

South Florida Ecosystem Restoration Task Force

Invasive Exotic Species Strategic Action Framework

Prevention Case Study: Risk Screenings and Assessments

Calculating Risk

The State of Florida is at risk of invasive exotic species particularly through live animal trade. Nonnative invasive wildlife issues in Florida have increased in frequency and severity over the last decade. Although invasive exotic species are not a problem unique to Florida, Florida's subtropical climate has been conducive to the establishment and expansion of many exotic species including large constrictor snakes like the Burmese python; large lizards, such as monitors, tegus, and iguanas; freshwater fish species like bullseye snakehead; and marine species, such as lionfish. To address these challenges, the Florida Fish and Wildlife Conservation Commission (FWC) has increased management efforts focused on prevention and early detection and rapid response (EDRR) of priority nonindigenous invasive animal species.

Tools for Prevention and Rapid Response

Risk screenings and assessments are key components of the FWC's invasive species prevention efforts. **Risk screenings** are quick evaluations that help gauge a species' potential invasion capabilities in a matter of hours. **Risk assessments** are more comprehensive investigations into a species that can take months to complete. Both screenings and assessments take into account a species' biology including natural history traits such as reproductive rate, history of invasion, ability to spread beyond initial introduction points, and climate suitability. Risk screening and risk assessment results help inform management decisions, including whether to conduct EDRR efforts or develop new regulations.

Multiple tools are available to conduct risk screenings. The FWC primarily uses a go/no-go EDRR tool developed by the University of Florida (UF) to conduct terrestrial species risk screens. For aquatic species, the FWC typically contracts researchers at UF to use the Fish Invasiveness Screening Kit (FISK) and Aquatic Species Invasiveness Screening Kit (AS-ISK). For full risk assessments, the FWC has contracted UF researchers to assess species

using the federal Nuisance Aquatic Species Task Force's Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process. This framework has been accepted and used broadly, including use in the US Geographic Survey's (USGS) 2009 giant constrictor establishment risk assessment conducted to evaluate nine large constrictor snakes as injurious reptiles under provisions of the federal Lacey Act.

Prevention through Regulation

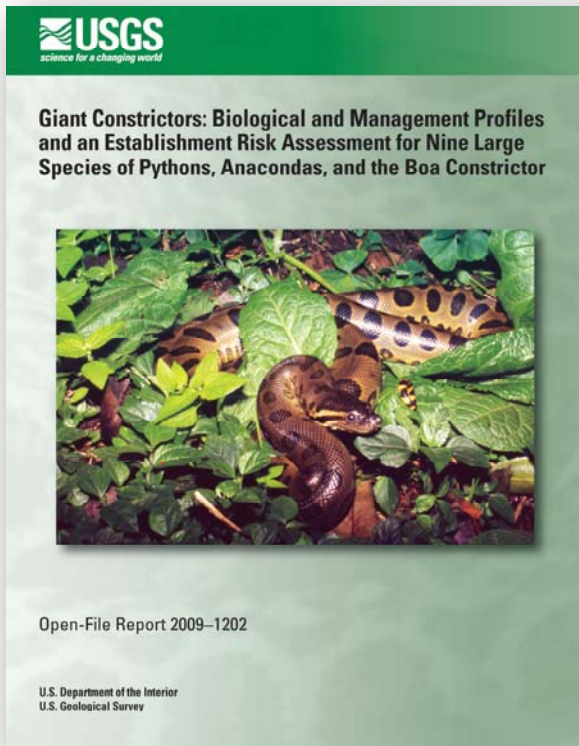
The FWC has used both screenings and assessments in recent years. Most recently, the FWC added a new suite of species to the state's Prohibited list. The species included birds, mammals, and reptiles that were already listed as injurious wildlife under title 18 of the federal Lacey Act. Following a federal court ruling in 2017, injurious wildlife may now be transported between the 49 States within the continental U.S. (the contiguous 48

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Conclusion

Moving forward, the FWC will continue to use risk screenings and assessments to make science-based, informed decisions when deciding whether to regulate a species. The go/no-go tool will also continue to be used in informing EDRR decision making. These tools are vital to the state's continued efforts in preventing the introduction, establishment, and spread of nonnative invasive fish and wildlife.

Additional Resources

Aquatic Nuisance Species Task Force (ANSTF), Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process: https://www.anstaskforce.gov/Documents/ANSTF_Risk_Analysis.pdf

FISK and AS-ISK: <https://www.cefas.co.uk/services/research-advice-and-consultancy/non-native-species/decision-support-tools-for-the-identification-and-management-of-invasive-non-native-aquatic-species/>

Species Currently Listed as Injurious Wildlife under the Federal Lacey Act (18 U.S.C. 42): https://www.fws.gov/injuriouswildlife/pdf_files/Current_Listed_IW.pdf

State of Florida Prohibited Species and Rule Development: <https://myfwc.com/wildlifehabitats/nonnatives/rule-development/>

USGS Giant Constrictor Establishment Risk Assessment: <https://pubs.er.usgs.gov/publication/ofr20091202>

States and Alaska) without the previously required federal permit. Florida relied on the protections that had been in place prior to the ruling to keep these potentially harmful species from entering the state. The FWC used risk screenings and the USGS's 2009 giant constrictor establishment risk assessment to support listing the brown tree snake, yellow anaconda, Beni anaconda, DeS-chauensee's anaconda, Java sparrow, red-whiskered bulbul, dioch, pink starling, brushtail possum, dhole, flying foxes, mongoose, meerkats, and raccoon dog as prohibited state species.

These birds, mammals, and reptiles are all listed as injurious wildlife under the Lacey Act, but previously had no other restrictions in Florida. The FWC Prohibited listing limits their possession to qualifying, licensed facilities for educational exhibition and research use. These species may no longer be possessed as personal pets or for commercial sales in the state. The FWC did allow people who had any of these animals as pets to obtain a grandfathered pet permit to keep those pets for the life of the individual animals. Grandfathered pet permits are offered at no-cost.



Mongoose removed from Port Everglades.
Photo courtesy of FWC.