

Work Task D2: Southwestern Willow Flycatcher Presence/Absence Surveys

FY11 Estimate	FY11 Actual Obligations	Cumulative Expenditures Through FY11	FY12 Approved Estimate	FY13 Proposed Estimate	FY14 Proposed Estimate	FY15 Proposed Estimate
\$675,000	\$655,142.92	\$4,823,204.20	\$675,000	\$600,000	\$575,000	\$575,000

Contact: Chris Dodge (702) 293-8115; cdodge@usbr.gov

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 under D3 provides 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 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.

FY11 Accomplishments: Presence/absence surveys were conducted at 64 sites in 15 study areas along the LCR and its tributaries in 2011. Life history studies were conducted at the following sites: Pahranaagat NWR, Nevada; Mesquite, Nevada; Mormon Mesa, Nevada; Muddy River, Nevada; Littlefield, Arizona; Topock Marsh, Arizona; and Bill Williams NWR, Arizona. Sites were not surveyed in the Grand Canyon in 2009, 2010, or 2011 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 was discontinued after 2007, but information from life history studies was utilized to determine effectiveness of post-trapping.

Willow flycatchers were detected on at least one occasion at 47 sites. Resident or breeding SWFLs were detected at 13 sites within the following six study areas: Pahrnagat NWR, Littlefield, 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, 2011, and no breeding was confirmed south of Bill Williams River NWR.

During the summer of 2009, the breeding population of flycatchers at Topock Marsh severely declined with only one nesting pair, and one successful nest. In 2010 breeding population numbers were also low with two nesting pairs and one successful nest. A demonstration was conducted to monitor the hydrology closely underneath the stand and to place additional water underneath a portion of the stand to determine the affects this would have on increasing nesting pairs and potentially successful nests. This was originally scheduled to take place in 2010 but was postponed until 2011. The site was monitored for hydrological conditions as well as SWFL presence and breeding in 2011. Water was kept on two areas where breeding had occurred in the past, but not on other areas in the marsh. At Topock Marsh, six resident or breeding birds were detected, but no birds successfully fledged.

A total of 26 adult flycatchers were captured in 2011; 15 were new captures, and 11 were banded in previous years and were recaptured at the four life history study areas and at Muddy River, and Bill Williams River NWR. An additional 31 adults banded in previous years were resighted. A total of 40 nestlings from 17 nests were banded. Flycatchers were banded opportunistically at St. George. Two new adults and one nestling were color banded at St. George. A total of 50 territories were recorded with 36 territories consisting of paired flycatchers and 14 consisting of unpaired individuals. Of the 96 adult flycatchers identified to individuals in 2010, 55 (57%) were located in 2011; 5 (9%) were detected at a different study area from where they were last detected in 2010. Of the 51 banded juveniles from 2010, 2 (4%) were identified in 2011. Sixteen individuals originally banded as nestlings in previous years were identified for the first time in 2011.

Nest success was calculated for 43 SWFL nests. Eighteen (42%) nests were successful and fledged young, and 25 (58%) failed. Depredation was the major cause of nest failure, accounting for 52% of all failed nests and 65% of nests that failed after flycatcher eggs were laid. Brown-headed cowbird brood parasitism was observed in 7 of 37 (19%) nests with eggs.

Reclamation finished the study of the effects of tamarisk beetles on nesting willow flycatcher habitat in the areas of St. George, Utah and Mormon Mesa, Nevada. This was a cooperative study between the Utah Department of Natural Resources, USGS, Reclamation, and the LCR MSCP. All data has been collected and the data will be analyzed and a final report will be submitted in 2012. Beetles continued to defoliate saltcedar at St. George and reached the Mormon Mesa site in 2011. Defoliation at Mormon Mesa did not occur until breeding activities were mostly completed and likely did not affect success.

FY12 Activities: Presence/absence SWFL surveys will be conducted at approximately 70-90 sites, in 16 study areas, along the Virgin River, Pahrangat NWR, and the LCR to the Southerly International Boundary. Grand Canyon below Separation Canyon will not be surveyed in 2012.

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

Hydrologic monitoring will be continued at Topock Marsh to determine whether increased water levels in the marsh will also increase standing water and saturated soil within SWFL breeding habitat. The hydrologic data will be compared to surveys and nest monitoring for SWFL within the marsh.

A scope of work for the next five-year contract will be written and awarded in FY12.

Proposed FY13 Activities: A new five-year contract will be implemented in FY13. The scope will be similar to previous years. SWFL presence/absence system-wide and post-restoration surveys, along with banding and nest monitoring will be conducted.

Pertinent Reports: *Southwestern Willow Flycatcher Surveys, Demography, and Ecology along the LCR and Tributaries, 2011* is posted on the LCR MSCP website.