

Willow Flycatcher

Empidonax traillii

Conservation Profile

NOTE: Information specific to the Southwestern Willow Flycatcher (*E. traillii extimus*) coded “SWFL”



Photo by Martin Meyers

Habitat Use Profile

Main Habitats Used in Nevada	Lowland Riparian, both Mojave Desert (SWFL) and Great Basin Montane Riparian (in Great Basin)
Key Habitat Use Parameters	Prefer willow and shrub dominated riparian habitat with surface water, wet soils, dense shrubs,, and openings [p1, p8] Also use tamarisk dominated riparian areas [EO, p3] Also use cottonwood, ash, if density of mature trees is low to moderate and shrub layer is dense [p1] Nesting vegetation usually > 4 m high [p1, p3] Prefers to nest within 40 m of surface water [EO]
Minimum Patch Size	Can nest in patches as small as 0.5 ha [p1, p3] Breeding territories usual ~ 0.6 ha [p1, p3]

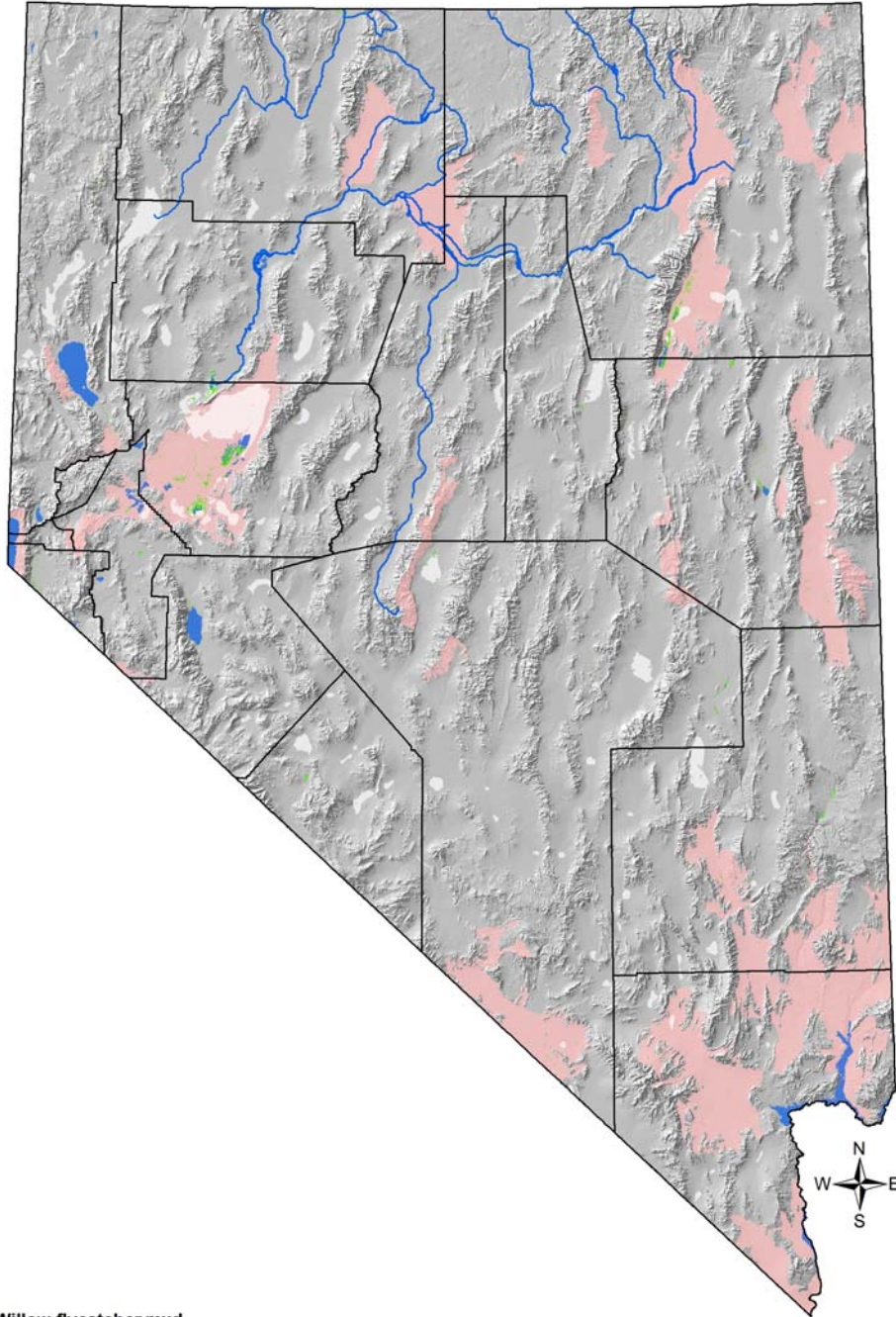
Priority Status	Conservation Target
Reasons for Priority Status	Declines Threats SWFL ESA Endangered status
Other Rankings	Continental PIF: Watch List Audubon Watchlist: Yellow Natural Heritage: S3B; for SWFL, S1B USFWS: Bird of Conservation Concern (Great Basin), Migratory Bird, SWFL Endangered under ESA BLM: None NDOW: Conservation Priority Additionally, a Covered Species under CC MSHCP and LCR MSCP
Trends	Historical: Drastic declines for species overall and SWFL [p1] Recent: Declining 3% annually in West [i1, p1]; SWFL stable since 1995 [p1]
Population Size and Stewardship %	Nevada (NBC): 7,300 Nevada (PIF): 1,500 Nevada, SWFL: ~ 70 [p3] Global: 3,300,000 [p5] Global, SWFL: < 1,000 [p1] or 1,000 – 2,500 (Naturserv.org) Stewardship %: < 1% for species; 1 – 7% for SWFL
Population Objective	TBD
Monitoring Coverage	Source: Nevada Bird Count; SWFL monitored by USFWS, NDOW, and other management agencies Coverage and Adequacy: Excellent
Key Conservation Areas	Virgin and Muddy rivers

Natural History Profile

Seasonal Presence in Nevada	Spring - summer
Known Breeding Dates in Nevada	April – early August [s4, EO]
Nesting Habits	Nest placed in low crotch of riparian shrub or small tree near water [p1] Nest usually 0.6 – 6.4 m from ground with dense vegetation above and around [p1, p3] High fidelity to breeding territories [p1, EO]
Food Requirements	Aerial forager, sallies from perch for insects [p1]

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File: Willow flycatcher.mxd

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Temporary Map Key

Pink: Breeding range

Hot pink / magenta: For some birds, breeding data was limited, and was supplemented by extrapolation to include likely breeding range. In these cases, hot pink represents known breeding range, and lighter pink the extrapolated breeding range.

Blue: Winter range

Yellow: Important migration stopover areas

Purple: Year-round range

Green: In some maps, wetlands mapped by SWReGAP are shown in green for interpretational purposes

Dot symbols: In cases where breeding records were isolated or very restricted in extent, they are represented by a pink dot symbol rather than a shaded area.

Arrows: Major migration routes. These are shown only for birds for which there are migration-associated conservation issues.

OVERVIEW

Three recognized subspecies of Willow Flycatchers breed in Nevada, with little or no overlap in their geographical ranges. *E. t. adastus* is present throughout much of the Great Basin; small populations of *E. t. brewsteri* occur in Nevada's small portion of the Sierra Nevada [p3]; and *E. t. extimus*, the endangered Southwestern Willow Flycatcher, is present in the Mojave Desert region. All three subspecies have suffered substantial historical declines because of the loss of large amounts of dense, shrubby riparian habitat with saturated soils, and remaining populations are reduced and fragmented [p8]. Detailed recovery strategies exist for the Southwestern Willow Flycatcher [to be added], which still persists along the Colorado, Virgin, and Muddy Rivers, and in the Meadow Valley Wash, Pahrangat Valley, and Ash Meadows NWR [p3]. Populations in the Great Basin would benefit from riparian habitat protection and restoration that focuses on large contiguous patches of riparian shrubs in very wet conditions.

ABUNDANCE AND OCCUPANCY BY HABITAT

- NBC data

Willow Flycatcher						
	Primary Habitat Type Present at Transect	No. Transects with Sightings	Nevada Bird Count Sightings per 40 ha			
			average	95% confidence interval**	% transects occupied	
Great Basin	Agriculture	1	3.2	n/a	0.33 (1/3)	
	Aspen	1	1.3	n/a	0.06 (1/18)	
	Lowland Riparian	5	2.5	-1.9 - 7.0	0.12 (8/66)	
	Montane Riparian	3	2.3	1.7 - 2.9	0.05 (4/88)	
Mojave	Lowland Riparian	4	1.0	0.5 - 1.5	0.14 (5/36)	
	Mesquite-Catclaw	1			0.07 (1/14)	
	Sagebrush	1			0.04 (1/26)	
	Salt Desert	1			0.1 (1/10)	

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- Observed densities 9 – 14 birds / 40 ha in suitable habitat [p1, p3]

NEVADA-SPECIFIC STUDIES AND ANALYSES

- NBC Transect Data

TRANSECTID	REGION	WIFL	Total Riparian	Montane Riparian	Aspen	Lowland Riparian	Wetland	Water
<u>THE SOUTH</u>								
SG-29	South	1.3	9.6	1.9	.1	7.6	.0	.0
LR-PAHR	South	1.0	78.7	.0	.0	57.9	.0	20.8
LR-OVERTON	South	.6	73.6	.0	.0	30.2	4.5	38.9
LR-LC3	South	.4	14.0	.0	.0	.0	.0	14.0
MQC-50885	South	.4	36.0	.0	.0	35.2	.7	.1
SD-PAHR..SO	South	.3	47.6	.0	.0	47.6	.0	.0
LR-LAME3	South	.3	13.7	.0	.0	12.9	.8	.1
LR-LAME7	South	.2	54.5	.0	.0	54.2	.0	.3
<u>THE WEST</u>								
LR-KIRMAN	West	3.8	53.3	.0	.0	48.4	.0	4.8
MR-ROSA..SW	West	3.6	37.1	24.0	2.1	9.3	1.7	.0
LR-ELBOW	West	1.4	22.5	14.6	.1	7.8	.0	.0
MR-ROSA..SE	West	.7	12.8	10.3	.5	1.9	.0	.0
LR-WWFFR	West	.4	19.7	.0	.0	17.4	.1	2.3
<u>THE REST</u>								
LR-18922	East	11.8	29.3	6.4	4.0	.0	19.0	.0
AG-2388	Central	3.2	.3	.0	.0	.3	.0	.0
AS-69843	East	1.9	34.8	6.3	28.5	.0	.0	.0
GRBA-POLE	East	1.3	9.7	3.8	5.9	.0	.0	.0
LR-MR7710	North	1.3	29.2	29.0	.0	.0	.0	.2
LR-JULIAN	Central	1.3	31.4	.0	.0	31.4	.0	.0
LR-1595	North	.6	26.3	26.3	.0	.0	.0	.0
LR-2736	North	.6	.8	.0	.0	.8	.0	.0

- NBC data were not sufficient to allow for statistical analysis
- Raw data indicate that most sites with Willow Flycatchers had a substantial amount of GIS-identified riparian habitat
- In southern Nevada, Lowland Riparian habitat (or inundated habitat) was targeted by *E. t. extimus*
- In western Nevada, *E. t. brewsteri* primarily found in Montane Riparian habitat, with some spillover into Lowland Riparian

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- In central, eastern, and northern Nevada, *E. t. adastus* used a mix of Lowland and Montane Riparian habitat, Aspen, and inundated habitat
- Additional Nevada-specific data TBD

MAIN THREATS AND CHALLENGES

Subspecies of the Great Basin

- Loss and degradation of riparian habitat [p1, p8], and fragmentation due to surface water diversion and impoundments, and flood control

SWFL

- Surface water diversion, flood control activities, groundwater pumping
- High-intensity, habitat-destroying fire
- Removal of utilized tamarisk habitat without creating suitable alternative habitat

CONSERVATION STRATEGIES

For Subspecies in Great Basin

Habitat Strategies

- General Great Basin Lowland Riparian conservation strategies
- Manage shrub willow habitat to provide patches at least 0.5 ha in size
- Manage water supplies to maintain habitat with wet soils and surface water in suitable patches

Research, Planning, and Monitoring

- Investigate significant recent declines throughout central Great Basin and their causes.

For SWFL

Proscribed Strategies

- Conservation measures in SWFL Final Recovery Plan [to be added]

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Habitat Strategies

- General Mojave Desert Lowland Riparian conservation strategies, with special emphasis on protecting habitat currently occupied by SWFL
- Restore degraded riparian habitat to willow-dominated habitat, but phase projects to avoid removing large amounts of occupied tamarisk before creating suitable alternative habitat

Research, Planning, and Monitoring

- Develop comprehensive fire management strategy emphasizing initial attack to protect crucial occupied habitat

OTHER PRIORITY SPECIES WITH SIMILAR CONSERVATION STRATEGIES

- Yellow-billed Cuckoo

FURTHER READING

- Southwestern Willow Flycatcher Final Recovery Plan [ref to be added]

Nevada Department of Wildlife. 1999-2009. Breeding status and surveys for the Southwestern Willow Flycatcher and Yellow-billed Cuckoo at various sites in southern Nevada: Program Activities Report.

Temporary codes for standard references

- [p1] Birds of N. America account for this species
- [p2] NV Bird Conservation Plan ver. 1 (Neel 1999)
- [p3] NV Wildlife Action Plan
- [p4] Nevada Breeding Bird Atlas
- [p5] PIF N. American Landbird Conservation Plan (Rich et al 2004) (NOTE:
- [p6] Intermountain West Regional Shorebird Plan (Oring et al 2003)
- [p7] Pacific Flyway reports
- [p8] Shrubsteppe Landscapes in Jeopardy (Dobkin and Sauder 2004)
- [p9] Birds in a Sagebrush Sea (Paige and Ritter 1999)
- [s1] NBC-based population size estimates
- [s2, s3] NBC-based habitat relationship analysis
- [s4] Breeding Bird Atlas breeding phenology data
- [i1] BBS trends analysis (Sauer et al 2005)
- [i2] NV Upland Game Management Plan (Espinosa et al in prep.)
- [i3] Western Quail Management Plan (Zornes et al 2008)
- [i4] NDOW Shorebird and Waterbird monitoring data (Neel)
- [i5] Brad Andres IMJV Shorebird / Waterbird data set
- [i6] GBBO Technical Report 08-01 (2008)

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[EO] Expert opinion from NVPIF group members
[IWWCP] Intermountain West Waterbird Conservation Plan
[NAWCP] North American Waterbird Conservation Plan
[LBCUSACP] Long-billed Curlew Status Assessment and Conservation Plan
[USSCP] U.S. Shorebird Conservation Plan
[WHSRN] Western Hemispheric Shorebird Regional Network