

Southwestern Willow Flycatcher (*Empidonax traillii extrimus*)

Species status statement

Distribution

Southwestern willow flycatcher is a distinct subspecies of a wide-ranging species (willow flycatcher), distinguished by its unique call and unique distribution. The southwestern subspecies breeds only along scattered riparian corridors in desert Arizona, New Mexico, and southern California, Nevada, Utah, and Colorado. In Utah its range is now limited to the extreme south, on the Virgin and San Juan Rivers. Southwestern willow flycatcher is thought to winter primarily west of Mexico's Sierra Occidental.

Table 1. Utah counties currently occupied by this species.

Southwestern Willow Flycatcher
KANE
SAN JUAN
WASHINGTON
WAYNE

Abundance and Trends

Southwestern willow flycatcher is thought to have undergone large declines, however its restricted range and limited habitat hamper estimates. In 1987, from a minimum 359 known breeding territories, the population was estimated to be between 500 and 1,000 pairs (Unitt 1987). In 1993, the population was estimated to be 230 and 500 pairs (Federal Register 2013), and again in 2007 as 1,299 pairs (Durst et al. 2008).

Breeding Bird Surveys in Utah do not distinguish between willow flycatcher subspecies. For the species, Utah BBS data show non-significant -0.46% declines per year throughout the state from 1967-2015 (95% CI: -3.42 to 2.41; Sauer et al. 2017). No population estimate for the southwestern subspecies exists for Utah, though in a 2007 survey, seven southwestern willow flycatcher territories were found in southern Utah, comprising 0.5% of the known flycatcher territories in that year throughout its range (Durst et al. 2008).

Currently Southwestern willow flycatcher is:

- Listed as Endangered by the U.S. Fish and Wildlife Service under the Endangered Species act of 1973 (79 FR 59992)
- Identified by the U.S. Fish and Wildlife Service as a priority species at the continental and Bird Conservation Region scales on the Birds of Conservation Concern list (draft U.S. Fish and Wildlife Service 2017)

Statement of habitat needs and threats to the species

Habitat Needs

This bird is associated with shrubby, wet areas, often along streams and canyon bottoms (Sedgwick 2000). It currently breeds from nearly sea level to around 8,500 ft within riparian corridors (Durst et al. 2008). During breeding, flycatchers occupy relatively large patches of dense trees and shrubs near water or wetland areas (Sogge et al. 2010). Individual site conditions including dominant plant species, patch size, vegetation height, and habitat structure vary greatly between occupied sites (Federal Register 2013). Generally, flycatchers are restricted to nesting in areas with either willows or tamarisk (Federal Register 2013). Migrating southwestern willow flycatchers are also detected in riparian habitats or patches that would be unsuitable for nest placement (i.e., too short, sparse, or small), including those containing exotic plant species (Federal Register 2013).

Threats to the species

As a southwestern riparian specialist, this flycatcher is vulnerable to a variety of threats, including damming, channelization, urbanization, drought, and the spread of invasive plants and insects. Water resources within the flycatcher's range are heavily used by municipalities, industry, and agriculture. River and stream habitats of the flycatcher continue to be threatened by impoundments and ground water pumping. One study found that southwestern willow flycatchers would not attempt to breed after alteration of the local flood cycle removed flowing water from the site (Johnson et al. 1999). In addition, livestock preferentially seek riparian areas for water, shade, and forage (i.e., grasses, cottonwood and willow saplings). Unregulated livestock grazing can reduce native vegetation densities, compact soil, increase erosion, and knock down nests (Sedgwick 2000). Recreational use of these riparian areas by hikers, bikers, and OHV operators also contributes to habitat degradation and possibly nest disturbance and abandonment.

The introduction and wide-spread dominance of tamarisk has also impacted habitat structures in riparian corridors. While tamarisk is used for nesting, it is not a preferred species. A 2007 range-wide survey found 44% of flycatcher territories contained greater than 90% native vegetation, 31% contained 50-90% native vegetation, and only 4% were dominated by more than 90% exotic (tamarisk) vegetation (Durst et al. 2008). Efforts to control the spread of tamarisk resulted in the introduction of an exotic tamarisk-eating beetle to the US. In the long term, and with improved stream-flow regimes plus secondary weed control, this tamarisk suppression should benefit native wildlife by allowing native riparian vegetation recovery. However, in the near term, particularly in the absence of either secondary weed control or improved stream-flow regimes, during flycatcher nesting season tamarisk beetles defoliate tamarisk. In stands still retaining a large amount of tamarisk, this defoliation increases nest exposure to temperature extremes and predation (Hatten 2016). A recent report estimates that

between 2010 and 2015, the beetles decreased flycatcher habitat by 94% along the Virgin River as live tamarisk was replaced by dead tamarisk and invasive forbs (Hatten 2016).

Brood parasitism by brown-headed cowbirds may also play a large role in productivity of the southwestern willow flycatcher (Sedgewick 2000). Flycatcher nest success increased from 23% to 39% when cowbirds were removed from a site in California (Whitfield et al. 1999). However, cowbirds must be constantly managed to have an effect.

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

Southwestern Willow Flycatcher
Very High
Natural Rarity
High
Droughts
Invasive Plant Species – Non-native
OHV Motorized Recreation
Medium
Agricultural / Municipal / Industrial Water Usage
Agricultural Pollution
Brush Eradication / Vegetation Treatments
Channelization / Bank Alteration (direct, intentional)
Hiking / Foot Travel
Housing and Urban Areas
Improper Grazing (current)
Inappropriate Fire Frequency and Intensity
Insects – Alien Organisms
Problematic Animal Species – Native
Roads – Transportation Network

Rationale for Designation.

Managers believe southwestern willow flycatcher has undergone substantial declines in the last few decades, despite some habitat restoration efforts. These perceived declines may underline a lack of fundamental knowledge, or potentially, of effective regulatory protections. Conserving the remaining, fragmented portions of the population is critical to continued viability of populations, including those residing in Utah. Designating southwestern willow flycatcher as a Sensitive Species will facilitate local research and monitoring, leading to higher quality data and development of more robust management guidelines.

Economic Impacts of Sensitive Species Designation

Sensitive species designation is intended to facilitate management of this species, which is required to reverse Endangered Species Act Listing and lessen related economic impacts. Southwestern willow flycatcher is currently listed as threatened under the Endangered Species Act. This listing has resulted in extensive costs to mitigate water development and manage water resources in southern Utah, and specifically Washington County. It has also resulted in increased costs to mitigate impacts from nonnative vegetation, and to comply with regulations for many land use decisions including infrastructure and water use. These costs will remain as long as the species is listed under the Endangered Species Act. If the species is downlisted or delisted, continued efforts will be required to mitigate threats and maintain stronger populations.

Literature Cited

- Durst, S.L., M.K. Sogge, S.D. Stump, H.A. Walker, B.E. Kus, and S.J. Sferra. 2008. Southwestern willow flycatcher breeding sites and territory summary—2007: U.S. Geological Survey Open-File Report 2008–1303, 31 p.
- Federal Register. 2013. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Southwestern Willow Flycatcher. <https://www.federalregister.gov/documents/2013/01/03/2012-30634/endangered-and-threatened-wildlife-and-plants-designation-of-critical-habitat-for-southwestern>.
- Hatten, J.R. 2016. A satellite model of Southwestern Willow Flycatcher (*Empidonax traillii extimus*) breeding habitat and a simulation of potential effects of tamarisk leaf beetles (*Diorhabda spp.*), Southwestern United States. U.S. Geological Survey Open-File Report 2016–1120, 88 p. <http://dx.doi.org/10.3133/ofr20161120>.
- Johnson, K., P. Mehlhop, C. Black, and K. Score. 1999. Reproductive failure of endangered Southwestern Willow Flycatchers on the Rio Grande, New Mexico. *Southwestern Naturalist* 44:226-231.
- Partners in Flight. 2019a. Population Estimates Database, version 3.0. Available at <http://pif.birdconservancy.org/PopEstimates>.
- Partners in Flight. 2019b. Avian Conservation Assessment Database, version 2019. Available at <http://pif.birdconservancy.org/ACAD>.
- Salafsky, N., D. Salzer, A.J. Stattersfield, C. Hilton-Taylor, R. Neugarten, S.H.M. Butchart, B. Collen, N. Cox, L.L. Master, S. O'Connor, and D. Wilkie. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. *Conservation Biology* 22: 897–911.
- Sauer, J.R., D.K. Niven, J.E. Hines, D.J. Ziolkowski, Jr., K.L. Pardieck, J.E. Fallon, and W.A. Link. 2017. The North American Breeding Bird Survey, Results and Analysis 1966-2015. Version 2.07.2017 USGS Patuxent Wildlife Research Center, Laurel, Maryland, USA.

Sedgwick, J.A. 2000. Willow Flycatcher (*Empidonax traillii*), version 2.0. *In* The Birds of North America (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, New York, USA. <https://doi-org.dist.lib.usu.edu/10.2173/bna.533>

Sogge, M.K., D. Ahlers, and S.J. Sferra. 2010. A natural history summary and survey protocol for the Southwestern willow flycatcher: U.S. Geological Survey Techniques and Methods, book 2, chapter A10. <http://pubs.usgs.gov/tm/tm2a10/>.

Unitt, P. 1987. *Empidonax traillii extimus*: an endangered subspecies. *Western Birds* 18:137-162.

U.S. Fish and Wildlife Service [USFWS]. Draft 2017. Birds of Conservation Concern 2017. United States Department of the Interior, U.S. Fish and Wildlife Service, Migratory Birds, Falls Church, Virginia, USA. <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>

U.S. Fish and Wildlife Service [USFWS]. 2013. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Southwestern Willow Flycatcher; Final Rule.

Utah Division of Wildlife Resources [UDWR]. 2015. Utah Wildlife Action Plan: A plan for managing native wildlife species and their habitats to help prevent listings under the Endangered Species Act 2015-2025. Publication Number 15-14, 385 pp.

Whitfield, M.J., K.M. Enos, and S.P. Rowe. 1999. Is Brown-headed Cowbird trapping effective for managing populations of the endangered Southwestern Willow Flycatcher? *Studies in Avian Biology* 18:260-266.