Natural Resources Management
Burmese Pythons

National Park Service
U.S. Department of the Interior

South Florida Natural Resources Center
Everglades National Park

Burmese python, *Python molurus bivittatus*
Photo by Roy Wood, ENP

Fanciful legends of exotic snakes prowling the Everglades have persisted since the late 1800s. Today, sightings of large serpents in the wilds of south Florida are all too real. Nonnative Burmese pythons have become a widespread problem with over 600 individuals captured since 2000.

Trade in exotic pets is big business. Adding to the number of snakes that are captive-bred in the United States for this purpose, nearly 112,000 Burmese pythons (*Python molurus bivittatus*) have been imported since 1990. In recent years, hundreds of pythons have ended up in Everglades National Park (ENP) and surrounding areas. Park staff oversaw the removal of nearly 250 such snakes in 2007 alone.

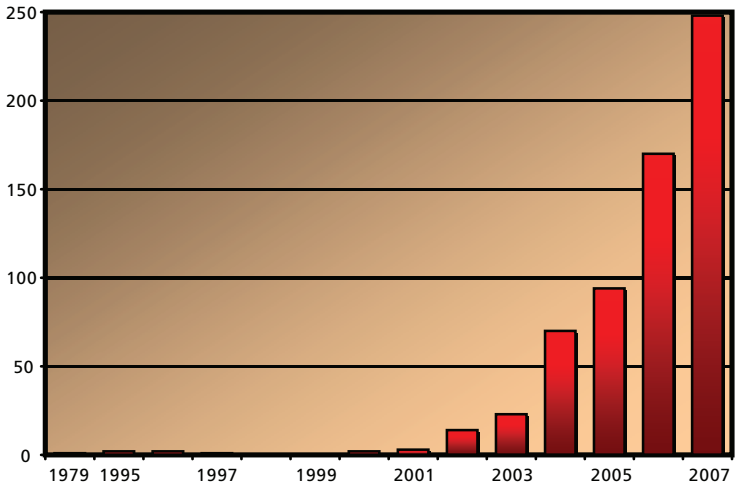
Native to Southeast Asia, Burmese pythons are believed to have been introduced to the park by individuals wishing to rid themselves of their over-sized pets. It's no surprise considering that, for $20, anyone can walk into a flea market and leave with a 20-inch baby snake. Within a year, though, that baby can grow to 5 feet or more, a size that requires substantial quantities of live mice and even rabbits to maintain. When full grown, these reptiles can reach 20 feet or greater and weigh more than 200 pounds, large enough to prompt even well-intentioned pet owners to release their pythons into the wild.

Ecological Consequences

Large Burmese pythons are voracious feeders known to prey on a wide variety of native wildlife, including raccoons, rabbits, bobcats, House Wrens, White Ibises, and Limpkins. This disruption of the natural food chain has potentially serious impacts to the ecosystem and may threaten many additional species in the very near future. Of particular concern is their predation of protected species we are attempting to recover, like the American alligator and the endangered Key Largo wood rat.

Being semi-aquatic in nature, Burmese pythons are proving quite adaptable in the many environments of the Everglades. Consequently, they may also compete with native Everglades species for habitat and space. A number of snakes, including the eastern diamondback and the threatened eastern indigo snake, may be particularly susceptible. Both species occupy a variety of habitats, including gopher tortoise burrows and limestone solution holes, that pythons consider prime real estate. Even at a very young age, full-grown pythons easily dwarf native snakes. Scientists continue to investigate how native populations will be impacted as Burmese pythons spread across the landscape.

For years, park staff suspected pythons were reproducing in the Everglades. Numerous small hatchlings had been found that were unlikely to have been released by humans, and several females were captured carrying from 30 to 50 fertile eggs. In 2006, scientists confirmed their suspicion by uncovering the first documented nest in the park. This finding is of considerable concern, as it is believed that ecological impacts are likely to grow in step with continued reproductive success.



Yearly numbers of recovered pythons in Everglades National Park and surrounding areas.
Data provided by Skip Snow, ENP

Investigation & Eradication

The presence of Burmese pythons in Everglades National Park presents new challenges to resource managers. Never before on the planet has a species of snake this large ever established itself beyond its natural range. This unprecedented invasion mandates that park managers quickly investigate new methods of monitoring and controlling the population.

It is said you should understand your enemies, and park scientists are trying to do just that. With funding from the Critical Ecosystem Studies Initiative (CESI), they have implanted radio tracking devices into 17 large pythons and re-released them into the park. The goal is to obtain information about the behavior of these exotic snakes and their habitat use. By observing the tagged pythons in the wild, scientists have learned that these animals adapt well to a variety of vegetation communities. These "Judas animals" betray their fellow snakes by leading scientists to aggregations of untagged pythons, a challenge that would otherwise be nearly impossible to surmount in a wilderness area nearly twice the size of the state of Rhode Island.

Once scientists learn where these reptiles spend their time, they can set traps to capture them. To minimize harm to native species, and develop an efficient means of control, the team of researchers is now investigating the effectiveness of several trap designs.

Scientists are also investigating a chemical attractant. In winter, Burmese pythons gather together to reproduce. Biologists believe the males are attracted to pheromones, or chemical cues, emitted by females. In conjunction with an effective trap design, these chemicals may one day prove to be the perfect bait.

Park scientists are also attempting to use dogs to help locate pythons. They have employed a beagle named Python Pete to test the feasibility of this method. Dogs have been used around the world in places like Hawaii and Guam for similar purposes. It is believed they may have a role to play in managing the growing python problem in south Florida, particularly in more developed areas. So far, Pete has successfully located the snakes that his trainer has planted in the Everglades. The next step is to see if he can track wild pythons that occur in unknown locations.

Park personnel have recovered hundreds of pythons over the past few years. Study of captured specimens gives us a better understanding of the biology of pythons and their impacts on the park. Park managers are currently exploring new methods of tracking pythons, including the use of trained dogs, like Python Pete.

Photos by ENP

Prevention & Education

Park scientists believe they can reduce the population of Burmese pythons that already exists in the park through a combination of control techniques. But the problem may worsen if pythons continue to be released in the park. That's why park officials are focused on preventing new introductions. By working with the U.S. Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission to improve the regulation of exotic reptiles, and by informing the public of the dangers associated with releasing exotic pets into natural areas, park managers are taking important steps to prevent future introductions.

The National Park Service supports recent regulatory measures taken by the Florida Fish and Wildlife Conservation Commission to limit the sale of certain "reptiles of concern"— including Burmese pythons. The rules require all eligible buyers to purchase an annual state permit and submit documentation of experience in the care of such animals. In addition, the new rules require a computer chip containing information about the owner to be implanted in each snake.

Park staff have also developed a new curriculum aimed at students in grades five through eight that encourages responsible pet ownership. Called "Don't Let It Loose," the curriculum includes an activity guide (available in CD-ROM format) that provides educators with background on invasive species in the Everglades and a suite of classroom activities on the impacts of these exotics.

YOU

can help stop the spread of Burmese pythons by reporting sightings, responsibly disposing of unwanted pets, and helping educate others! Visit

www.FloridaInvaders.org

for more information about what you can do.