

Work Task D2: Southwestern Willow Flycatcher Presence/Absence Surveys

FY08 Estimates	FY08 Actual	Cumulative Accomplishment Through FY08	FY09 Approved Estimate	FY10 Proposed Estimate	FY11 Proposed Estimate	FY12 Proposed Estimate
\$575,000	\$621,896.84	\$3,170,326.84	\$690,000	\$650,000	\$700,000	\$700,000

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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, D3, and D4 provide data on SWFL population numbers and demographics along the LCR. Information provided from C1 will be used in connection with this work task for future analysis of brown-headed cowbird trapping.

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.

FY08 Accomplishments: Presence/absence surveys were conducted at 77 sites in 16 study areas along the LCR and its tributaries in 2008. Life history studies were conducted at four sites, including: Pahranaagat NWR, Nevada; Mesquite, Nevada; Mormon Mesa, Nevada; and Muddy River, Nevada; Grand Canyon, Arizona; Topock Marsh, Arizona; and Bill Williams NWR, Arizona. Studies included banding, nest monitoring, extensive vegetation analysis, and microclimate analysis. Brown-headed cowbird trapping studies were discontinued, but information from life history studies were utilized to determine effectiveness post-trapping.

Willow flycatchers were detected on at least one occasion at 42 sites. Resident, breeding SWFLs were detected at 9 sites within the following six study areas: Pahranaagat NWR, Mesquite, Mormon Mesa, Muddy River, Topock Marsh, and Bill Williams River NWR. Resident flycatchers were also detected at Grand Canyon and 'Ahakhav, Arizona, but breeding was not confirmed. No flycatcher detections were recorded at any sites south of Bill Williams River NWR after June 22, 2008, and no breeding was confirmed south of Bill Williams River NWR.

A total of 24 adult flycatchers were captured in 2008; 18 were new captures, and 6 were banded in previous years and were recaptured at the four life history study areas and at Muddy River, Grand Canyon, and Bill Williams River NWR. An additional 65 adults banded in previous years were resighted. A total of 74 nestlings from 29 nests were banded; 6 previously unbanded fledglings were also banded. A total of 73 territories were recorded in these areas with 51 territories consisting of paired flycatchers and 22 consisting of unpaired individuals. Of the 95 adult flycatchers identified to individuals in 2007, 54 (57%) were located in 2008. Of the 50 banded juveniles from 2007, 2 were recaptured and identified in 2008. Two individuals originally banded as nestlings in 2005 and two banded in 2006 were also recaptured.

Nest success was calculated for 55 SWFL nests observed at the four life history study sites, and at Muddy River, Grand Canyon, and Bill Williams River NWR. Thirty (55%) nests were successful and fledged young, 23 (42%) failed, and 2 were unknown (3%). Depredation was the major cause of nest failure, accounting for 40% of all failed nests and 52% of nests that failed after flycatcher eggs were laid. Brown-headed cowbird brood parasitism was observed in 8 of 48 nests (17%).

Vegetation and microhabitat data were collected from occupied and non-use habitats to further define habitat characteristics. Comparison of microclimate characteristics tends to show that on average, nests were located in areas that exhibited greater soil moisture and higher relative humidity.

In 2008, a 5-year summary report was finalized for work conducted from 2003 to 2007. Survey and study results were compiled and management recommendations were discussed.

FY09 Activities: Presence/absence SWFL surveys will be conducted at approximately 80-100 sites, in 16 study areas, along the Virgin River, Pahranaagat NWR, and the LCR to the Southerly International Boundary. Grand Canyon below Separation Canyon was reviewed from the air and habitat has deteriorated; thus, the Grand Canyon sites will not be surveyed in FY09.

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

Proposed FY10 Activities: Reclamation will continue to conduct presence/absence SWFL surveys along the Virgin River, Pahranaagat NWR, and the LCR to the SIB. Grand Canyon below Separation Canyon will be reviewed from the air to determine habitat status. If the habitat has improved, this area will once again be surveyed.

Life history data will continue to be collected at four sites, including Pahranaagat NWR, Mesquite, Mormon Mesa, and Topock Marsh. Monitoring activities will concentrate on collecting demographic data including banding and nest monitoring, and habitat data including vegetation and microclimate, but at a reduced level from previous efforts. Existing brown-headed cowbird control has been discontinued and post-trap data will be collected and analyzed.

Pertinent Reports: *Southwestern Willow Flycatcher Surveys, Demography, and Ecology along the LCR and Tributaries, 2008* is posted on the LCR MSCP Web site. *Southwestern Willow Flycatcher Surveys, Demography, and Ecology along the LCR and Tributaries, 2003-2007 5-year Summary Report* is posted on the LCR MSCP Web site.