

This document summarizes the recent and ongoing programs that contribute to the Agency Strategic Initiative on Conflict Wildlife and the Commission Policy Focal Area: the Future of Fish and Wildlife, Wildlife Conflict.

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Report date: April, 2016

Burmese Pythons

- Potential ecological, social and economic impacts
- Large constrictor that can grow to over 20 ft. in length
- Extensive interagency coordination
 - Prevention
 - Outreach and education
 - Research to increase management effectiveness
 - Routine survey and removal
 - Utilization of volunteers/enthusiasts
 - 2016 Python Challenge™



One species that garners much attention from the public in regard to human-wildlife conflict is the Burmese python. This large nonvenomous constrictor is considered an invasive species in Florida. In September, we summarized some of the ongoing activities regarding pythons and introduced our plans for the 2016 Python Challenge™. At the end of last FY and for much of this fiscal year, staff have been working on the 2016 Python Challenge, that just ended in February. This multi-faceted program contributed to our ability to provide education and outreach, increase our knowledge base on the potential impacts of pythons and extent of the problem, and used citizens to help gather this information.

2016 Python Challenge™

January 16 – February 14



- Increase the effectiveness of the public by providing training and education
- Educate the public about Burmese pythons to help limit the impact of this and other invasive species



Python Challenge™ participant and new Python Removal Permit holder Clark Glenn at an in-person training



This month-long event was intended to engage the public in participating in Everglades conservation through invasive species removal. The Everglades ecosystem is a national treasure and the 2016 Python Challenge™ helped to activate people to be part of the long-term solution of managing invasive wildlife in Florida. As part of this effort, we promoted training opportunities and continuing to educate the public- focusing on how they can help limit the spread of invasive species, and promoting yearlong opportunities as one long-term management tool.

2016 Python Challenge™ Components

- Python removal contest
- Social media components
- Extensive online and in-person training opportunities
- Invasive Species Awareness Festival
- 2016 Python Challenge™ Awards Ceremony



Python Challenge™ team Swamp Apes



This program included multiple components created to enlist not only people who were interested in removing pythons from the wild, but had activities that more members of the public could and did participate in. We promoted the program extensively through social media, and had two social media contests including a popular online photography contest. As part of our education and outreach components, we also provided extensive training opportunities before and during the python removal competition. Two well attended public events were also held, concluding with the Awards ceremony on February 27th.

2016 Python Challenge™

By the Numbers



- 106 Pythons removed statewide
- 1,066 Registered Participants
- 47 In-person trainings with 510 participants
- State, national and international news coverage
- Facebook posts reached public over 185,000 times
- 897 photo contest submissions, over 1,500 online votes



In-person training, Fort Myers



The program was highly successful, not only getting more pythons removed in a one-month time frame than ever before, but we had great participation from over 1,000 people from 29 states. Over 500 people attended in-person trainings, increasing the level of understanding and long-term effectiveness of these members of the recreational public. Our online photo contest was also widely popular.

2016 Python Challenge™

Python Removal Contest Results



| | | <i>Team</i> | <i>Individual</i> |
|-------------------------------|-------------|-----------------------|-----------------------|
| Most Pythons Removed | Grand Prize | 33 Pythons \$5,000 | 13 Pythons \$3,500 |
| | 2nd Prize | 9 Pythons \$1,500 | 8 Pythons \$750 |
| Longest Python Removed | Grand Prize | 15 ft. \$3000 | 13.87 ft. \$1,500 |
| | 2nd Prize | 14.9 ft. \$1500 | 13.77 ft. \$750 |



2016 Python Challenge™ Grand Prize Winners Dusty Crum, Daniel Moniz and Bill Booth with commemorative Pro Tool



One of the primary components of the 2016 Python Challenge was the popular python removal contest. Awards were provided for “most pythons” removed by a team or individual and “longest python” removed by a team or individual. Overall, we considered the event a great success, working with our partners on expanded locations and with members of the public.

Success!

- Better trained participants
- Favorable weather
- Additional areas open to the public

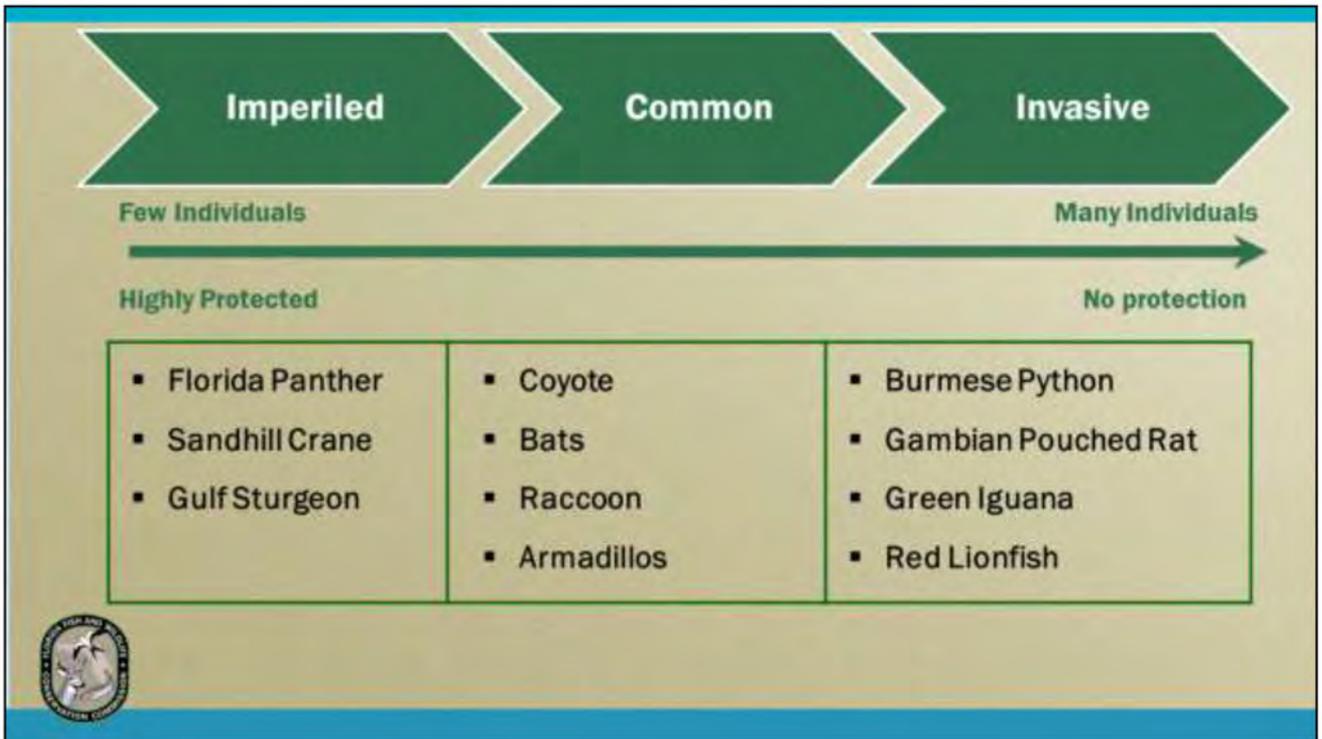


We attribute much of this success to a few factors. First, increased hands-on training opportunities provided for better trained participants. Although online training was required of all participants, over 500 people attended in person hands-on training. Favorable weather also likely contributed to more pythons being found, as pythons will sun themselves in cooler weather, making themselves more visible to searchers. Also, more areas where pythons are known to occur were open to the general public in 2016 than in 2013.

Conflict Wildlife?



How does python management fit into the larger context of Human-Wildlife Conflict? Conflict wildlife are considered those individual animals that cause direct, negative impact as perceived by people.



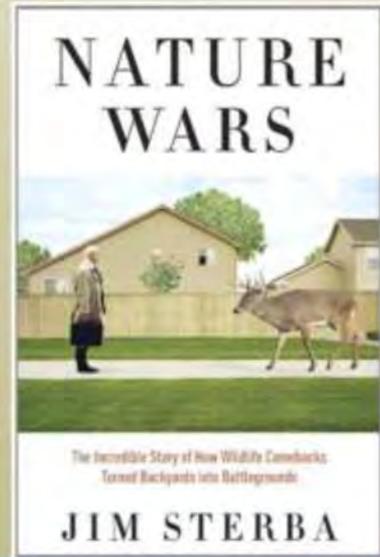
It is intuitive that most wildlife agencies address what has been traditionally considered **nuisance wildlife species** - those that are native and are commonly found in urban/suburban areas or at the wild land interface. Our citizens experience conflict and coexistence issues across the entire management spectrum, regardless of the population status of that species or the perceived number of individuals in those populations.

Conflict management varies by species and the tools available. Educating the public “How to Live with Wildlife” has been our major goal. This is sometimes a harder sell for invasive species where our “end goal” may not be “living” with these species; it may be eradication or control, particularly for species that have broad environmental impacts such as the Burmese python.

Managing Wildlife for the Public

Wildlife Conflict

- Strategic Initiative: Conflict Wildlife
- Commission Policy Focal Area: Future of Fish and Wildlife



Jim Sterba provided an excellent presentation a few years ago to the Commission. He described that over time we are seeing more people live in the exurban environment and are encountering wildlife more than ever before. Successful wildlife conservation and human population growth, particularly at the urban suburban interface with natural areas can put humans and wildlife in situations of conflict with one another. To address this societal shift, over the course of the last few years, we have been refocusing our efforts on addressing human wildlife conflict. As you may recall, the Agency has highlighted this area both as a Strategic Initiative outlined in our agency strategic plan, and as one of your Commission Policy Focal Areas.



In 2013, addressing potential adverse impacts of all wildlife – native and nonnative - became the focus . The agency began shifting resources and expertise specifically to address problematic wildlife. This included the re-organization of Wildlife Impact Management Section into Wildlife Assistance Program, that works specifically on more traditional nuisance wildlife issues and the Nonnative Fish and Wildlife Program, that focuses on those species that have been introduced to the Florida landscape.

One of the primary goals is to help citizens live with wildlife and to minimize the potential adverse impacts of wildlife conflict on our citizens. The following slides provide an update on current initiatives and program improvements that are helping us move forward working with our constituents as they encounter wildlife conflict and making progress towards our goals.

Wildlife Assistance

- Responsive staff providing technical assistance
- Pro-active engagement of communities and neighborhoods
- Partnerships and coordination with other agencies and Non-Government Organizations



Photo credit Defenders of Wildlife



The wildlife assistance function comprises many programs across the agency. For instance, much of the technical assistance on alligators comes from the Alligator Management Program. The role of wildlife assistance program was formalized and established in 2013 to recognize the increasing importance of addressing and/or responding to human-wildlife conflict. This reorganization has allowed the agency to address human-wildlife conflict and co-existence using a more holistic approach, working across agency and division lines. Part of these responsibilities include responding to the public's immediate needs by providing technical assistance. Staff is also working towards developing partnerships, leveraging resources with local government agencies, state extension agents, and Non-Government Organizations and engaging proactively with communities and neighborhoods. Over the last two years, we have allocated more staff and resources to this program and that has allowed for additional reach to our constituents.

Wildlife Assistance Recent Enhancements

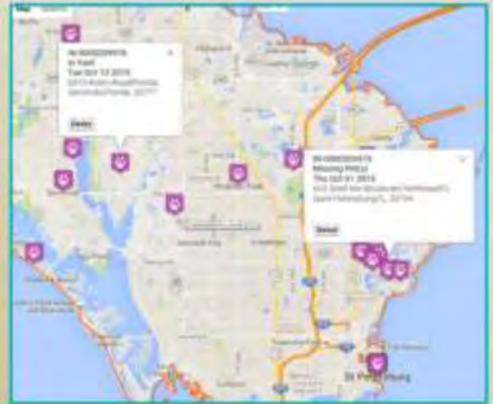
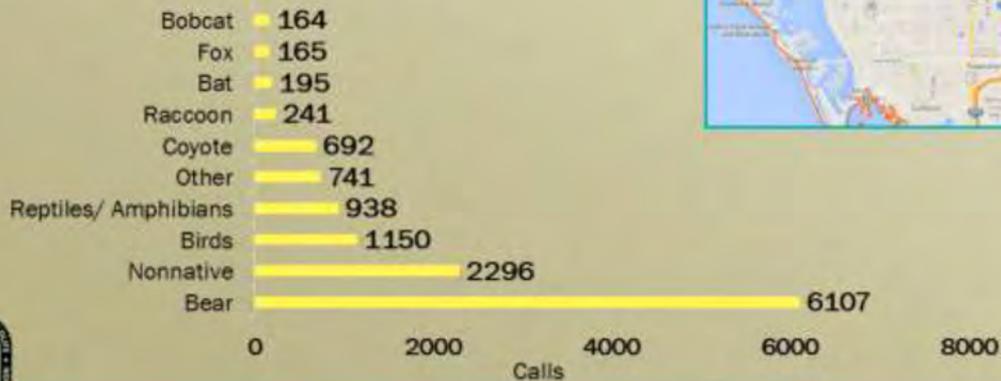
- Increased Stakeholder Engagement
 - 119 field activities in 2015
 - Engaged with over 4,100 Floridians in person



Wildlife Assistance Biologists are located in each of the FWC's 5 regional offices. By working with the legislature we have successfully secured increased dedicated funding. Additional staff were hired in FY 14/15 to provide super-regional coverage, which has allowed for us to be more proactive in the field, and to coordinate community and local government outreach, maintain relationships with existing stakeholders and develop partnerships with new stakeholders. In 2015, Wildlife Assistance biologists documented 119 field activities, including 42 site visits, 33 community presentations, and 22 stakeholder meetings.

Wildlife Assistance Recent Enhancements

- Implementation of Wildlife Incident Management System (WIMS)



The additional resources has also allowed for the creation and implementation of a new Wildlife Incident Management System (WIMS) in early 2015. WIMS replaced legacy systems used by the Alligator Management Program and the Bear Management Program and added the ability to track all wildlife incidents. As a multi-divisional effort, this database incorporates comprehensive data collection, mapping and analysis. One of the primary features is the ability to see where new conflicts are arising geographically, advancing targeted outreach to communities that are starting to see wildlife conflict.

Wildlife Assistance and Coyote Conflicts

- 697 reported coyote incidents in 2015
- Coyote presence is driven by access to food (garbage, free-roaming pets) and habitat
- Public perception is that coyote presence indicates threat to public safety
- Education of the public is key



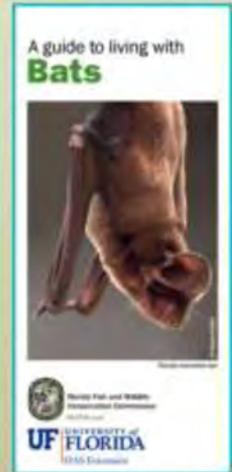
Photo courtesy of Beverly Betts- Panama City



A good example of how we are using these enhancements involves responding to the increase in human-coyote conflict. Even though coyotes have been well documented in the state since the 1960s, many residents believe the presence of a coyote equals a threat to human safety, and if livestock or pets have been depredated, humans are at risk. Education of the public is key. Technical assistance from FWC comes in many forms. Wildlife Assistance Biologists educate the public over the phone regarding the animal's biology and give recommendations for mitigating conflicts. These can include hazing, securing attractants and pets, suggestions for fencing, etc. Technical assistance can also be provided by way of community outreach or site visits to address specific problems. The program conducted 18 community presentations and 10 site visits and stakeholder meetings in 2015.

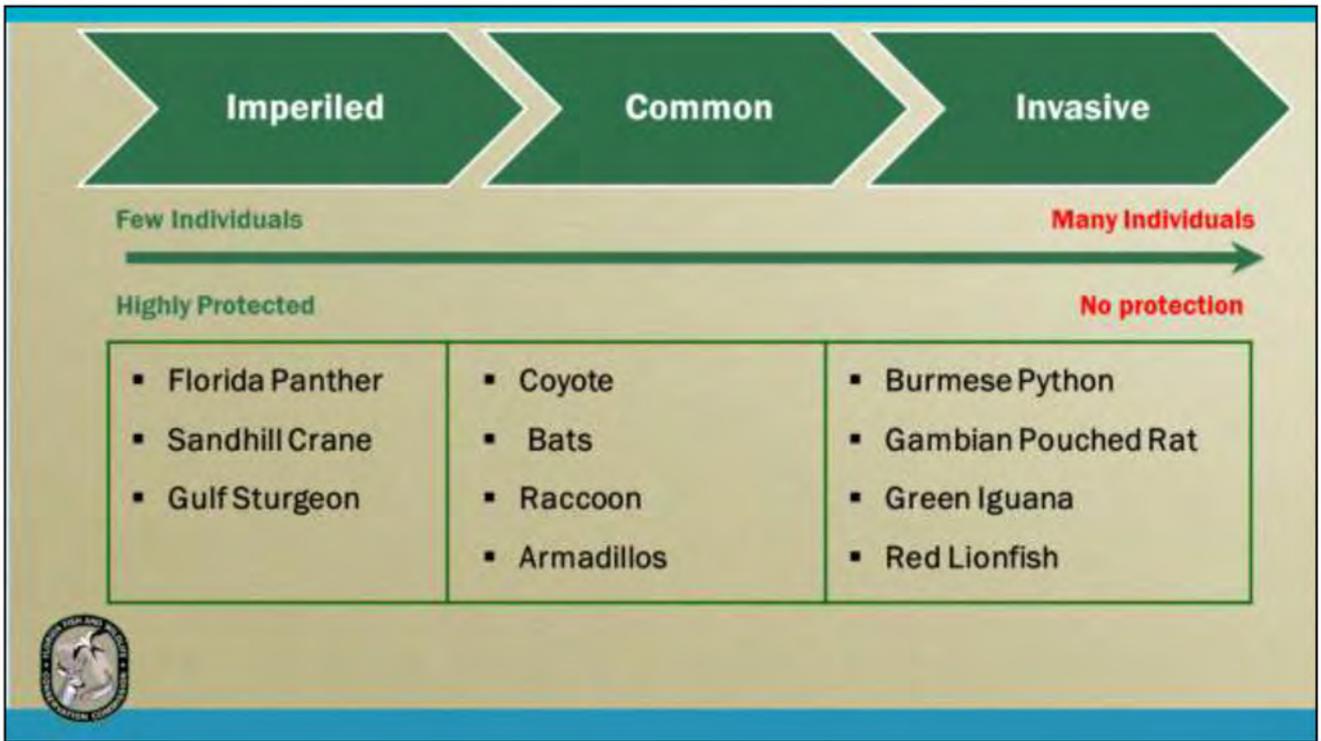
Wildlife Assistance and Bat Conflicts

- Human-built structures provide excellent roosts for bats
- Responding to human-bat conflict calls is a major program activity, especially during maternity season from April – August
- 195 bat calls in 2015

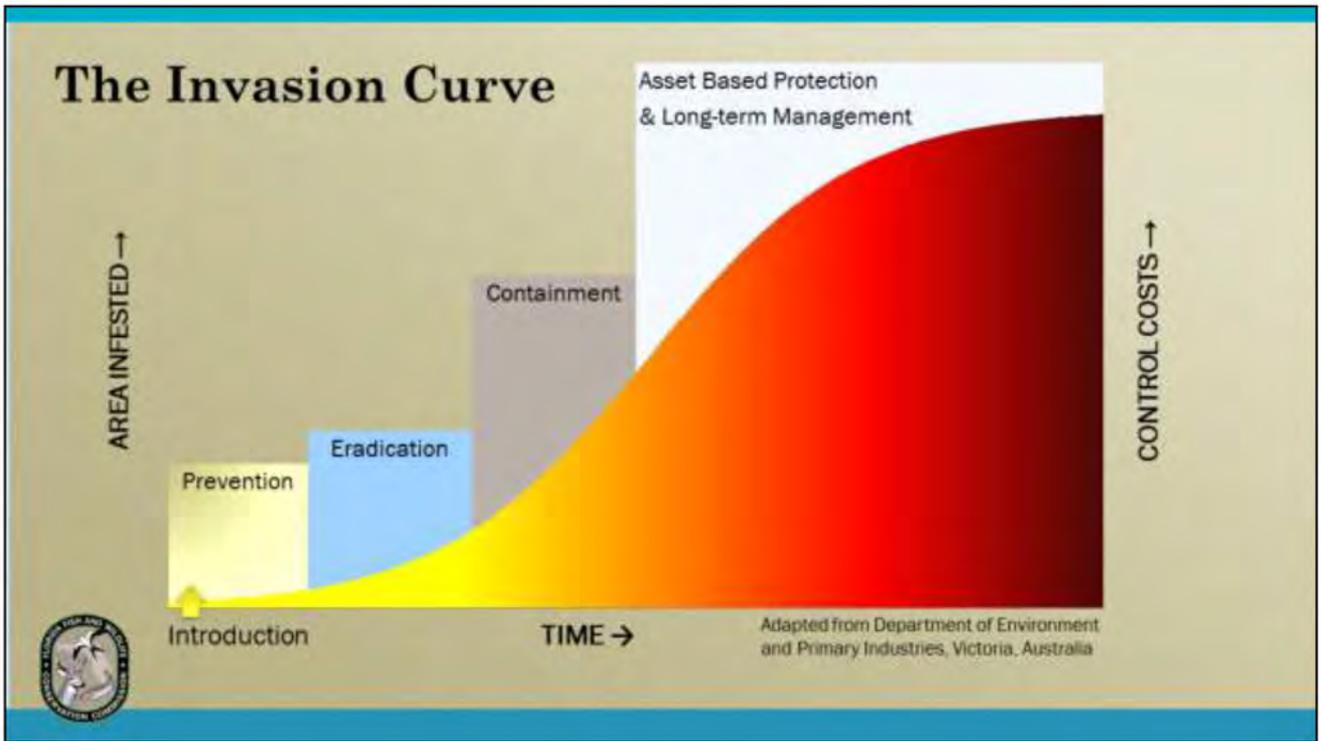


Another example of human-wildlife conflict that the public may encounter is in regards to native bats. Florida is home to 13 different species of bats, all of them recognized as either federally endangered or otherwise listed as a species of greatest conservation need. Wildlife assistance biologists work closely with Floridians by advising on best practices concerning exclusion of bats from buildings, and finding workable solutions that protect human health and safety during the bat maternity season in which exclusion activities are prohibited.

The Wildlife Assistance Program conducted 12 field activities concerning bats in 2015, including site visits and media events. Wildlife Assistance Biologists also spearheaded the development of a new Living with Bats Brochure in 2015 to provide up-to-date guidance and information to the public.



Floridians are also experiencing human wildlife conflict at an increasing rate at the invasive end of the management spectrum. Although invasive species are not a problem unique to Florida, Florida’s subtropical climate has been conducive to the expansion of many exotic species including pythons, large lizards – such as monitors and iguanas, many freshwater fish species and more recently lionfish. The citizens of Florida, particularly south Florida, frequently encounter these exotic species.



Our program is charged with determining which of the nonnative fish and wildlife species may become established and cause a problem. The slide illustrates what has been referred to as the invasion curve. As more areas becomes infested, the less likely the species will be eradicated and costs of management go up.

Preventing the release and establishment of nonnative wildlife is clearly the key. The following slides will provide an update on program initiatives we have been working on.

Nonnative Fish and Wildlife

- Over 600 nonnative wildlife species have been observed
- More than 150 are thought to have reproducing populations



1924 - Present



Almost 30,000 observations of non-native wildlife have been recorded in our state since 1924 – with almost 2,300 reported in 2013 alone. This represents 600 different nonnative species. Despite it being illegal to release any animal not native to Florida, it is believed that most of these observations represent single individuals that may have been released or escaped from captivity. Of the 600, however, we estimate that more than 150 have reproducing populations.

Nonnative Fish and Wildlife

Ongoing Projects

- Northern African Python Eradication Effort
- Argentine Black and White Tegu Assessment and Management
- Nile Monitor Eradication Effort
- Nonnative Freshwater Fish Assessments and Monitoring



While Burmese pythons are one of our primary focuses, there are several other priority projects that staff are working on: Northern African pythons, Argentine black and white tegus, Nile monitors and many nonnative fish species.

Nonnative Fish and Wildlife Northern African Python

- Occurrences documented in western Miami- Dade county since 2002
- Since 2009, FWC and partners have been attempting to contain and eradicate, with increased efforts starting in FY 14/15
- To date, just over 30 removed

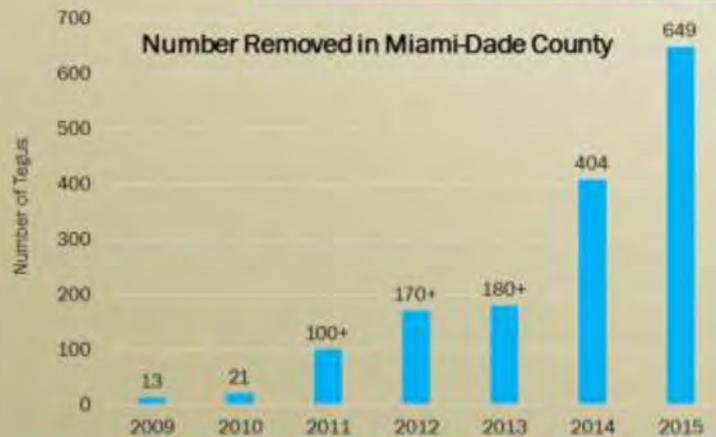


While public attention focuses on Burmese pythons, FWC and our partner agencies have also been attempting to contain and eradicate a reproducing population of North African pythons since 2009. During fiscal year 2013-2014, three North African pythons were removed from the wild and reported to FWC.

The FWC has been actively targeting eradication of this population with our partners, including the Miccosukee Tribe of Indians, South Florida Water Management District, Miami-Dade County and other local and federal agencies. In 2014-2015 FWC began leading a large scale removal effort to eradicate this species. Work includes increased surveys by FWC and our partners, and development and assessment of techniques to increase our efficacy.

Nonnative Fish and Wildlife Argentine black and white tegus

- Large lizard that may reach between 3-4 feet
- Established and expanding populations in Miami-Dade and Hillsborough/Polk counties
- Current trapping and research efforts by FWC and partners



FWC is currently addressing two expanding populations of the Argentine black and white tegu. This large lizard species can reach 3-4 feet in length. Despite current trapping efforts, we are seeing increasing numbers, particularly in Miami-Dade county.

Argentine black and white tegus: Potential Threats

- Eat a wide variety of native and nonnative *everything*
- Able to overwinter in all of Florida by burrowing
- Listed species in both locations where they are found
- Possible agricultural implications



Black and white tegu raiding an alligator nest in Miami-Dade County. Courtesy University of Florida



Some of the primary concern around tegus and reason behind why we are assessing this species revolves around the potential impacts of this species. They have a wide diet, and have been documented to eat Gopher tortoises (hatchlings, yearlings), freshwater turtles, alligators (eggs, hatchlings), snakes, and ground-nesting birds – along with many nonnative and native plant species.

Nonnative Fish and Wildlife Nile Monitors in Southeast Florida

- Large, carnivorous, nonnative lizard from sub-Saharan Africa
- Known predators of nests and wading birds
- Established in Miami-Dade and Palm Beach counties
- FWC is monitoring canals in southeast Florida
- 60 removed since 2011



Nile monitors are also known to be reproducing in two areas of the state. Currently, the City of Cape Coral is removing this species where they occur on the west coast. FWC staff and our partners have been aggressively removing Nile monitors on the east coast, with over 60 removed since 2011.

Nonnative Fish and Wildlife Freshwater Fish

- Standardized monitoring to assess potential new species
- Assessments of newly found species
- Working with stakeholders on potential tilapia regulatory changes



Bullseye snakehead



Blue tilapia

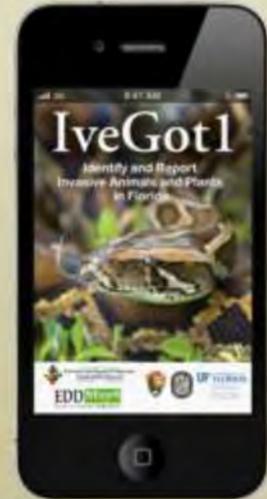
Nile tilapia



Nonnative fish issues are also being addressed by program staff. We have standardized monitoring that allowed us to detect newly introduced species, and then assess whether or not these species may become problematic. One other area of staff effort is evaluation of our regulations in regard to tilapia species as new science emerges. We are currently working with stakeholders on potential regulatory options that we may bring before the Commission at a future commission meeting.

Future Direction

- Increased Funding in FY 16/17
 - Increase Human-Dimension work
 - Removal contracts, stipends
 - Additional research to increase the ability to remove nonnative species
 - Address emerging population trends
 - Allow for rapid response to emerging threats
 - Development of risk assessment procedures



This coming year our program will receive new funds to address large lizard and python management. These funds will help put resources on the ground to address these emerging issues.

Thank you

