

Work Task D2: Southwestern Willow Flycatcher Presence/Absence Surveys

FY06 Estimates	FY06 Actual	Cumulative Accomplishment Through FY06	FY07 Approved Estimate	FY08 Proposed Estimate	FY09 Proposed Estimate	FY10 Proposed Estimate
\$880,000	\$848,505	\$1,633,099	\$925,000	\$575,000	\$575,000	\$575,000

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Start Date: FY05

Expected Duration: FY55

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

Conservation Measures: AMM1, AMM2, AMM3, AMM5, AMM6, MRM1, MRM2, MRM4, and WIFL2

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 Pahrnatag NWR. Life history study sites are located at: 1) Pahrnatag 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 C19, 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: Reclamation has been conducting extensive SWFL surveys and studies along the LCR since 1996, in accordance with the 1997 and 2001 BOs. In 2003, Reclamation entered into a 5-year contract to conduct presence/absence surveys 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, and conduct life history and cowbird control studies at four known population areas.

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

FY06 Accomplishments: Presence/absence surveys were conducted at 101 sites along the Lower Colorado River and its tributaries in 2006. Life history studies were conducted at four sites, including Pahrnatag NWR, Nevada; Mesquite, Nevada; Mormon Mesa, Nevada; and Topock Marsh, Arizona. Studies included banding, nest monitoring, extensive vegetation

analysis, and microclimate analysis. Brown-headed cowbird trapping studies were also continued at all life history sites.

Willow flycatchers were detected on at least one occasion at 73 sites. Resident, breeding SWFL were detected at 13 sites within the following seven study areas: Pahrnagat NWR, Mesquite, Mormon Mesa, Muddy River, Grand Canyon, Topock Marsh, and Bill Williams. No flycatcher detections were recorded at any sites south of Bill Williams after June 21, 2006.

A total of 28 new adult flycatchers were color-banded, and 25 recaptured individuals were banded in previous years at the four life history study areas and at Muddy River, Grand Canyon, and Bill Williams River. A total of 55 nestlings from 29 nests were banded, and 3 unbanded fledglings were banded. A total of 85 territories were recorded in these areas with 66 territories consisting of paired flycatchers and 19 consisting of unpaired individuals. Of the 80 adult flycatchers identified to individuals in 2005, 48 (60%) were located in 2006. Of the 65 banded juveniles from 2005, 10 were recaptured and identified in 2006.

Nest success was calculated for 77 SWFL nests observed at the four life history study sites, Muddy River, Grand Canyon, and Bill Williams. Thirty-three (43%) nests were successful and fledged young, 41 (53%) failed, and 3 (4%) were of undetermined fate. Depredation was the major cause of nest failure, accounting for 48% of all failed nests and 54% of nests that failed after flycatcher eggs were laid. Brown-headed cowbird brood parasitism was observed in 11 (15%) of 71 nests monitored. Trapping occurred at three life history sites, as access and placement problems excluded Mormon Mesa. The proportion of flycatcher nests parasitized during the pre-trapping and post-trapping periods did not statistically decline at Topock Marsh or Mesquite, but a significant decline was shown at Pahrnagat NWR after 4 years with a zero parasitism rate.

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.

FY07 Activities: Presence/absence SWFL surveys will be conducted at approximately 100-120 sites, in 15 study areas, along the Virgin River, Pahrnagat NWR, Grand Canyon below Separation Canyon (excluding Hualapai tribal lands), and the LCR to the Southerly International Boundary. Life history studies are being conducted at Pahrnagat NWR, Nevada; Mesquite, Nevada; Mormon Mesa, Nevada; and Topock Marsh, Arizona. Studies include banding, nest monitoring, extensive vegetation analysis, and microclimate analysis. The brown-headed cowbird trapping study is also continuing at all life history sites, except for Mormon Mesa. Change in funding between FY06 and FY07 is specifically related to contract costs. The current contract extends through 2007. Reclamation conducted a meeting with species experts in January, 2008 to evaluate the level of effort needed for future studies and surveys to ensure that necessary data is collected in an efficient and effective manner.

Proposed FY08 Activities: Reclamation received input from species experts on the present level of monitoring and research effort being conducted on SWFL along the LCR. A determination was made that Reclamation will continue to conduct presence/absence SWFL

surveys along the Virgin River, Pahranaagat NWR, Grand Canyon below Separation Canyon (excluding Hualapai tribal lands), and the LCR to the SIB. Surveys will occur annually; however, fewer visits per site will be conducted. Presence/absence surveys will be conducted in approximately 15 sites.

Life history data will continue to be collected at four sites, including Pahranaagat NWR (Nevada), Mesquite (Nevada), Mormon Mesa (Nevada), and Topock Marsh (Arizona). Monitoring activities will concentrate on collecting demographic data including banding and nest monitoring, and habitat data including vegetation and microclimate. Existing brown-headed cowbird control will be discontinued and post-trap data will be collected and analyzed.

Pertinent Reports: *Southwestern Willow Flycatcher Surveys, Demography, and Ecology along the LCR and Tributaries, 2006* is posted on the LCR MSCP Web site.