and EDDMapS/IveGot1.org.	FWC- See Recommendation 1.1.3. See Research Recommendation 1.2.2.4. See Research Recommendation 1.3.2.1. SFWMD- SFWMD to complete RFP looking for novel detection methods.	See Recommendation 1.1.3. See Research Recommendation 1.2.2.4. See Research Recommendation 1.3.2.1. SFWMD	See Recommendation 1.1.3. See Research Recommendation 1.2.2.4. See Research Recommendation 1.3.2.1. SFWMD-Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
1.1.3.1: Expand agency response capability by further developing responder network utilizing staff from partner organizations, the paid contractor programs, volunteer authorized agent, and other volunteer programs.	See Recommendation 1.1.3	See Recommendation 1.1.3	See Recommendation 1.1.3
1.1.3.2: Utilize and expand the use of innovative tools to aid or improve python detection and removal outside of the established population (e.g., infrared-equipped UAS, detector dog program, etc.)	See Recommendation 1.1.3	See Recommendation 1.1.3	See Recommendation 1.1.3
Recommendation 1.1.4: Improve efforts/abilities to conduct EDRR on private lands/urban interface with landowner collaboration and approval.	FWC responds to EDRR calls on private lands	FWC	Ongoing
Control and Monitoring- Goal 2			
Strategy 2.1: Improve upon and further develop current python removal programs and control tools.	FWC PATRIC and SFWMD PEP expansions are ongoing. SFWMD RFP for novel detection methods expected to be completed.	FWC, SFWMD	Ongoing
Recommendation 2.1.1: Use integrated pest management approach to combine tools, techniques, and technologies according to the season, characteristics of area and effectiveness to improve detection and increase removal of pythons.	CSWF ongoing many additional avenues to explore; FFS plans to add this	CSWF	Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 2.1.2: Strategically utilize paid python removal contractor and volunteer programs.	FWC- FWC, SFWMD will maintain their contractor program and expand available search areas. NPS- The NPS authorizes the FWC and SFWMD paid python removal contractors to work in Everglades National Park, Biscayne National Park, and Big Cypress National Preserve.	FWC, SFWMD, NPS	Ongoing
2.1.2.2: Expand contractor access to appropriate public lands in South Florida (e.g., Counties, State Parks, etc.) as recommended by land managers and contract managing agencies.	FWC- PEP and PATRIC expanding into select federal refuges. SFWMD- PEP will have completed expansions into State Parks, continue to negotiate agreements with FFS, Rookery Bay, and USFWS.	FWC, SFWMD, USFWS	Complete, Ongoing
2.1.2.3: Increase number of contractors working across landscape, as recommended by land managers and contract managing agencies.	SFWMD PEP and FWC PATRIC will maintain 50 contractors each.	FWC, SFWMD	Complete, Ongoing
2.1.2.5: Explore supplying contractors and authorized agents with additional tools (e.g., gas, head lamps, etc.) to encourage python removal.	FWC and SFWMD provide its contractors with the necessary tools.	FWC, SFWMD	Ongoing
2.1.2.6: Support "mentorship" program through authorized agents and paid contractors who need field assistants to provide with additional help while conducting removal efforts.	FWC, SFWMD will maintain its assistants with the contractor program.	FWC, SFWMD	Ongoing
2.1.2.7: Pursue venues to support the creation of a professional invasive wildlife industry, similar to what exists for the exotic plant treatment industry.	See Rules and Regulations, Strategy 2.3	See Rules and Regulations, Strategy 2.3	See Rules and Regulations, Strategy 2.3

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 2.1.3: Facilitate python removal by staff, other contractors, and researchers working on public lands.	FWC- See Rules and Regulations Recommendation 3.2.3 (agreements), Control and Monitoring Recommendation 3.5.1 (Python Patrol) NPS-NPS provides python-capture instructions to staff and allows, to the extent possible, any permitted researcher to capture pythons they may encounter in the park. SFWMD- FWC Python Patrol trainings. FWC has MOU/ MOA's with DEP, FFS, NPS, SFWMD. NPS provides training and guidance for staff.	FWC, SFWMD, NPS, FFS	Ongoing
2.1.3.1: Agencies and/or individual management units work internally to create mechanisms and processes that allow for removal of pythons and other invasives on their properties by area staff, contracted entities, and researchers working on their lands who are willing and able to do so.	Other- See Recommendation 2.1.3 SFWMD- SFWMD will continue to work internally to create mechanisms and processes that allow for removal of pythons and other invasives on their lands by area staff, contractors, and researchers.	Other- See Recommendation 2.1.3 SFWMD	Other- See Recommendation 2.1.3 SFWMD- Ongoing
2.1.3.2: Provide training to all interested staff, contractors, and researchers on reporting and removing pythons.	Other- See Recommendation 2.1.3 SFWMD- SFWMD routinely provides training to staff and contractors on reporting and removing pythons. Also has a FY21 and FY22 outreach program in place with UF towards this goal.	Other- See Recommendation 2.1.3 SFWMD	Other- See Recommendation 2.1.3 SFWMD- Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
2.1.3.3: Grant access to partners to conduct python control on public land and partner properties both opportunistically and working collaboratively during coordinated workdays.	SFWMD remains committed to granting access to partners to conduct python control on public land and partner properties both opportunistically and working collaboratively during coordinated workdays.	SFWMD	Ongoing
Recommendation 2.1.4: Facilitate python reporting and removal by public, outdoor sports people, and outdoor recreationists and develop guidelines and recommendations to encourage these activities that support management goals for each property.	FWC is targeting more sports and recreationists for Python Patrol trainings. NPS exploring how to allow python capture by public on NPS lands. FWC enacted EO 20-17. SFWMD has an outreach project in place during FY21 and FY22 designed with some of these target audiences in mind. USFWS has an outreach campaign in the FL Keys focusing on non-native invasive species.	FWC, NPS, SFWMD, USFWS	Partial, Ongoing
2.1.4.1: Provide training on existing reporting tools to visitors of natural areas.	Though internal trainings, protocols, and operational communications, NPS natural-resource staff consistently promote IveGot1 as a means for visitors to report invasive species on and off park lands.	NPS	Ongoing
2.1.4.4: Host youth python hunts annually to empower and educate future generations	Youth Python hunts will be hosted annually	FWC, SFWMD	Complete, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
2.1.4.6: Support "mentorship" program through authorized agents and paid contractors who need field assistants to get more people trained in the field with professionals.	See Recommendation 2.1.2.6	See Recommendation 2.1.2.6	See Recommendation 2.1.2.6
Recommendation 2.1.5: Utilize available data and guidance from land managers to prioritize sensitive ecosystems, protected species, and other priority resources within the established range.	NPS plans to collaborate with FWC to test dogs in key areas. FFS plans to promote this. SFWMD will continue to facilitate and promote these efforts.	FWC, NPS, FFS, SFWMD	Ongoing
2.1.5.1: Increase searches in remote and/or sensitive areas (e.g., Key Largo, Greater Everglades interiors and tree islands) that are currently under-surveyed.	NPS conducts a 'Scout Snake' project in Big Cypress National Preserve, where pythons are radio-tracked with a goal of finding and removing breeding aggregations. These activities take place in remote areas but not necessarily in sensitive areas of the preserve.	NPS	Ongoing
2.1.5.2: Use available detection tools to assess python presence in sensitive habitat areas.	FWC plans on using detector dog team for some targeted searching in sensitive areas. USFWS Croc. Lake dogs will be searching key largo woodrat nests for pythons.	FWC, USFWS	Partial
Control and Monitoring- Goal 3			
Strategy 3.5: Maintain engagement in response, removal, and control efforts.	FWC, SFWMD, CSWF and others will continue	FWC, SFWMD, CSWF	Ongoing
Recommendation 3.5.1: Provide python patrol training to the public and land managers more frequently.	FWC will continue Python Patrol.	FWC	Complete, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
3.5.1.1: Support "mentorship" program through authorized agents and paid contractors.	See Recommendation 2.1.2.6	See Recommendation 2.1.2.6	See Recommendation 2.1.2.6
3.5.1.2: Recruit trained individuals as responders for agencies that need volunteers.	FWC recruits volunteers for EDRR.	FWC	Ongoing
Recommendation 3.5.2: Encourage and facilitate python hunting and reporting by traditional sportsman/outdoor enthusiast on properties where it is allowable.	FWC has targeted more sportsman/outdoor groups for Python Patrols.	FWC	Ongoing
3.5.2.1: Host annual youth hunt.	See Recommendation 3.5.2	See Recommendation 3.5.2	See Recommendation 3.5.2
3.5.2.2: Provide Python Patrol training to these groups.	See Recommendation 3.5.2	See Recommendation 3.5.2	See Recommendation 3.5.2
Research- Goal 1			
Strategy 1.1: Identify baseline and priority research needed to aid management decisions.	FPCPW is including a list of Strategic Topics to be included in its annual Implementation Action Plans. SFWMD- Maintain contract with UF EIRAMP Program. Duplicate telemetry project with CSWFL. Initiate RFP for novel detection methods. Evaluate east coast telemetry proposal with USGS. Complete Hg study with FWC.	FPCPW, SFWMD, FWC	Partial, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 1.1.1: Identify and evaluate ecological indicators or indicators of management success, including python and python-impacted populations.	SFWMD continues to fund UF's EIRAMP program towards this goal.	SFWMD	Ongoing
Recommendation 1.1.2: Establish long-term monitoring using performance indicators.	SFWMD continues to fund UF's EIRAMP program towards this goal.	SFWMD	Ongoing
Recommendation 1.1.3: Characterize the geographic range of pythons.	eDNA project slated to finish in 2022 with USGS.	SFWMD	Complete
Recommendation 1.1.5: Further characterize direct and indirect impacts of pythons, including socioeconomic impacts.	Through an agreement and support by USGS, NPS is working with partners at the University of Florida to characterize the direct impact of Burmese pythons using diet samples. Collection of these samples is facilitated by python removals by FWC and SFWMD contractors and NPS volunteers.	NPS	Ongoing
Strategy 1.2: Evaluate and improve efficacy (including cost) of control, management, and detection tools.	FWC- See Recommendation 1.2.2 NPS- NPS is conducting and refining the Scout Snake approach for python removal in remote areas of Big Cypress National Preserve. SFWMD- SFWMD and FWC will continue to contract UF to evaluate contractor programs.	See Recommendation 1.2.2	See Recommendation 1.2.2

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 1.2.1: Identify research projects that will contribute to managers ability to limit or control spread of pythons.	SFWMD will continue research projects with UF, CSWF, USGS, and initiate RFP for novel detection methods. FWC will continue EDRR. IveGot1 hotline and contractors.	SFWMD, FWC, CSWF	Partial, Ongoing
1.2.1.2: Expand and evaluate rapid response tools.	SFWMD has EDRR capabilities through PEP, contract with UF, and internal staff. Will continue to evaluate and sharpen these available tools, and facilitate partner efforts.	SFWMD	Ongoing
Recommendation 1.2.2: Assess tools for detection of pythons.	FWC will evaluate efficiency of Detector Dog team, FWC, SFWMD have tasked UF to evaluate contractor removal. SFWMD will initiate RFP for novel detection methods.	FWC, SFWMD	FWC- Complete, SFWMD- Ongoing
1.2.2.1: Assess visual searching and removal efforts.	See Recommendation 1.2.2	See Recommendation 1.2.2	See Recommendation 1.2.2
1.2.2.1.1: Assess python contractor removal programs.	SFWMD and FWC will continue to assess contractor removal programs both internally and through contract with UF.	FWC, SFWMD	Complete, Ongoing
1.2.2.4: Assess use of detector dogs for python detection.	See Recommendation 1.2.2	See Recommendation 1.2.2	See Recommendation 1.2.2

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
1.2.2.5: Assess use of eDNA to detect pythons.	Expect eDNA study to be completed with USGS. Will consider funding follow-up study.	SFWMD	Complete
Recommendation 1.2.3: Assess use of telemetered snakes to detect breeding aggregations (i.e., "scout snakes", formerly known as Judas snakes).	Continue to refine and use this technique to learn life history traits	CSWF	Ongoing
Recommendation 1.2.6: Assess the use of bounties and other rewards programs in control of pythons.	See Recommendation 1.2.2.1.1	SFWMD, FWC	Ongoing
Recommendation 1.2.10: Assess pheromonal attractants to increase detection of pythons in the wild.	NPS is collaborating with personnel at James Madison University and USGS to assess whether feminizing hormones can be used to manipulate the sex pheromones of male snakes and make them attractive to females.	NPS	Complete
Strategy 1.3: Develop new control, management, and detection tools.	See Recommendation 1.3.2.1 SFWMD- SFWMD will initiate RFP.	See Recommendation 1.3.2.1 SFWMD	See Recommendation 1.3.2.1 SFWMD- Ongoing
Recommendation 1.3.2: Assess other detection tools.	See Recommendation 1.3.2.1 SFWMD- SFWMD will initiate RFP.	See Recommendation 1.3.2.1 SFWMD	Partial SFWMD- Ongoing
1.3.2.1: Use of IR or near-IR/ reflectance.	FWC funding research with UCF for Near Infrared camera	FWC	Complete

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 1.3.3: Assess use of telemetered prey to detect and remove pythons.	FWC is funding research on mammalian lures, with SFWMD support on their lands.	FWC	Complete
Recommendation 1.3.4: Recognize that development of new tools will rely on innovative technologies and novel applications of these tools or existing technologies.	See Recommendation 1.3.2.1 and 1.3.3	See Recommendation 1.3.2.1 and 1.3.3	See Recommendation 1.3.2.1 and 1.3.3
Strategy 1.4: Characterize python biology to support evaluation of management tools.	SFWMD funding follow up python hatchling survivorship research project with CSWF. SFWMD will evaluate USGS east coast telemetry proposal.	SFWMD, CSWF	Ongoing
Recommendation 1.4.1: Estimate vital rates (i.e., survival, reproduction, and age or size structure) for population model.	SFWMD funding follow up python hatchling survivorship research project with CSWF.	SFWMD, CSWF	Ongoing
Research- Goal 2			
Strategy 2.1: Solicit research ideas from researchers, the public, and private sector.	SFWMD will initiate RFP.	SFWMD	Ongoing
Recommendation 2.1.1: Develop a proposal-submission portal (Python Portal) to accept research ideas from professional and community scientists. Managers will be able to access these proposals and work with the researchers to develop into a full proposal and build collaborations in a way that meets agency needs.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
2.1.1.3: Define the proposal evaluation process and make that process available on the portal; this may vary slightly from year-to-year (see 2.2.1).	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
2.1.1.4: Identify the most-recent and previous annual research priorities on the portal (see 2.2.1).	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
Recommendation 2.1.2: Encourage and support innovation in research.	FWC, SFWMD supports research to improve our ability and invites proposals to detect and remove nonnative wildlife including pythons	FWC, SFWMD	Ongoing
2.1.2.2: Facilitate integrative projects by providing contact information and area of expertise for funded python researchers on the portal for non-python scientists to find and use to develop collaborations.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
Strategy 2.2: Develop research priorities of land managers and identify current research investments to efficiently use resources.	See Recommendation 2.2.1	See Recommendation 2.2.1	See Recommendation 2.2.1
Recommendation 2.2.1: Compile and prioritize research needs of land managers and partners.	FPCPW will create an Implementation Action Plan for 2023 that will highlight priorities.	FPCPW	Complete, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 2.2.2: Recognize research deficiencies and actively seek solutions or alternatives to mitigate these deficits.	SFWMD will initiate RFP.	SFWMD	Ongoing
Recommendation 2.2.3: Develop a research-progress system (Python Portal website) where managers can summarize funded research and provide progress updates (see 2.3.1.1).	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
Recommendation 2.3.1: Support and contribute to a repository (Python Portal website) for python research information and data.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
Recommendation 2.3.2: Identify and support python coordinator(s) to serve as liaison between researchers and managers.	FWC has an Interagency Python Management Coordinator.	FWC	Complete, Ongoing
Recommendation 2.3.3: Foster long-term, collaborative, interdisciplinary research projects.	FWC, SFWMD, NPS, USGS, CSWF currently collaborate on projects with some other partners	All organizations	Complete, Ongoing
2.3.3.3: Utilize Python Portal website to identify permit requirements and resources for researchers, including information required by agencies and organizations.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 2.3.5: Funding agencies and organizations should aim to include contract funds to support publication of research to aid dissemination of research results.	Contracts/agreements are generally intended to result in publications	All FPCPW organizations	Ongoing
Recommendation 2.3.6: Land managing organizations and researchers should continue to work collaboratively on protocols to protect research investments such as scout snakes through informing python removal contractors and hunters to not remove scout snakes from the wild.	FWC and SFWMD- Update websites and trainings to include information on scout snakes. SFWMD and FWC continue to work collaboratively on protocols to protect research investments such as scout snakes through informing python removal contractors and hunters to not remove scout snakes from the wild. NPS- Alongside USGS, FWC, and SFWMD, NPS worked to keep python contractors informed about research projects in Big Cypress National Preserve, with the goal of avoiding conflict and facilitating synergy between research and management.	FWC, SFWMD, NPS, and other organizations	Partial, Ongoing
Communication- Goal 1			
Strategy 1.1: Provide training for python identification and capture/restraint to increase python reporting and removal among individuals who are likely to encounter pythons. (Note it is illegal in the state of Florida to transport a live Burmese python without a permit.)	See Control and Monitoring Recommendation 3.5.1	See Control and Monitoring Recommendation 3.5.1	See Control and Monitoring Recommendation 3.5.1

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 1.1.1: Promote online trainings for identifying nonnative and native reptiles (e.g., the FWC python removal training) to increase accurate reporting and removal of nonnative species.	See Control and Monitoring Recommendation 3.5.1	See Control and Monitoring Recommendation 3.5.1	See Control and Monitoring Recommendation 3.5.1
Recommendation 1.1.2: Establish interagency staff to develop, coordinate, and provide trainings.	FWC currently promotes in conjunction with other programs	FWC, SFWMD, NPS, FFS	Complete, Ongoing
Recommendation 1.1.3: Increase the number of capture/restraint trainings (e.g., FWC Python Patrol training) for the public and land managers focused to reach individuals who may encounter pythons through work or recreating.	See Control and Monitoring Recommendation 3.5.1	See Control and Monitoring Recommendation 3.5.1	See Control and Monitoring Recommendation 3.5.1
Recommendation 1.1.4: Develop a training to instruct participants on approved humane methods of dispatching pythons to support python removal efforts.	FWC is planning on working with UF to develop an online video resource for training humane killing methods. FWC will continue to offer Python Patrol materials to contractors. SFWMD will continue to train its contractors on humane python euthanasia.	FWC, SFWMD	Complete
Recommendation 1.1.5: Provide audience-specific trainings to increase their effectiveness (see Strategy 1.3 for targeted audiences).	SFWMD will continue to fund targeted outreach program with UF.	SFWMD, UF	Ongoing.
Recommendation 1.2.1: Promote and expand unified communication and outreach efforts.	Communicate among organizations.	FPCPW	Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
1.2.1.4: Collaborate to be receptive and proactive towards media requests to reach broad and specific audiences with a strategic messaging for each.	SFWMD and FWC continue to be receptive towards media requests to reach broad and specific audiences with a strategic messaging for each.	SFWMD, FWC	Ongoing
1.2.1.5: Promote the use of invasive species awareness and reporting apps (e.g., EDDMapS and IveGot1).	FWC and SFWMD encourage use of EDDMaps and IVEGOT1 apps on its PEP and PATRIC website. FWC maintains EDDMAPS and IVEGOT1 apps. SFWMD has funded targeted outreach project with UF. SFWMD has developed and continues to improve on its Survey123 and Tracker apps for contractors.	SFWMD, FWC	Ongoing
Recommendation 1.2.2: Create a public Python Portal website that centralizes current information on pythons in Florida to be utilized by the public and others interested in the issue. See Implementation section, Goal 3, for details on website content.	FPCP Python Portal Subgroup created and meeting to create	FPCP Python Portal Subgroup	Complete, Partial
Recommendation 1.2.3: Strategically hold and/or attend outreach events to provide information on the pythons and to increase reporting on python sightings and removals.	FWC exotic pet amnesty days. FWC and SFWMD support Youth hunts. Agency staff attend other various festivals and outreach events including Repticon. FWC has an annual Veteran's Hunt.	FWC, SFWMD, FDACS, NPS	Complete, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
1.2.3.1: Develop specific messaging for events in areas where pythons are not yet established to create public awareness of reporting to detect dispersing or incipient python populations.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
1.2.3.2: Support and promote Florida Python Challenge® events as python awareness efforts.	2022 Florida Python Challenge®	FWC, SFWMD, NPS, others	Complete, Ongoing
1.2.3.5: Create outreach kits with information from multiple land managing partners to be used at events.	SFWMD has had invasive animal ID decks made for outreach events.	SFWMD	Ongoing
1.2.3.7: Look for opportunities to inform and empower the hunting community and other outdoor enthusiasts.	See Control and Monitoring Recommendation 2.1.4	See Control and Monitoring Recommendation 2.1.4	See Control and Monitoring Recommendation 2.1.4
1.2.3.7.1: Provide training and education on python reporting and removal opportunities and regulations.	See Recommendation 1.1.5	SFWMD, UF	Ongoing
1.2.3.8: Engage with public and private schools to educate on pythons and other invasive species.	Engage with school groups and STEM educators to advance invasive animal awareness.	FPCPW organizations	Ongoing
Recommendation 1.2.4: Utilize multiple platforms to share strategically planned and coordinated messaging.	SFWMD conducts some school education. CSWF engages invasive species education in public schools. Dalton Discovery Center.	SFWMD, CSWF	Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
1.2.4.1: Utilize traditional and social media to promote events and disseminate coordinated messaging.	SFWMD and FWC will continue to use traditional and social media to promote events and disseminate coordinated messaging.	SFWMD, FWC	Ongoing
Recommendation 1.2.5: Support community-based education efforts.	FFS, FWC, SFWMD, CSWF currently promote outreach efforts on many platforms. CSWF new invasive species wing in the Dalton Discovery Center as an educational exhibit for visitors will hopefully be open in 2022 (Covid permitting)	FWC, SFWMD, CSWF	Ongoing
Strategy 1.3: Identify additional stakeholder groups and venues to target for audience-specific communication to increase messaging and its effectiveness.	SFWMD conducts some of this; CSWF engages schools and educators	SFWMD, CSWF	Ongoing
1.3.2.1: Engage with accredited or certified zoological and other educational facilities located throughout the state to provide information on python invasion, including existing reporting tools, that can be shared with visitors.	CSWF partnered with the Naples Zoo to engage messaging with visitors.	CSWF/Naples Zoo	Ongoing
Communication- Goal 2			
Recommendation 2.1.2: Provide presentations on project updates, new findings, etc.	ECISMA. SWCISMA, GEER, Other conferences as appropriate	All participating organizations	Complete, Ongoing

Strategies and Recommendations	Actions	Potential Participating Organizations	Completion Level
Recommendation 2.2.1: Create a Python Portal website for internal use by land managers and partners to access current information on pythons and control recommendations. See Implementation section, Goal 3, for details on website content.	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2	See Communication Recommendation 1.2.2
Recommendation 2.2.3: Encourage land managers and partners to report on and receive periodic, up-to-date summaries of python activities.	SFWMD, NPS, Rookery Bay NERR direct public to report occurrences via EDDMapS on their lands	FPCPW	Ongoing