

**Program Name:** Aquatic Invasive Species Program – Southeast Region  
**Project Name:** eDNA monitoring of five aquatic invasive species in South Florida  
**Project ID:** 2615  
**Lead Agency:** USFWS

**Strategy and Biennial Report Objective Addressed:** 2-B.2

**Invasive Species Strategic Action Framework Goal:** 2

**Measurable Output(s):** Annual presence/absence data for five aquatic invasive species from 200 sampling sites across Everglades Cisma Boundaries

**Project Synopsis:** Early detection of aquatic nuisance species (ANS) can pose formidable technical challenges because it depends on the ability to recognize the presence of ANS at extremely low densities and often under difficult conditions. Based on the detection of the targets species’ DNA in the environment, environmental DNA (eDNA) methods are tractable over traditional ANS monitoring methods because of their increased sensitivity and specificity as well as potential greater throughput and cost effectiveness. Currently the USFWS’s Region 4 Conservation Genetics lab has developed eDNA qPCR markers for five ANS taxa (Mayan cichlid, African jewelfish, bullseye snakehead, lionfish, Asian swamp eel) that will be used for ANS monitoring and rapid response purposed in the Everglades. We propose to train and use citizen scientists to collect and filter water samples throughout the Everglades, then test each filter for the presence of each species listed above in an effort to monitor for invasion and dispersal of each species in an throughout the Park.

Pricing below includes one GS-11 geneticist to carry out the work and is based on sampling 200 locations in the South Florida annually. An overhead rate of 20% was applied to the overall budget.

**Project Schedule:**

Start Date: 2014                      Finish Date: TBD

**Detailed Project Budget Information**

	2014	2015	2016	2017	2018	Total
<b>Federal</b>	114,000	99,396	102,378	105,449	108,613	<b>529,836</b>
<b>SFWMD**</b>						
<b>Local</b>						
<b>Total</b>	114,000	99,396	102,378	105,449	108,613	<b>529,836</b>

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**Hyperlink:** <http://www.fws.gov/warmsprings/CGL/index.html>