

Work Task D3: Southwestern Willow Flycatcher Habitat Monitoring

FY09 Estimates	FY09 Actual	Cumulative Accomplishment Through FY09	FY10 Approved Estimate	FY11 Proposed Estimate	FY12 Proposed Estimate	FY13 Proposed Estimate
\$90,000	\$222,500.41	\$610,465.20	\$90,000	\$90,000	\$95,000	\$95,000

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

Start Date: FY05

Expected Duration: Five years after implementation of all water transfers covered under the SIA BO. As of FY09, all water transfers had not been implemented.

Long-term Goal: Monitor the effects of reduced flows and the associated reduction in groundwater table specifically associated with the SIA on southwestern willow flycatcher breeding habitat between Parker and Imperial dams.

Conservation Measures: MRM1, MRM2 (WIFL)

Location: Reaches 4 and 5, California and Arizona

Purpose: Continue to monitor SWFL habitat condition five years after implementation of all water transfers covered under the SIA.

Connections with Other Work Tasks (past and future): This work task, in conjunction with surveys conducted under D2, will provide information necessary for the Existing Habitat Maintenance (H1). Data collected may also be used in future habitat creation projects listed under Section E.

Project Description: In 2005, Reclamation began monitoring 372 acres of SWFL breeding habitat to document changes in habitat conditions specifically attributable to covered SIA activities, and will continue to do so until five years after implementation of all water transfers covered under the SIA.

Previous Activities: In 2001, Reclamation received a BO on the SIA for the change in point of diversion of up to 400,000 acre-feet of water between Imperial and Parker dams. This work is being implemented through the LCR MSCP. Reduced river flows, created by the change in the point of diversion, may affect SWFL breeding habitat located between these two dams.

In 2004, Reclamation identified 372 acres of SWFL habitat between Parker and Imperial dams to monitor for the SIA BO requirements. In each identified site, three to five

temperature/humidity data loggers and one groundwater observation well were installed. Soil moisture measurements were collected at each data logger location during each flycatcher survey period. Vegetation data were also collected after the surveys were completed.

The previously identified 372 acres of SWFL-occupied habitat at 11 sites, along with two control sites, were monitored between Parker and Imperial dams by collecting and analyzing microclimate data, groundwater monitoring, and vegetation monitoring, using similar protocols to those in place for the life history studies. Daily, weekly, and seasonal cycles in groundwater levels were apparent. Water levels drop during afternoon hours when evapotranspiration is high and on weekends when water releases from Parker Dam decline. The seasonal cycle in groundwater levels mirrors the seasonal fluctuations in river flow. Analysis of groundwater data indicates a strong correlation between piezometer water levels and releases from Parker Dam. Data did not show strong correlations between piezometer water level and soil moisture within the habitat monitoring sites.

FY09 Accomplishments: Each site was monitored for temperature, relative humidity, soil moisture, vegetation, and groundwater. There were several between-year differences in vegetation variables at the habitat monitoring sites. The variables that exhibited a constant change across time were percentage of live stems less than 2.5 cm DBH, which declined steadily from 2005 to 2009, and percentage of live stems 2.5-8 cm DBH, which was lower in 2008 and 2009 than in previous years.

Funding for the FY10 presence/absence studies was obligated in FY09 due to additional funds available.

FY10 Activities: The 372 acres of SWFL breeding habitat between Parker and Imperial dams will continue to be monitored by collecting and analyzing microclimate data, groundwater monitoring, and vegetation monitoring utilizing similar protocols as those in place for the life history studies. Data will be analyzed and results will be included in an annual report. An evaluation of the complete five-year database will be conducted.

Proposed FY11 Activities: Based upon the results of the evaluation being completed in FY10, a determination will be made on whether this level of monitoring effort is appropriate to monitor effects of water transfer actions.

Pertinent Reports: *Southwestern Willow Flycatcher Surveys, Demography, and Ecology along the Lower Colorado River and Tributaries, 2009. Annual Report* is posted on the LCR MSCP Web site.