Program Name: An Integrated Early Detection, Rapid Response, Management, and Monitoring Program for Everglades Invasive Reptiles and Amphibians
Project Name: Improve probability of detection and removal of pythons and other invasive reptiles
Project ID: 2703
Lead Agency: University of Florida with USGS, funded by UF, the SFWMD and the USGS

Strategic Plan Goal(s) Addressed: Objective 2A3-employ science to develop detection tools, 3B1&3-invest in and adapt science-based containment methods, 4A1-reduce invasive exotic species population

Measurable Output(s):
Probability of detection is estimated using various statistical and modeling approaches from repetitive, spatially referenced field surveys targeted towards specific taxa. Improvement of detection probabilities through adaptive management and structured decision making can be measured.

Project Synopsis:
Estimates of probability of detection are used to calculate unbiased estimates of occupancy, density, and abundance. Detection probability is the probability of detecting the species given that it is present. Estimates of occupancy, density, and abundance are the basis for developing performance measures to determine effects of management plans on invasive exotic animals. We can also look at probability of detection in relation to factors such as season, time of day, habitat, weather conditions, and method of survey (among others) to refine and improve our ability to detect pythons.

For pythons we need a method for estimating abundance or occupancy that accounts for imperfect detection. The problem is there are no models for abundance where animals are removed when observed without any marked animals being released. This means we need a way to increase captures to a point where we can estimate these things, and this means we need to boost detection probability, not just the numbers that are detected. To do this we plan on evaluating current capture records to determine if there are better circumstances for detecting pythons. In addition we will evaluate new techniques such as eDNA analysis for their potential for increased detection

However, we do have data with increased rate of capture for tegus, chameleons, and Nile monitors that may allow for estimation of detection probability. Those data also will be analyzed as part of this project.

Current Status: Currently funded through fiscal year 2015/16**.**

Project Schedule:
Start Date: March 2008
Finish Date: Will be determined on availability of funds

Detailed Project Budget Information

	2013/14	2014/15	2015/16	2016/17	2017/18	Balance to Complete	Total
Federal							
State (FWC)							
State (SFWMD)		25,000	25,000	25,000*	25,000*	$50,000	**150,000**
Private Grants or Donations							
UF	5,000	5,000	5,000	5,000	5,000	$10,000	**35,000**
Total	**5,000**	**30,000**	**30,000**	**30,000**	**30,000**	**60,000**	**185,000**

***Dependent on availability of funds.**

Contact: Frank Mazzotti, fjma@ufl.edu, Mike Cherkiss, mcherkiss@usgs.gov

Hyperlink: http://crocdoc.ifas.ufl.edu/projects/eiramp/