

Work Task D2: Southwestern Willow Flycatcher Presence/Absence Surveys

FY15 Estimates	FY15 Actual Obligations	Cumulative Expenditures Through FY15	FY16 Approved Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate
\$675,000	\$848,055.38	\$7,621,908.70	\$750,000	\$750,000	\$750,000	\$750,000

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

Start Date: FY05

Expected Duration: FY55

Long-Term Goal: System monitoring and post-development monitoring of southwestern willow flycatchers

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

Location: Reaches 1–7 along the lower Colorado River (LCR), southern Nevada, lower Bill Williams River, lower Gila River, and the Virgin River between the Virgin River Gorge and Lake Mead. Life history study sites are located along: (1) the Virgin River at Mesquite, Nevada, (2) the Virgin River, near Mormon Mesa, Nevada, (3) Topock Marsh, Havasu NWR, Arizona, and (4) the Bill Williams River watershed, Arizona.

Purpose: To monitor southwestern willow flycatcher populations along the LCR from the Grand Canyon to the Southerly International Boundary with Mexico, describe demographics, and identify riparian habitat characteristics in locations occupied by the species

Connections with Other Work Tasks (Past and Future): Closed Work Task D3 provided information on southwestern willow flycatcher population numbers and demographics along the LCR.

Project Description: Presence surveys are conducted along the LCR from the Southerly International Boundary with Mexico to southern Nevada, including the lower Virgin River, lower Bill Williams River, and lower Gila River. Life history studies are conducted at known breeding areas.

Previous Activities: Presence surveys and life history studies for southwestern willow flycatchers have been conducted along the LCR since 1996.

FY15 Accomplishments: Presence surveys for southwestern willow flycatchers were conducted at 116 sites along the LCR and its tributaries in 2015, and life history studies were conducted at 41 sites. All LCR MSCP conservation areas were surveyed. System-wide surveys were conducted at the Pahranaagat NWR, Meadow Valley Wash, Muddy River, Topock Marsh, Bill Williams River National Wildlife Refuge (Bill Williams River NWR), and Alamo Lake. Surveys are only conducted on the portion of the river below the Cibola National Wildlife Refuge to the Northerly International Border with Mexico once every 3 years. In FY15, these areas on the lower portion of the river were surveyed; thus, the number of sites that were surveyed was higher than in the previous 2 years. Surveys were not conducted on the Virgin River due to safety concerns, so efforts were for a second year redirected to Alamo Lake, Arizona, to increase the amount of demographic data collected. Habitat threat monitoring in FY15 focused on measuring salt cedar beetle defoliation. Life history study activities included banding, nest monitoring, habitat threat analyses, and microclimate analyses.

A total of 144 southwestern willow flycatchers were detected at 75 of the 116 sites during presence surveys, and 85 territories were documented (table 1). Surveyors confirmed that southwestern willow flycatchers were resident or breeding at 41 of the sites (within 9 study areas): Key Pittman, the Pahranaagat NWR, River Ranch, Meadow Valley Wash, Muddy River, Warm Springs, Topock Marsh, the Bill Williams River NWR, the Palo Verde Ecological Reserve, and Alamo Lake (table 2).

Table 1.—Southwestern Willow Flycatcher Detections

Detection	Number
Total resident adults detected	144
New captures banded	30
Observed but not banded	37
Banded in previous year and recaptured in FY15	5
Banded in previous year and re-detected but not recaptured	64
Bird band confirmed – bird identity known	58
Bird band not confirmed – bird identity unknown	6
Total territories	85
Number of confirmed breeding territories	67
Pair with no nest found	2
Unpaired individuals	16
Total nestlings banded	75

Table 2.—Study Areas Where Resident Adults were Observed

Study Area	Number of Residents
Key Pittman	23
River Ranch	6
Pahrnagat NWR	21
Meadow Valley Wash	5
Muddy River	3
Warm Springs	3
Topock Marsh	15
Bill Williams River NWR	11
Alamo Lake	56
Palo Verde Ecological Reserve	1
Total	144

One resident southwestern willow flycatcher was observed at LCR MSCP conservation areas in FY15. It was detected at Palo Verde Ecological Reserve Phase 4 in the same general area on seven consecutive visits from May 31 to June 14. The resident was observed defending a territory and engaged in lengthy songs, which were not solicited by call-playback. This is the first time a resident southwestern willow flycatcher has been detected under the LCR MSCP south of Parker Dam since 2003, when the LCR MSCP survey protocol was revised to more accurately identify southwestern willow flycatchers from other migrant willow flycatchers. In the system-wide surveys conducted south of Parker Dam, an additional 116 willow flycatcher detections were recorded between May 15 and June 12. Monitoring results suggest these willow flycatchers were not resident or breeding individuals but were most likely spring migrants and were not classified as southwestern willow flycatchers.

One willow flycatcher was observed at the Beal Lake Conservation Area on June 24, but no breeding evidence or band was observed; therefore, it could not be confirmed as a southwestern willow flycatcher.

In FY15, life history studies were conducted at Key Pittman, the Pahrnagat NWR, Meadow Valley Wash, Muddy River, Warm Springs, Topock Marsh, the Bill Williams River NWR, and Alamo Lake. Attempts were made to identify, capture, and band all southwestern willow flycatcher adults and nestlings. A total of 30 adult southwestern willow flycatchers were banded, and banded birds from previous years were detected (see table 1).

Nest success was calculated for 85 southwestern willow flycatcher nests (table 3). Depredation was the major cause of nest failure (44 percent [%]). Brown-headed cowbird brood parasitism was observed in 9 (12%) of the 77 nests with eggs and nestlings.

Table 3.—Southwestern Willow Flycatcher Nest Success

Detection	Number of Adults
Nest successful and fledged young	44 (52%)
Nest failed	37 (43%)
Nest found empty (no indication of whether the young survived)	8 (9%)

Capture and re-detections were compared between FY14 and FY15 at sites monitored in both years (table 4). The distance between yearly sightings for these southwestern willow flycatchers (adults and juveniles) ranged between 0.1 and 30 miles, with an average of 2 miles.

Table 4.—Southwestern Willow Flycatcher Captures and Re-detections in FY15 of Birds from FY14 and Previous Years

Age	FY14	Detected Again in FY15	Detected in Different Study Area than Previous Year
Resident adults	100	49 (49%)	5 (5%)
Juveniles	61	13 (22%)	8
Juveniles from earlier year	N/A	4	

In 2015, several new mobile electronic field forms were developed so that almost all of the field data were collected electronically using data dictionaries. Data collected electronically can be directly integrated into the LCR MSCP database.

The project budget exceeded the FY15 estimate. The number of sites that were surveyed was higher than in the previous 2 years, as it included the portion of the river below the Cibola National Wildlife Refuge to the Northerly International Border with Mexico, which is surveyed every 3 years. In addition, the development, testing, and deployment of the mobile electronic field forms and the new database required more effort than was anticipated.

FY16 Activities: Presence surveys for southwestern willow flycatchers will be conducted along the LCR, lower Bill Williams River, and other riparian areas in southern Nevada. Life history studies will be conducted at the riparian areas in

southern Nevada, the Bill Williams River NWR, Alamo Lake, and Topock Marsh. Activities will include banding, nest monitoring, and microclimate analyses. Surveys will not be conducted on the Virgin River in 2016.

The LCR MSCP database for southwestern willow flycatcher monitoring and studies will continue to be developed. The monitoring objectives will be reviewed in light of the results from 2008–15, and changes will be made, if necessary, to focus the monitoring methods to inform habitat creation and management and to monitor southwestern willow flycatcher occupancy at conservation areas. The system-wide, post-development monitoring and any remaining research efforts will be divided into separate work tasks for future years. The results of this evaluation may be incorporated into future protocols, and a 10-year monitoring plan will be developed.

Proposed FY17 Activities: Presence surveys for southwestern willow flycatchers will be conducted at approximately 15 study areas along the LCR, lower Bill Williams River, Virgin River, and other riparian areas in southern Nevada. Life history studies will be conducted at the riparian areas in southern Nevada, the Bill Williams River NWR, Alamo Lake, and Topock Marsh. Activities will include banding, nest monitoring, and microclimate analyses.

Testing of the LCR MSCP southwestern willow flycatcher database will be finalized and fully implemented.

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