Work Task D2: Southwestern Willow Flycatcher Presence/Absence Surveys

FY14 Estimates	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
$675,000	$717,918.05	$6,865,713.55	$675,000	$750,000	$750,000	$750,000

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Start Date: FY05

Expected Duration: FY55

Long-Term Goal: System monitoring and post-development monitoring for southwestern willow flycatcher

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

Location: Reaches 1–7 along the 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.

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/absence 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/absence surveys and life history studies for southwestern willow flycatcher have been conducted along the LCR since 1996.

FY14 Accomplishments: Presence/absence surveys were conducted at 87 sites along the LCR and its tributaries in 2014, and life history studies were conducted at 35 sites. All conservation areas were surveyed. System-wide surveys were conducted at the Pahranagat NWR, Meadow Valley Wash, Muddy River, Topock Marsh, Bill Williams River NWR, and Alamo Lake. No system-wide surveys were conducted below the Cibola NWR in 2014; surveys are only conducted in this portion of the river once every 3 years. Surveys were not

conducted on the Virgin River due to safety concerns, so efforts were redirected to Alamo Lake, Arizona, to increase the amount of demographic data collected at sites in southern Nevada normally only funded by the NDOW. Habitat threat monitoring in 2014 focused on measuring salt cedar beetle defoliation. Life history study activities included banding, nest monitoring, habitat threats analyses, and microclimate analyses.

Willow flycatchers were detected on at least one occasion at 61 of the 87 sites. During presence surveys at six of the sites, willow flycatchers were detected immediately each time the site was surveyed without the need for call playback protocols. Surveyors confirmed that willow flycatchers detected at 35 of the sites (within 6 study areas) were resident or breeding southwestern willow flycatchers. The study areas included Pahranagat NWR, Meadow Valley Wash, Muddy River, Topock Marsh, Bill Williams River NWR, and Alamo Lake.

One possible resident willow flycatcher was observed at LCR MSCP conservation areas in FY14. It was detected at the BLCA in the same general area on three consecutive visits from May 21 to June 2. Neither territorial behaviors nor any bands were observed, making it impossible to confirm that the bird detected on each visit was the same individual, but because it was detected in the same area on each visit over a span of more than 7 days, it was considered resident, and the site was considered occupied in 2014. A second flycatcher was detected on July 7 at the PVER, but this individual was detected very briefly and did not display territorial behavior, and it was likely not a resident flycatcher. Two additional willow flycatchers were detected at the BLCA on May 21 and one flycatcher on May 27 for which residency status could not be confirmed.

During the system-wide surveys south of the Bill Williams River, 46 willow flycatcher detections were recorded between May 28 and June 12. Monitoring results suggest these flycatchers were not resident, breeding individuals but were most likely spring migrants.

In FY14, 41 new adult southwestern willow flycatchers were captured and color-banded. Thirty-seven adult flycatchers remained unbanded. Overall, 56% of the adult flycatchers detected at the monitoring sites were known to be color banded by the end of the breeding season. Eight adults banded in previous years were recaptured, an additional 53 adults banded in previous years were redetected, and two individuals were redetected but did not have their color combinations confirmed. A total of 92 territories were recorded, with 68 territories consisting of breeding flycatchers, 6 pairs for which no nest could be found, and 18 consisting of unpaired individuals. Capture and redetections were compared between FY13 and FY14 at sites monitored in both years. Forty-two of the 57 resident adult flycatchers (74%) were redetected in FY14; 7 (17%) were detected at a different study area from where they were last detected in FY13. A total of 13 of the 48 (27%) banded juveniles detected in FY13 were identified again in FY14. In addition, three individuals originally banded as nestlings in

years previous to FY13 were redetected in FY14. Nine of the redetected southwestern willow flycatchers were detected at a different study area than where they were last detected. The distance between yearly sightings for these flycatchers ranged between 7 and 132 miles, with an average of 18 miles.

Nest success was calculated for 73 southwestern willow flycatcher nests. Thirty-three (45%) nests were successful and fledged young, and thirty-one (42%) failed. It is unknown what happened at nine (12%) nests, which were found empty with no indication of whether the young survived. Depredation was the major cause of nest failure (48%). Brown-headed cowbird brood parasitism was observed in 9 (15%) of the 62 nests with eggs and known contents.

For the first time in 2014, much of the field data were collected electronically using data dictionaries. The data dictionaries were developed, tested, and finalized for use in the field before the field season began. The data dictionaries were further improved based on feedback from the field crews during the field season. Data collected electronically can be directly integrated into the LCR MSCP database.

FY15 Activities: Presence/absence southwestern willow flycatcher surveys will be conducted along the LCR, lower Bill Williams River, lower Gila River, and other riparian areas in southern Nevada and will include areas along the LCR south of the Bill Williams NWR not surveyed in 2014. Life history studies will be conducted at the riparian areas in southern Nevada, 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 2015.

The LCR MSCP database for southwestern willow flycatcher monitoring and studies will continue to be developed.

Proposed FY16 Activities: Southwestern willow flycatcher presence/absence surveys 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, Bill Williams River NWR, Alamo Lake, and Topock Marsh. Activities include banding, nest monitoring, and microclimate analyses.

Testing of the LCR MSCP southwestern willow flycatcher database will be conducted.

The project budget will be greater beginning in FY16 due to increasing survey costs.

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.