



Gila Woodpecker, photo by @George Andrejko

## Conservation Profile

Species Concerns	
Increasing Fire Frequency Climate Change (Drought)	
Conservation Status Lists	
USFWS <sup>1</sup>	No
AZGFD <sup>2</sup>	Tier 1B
DoD <sup>3</sup>	No
BLM <sup>4</sup>	No
PIF Watch List <sup>5b</sup>	No
PIF Regional Concern <sup>5a</sup>	Reg. Concern and Stewardship Species – BCR 33
Migratory Bird Treaty Act	
Covered	
PIF Breeding Population Size Estimates <sup>6</sup>	
Arizona	560,000 ○
Global	1,500,000 ●
Percent in Arizona	37.33%
PIF Population Goal <sup>5b</sup>	
Maintain	
Trends in Arizona	
Historical (pre-BBS)	Unknown
BBS <sup>7</sup> (1968 – 2013)	-1.2/year ●
PIF Urgency/Half-life (years) <sup>5b</sup>	
> 50	
Monitoring Coverage in Arizona	
BBS <sup>7</sup>	Adequate
AZ CBM	Adequate
Associated Breeding Birds	
White-winged Dove, Elf Owl, Gilded Flicker, Brown-crested Flycatcher, Verdin, Black-tailed Gnatcatcher, Phainopepla, Lucy's Warbler	

## Breeding Habitat Use Profile

Habitats Used in Arizona	
Primary: Sonoran Desertscrub Secondary: Lowland Riparian Woodlands <sup>8,9,10</sup>	
Key Habitat Parameters	
Plant Composition	Columnar cactus, especially saguaro; less common in cottonwood, willow, paloverde, ironwood, mesquite, and residential shade trees <sup>8,9</sup>
Plant Density and Size	Saguaros > 15 feet tall and branching, or softwood snags <sup>9</sup> ; preferred plant densities unknown
Microhabitat Features	Cactus or riparian trees > 10 inches DBH, fruit-bearing cacti and trees, mistletoe infections
Landscape	Saguaros in arroyo settings preferred but others also used, riparian patches > 50 acres
Elevation Range in Arizona	
150 – 4,800 feet <sup>8</sup>	
Density Estimate	
Territory Size: 11 – 25 acres <sup>9</sup> Density: 4 – 10 (up to 20 – 25)/100 acre <sup>9</sup>	

## Natural History Profile

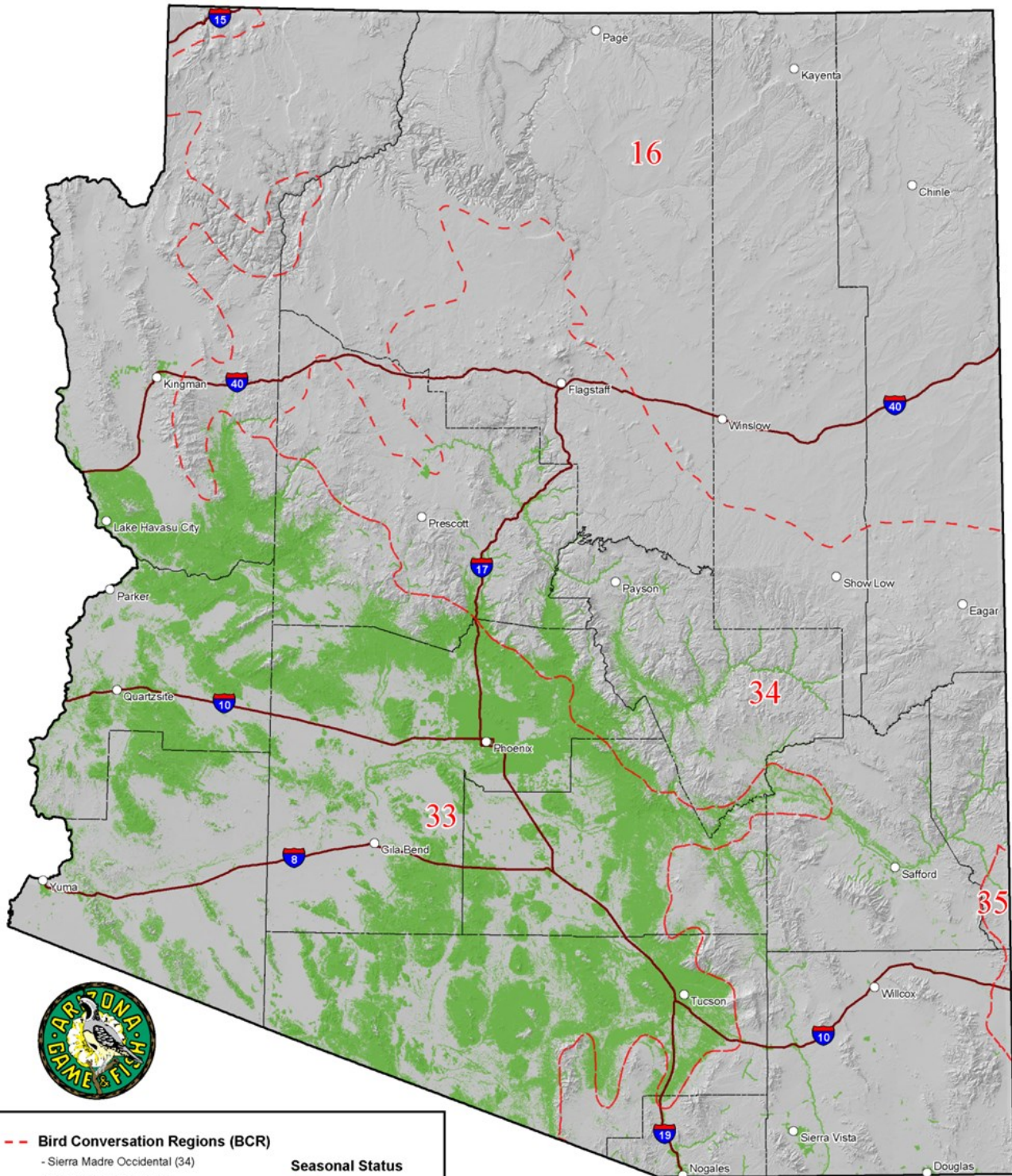
Seasonal Distribution in Arizona	
Breeding	early March – late July <sup>8,9</sup>
Migration	Year-round resident
Winter	Some wander to adjacent higher elevations in fall and winter <sup>9</sup>
Nest and Nesting Habits	
Type of Nest	Excavates tree or cacti cavity <sup>8,9</sup>
Nest Substrate	Saguaro, cottonwoods, willows, sycamore, paloverde, exotic trees in urban areas <sup>8,9</sup>
Nest Height	12 – 35 feet <sup>8,9</sup>
Food Habits	
Diet/Food	Insects; saguaro fruits and other fruits <sup>9</sup>
Foraging Substrate	Tree bark; saguaro <sup>9</sup>



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

Last Update: April 2023

# Distribution of Gila Woodpecker



**-- Bird Conservation Regions (BCR)**

- Sierra Madre Occidental (34)
- Chihuahuan Desert (35)
- Sonoran & Mojave Deserts (33)
- Southern Rockies & Colorado Plateau (16)

**Seasonal Status**

- Year-round
- Counties

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

SPECIES ACCOUNT ● GILA WOODPECKER *Melanerpes uropygialis*



## General Information

### Distribution in Arizona

Gila Woodpecker distribution in Arizona largely matches the distribution of the Sonoran Desert biome, reaching from the southwest-central region to the far southeastern corner of the state (Bradley 2005). The species occupies lowland areas with saguaros or riparian gallery woodlands. Gila Woodpeckers are year-round residents in Arizona (Edwards and Schnell 2000).

### Habitat Description

Most Gila Woodpeckers nest in Sonoran Desertscrub uplands that have tall saguaros or in arroyos with paloverde, mesquite, and ironwood. The remainder of the population nests in riparian and riparian-transitional woodlands with mature cottonwood, willow, mesquite, or Arizona sycamores, and some nest in residential areas with palms and mature shade trees (Edwards and Schnell 2000, Bradley 2005). Wintering habitat and habitat use is similar to nesting habitat, although some individuals wander to adjacent habitats (Philips et al. 1964, Edwards and Schnell 2000).

### Microhabitat Requirements

Gila Woodpeckers excavate nest cavities, most often in saguaros, but they also regularly use mature native trees such as cottonwood, willow, sycamore, ash, and paloverde (Edwards and Schnell 2000, Bradley 2005). They use harder woods, such as mesquite, less often. In urban and rural settings, Gila Woodpeckers also excavate nesting cavities in palms, eucalyptus, athel tamarisk, mulberry, and other exotic shade trees (Rosenberg et al. 1991, Bradley 2005). Saguaros used for nesting are tall (> 12 feet) and often have arms. Microhabitat details in riparian woodlands have not been studied in detail (Edwards and Schnell 2000). Data on diameters of nesting trees are unknown, but based on cavity diameter data (Edwards and Schnell 2000), we estimate a DBH of  $\geq 10$  inches for nesting trees or cactuses. During nesting, foraging microhabitats include bark of large trees with large branches, particularly thorn trees, and cactus tops that have ripe fruits. In winter, mistletoe berries on mesquite and acacia are a frequent food source when available (Edwards and Schnell 2000).

### Landscape Requirements

Gila Woodpeckers nest most often in taller saguaros that are located near wooded arroyos that also provide foraging habitat. They also use hillsides, ridgetops, and desert flats when saguaro stands are present nearby (Edwards and Schnell 2000). They use riparian, xeroriparian, and riparian-transitional areas if they have mature trees with large branches.

Area requirements of Gila Woodpeckers in saguaro landscapes need further study, but one study determined that riparian woodland patches along the lower Colorado River are only suitable if they are 50 acres or larger (Edwards and Schnell 2000). Gila Woodpeckers tolerate low- and medium-density residential areas, particularly if native vegetation is still present; they also readily use taller exotic trees in urban settings (Edwards and Schnell 2000).



## 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>Residential and Commercial Development</b> <ul style="list-style-type: none"> <li>• Housing and urban areas</li> <li>• Commercial and industrial areas</li> </ul>		Medium
<b>Agriculture</b> <ul style="list-style-type: none"> <li>• Livestock farming and ranching</li> </ul>	Unsustainable livestock grazing	Medium
<b>Natural System Modifications</b> <ul style="list-style-type: none"> <li>• Fire and fire suppression</li> </ul>	Desert wildfires kill saguaros and palo verde	High
<b>Invasive and Problematic Species</b> <ul style="list-style-type: none"> <li>• Invasive non-native/alien plants and animals</li> </ul>	Invasive grasses, forbs, and tamarisk, European Starlings compete for cavities	Medium
<b>Climate Change</b> <ul style="list-style-type: none"> <li>• Ecosystem encroachment</li> <li>• Changes in temperature regimes</li> <li>• Changes in precipitation and hydrological regimes</li> </ul>		High

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

#### Residential and Commercial Development:

- Housing and urban areas
- Commercial and industrial areas

#### Natural System Modifications:

- Other ecosystem modifications

Gila Woodpeckers tolerate low- and medium-density residential settings if native vegetation is left intact or larger shade trees and palms are incorporated into landscaping.

#### Recommended Actions:

1. Encourage developers to leave large tracts of saguaro landscapes as green-belts and open space.
2. Encourage homeowners to plant native paloverde, mesquite, and saguaros.



3. Increase public understanding and appreciation of Gila Woodpeckers and their unique ecological needs, as well their important role in creating cavities for other native species, particularly where native landscapes are adjacent to urban areas.
4. Discourage urban development in saguaro forest.

### Agriculture

- Livestock farming and ranching

Across the west, loss of riparian gallery woodlands from alteration of flood regimes and loss of surface water in lower elevation reaches of rivers and streams undoubtedly has affected Gila Woodpecker populations. Unsustainable livestock grazing of riparian areas and invasion of exotic trees can greatly reduce cottonwood, willow, and other native tree recruitment, which is important for Gila Woodpecker habitat.

#### *Recommended Actions:*

1. Reduce livestock grazing activities in perennial and intermittent drainages that affect cottonwood, willow, and other native riparian tree densities and recruitment. This could include fencing, providing alternative water sources, or adopting a “winter-only” grazing regime.

### Natural System Modifications:

- Fire and fire suppression

### Invasive and Problematic Species:

Invasive non-native/alien plants and animals

The spread of non-native grasses and forbs into desertscrub habitats has introduced fire into an ecosystem where plants are not fire-adapted. This leads to habitat conversion, loss of microhabitats, and mortality of saguaros, paloverde, ironwood, mesquite, cottonwoods, and willows. Conversion of cottonwood-willow riparian habitat to agriculture and invasion of exotic tamarisk have also reduced riparian habitats available to Gila Woodpeckers, especially along the lower Colorado River. The spread of European Starlings is problematic because they can outcompete Gila Woodpeckers for cavities, particularly in and near areas of human habitation.

#### *Recommended Actions:*

1. Develop and implement fire management strategies that prevent catastrophic fires, including invasive grass and weed control.
2. Minimize wildfire risk by reducing fuel loads along roadways.
3. Protect large tracts of saguaro landscapes by managing invasive species like buffelgrass.
4. Restore native gallery riparian forests.



### Climate Change:

- Ecosystem encroachment
- Changes in temperature regimes
- Changes in precipitation and hydrological regimes

Prolonged droughts are a concern to Gila Woodpecker populations and other saguaro-dependent species because they reduce vigor and fruit-bearing potential of saguaros. Droughts can also lead to greater mortality of mature trees and cacti.

### Recommended Actions:

1. Delineate strongholds of Gila Woodpeckers for strategic conservation planning.
2. Determine risks from land uses that may compound the effects of prolonged droughts on cactus.

### Research and Monitoring Priorities

1. Use multi-species protocols to conduct periodic ongoing population monitoring surveys of Gila Woodpeckers to determine population trends and status.
2. Determine Gila Woodpecker diet and where they obtain food in both urban and natural settings.
3. Determine long-term effects of open range livestock grazing in desert landscapes, particularly on recruitment of saguaros, paloverde, and other desert trees and the spread of invasive grasses and forbs.

### Literature Cited

<sup>4</sup>Arizona Bureau of Land Management Sensitive Species List – March 2017.

<sup>2</sup>Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan: 2012 – 2022. Arizona Game and Fish Department, Phoenix, AZ.

<sup>8</sup>Corman, T.E. 2005. Buff-breasted Flycatcher. *In*: Corman, T.E., and C. Wise-Gervais (eds.) Arizona Breeding Bird Atlas. University of New Mexico Press. Albuquerque, NM.

<sup>3</sup>Department of Defense. 2012. DoD PIF Mission-Sensitive Priority Bird Species. Fact Sheet #11. Department of Defense Partners in Flight Program.

<sup>9</sup>Edwards, H.H., and G.D. Schnell. 2000. Gila Woodpecker (*Melanerpes uropygialis*), The Birds of North America Online (A. Poole, ed.) Ithaca: Cornell Lab of Ornithology.

Latta, M.J., C.J. Beardmore, and T.E. Corman. 1999. Arizona Partners in Flight Bird Conservation Plan, Version 1.0. Nongame and Endangered Wildlife Program Technical Report 142. Arizona Game and Fish Department, Phoenix, AZ.



<sup>5a</sup>Partners in Flight. 2019. Avian Conservation Assessment Database, version 2019. Accessed on March 31, 2020.

<sup>6</sup>Partners in Flight Science Committee. 2019. Population Estimates Database, version 3.0. Accessed on March 31, 2020.

Phillips, A.R., J.T. Marshall, and G. Monson. 1964. The Birds of Arizona. University of Arizona Press, Tucson, AZ.

<sup>5b</sup>Rosenberg, K.V., J.A. Kennedy, R. Dettmers, R.P. Ford, D. Reynolds, J.D. Alexander, C.J. Beardmore, P. J. Blancher, R.E. Bogart, G.S. Butcher, A.F. Camfield, A. Couturier, D.W. Demarest, W.E. Easton, J.J. Giocomo, R.H. Keller, A.E. Mini, A.O. Panjabi, D.N. Pashley, T.D. Rich, J.M. Ruth, H. Stabins, J. Stanton, T. Will. 2016. Partners in Flight Landbird Conservation Plan: 2016 Revision for Canada and Continental United States. Partners in Flight Science Committee.

Rosenberg, R.V., R.D. Ohmart, W.C. Hunter, and B.W. Anderson. 1991. Birds of the Lower Colorado River Valley. University of Arizona Press, Tucson.

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(4): 897 – 911.

<sup>7</sup>Sauer, J.R., J.E. Hines, J.E. Fallon, K.L. Pardieck, D.J. Ziolkowski, Jr., and W.A. Link. 2016. The North American Breeding Bird Survey, Results and Analysis 1966 – 2013, Version 2016. USGS Patuxent Wildlife Research Center, Laurel, MD. Accessed on July 1, 2016.

<sup>1</sup>U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Va. 85 pp.

## Recommended Citation

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