

**Program Name:** Exotic Management  
**Project Name:** Early detection of new exotic fish species in adjacent canals Vital Sign  
**Project ID:** 2601  
**Lead Agency:** National Park Service

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

**Measurable Output(s):** The area surveyed that year will provide us with the amount of exotic fish species located in the canals. This will also allow us to detect the establishment of any new species.

**Project Synopsis:**

The SFCN monitors the canals adjacent to Everglades National Park (EVER) for the purpose of detecting the new exotic species of fish. Introductions of exotic fish can lead to adverse effects on the aquatic food web by altering community structure over time. The annual sampling of the canals bordering EVER is based on pilot work conducted by the SFCN and baseline data provided by Florida International University (FIU). The SFCN conducts sampling in the canals by way of electrofishing, an efficient technique for assessing fish populations. The sampling technique uses multi-pass electrofishing at a fixed location (multiple passes at the same location) along with a significant amount of the sampling occurring at night (nighttime sampling has higher CPUE, larger fish and more rapid species accumulation). Early detection and reporting of a new exotic fish species, that can potentially harm the aquatic ecosystems in our parks, would allow resource managers to respond quickly and efficiently to the threat.

There are at least five groups operating electrofishing boats in the area (two in NPS, 2 in universities, 1 in Florida Fish and Wildlife Conservation Commission). The activities and goals of these five groups could be coordinated with an expansion of the current budget by \$15,000 per year. Fully funding all five of these groups would cost ~\$150,000 per year. Current information suggests that species composition of canal reaches are stable across years, and that selective removal of exotic fish can shift the species composition of a canal. Rehage et al (2014) have extensively reviewed available research on depopulation of non-native fish over large areas and this review suggests that managing species composition is possible. The ~\$150,000 per year budget is likely to support a systematic depopulation effort. This effort will probably be more effective if coupled with \$20,000 per year budget (this is a rough estimate) focused on stocking native piscivorous fish in areas where non-natives are removed.

**Current Status:**

In 2013, SFCN conducted its second year of electrofishing in the canals along the periphery of Everglades National Park (EVER). Last year's initial pilot study determined that nighttime electrofishing yields higher fish abundance and higher species richness, and species composition of canals are stable over 3 year sample periods. The 2014 study is still in progress.

**Project Schedule:**

**Start Date:** 2012

**Finish Date:** ongoing

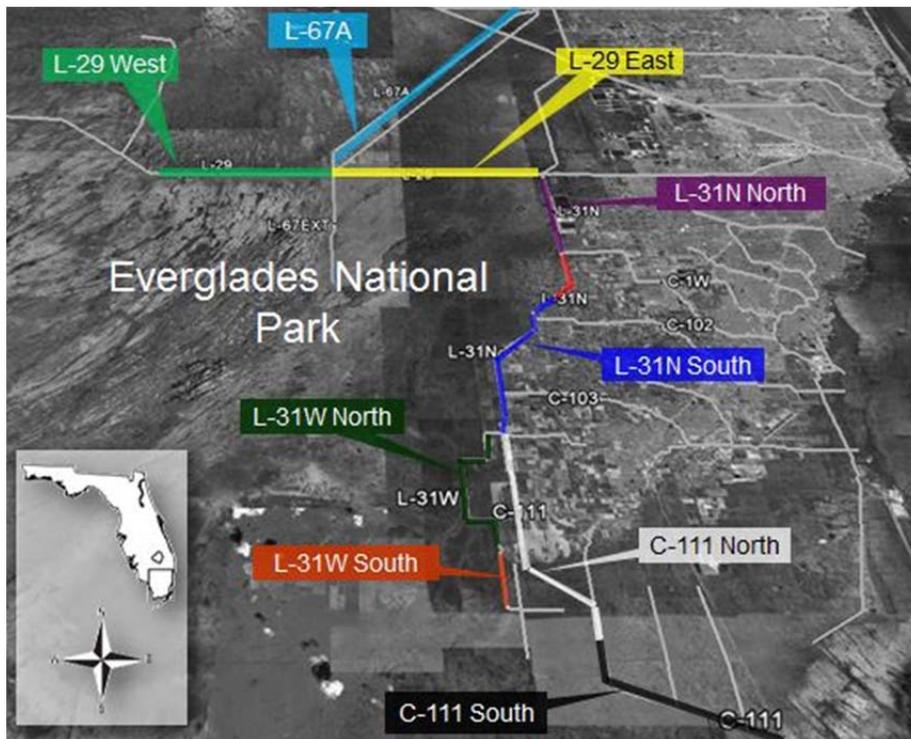
**Detailed Project Budget Information**

	2014	2015	2016	2017	2018	Balance to Complete	Total
<b>Federal</b>	\$20,000.0 0	\$20,600.0 0	\$21,218.00	\$21,854.5 4	\$22,510.1 8	\$86,182.72	\$106,182.72
<b>SFWMD*</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Local</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Total</b>	\$20,000.0 0	\$20,600.0 0	\$21,218.00	\$21,854.5 4	\$22,510.1 8	\$86,182.72	\$106,182.72

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**Map of**



**Area:**