

Program Name: Invasive Species Population Management
Project Name: **Burmese python eDNA development and application**
Project ID: 2608
Lead Agency: USDA/ APHIS Wildlife Services National Wildlife Research Center

Strategy and Biennial Report Objective Addressed: 2-B.2, 2-B.3, and 2-B.4
Invasive Species Strategic Action Framework Goal: 2, 3 and 4

Measurable Output(s): (1) Development and publication of methodology to identify Burmese python eDNA in water samples; (2) Collection and analyses of water samples from south Florida canals to detect presence of pythons.

Project Synopsis: Using captive animals, we developed a technique to detect DNA from Burmese pythons in water (Piaggio et al. 2014. Molecular Ecology Resources 14:374-380). The method we developed is efficient, inexpensive, and does not produce false positives. We are now applying this method to survey South Florida waterways to detect the presence of this cryptic species. Sample collection is taking place in conjunction with on-going surveys conducted by University of Florida (UF) researchers along routes that are part of their Everglades Invasive Reptile and Amphibian Monitoring Program (EIRAMP). We will initially use two of the survey routes, one along the Tamiami Trail (US Route 41) in the heart of the known Burmese python range, and the other along the L-5 canal 64 km to the north in an area where pythons have seldom been recorded. Each of the sampling transects will be 25 km long, and we will sample at 1-km intervals. At each sampling location, we will collect 5 independent samples. Sampling will occur quarterly to document seasonal changes. Samples will be analyzed at the UF wildlife genetics lab in Gainesville following methodology described by Piaggio et al. (2014). We will apply occupancy modeling to the findings. As new information is acquired, survey locations will likely change to address updated needs.

Current Status: Methodology developed and published in 2013/2014; field sample collections and analyses are on-going. Field samples from south Florida continue to be processed at University of Florida. Completion of field sample analyses and interpretation of the findings are expected in FY2017.

Project Schedule:
 Start Date: 2014
 Finish Date: on-going

Detailed Project Budget Information

	2014	2015	2016	2017	2018	Balance to Complete	Total
Federal	\$22,000	\$15,000	\$18,000	\$18,000	\$18,000	\$69,000	\$91,000
SFWMD**							
Local							
Total	\$22,000	\$15,000	\$18,000	\$18,000	\$18,000	\$69,000	\$91,000

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