



Juniper Titmouse, photo by ©Robert Shantz

## Breeding Habitat Use Profile

### Habitats Used in Arizona

Primary: Pinyon-Juniper Woodlands  
 Secondary: Madrean Pine-Oak Woodlands

### Key Habitat Parameters

Plant Composition	Juniper (one-seed or Utah juniper); pines or oaks often present but not required <sup>5</sup> , pinyon pine adds habitat value <sup>13</sup> , sycamore and ash in drainages
Plant Density and Size	Prefers high canopy cover of $\geq 35\%$ <sup>13</sup> , but present in stands with 10% cover or less <sup>8</sup> ; also prefers late-successional stands with $\geq 37$ trees/acre of senescent trees <sup>3</sup>
Microhabitat Features	Old growth juniper trees with twisted branches <sup>5</sup> ; nest tree diameter 6 – 20 inches <sup>9</sup>
Landscape	Prefers dry woodlands on south and west facing slopes; other landscape requirements unknown

### Elevation Range in Arizona

4,800 – 7,500 feet, locally down to 3,450 feet<sup>8</sup>

### Density Estimate

Territory Size: 3 – 7 acres<sup>5</sup>  
 Density: Up to 30-50 birds/100 acres<sup>10</sup>; 8-12 birds/100 acres in marginal habitat<sup>8</sup>

## Conservation Profile

### Species Concerns

Silvicultural Practices  
 Climate Change

### Conservation Status Lists

USFWS <sup>1</sup>	BCC List (BCR 34)
AZGFD <sup>2</sup>	Tier 1C
DoD <sup>3</sup>	No
BLM <sup>4</sup>	No
PIF Watch List <sup>5b</sup>	No
PIF Regional Concern <sup>5a</sup>	Regional Concern BCR 34, and Stewardship BCR 16,34

### Migratory Bird Treaty Act

Covered

### PIF Breeding Population Size Estimates<sup>6</sup>

Arizona	86,000 ○
Global	290,000 ●
Percent in Arizona	29.65% ○

### PIF Population Goal<sup>5b</sup>

Maintain

### Trends in Arizona

Historical (pre-BBS)	Unknown
BBS <sup>7</sup> (1968 – 2013)	-0.26% per year ●

### PIF Urgency/Half-life (years)<sup>5b</sup>

>50

### Monitoring Coverage in Arizona

BBS <sup>7</sup>	Covered
AZ CBM	Not covered

### Associated Breeding Birds

Woodhouse's Scrub-Jay, Gray Flycatcher, Gray Vireo, Bewick's Wren, Bushtit, Ladder-backed Woodpecker, Hairy Woodpecker

## Natural History Profile

### Seasonal Distribution in Arizona

Breeding	Late March – early August <sup>8</sup>
Migration	Non-migratory
Winter	Non-migratory

### Nest and Nesting Habits

Type of Nest	Tree cavity <sup>5</sup>
Nest Substrate	Primarily Juniper, also pinyon pine, wal-
Nest Height	4 – 24 feet <sup>8</sup>

### Food Habits

Diet/Food	Seeds (especially pinyon); insects in summer; juniper berries in winter <sup>5</sup>
Foraging Substrate	Trees and shrubs <sup>5</sup>

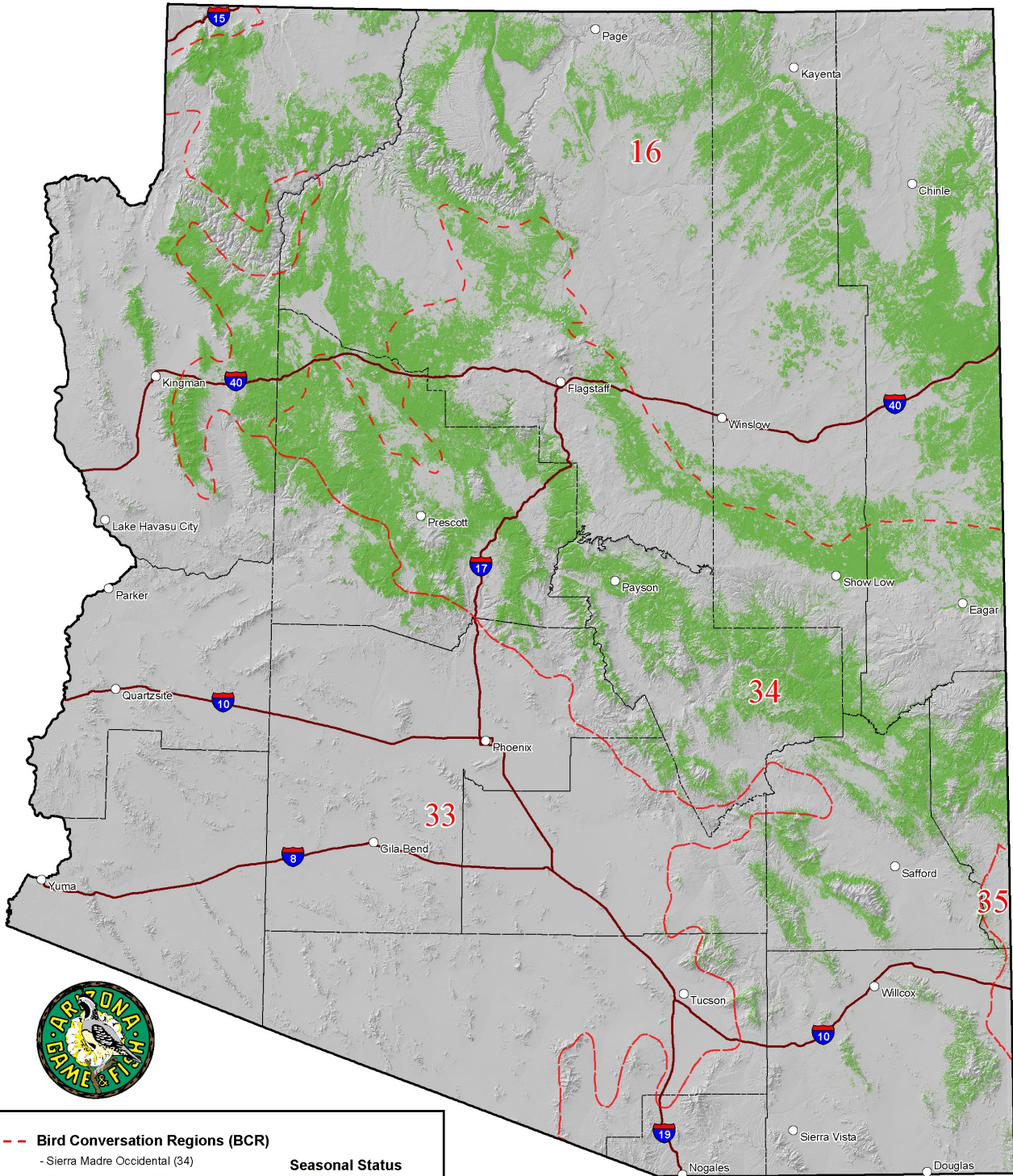
SPECIES ACCOUNT ● JUNIPER TITMOUSE *Baeolophus ridgwayi*



Confidence in Available Data: ● High ○ Moderate ○ Low ^ Not provided

Last Update: October 2023

# Distribution of Juniper Titmouse



<b>-- Bird Conservation Regions (BCR)</b>	<b>Seasonal Status</b>
- Sierra Madre Occidental (34)	<span style="display:inline-block; width:15px; height:10px; background-color:lightgreen;"></span> Year-round
- Chihuahuan Desert (35)	<span style="display:inline-block; width:15px; height:10px; border:1px solid black;"></span> Counties
- Sonoran & Mojave Deserts (33)	
- Southern Rockies & Colorado Plateau (16)	

This map represents the predictive distribution for an individual species. AZGFD warrants no guarantees of accuracy or currency of the data represented.

**SPECIES ACCOUNT ● JUNIPER TITMOUSE *Baeolophus ridgwayi***





## General Information

### Distribution in Arizona

The Juniper Titmouse is a common bird of mid-elevation woodlands and adjacent wooded drainages throughout northern and central Arizona, closely matching juniper distribution (LaRue 2005). It occurs more locally in some of the southeastern mountain ranges, including the foothill slopes of the Santa Catalina, Rincon, Galiuro, Dragoon, Pinaleño, and Chiricahua mountains (LaRue 2005). Juniper Titmice are year-round residents in Arizona (Cicero 2000), with some individuals occasionally descending to slightly lower elevations in winter. In southeastern Arizona, individuals have also wandered to the Santa Rita Mountains and once to Willcox (eBird 2019).

### Habitat Description

Juniper Titmice are highly restricted to pinyon-juniper woodlands, and they are most common where junipers are dominant and feature large, mature trees that provide natural cavities for nesting (Cicero 2000). In fact, the species is so closely associated with junipers that it occurs in many areas outside the range of pinyon pines. However, at the northern edge of pinyon pine range, the likelihood of Juniper Titmouse occurrence more than doubles where pinyon pine is present (Pavlacky and Anderson 2001), likely because pinyon pine seeds provide a major food source where they are available (Cicero 2000). Other tree species such as ponderosa pine or oaks may be present but are usually not dominant in breeding habitat (Cicero 2000). Juniper Titmice also occupy adjacent riparian woodlands containing sycamore, ash, and willow (LaRue 2005), particularly in winter. The species is non-migratory, and while it is assumed that wintering habitat is the same as breeding habitat, little information is available on winter habitat requirements.

Juniper Titmice generally favor mature, dense stands of trees averaging 35% canopy cover (Pavlacky and Anderson 2001), but may be present in stands with as little as 10% cover (LaRue 1994). Stands with few junipers are not as suitable as juniper-dominated stands, and the presence of some mature trees may be required for nesting. In one study, Juniper Titmice occurred in woodlands with taller trees and higher densities of senescent trees (mean = 37 trees/acre) than randomly-selected sites (Pavlacky and Anderson 2001).

### Microhabitat Requirements

As a secondary cavity nester, Juniper Titmouse requires older and larger trees with twisted limbs or other signs of maturity. Nest trees are generally 10 – 60 feet tall have a DBH of 5.5 – 19.5 inches (Latta et al. 1999). The presence of mature trees with reliable seed crops is also important, since the species relies heavily on both pine nuts and juniper berries (Cicero 2000).

### Landscape Requirements

Area requirements are unknown for Juniper Titmice, in spite of how common the species is in the interior west. Equally unknown is their sensitivity to disturbances, although Cicero (2000) made vague reference to Juniper Titmice populations being relatively safe due to the remoteness of breeding grounds from human activities.



## Conservation Issues and Management Actions

### Threats Assessment

This table is organized by Salafsky et al.'s (2008) standard lexicon for threats classifications. Threat level is based on expert opinion of Arizona avian biologists and reviewers. We considered the full lexicon but include only medium and high threats in this account.

Threat	Details	Threat Level
<b>Biological Resource Use</b> <ul style="list-style-type: none"> <li>Gathering terrestrial plants</li> <li>Logging and wood harvesting</li> </ul>	Removal of mature trees will reduce habitat and foraging opportunities	High
<b>Climate Change</b> <ul style="list-style-type: none"> <li>Changes in precipitation and hydrological regimes</li> </ul>		Medium

In the following section we provide more detail about threats, including recommended management actions. Threats with similar recommended actions are grouped.

#### Biological Resource Use:

- Logging and wood harvesting

Juniper Titmice require mature and relatively dense pinyon-juniper stands that may be negatively affected by silvicultural practices that include clearcutting or selective removal of large and senescent trees or trees that produce large amounts of seeds or berries.

#### *Recommended Actions:*

- In areas occupied by Juniper Titmouse, retain stands of mature and senescent juniper, as well as a mix of age classes that ensure recruitment of trees for nesting and foraging.

#### Climate Change:

- Changes in precipitation and hydrological regimes

Although a warming and drier climate would likely benefit juniper trees, predictive models suggest associated pinyon pines would decline. This would reduce availability of pinyon pine nuts, a possible important seasonal Juniper Titmouse food source.

#### *Recommended Actions:*

- For sites planned for tree and shrub reduction or removal that contain pinyon pine, select south and west-facing slopes for thinning as opposed to north and east-facing slopes because north and east-facing slopes may better survive future climate change scenarios.



## Research and Monitoring Priorities

1. Determine stronghold areas for Juniper Titmice in Arizona for focused stewardship planning and population status assessments.
2. Clarify area requirements and landscape use, including disturbance distances for human activity, land uses, and land conversions.
3. Explore to what degree legal and illegal wood-cutting affects Juniper Titmice.
4. Determine the importance of climate change effects, particularly prolonged droughts, on the persistence of Juniper Titmouse habitats.

## Literature Cited

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## Recommended Citation

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