

## Work Task D2: Southwestern Willow Flycatcher Presence/Absence Surveys

FY12 Estimates	FY12 Actual Obligations	Cumulative Expenditures Through FY12	FY13 Approved Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate	FY16 Proposed Estimate
\$675,000	\$708,540.74	\$5,477,322.94	\$600,000	\$675,000	\$675,000	\$675,000

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**Start Date:** FY05

**Expected Duration:** FY55

**Long-term Goal:** System monitoring for southwestern willow flycatcher

**Conservation Measures:** MRM1, MRM2, MRM4 (WIFL)

**Location:** Reaches 1-7 along the LCR, the Virgin River between the Virgin River Gorge and Lake Mead, NPS lands in the Grand Canyon below Separation Canyon, and Pahranaagat NWR. Life history study sites are located at 1) Pahranaagat NWR in east-central Nevada, 2) along the Virgin River at Mesquite, Nevada, 3) along the Virgin River, near Mormon Mesa, Nevada, and 4) Topock Marsh, Havasu NWR, Arizona.

**Connections with Other Work Tasks (past and future):** Information gathered under this work task, and D3 provide data on SWFL population numbers and demographics along the LCR.

**Project Description:** Presence/absence surveys are conducted along the LCR from the Southerly International Boundary with Mexico (SIB) to Separation Canyon in the Grand Canyon (excluding Hualapai tribal lands), including the lower Virgin River, lower Bill Williams River, and lower Gila River. Life history and cowbird control studies are conducted at four known breeding areas.

**Previous Activities:** Presence/absence surveys and life history studies for SWFL have been conducted along the LCR since 1996.

**FY12 Accomplishments:** Presence/absence surveys were conducted at 59 sites along the LCR and its tributaries in 2012. Life history studies were conducted at the following sites: Pahranaagat NWR, Nevada; Mesquite, Nevada; Mormon Mesa, Nevada; Muddy River, Nevada; Topock Marsh, Arizona; and Bill Williams NWR, Arizona. Sites have not been surveyed in the Grand Canyon since 2009 due to low water and inaccessibility. Surveys in the Grand Canyon will be discontinued until water levels rise to a point where access is once again possible.

Activities included banding, nest monitoring, extensive vegetation analysis, and microclimate analysis. Brown-headed cowbird trapping studies were discontinued after 2007, but information from life history studies were utilized to determine effectiveness of post-trapping.

Willow flycatchers were detected on at least one occasion at 38 sites. Resident or breeding SWFLs were detected at 11 sites within the following five study areas: Pahranaagat NWR, Mesquite, Mormon Mesa, Muddy River, Topock Marsh, and Bill Williams River NWR. No flycatcher detections were recorded at any sites south of Bill Williams River NWR after June 20, 2012, and no breeding was confirmed south of Bill Williams River NWR.

Water levels at Topock Marsh have been lower since 2010 and the numbers of flycatchers breeding in the area have declined over the previous two years. Water levels at the marsh increased from the levels in 2010 and 2011 but lower than those recorded from 2006 to 2009 when more SWFL were breeding in the area. In 2012, only one resident bird was detected, but this bird spent most of the breeding season at the Beal Restoration Site. It was first detected near Topock Marsh in habitat occupied in previous years and then moved to Beal where it was detected singing into late July. The bird was identified as a bird originally banded as a fledgling at Bill Williams River/Planet Ranch Road in 2010. This is the first bird to be present at a restoration site for a long enough period to be classified as a resident and territorial bird. The bird was a male and did not find a female to pair with and, therefore, did not attempt to breed.

A total of 21 adult flycatchers were captured in 2012; 13 were new captures, and 8 were banded in previous years and were recaptured. An additional 38 adults banded in previous years were resighted. A total of 26 nestlings from 12 nests were banded. A total of 51 territories were recorded with 36 territories consisting of paired flycatchers, 1 pair that did not demonstrate breeding activity, and 14 consisting of unpaired individuals. Of the 95 resident adult flycatchers identified to individuals in 2011, 52 (55%) were located in 2012; 6 (12%) were detected at a different study area from where they were last detected in 2011. Of the 36 banded juveniles from 2011, 9 (25%) were identified in 2012. Twenty-one individuals originally banded as nestlings in previous years were identified for the first time in 2012.

Nest success was calculated for 38 SWFL nests. Sixteen (42%) nests were successful and fledged young, 22 (58%) failed. Depredation was the major cause of nest failure, accounting for 43% of all failed nests and 59% of nests that failed after flycatcher eggs were laid. Brown-headed cowbird brood parasitism was observed in 5 of 34 (15%) nests with eggs and known contents.

Defoliation of salt cedar by salt cedar beetles occurred at the Mormon Mesa site much earlier than in 2011. Extensive defoliation was noted along the entire Virgin and Muddy Rivers by late May. A similar number of pairs attempted to breed at the site in 2012 as compared to 2011, but the fecundity rate and nest abandonment rate was much higher in 2012 at Mormon Mesa after defoliation. All breeding occurred in the remaining native

habitat, and the defoliated salt cedar seemed unsuitable for breeding. This site will continue to be monitored to determine if this population will decline in numbers.

**FY13 Activities:** A new five-year contract will be awarded to conduct SWFL surveys and demography studies along the LCR in January of 2013. Presence/absence SWFL surveys will be conducted at approximately 40-60 sites, in 15 study areas, along the Virgin River, and the LCR. Areas in the southern portion of the LCR will not be surveyed in 2013 to allow for the development of a database for all SWFL data, which will be incorporated into the LCR MSCP database. Grand Canyon below Separation Canyon will not be surveyed in 2013.

Life history studies are being conducted at Mesquite, Mormon Mesa, and Topock Marsh. Pahrangat NWR surveys will be discontinued. Activities include banding, nest monitoring, and microclimate analysis. The brown-headed cowbird trapping study was completed in 2007, but post-trapping data will continue to be collected.

**Proposed FY14 Activities:** Presence/absence SWFL surveys will be conducted at approximately 40-60 sites, in 15 study areas, along the Virgin River and the LCR. Sites below Parker Dam will again be surveyed with half of those sites being surveyed in 2014 and the other half in 2015. After 2015, these sites will be surveyed once every three years.

**Pertinent Reports:** *Southwestern Willow Flycatcher Surveys, Demography, and Ecology along the LCR and Tributaries, 2012* and *Southwestern Willow Flycatcher Surveys, Demography and Ecology along the Lower Colorado River and Tributaries, 2008-2012. Summary Report* are both posted on the LCR MSCP website.