

# Gray Flycatcher

*Empidonax wrightii*



Photo by Fred Petersen

## Habitat Use Profile

Habitats Used in Nevada	
Pinyon-Juniper Sagebrush Montane Shrubland	
Key Habitat Parameters •	
Plant Composition	Pinyon pine, juniper, tall sagebrush species, bitterbrush, mountain mahogany
Plant Density & Size	Open tree stands with shrub understory or tall shrubland; <sup>6</sup> requires at least some shrubs or trees > 1 m [1.6 ft] tall <sup>6</sup>
Mosaic	Mixed shrublands and woodlands of varying canopy densities; avoids closed-canopy woodlands <sup>6</sup>
Distance to Water	Probably attracted to areas near riparian or wetland edge <sup>EO</sup>
Response to Vegetation Removal	Negative to tree/shrub removal <sup>EO</sup>
Area Requirements •	
Minimum Patch Size	Unknown
Recommended Patch Size	> 50 ha [120 ac] <sup>EO</sup>
Territory Size	1 – 5.3 ha [2.5 - 13 ac] <sup>6</sup>

## Conservation Profile

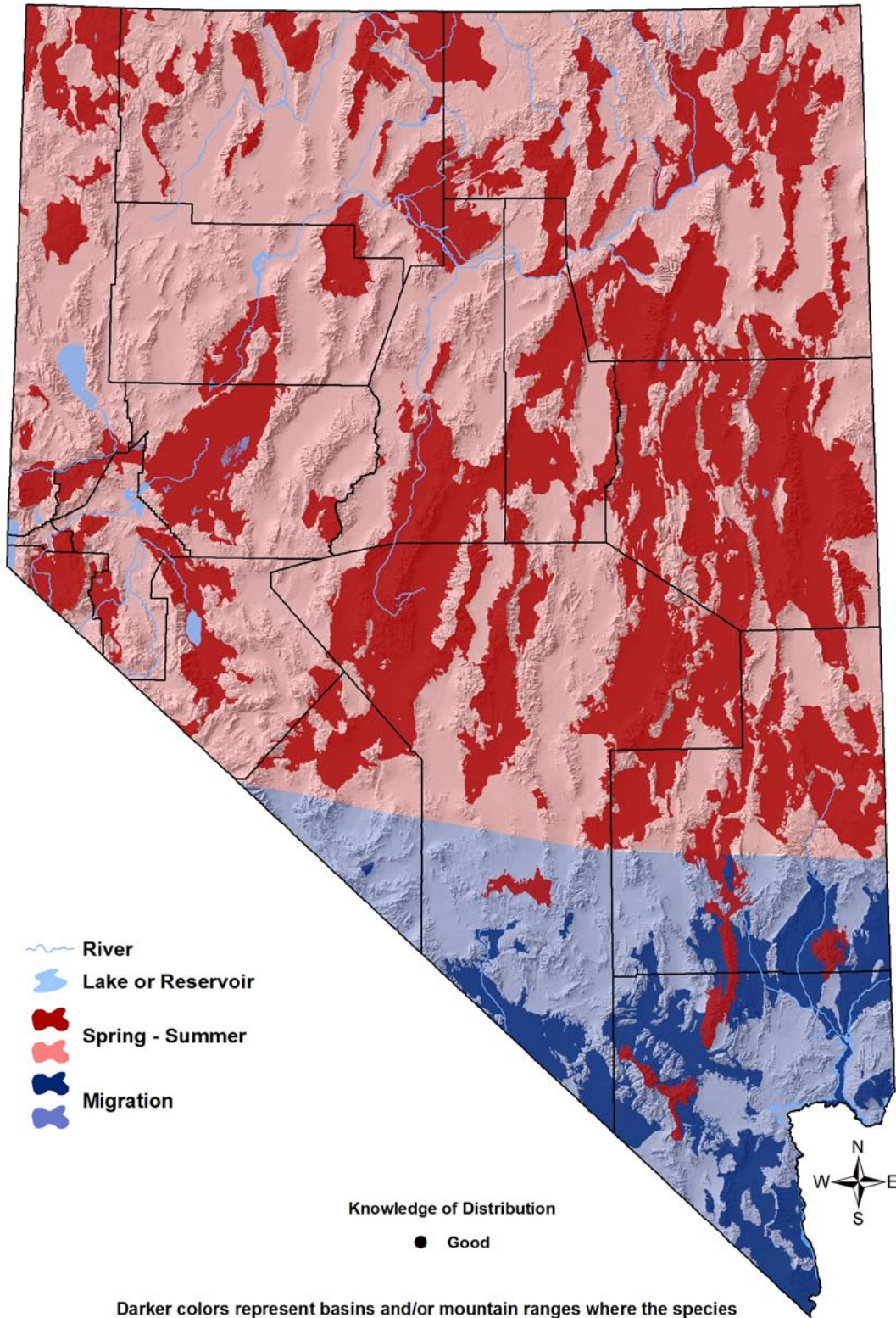
Priority Status	
Stewardship Species	
Species Concerns	
High stewardship responsibility	
Other Rankings	
Continental PIF	Stewardship
Audubon Watchlist	None
NV Natural Heritage	S4B
USFWS	Migratory Bird
BLM	None
USFS	None
NDOW	Stewardship
Trends	
Historical ◦	Unknown
Recent ◦	Uncertain, possibly stable <sup>5</sup>
Population Size Estimates	
Nevada (NBC) •	650,000
Global •	1,200,000 <sup>4</sup>
Percent of Global	> 50%
Population Objective	
Maintain <sup>3, EO</sup>	
Monitoring Coverage	
Source	Nevada Bird Count
Coverage in NV	Good
Key Conservation Areas	
Protection	Great Basin sagebrush / pinyon-juniper transition zones
Restoration	Same

## Natural History Profile

Seasonal Presence in Nevada	
Spring - Summer	
Known Breeding Dates in Nevada	
Late May – early August <sup>2, 6</sup>	
Nest and Nesting Habits	
Nest Placement	In densely foliated branch of small pine or juniper; occasionally in tall shrub <sup>6</sup>
Site Fidelity	Probably low for breeding territory <sup>6</sup>
Food Habits	
Basic	Fly-catcher
Primary Diet	Flying insects <sup>6</sup>
Secondary Diet	Terrestrial arthropods on shrubs or ground <sup>6</sup>

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Darker colors represent basins and/or mountain ranges where the species has been recorded within the past 12 years. Lighter colors represent the broader area within which the species is presumed to occur in appropriate habitat types.

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## Overview

Gray Flycatchers are widespread and common in Nevada, which hosts over half of the species' global breeding population according to the best available population estimates.<sup>4</sup> This species is most often associated with pinyon-juniper / sagebrush transition zones, or with tall stands of mature sagebrush and / or bitterbrush. It also occurs in the lower-elevation bands of montane woodland and shrubland, and in southern Nevada it sometimes uses Joshua tree stands. Although it usually avoids denser patches of trees, one study in pinyon-juniper woodlands of New Mexico found nests in denser than average stands of trees.<sup>3</sup> Beyond these general associations, the specific habitat characteristics that promote presence and abundance are not fully understood.<sup>1</sup> During migration, the Gray Flycatchers are particularly abundant in montane and lowland riparian habitat, but they occur in many other habitat types as well.

Although Gray Flycatchers would appear to be secure in Nevada for the time being, their preferred habitats are the subject of substantial conservation concern. Significant acreages of tall mature sagebrush stands have been lost to fire in recent years (p. Hab-17-1), and optimizing management strategies for the pinyon-juniper / sagebrush transition zone in the face of pinyon-juniper expansion is the subject of ongoing investigation and evaluation (p. Hab-16-1). The main conservation needs for Gray Flycatchers are protection of high-quality habitat, maintenance of favorable pinyon-juniper / sagebrush transition zones, and ongoing monitoring to detect changes in population status.

## Abundance and Occupancy by Habitat

### Birds / 40 ha on NBC Transects in the Great Basin and Mojave Regions

Primary Habitat at Transect	Transects Occupied	Birds/40 ha (95% C.I.)
<b>Great Basin</b>		
Pinyon-Juniper	74% (52/70)	7.0 (5.5 – 8.5)
Sagebrush	24% (8/33)	2.2 (0.6 – 3.8)
Montane Shrubland	45% (9/20)	5.3 (1.5 – 9.1)
Montane Riparian	19% (17/88)	3.7 (1.9 – 5.5)
<b>Mojave</b>		
Pinyon-Juniper	67% (8/12)	0.9 (0.5 – 1.3)
Sagebrush	46% (12/26)	3.9 (2.4 – 5.4)
Montane Shrubland	75% (6/8)	1.0 (0.3 – 1.7)
Montane Riparian	44% (4/9)	1.9 (0.7 – 3.1)
Joshua Tree	55% (11/20)	0.5 (0.2 – 0.8)

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## Nevada-Specific Studies and Analyses

### Habitat Requirements (NBC data)

An analysis of ground-measured habitat variables on NBC transects (*Appendix 3*) indicated that sites where Gray Flycatchers were present had a greater density of trees (including junipers and pinyon pines), greater litter cover, and lower density of shrub and grass cover than unoccupied sites. These findings are consistent with the Gray Flycatcher's reported use of fairly open pinyon–juniper / sagebrush transitional habitats. It may be consistent with use of mature sagebrush stands characterized by larger, spaced-out shrubs, although this merits more investigation.

### Landscape Associations (NBC data)

Transects classified as Pinyon-Juniper had over twice the density of Gray Flycatchers as transects classified as Sagebrush (table above). This would be expected because many Pinyon-Juniper transects contain substantial sagebrush cover, whereas Sagebrush transects contain (by definition) no significant cover of pinyon-juniper. A within-transect analysis found that Gray Flycatchers were strongly associated with both pinyon-juniper and sagebrush cover.

## Main Threats and Challenges

### Habitat Threats

- Loss of early-mid successional pinyon pine and juniper from the woodland / sagebrush transition zone leads to declines in Gray Flycatchers<sup>6</sup>
- Loss of landscapes dominated by tall mature sagebrush and associated shrubs to fire or other disturbances

### Research, Planning, and Monitoring Challenges

- Lack of uniform strategy to maintain favorable pinyon-juniper / sagebrush transition zones while still addressing other habitat management and fuels management needs
- Uncertainty as to current population trends in Nevada

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## Conservation Strategies

### Habitat Strategies

- Pinyon-Juniper (p. hab-16-1), Sagebrush (p. Hab-17-1), and Montane Shrubland (p. Hab-14-1) habitat conservation strategies benefit this species
- Protect stands of tall, mature sagebrush and associated shrubs from loss to fire
- Maintain or restore broad, intergraded transition zones between pinyon-juniper woodlands and sagebrush. These zones should be characterized by widely and irregularly spaced trees. Such transition zones are especially important where the shrub understory is tall and mature

### Research, Planning, and Monitoring Strategies

- Conduct additional research and planning to identify and implement a set of guidelines for pinyon-juniper treatment projects that balances the need to maintain transition zones with the need to manage pinyon-juniper encroachment and fuels
- Continue monitoring to determine current population trends
- The possible importance of riparian and/or meadow habitats during the post-fledgling stage should be further investigated

### Public Outreach Strategies

- None identified

References: <sup>1</sup>Dobkin and Sauder (2004); <sup>2</sup>GBBO unpublished Atlas data; <sup>3</sup>Goguen et al. (2005); <sup>4</sup>Rich et al. (2004); <sup>5</sup>Sauer et al. (2008); <sup>6</sup>Sterling (1999); <sup>EO</sup> Expert opinion

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Gray Flycatcher nest in big sagebrush. Photo by Jen Ballard.