Welcome to Virtual Thursdays Python Patrol!

The presentation will begin in a few moments.
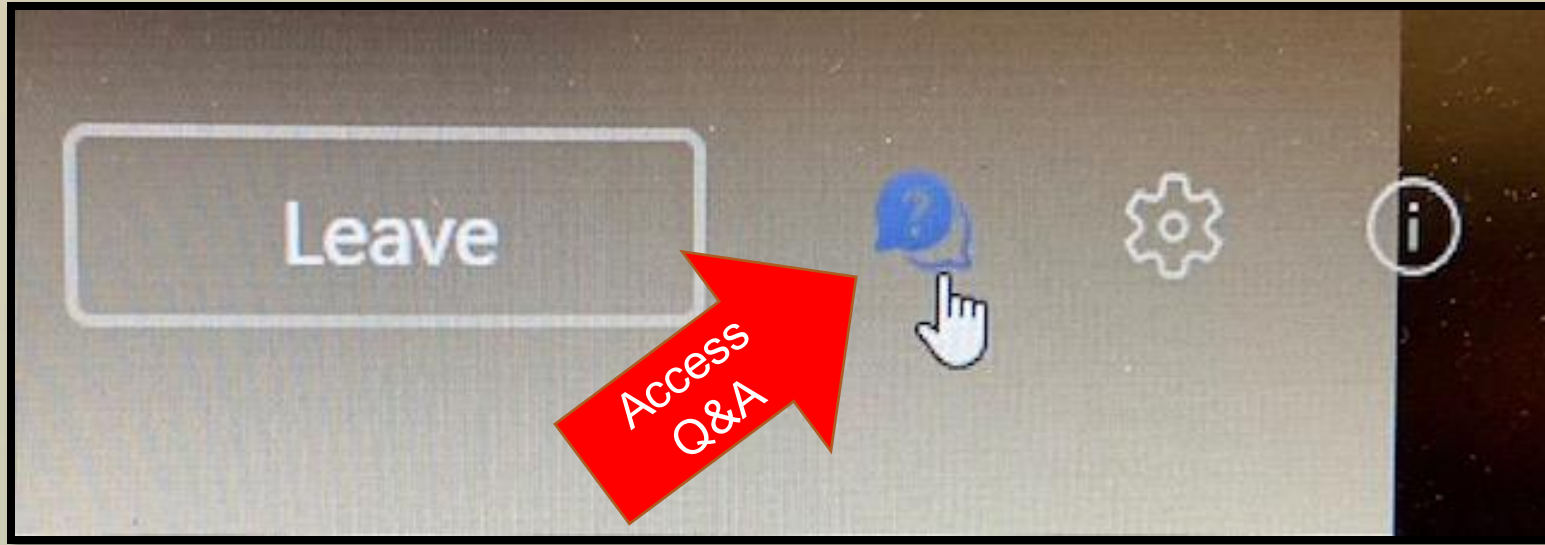
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

PYTHON PATROL

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

Photo credit: Jenny Novak

FWC Virtual Python Patrol

Access Q&A

- Use the Q&A feature to communicate with staff
- Useful links provided in the Q&A
- Email questions to: PythonChallenge@MyFWC.com
- PDF and video are available on the Python Patrol webpage

Presentation Outline

1) **Background Information**

2) Snake Identification

3) How to Search for Pythons

4) Safely Handling Pythons

5) Wrap-up the Q&A

Photo credit: McKayla Spencer
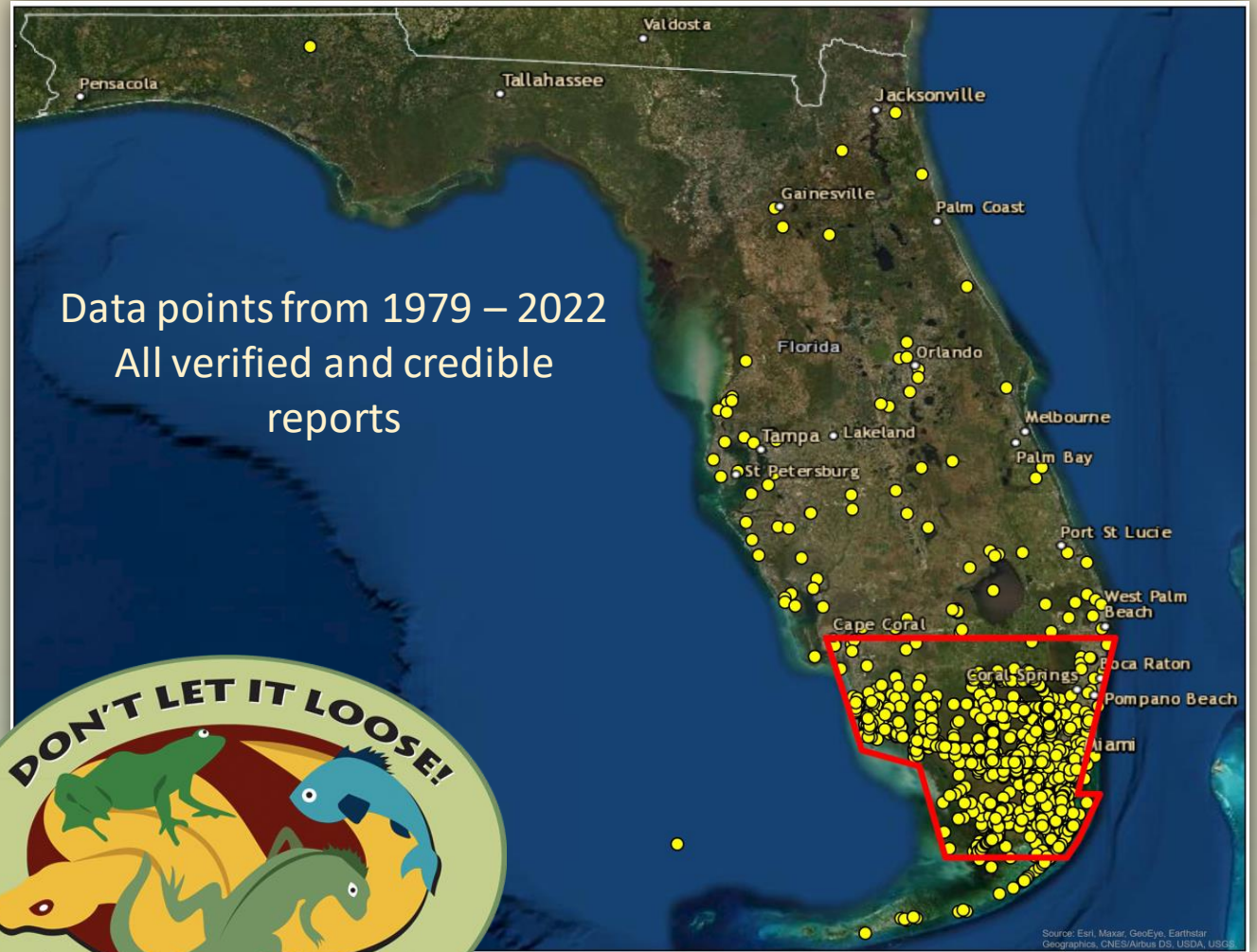
Burmese pythons
Python molurus bivitattus

- Large constrictor snake native to southeast Asia

  - Over 20' in length and 200lbs
  - Longest in FL: 19 feet, July 2023

- Semi-aquatic, generally found near water

- Nocturnal, but an opportunistic hunter

- Generalist predator

Burmese pythons in Florida

- Introduction: 1970s

- Pathway: Accidental escape or intentional release from the pet trade

- Status: Established

- Regulated As: Prohibited

- Removed: Over 20,000

Data points from 1979 – 2022
All verified and credible reports

DON'T LET IT LOOSE!
BE A RESPONSIBLE PET OWNER

Map credit: FWC

Why are they so successful?

- Subtropical climate with mild winters

- A variety of prey available

- Can survive without food for long periods of time

- High reproductive output

- Few natural predators

Invasive impact: Native species at risk

Python food bulge
Contains a White-tailed deer

Roseate spoonbill
State-designated as Threatened

Python removal = protection for native species

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Snake identification
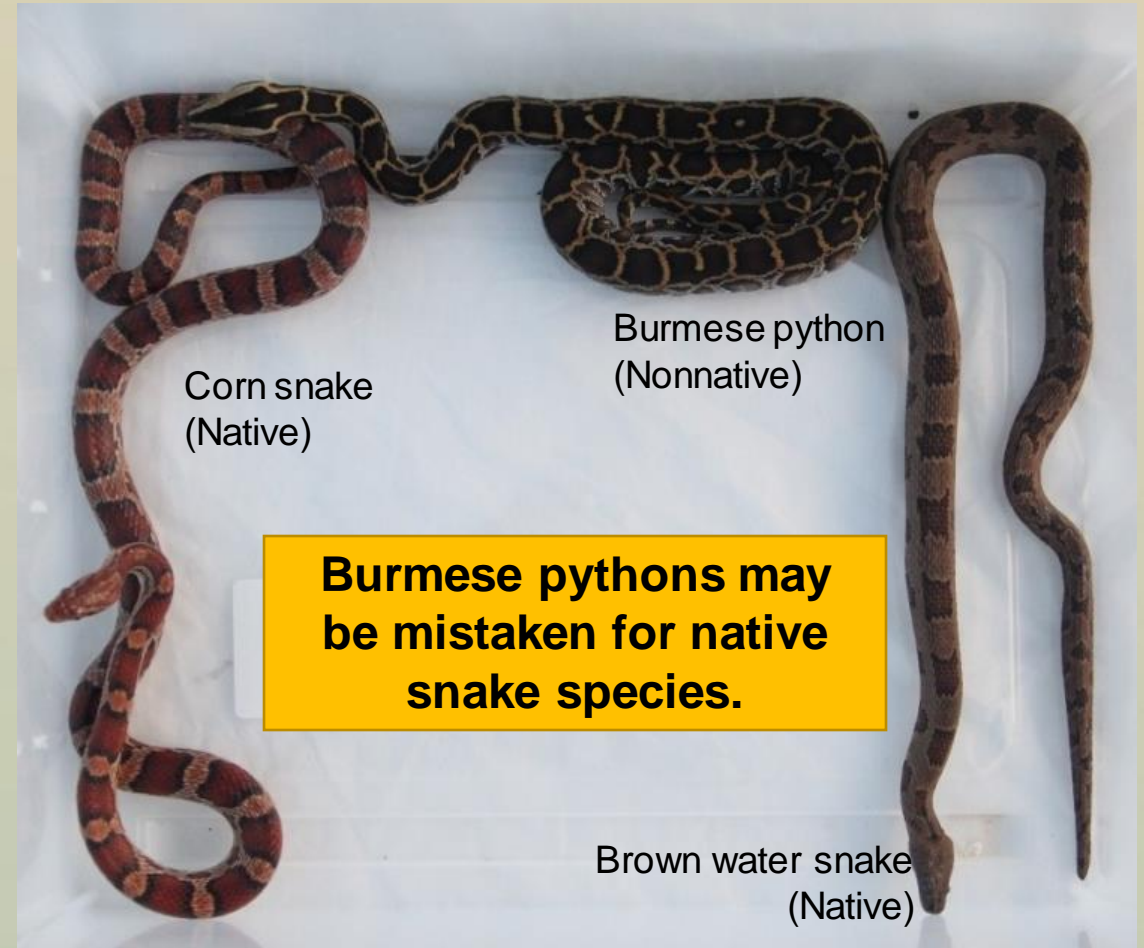

Photo Credit: Everglades National Park

Identify the correct snake species

Be certain you can properly identify a Burmese python.

Burmese python hatchlings are similar in size to many native snake species.

Leave native snakes unharmed while hunting for Burmese pythons.

Corn snake
(Native)

Burmese python
(Nonnative)

Burmese pythons may be mistaken for native snake species.

Brown water snake
(Native)

Photo credit FWC

Native snakes

Corn snake

Brown water snake

Venomous: Diamondback rattlesnake

Venomous: Cottonmouth

Photo credit: FWC

Nonnative snakes: Burmese python

Dark arrowhead-shaped wedge on back of head

Dark irregular blotches on tan background

Dark wedges behind and below each eye

Pattern resembles puzzle pieces or giraffe markings

Photo credits: William DeShazer / FWC

Nonnative snakes: **Burmese python**

Guzy et al. (2023), Figure 2

Eye detail

Nonnative snakes: **Northern African python**
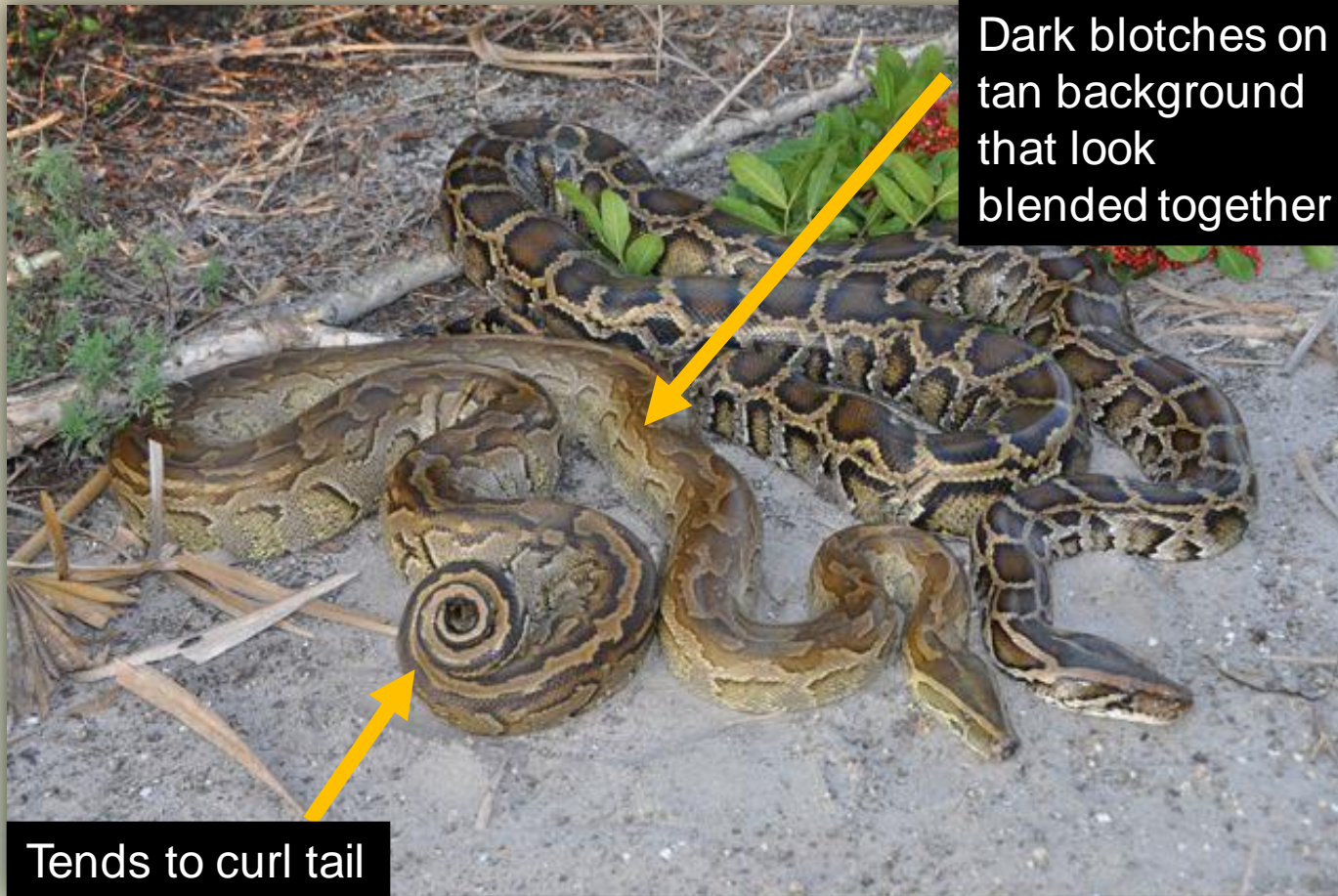
Dark blotches on tan background that look blended together

Tends to curl tail

Northern African python belly

Burmese python belly

Photo credits: Anthony Flanagan and McKayla Spencer

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Removal of Pythons Year-Round

Hunting on Private Land:

- Landowner permission required
- Must be humanely killed on site
- No live transport
- No permit / license required
- No bag limit

Hunters must follow specific area regulations and local ordinances

Hunting on Commission-managed Land:

- Executive Order 23-16
- 32 Commission-managed lands
- Must be humanely killed on site
- No live transport
- No permit / license required
- No bag limit

Hunters must follow specific area regulations and local ordinances

Specific area regulations may be found:
MyFWC.com/Hunting/WMA-brochures
Or MyFWC.com, search for Removing Pythons

Habitats to search

1. Canals & banks
2. Vegetation edge
3. Road shoulders

Many levee roadways do not allow public vehicle access. Hunting with a gun on, from, or across levees or the right-of-way of roads is prohibited.

Photo credit: FWC

Photo credit: SFWMD

Burmese pythons are difficult to detect

- The Everglades habitat is large, undeveloped, and has plenty access to water.

- Pythons have a cryptic, camouflaged pattern.

- Detection probability estimated as <5%.

- Difficult to estimate population size accurately.

Photo credit: FWC

What to look for: Shiny coils

Only one small section or "coil" may be visible

Light reflecting on scales

What to look for: Nests

- Nests can be found in vegetation, soil, or in the burrows of other species.

- Eggs are pliable with no hard shell.

- Females will coil around eggs protectively until they hatch.

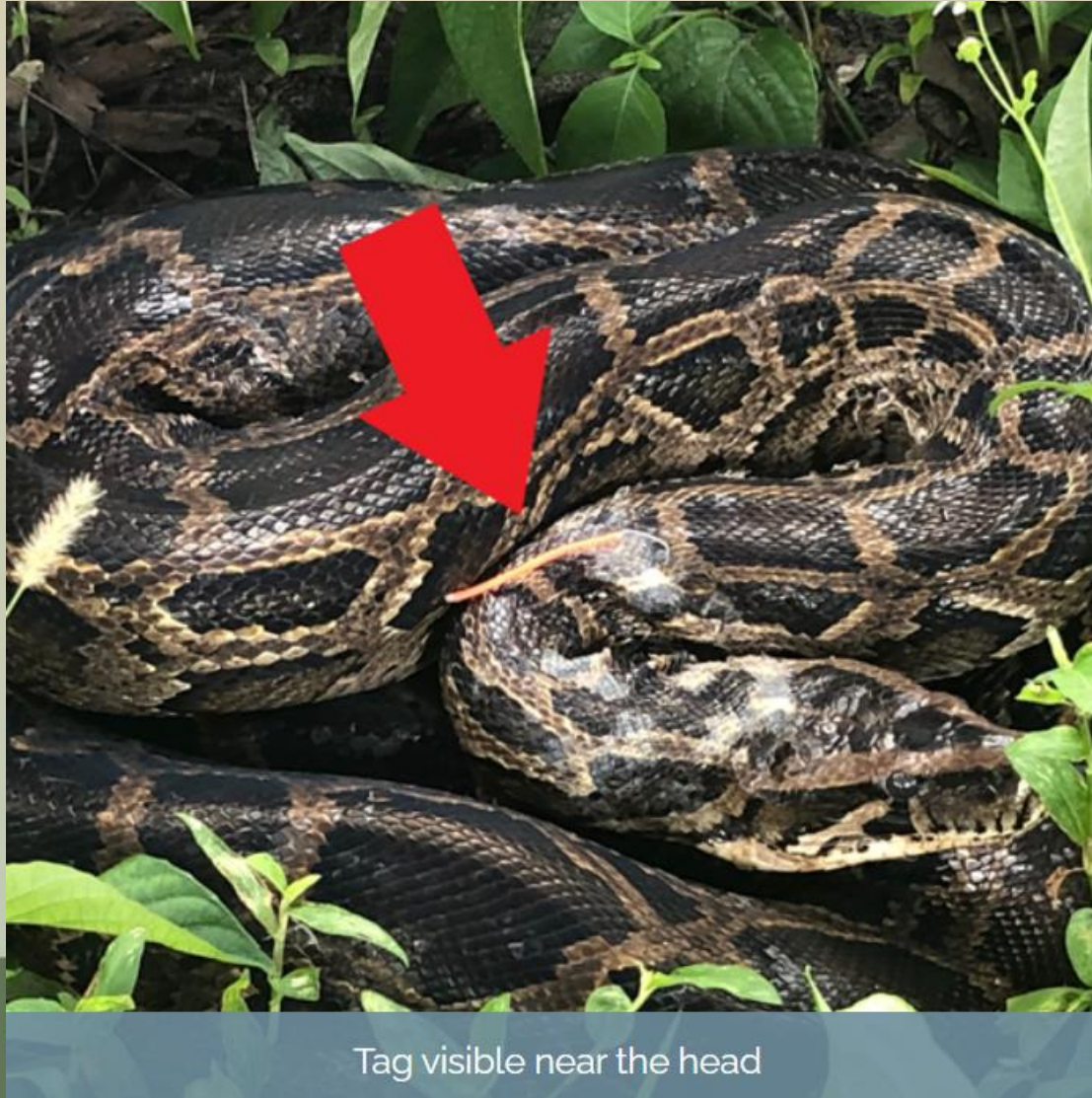- Important for nest identification!

WHICH EGG IS A PYTHON EGG?

If you aren't sure, leave eggs alone!

Scout Snakes – Do Not Harm Or Remove

Tag visible near the head

If you locate a scout snake, photograph the tags **with the tag number visible** and then **release the python alive in the same location where it was captured**. Report the capture as soon as possible with photos, date, time, GPS location to bicy_python@nps.gov.

Photo credit: NPS and USGS

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1) Background Information
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4) **Safely Handling Pythons**
5) Wrap-up

Photo credit: McKayla Spencer

Be Aware, Be Careful, Be Safe!

- Pythons may bite.

- Pythons may constrict.

- Pythons will likely defecate/musk when handled.

- Take a buddy with you.

- Plan for rocky and unstable ground, insects, heat, storms, wild animals and other hunters.

Photo credit: FWC

Choose appropriate gear

- Gloves
- Snake hook
- Tool to humanely kill the python (ex. Captive bolt gun, firearm, pithing tool)*
- Cooler or bag for python carcasses
- Maps/navigational aids
- First aid kit
- Sun and insect protection

*Use of tools to humanely kill a python must follow specific area regulations

Photo credit: Tiffany Duong, Ocean Rebels

SAFE CAPTURE OF BURMESE PYTHONS

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

MyFWC.com

Safe Capture Step 1: Assess the situation

- Be aware of the strike zone.

- Use a snake hook or sturdy tool to pull snakes into open ground.

- Look for stable footing and less vegetation.

- Avoid the water.

Potential strike zone: ½ body length in any direction

Photo Credit: Everglades National Park

Multiple pythons are possible

Safe Capture Step 2: Pin the python

Pinning reduces the risk of a bite during capture.

- Uncoil the python with a long, sturdy tool: snake hook, pole, etc.

- Use the handle to pin the python.

- Keep hook parallel to the ground.

- Kneel and work on ground level.

- Pin behind the python jawbones.

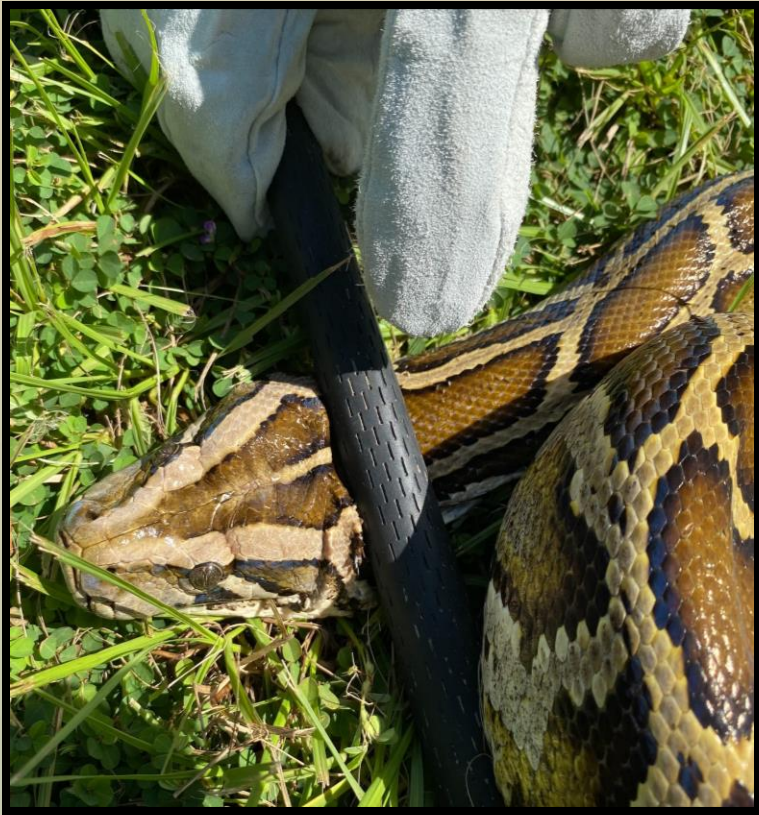- Be ready to adjust pin position!

Photo by FWC

To pin or not to pin:

Avoid pinning the head next to or on top of body coils.
Pin the python when the head is free and clear of the body.

Place the handle behind the jawbones using pressure to prevent escape.

Grasp the head. Bring your knee forward.

Expect the python to react: coil, constrict, musk.

Safety Tips

Photo credit: FWC

Safe Capture Step 3: Grasp the python

- Grasp the python behind the head, feeling the jaw bones at your fingers.
- If you grasp too far down the neck, the python may turn and bite you.
- Ensure the python can breathe.
- Gloves are recommended for safety.

Photo by Tiffany Duong, Ocean Rebels

Safe capture points to remember:

- It is illegal to transport Burmese pythons alive.

- It is illegal to relocate or release any nonnative species.

- Burmese pythons must be humanely killed at the time of capture.

- Learn the local ordinances and specific area rules before using any tool to humanely kill a python.

Photo credit: FWC

Humane killing of Burmese pythons

Burmese pythons are not protected in Florida except by anti-cruelty law. There is an ethical and legal obligation to ensure a Burmese python is killed in a humane manner.

The American Veterinary Medical Association (AVMA) recommends a two-step process for humane killing of reptiles to prevent suffering and destroy the brain.

Two-step method for humane killing

Many tools are available to kill pythons. Regardless of the tools you choose, you must ensure **both** steps are completed to humanely kill the python:

Step 1:

The application of the tool should immediately result in the python losing consciousness.

Step 2:

Immediately and substantially destroy the python's brain by manually "pithing" which prevents the python from regaining consciousness.

For more information visit the 2020 AVMA Guidelines for the Euthanasia of Animals

Photo credit: FWC

Step 1: Immediate loss of consciousness

Target the Brain:

- Draw an imaginary X between the eyes and jawbones.

- The brain is located where the red lines intersect.

- Apply the tool to the target area (brain) of the python.

Photo credit: FWC

Tools for Humanely Killing Pythons

Mechanical tool examples:

- Captive bolt stunners
- Air guns
- Firearms

Application of force is generated from a cartridge, springs or compressed air

Manual tool examples:

- Handheld hammers
- Sharp hunting knife, used only for decapitation*

Require human application of force

Tools for Humanely Killing Pythons

Considerations for tool selection:

- The amount of force the tool can deliver to the brain to complete Step 1.

- The AVMA recommends mechanical tools with controlled, consistent and appropriate applications of force when compared to manual tools.

- All tools should be followed by pithing to destroy the brain.

Decapitation is considered humane as part of a 3-step method recommended by the AVMA:
1) A loss of consciousness, 2) followed by decapitation with a sharp knife, 3) followed by pithing
Knives are not recommended as a tool to stun or pith a python.

Step 1: <u>Additional considerations</u>

- **Is the tool legal to use in the area?**

  - *All specific area regulations and local ordinances for firearms and air guns must be followed.*

- **What is considered an appropriate amount of force to stun a python?**

  - *Per the AVMA, the combined firearm/gun and ammunition selected must achieve a muzzle energy of 300 foot-pounds (FPE) to humanely kill animals weighing up to 400lbs. Hunters are responsible for determining if their firearm or air gun has an appropriate amount of force to achieve Step 1.*

- **Does the hunter have the experience and skill to apply the chosen tool correctly to complete Step 1?**

  - *Please review the target area and check that the tool is correctly placed over the brain and safe to apply for you and those around you.*

Step 2: Destruction of the brain

Regardless of the tool you chose for Step 1, you should immediately complete the following process of pithing to substantially destroy the brain and humanely kill the python:

Pithing is an additional technique meant to cause death by increasing substantial destruction of the brain and brainstem. The goal is to render the cerebral cortex and brain stem nonfunctional.

- Insert a small rod (a rigid, metal tool like a screwdriver, spike or pick of sufficient length) into the cranial cavity.

- Manipulate the rod using deliberate, multi-directional movement inside the skull, ensuring substantial destruction of the brain.

Access point from Step 1

Cerebellum

Telencephalon (forebrain)

Olfactory Bulbs

Optic Tectum (dorsal midbrain)

Medulla Oblongata (hindbrain)
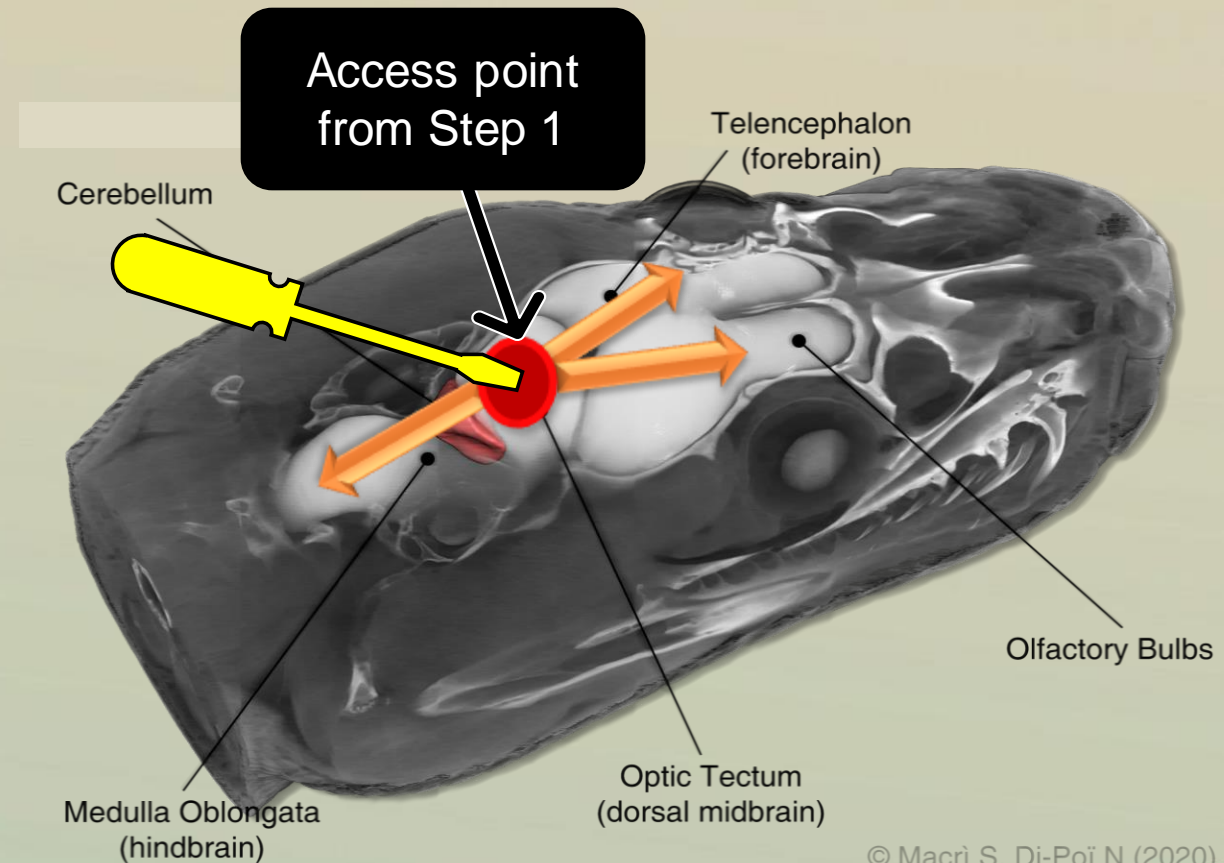
© Macrì S, Di-Poï N (2020)

Disposal of the carcass

- Take the carcass with you for disposal.
  - Removal reduces any potential for disease and parasite transmission to native wildlife.
- Check local waste ordinances.
- Double bag and freeze until waste pickup day.
- It is possible to sell the skin or have the skin tanned.

Consumption of Burmese Python Meat

Some Burmese pythons removed from the Everglades that have been tested for mercury levels have contained amounts of mercury considered too high for human consumption. **_Though it is not illegal to eat python meat, the Florida Department of Health recently finalized a consumption advisory for Burmese pythons found in Florida, advising "Do Not Consume Python" due to the high levels of mercury found in python meat._**

For more information regarding this advisory, please contact the Florida Department of Health.

Report Invasive Species

I've Got 1 App

www.IveGot1.org
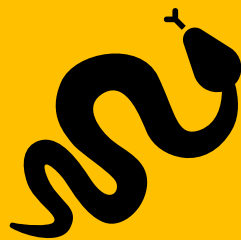
Invasive Species Hotline
888-Ive-Got-1
(888-483-4681)

Thank you for attending!

Pythons@MyFWC.com