



Whiskered Screech-Owl, photo by © Bill Radke

Conservation Profile

Species Concerns	
Small U.S. Population Climate Change (Drought) Increasing Fire Frequency Wood Harvesting	
Conservation Status Lists	
USFWS ¹	No
AZGFD ²	Tier 1B
DoD ³	No
BLM ⁴	No
PIF Watch List ^{5b}	Yellow List
PIF Regional Concern ^{5a}	Stewardship Species BCR 34
Migratory Bird Treaty Act	
Covered	
PIF Breeding Population Size Estimates ⁶	
Arizona	Not given
Global	200,000 ^A
Percent in Arizona	Unknown
PIF Population Goal ^{5b}	
Maintain	
Trends in Arizona	
Historical (pre-BBS)	Unknown
BBS ⁷ (1968 – 2013)	Not given
PIF Urgency/Half-life (years) ^{5b}	
Insufficient Data	
Monitoring Coverage in Arizona	
BBS ⁷	Not adequate
AZ CBM	Not covered
Associated Breeding Birds	
Acorn Woodpecker, Hairy Woodpecker, Arizona Woodpecker, Dusky-capped Flycatcher, Sulfur-bellied Flycatcher, Mexican Jay, Bridled Titmouse, Painted Redstart	

Breeding Habitat Use Profile

Habitats Used in Arizona	
Primary: Madrean Pine-Oak Woodlands Secondary: Montane Riparian Woodlands	
Key Habitat Parameters	
Plant Composition	Optimal: 12 – 30% sycamores; with evergreen oaks especially Arizona white oak; alligator juniper; Chihuahuah and Apache pines; birchleaf buckthorn, and pointleaf manzanita ⁸
Plant Density and Size	Closed canopy forest with 500 – 600 trees/acre, see specifications in text below ⁸
Microhabitat Features	Nest trees DBH ≥ 18 inches; natural cavities and large woodpecker holes; rich tree and shrub diversity for foraging, see specifications in text below ⁸
Landscape	Unknown
Elevation Range in Arizona	
5,000 – 7,600 feet, locally to 3,800 ⁸	
Density Estimate	
Territory Size: Unknown Density: 7 – 20 birds/square mile	

Natural History Profile

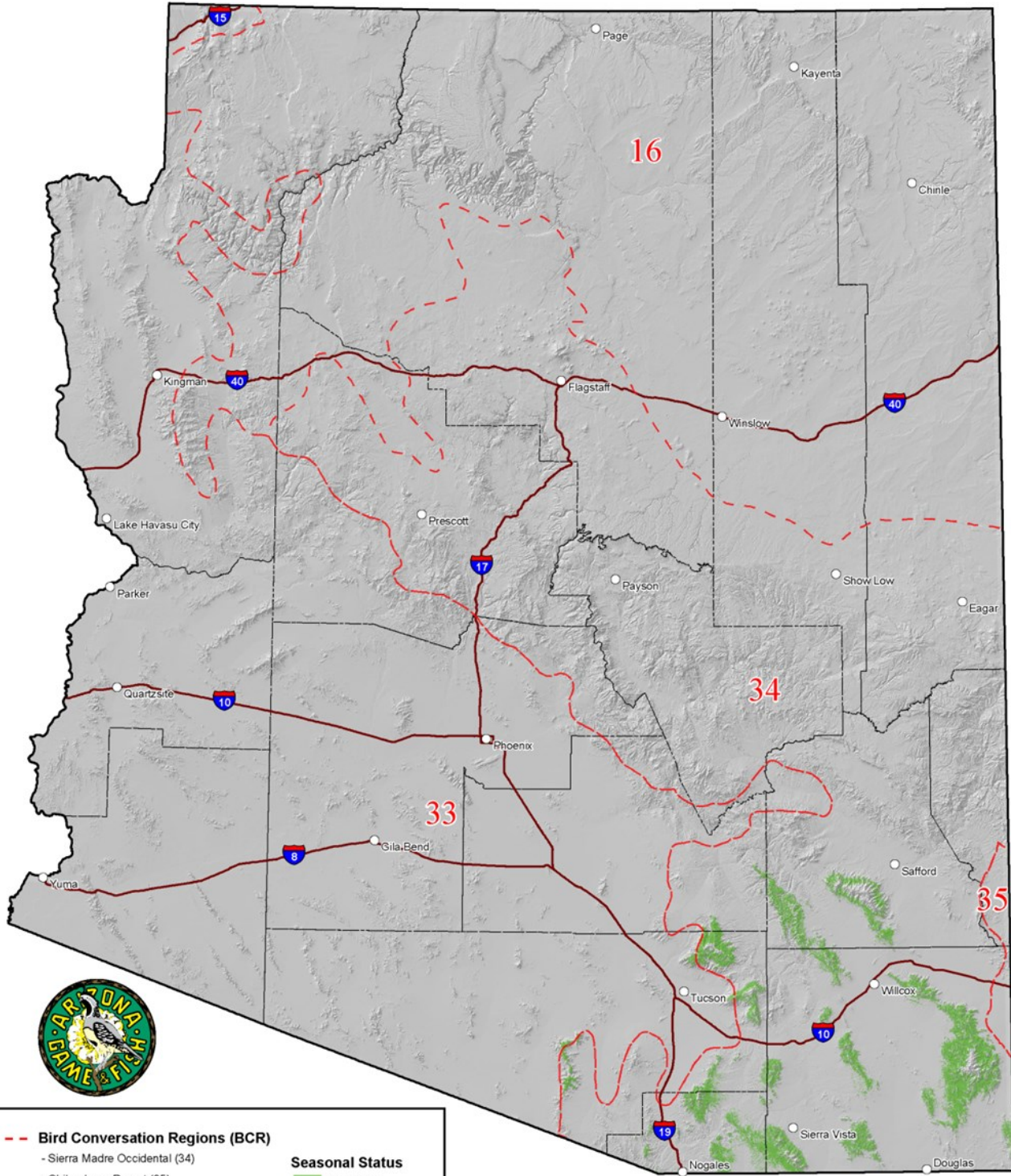
Seasonal Distribution in Arizona	
Breeding	Mid-April to mid-July ⁹
Migration	Year-round resident
Winter	Year-round resident
Nest and Nesting Habits	
Type of Nest	Cavity in tree ≥ 18 inches DBH
Nest Substrate	Primarily sycamores; also evergreen oaks, walnut, cypress, pine ⁸
Nest Height	15 – 35 feet ⁸
Food Habits	
Diet/Food	Primarily arthropods; also small snakes, lizards and rodents ⁸
Foraging Substrate	Primarily broadleaf foliage; also pines, ground, bark ⁸



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

Last Update: October 2023

Distribution of Whiskered Screech-Owl



-- Bird Conservation Regions (BCR)	Seasonal Status
- Sierra Madre Occidental (34)	■ Year-round
- Chihuahuan Desert (35)	 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 ● WHISKERED SCREECH-OWL *Megascops trichopsis*

General Information

Distribution in Arizona

In Arizona, Whiskered Screech-Owls are at the northernmost extent of their global range (Gehlbach and Gehlbach 2000). They are restricted to sky islands in the southeastern part of the state, from the Baboquivari Mountains north to the Santa Catalina Mountains and east to the Chiricahua Mountains (Wise-Gervais 2005). The northernmost record for the species is from the Galiuro Mountains (Wise-Gervais 2005). They may also occur in adjacent, seldom visited mountain ranges. Whiskered Screech-Owls are year-round residents in Arizona.

Habitat Description

Whiskered Screech-Owls occur primarily in shady, mature stands of sycamores, evergreen oaks, pine, and mixed conifers of forested canyons, slopes, and ridges (Gehlbach and Gehlbach 2000). They prefer extensive woodlands with medium-sized and large trees, particularly sycamores, and closed or partly-closed canopies (Wise-Gervais 2005). While most Whiskered Screech-Owls occur in mid-elevation woodlands, some reach high-elevation Madrean pine-oak forests that include pines with an understory of mixed evergreen oaks, juniper, and madrones (Wise-Gervais 2005). The highest breeding densities occur in sycamore dominated drainages, but Whiskered Screech-Owls also use adjacent Arizona white oak, alligator juniper, Emory oak, Chihuahuahua and Apache pines, and silverleaf oak for nesting habitat (Gehlbach and Gehlbach 2000).

Foraging habitat consists of vegetation that supports prey species, which are primarily moths and other nocturnal insects. Plants in foraging sites include Mexican blue oak, Emory oak, and alligator juniper. Whiskered Screech-Owl habitat usually borders riparian areas that have Fremont cottonwood, Arizona walnut, and velvet ash (Gehlbach and Gehlbach 2000).

Microhabitat Requirements

Whiskered Screech-Owls nest in large cavities, such those created by Northern Flickers (Gehlbach and Gehlbach 2000). They are secondary cavity nesters, and thus depend on woodpeckers and natural cavities. Whiskered Screech-Owls rarely use nest boxes, but further research is needed on their optimal placement (Gehlbach and Gehlbach 2000). Foraging microsites include tree canopies and shrub layers consisting of evergreen oak and deciduous woody species, particularly in riparian areas.

Landscape Requirements

Unlike many other priority conservation species, Whiskered Screech-Owls are relatively tolerant of human presence in their breeding areas, including low densities of human-built structures, such as cabins, campgrounds, roads, and parking lots (Gehlbach and Gehlbach 2000). However, minimum patch size requirements of Whiskered Screech-Owls are currently unknown. Some studies suggest that only very low densities of human structures (5 houses/100 acres with 85% green space) may be tolerated (Gehlbach and Gehlbach 2000).



Conservation Issues and Management Actions

Small Population

A high portion of the U.S. population of Whiskered Screech-Owl resides in Arizona. Its U.S. range extends into the adjacent Peloncillo and Animas mountains in New Mexico. This leaves Arizona not only with most of the responsibility for conserving this species in the U.S., but also provides the opportunity to make great strides toward its conservation.

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
Residential and Commercial Development <ul style="list-style-type: none"> Housing and urban areas Tourism and recreation areas 		Medium
Agriculture <ul style="list-style-type: none"> Livestock farming and ranching 		Low to Medium
Biological Resource Use <ul style="list-style-type: none"> Logging and wood harvesting 	Non-commercial wood harvest	High
Human Intrusions and Disturbance <ul style="list-style-type: none"> Recreational activities 		Medium
Natural System Modifications <ul style="list-style-type: none"> Fire and fire suppression 		High
Climate Change <ul style="list-style-type: none"> Ecosystem encroachment Changes in precipitation and hydrological regimes 		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
- Tourism and recreation areas

Agriculture:

- Livestock farming and ranching

Biological Resource Use:

- Logging and wood harvesting



Natural System Modifications:

- Fire and fire suppression

Any land use that leads to a loss of old, large trees, particularly sycamores, leads to habitat degradation for Whiskered Screech-Owls. This may include non-commercial wood cutting, unsustainable livestock grazing, and surface water diversion. Unsustainable livestock grazing and water diversions reduce the recruitment of riparian trees, as well as the important shrub and grass-cover layer that supports a large portion of nocturnal insects that Whiskered Screech-Owls need. Fire suppression leads to encroachment of upland trees and reduces the availability of important nest and foraging sites in riparian areas.

Recommended Actions:

1. Examine the extent to which non-commercial wood cutting, livestock grazing, and water projects affect the sycamore-pine-oak landscape in the areas occupied by Whiskered Screech-Owls.
2. Exclude or minimize water extraction in areas occupied by Whiskered Screech-Owls.
3. Develop fire management strategies (with prescribed fire if needed) that mimic natural fire frequencies in the sycamore-pine-oak interface to restore the recruitment process of riparian areas.
4. Promote policies that encourage minimum instream flows in areas where the riparian areas can be restored with improved flows.
5. Encourage housing densities of ≤ 5 houses/100 acres and open space requirements of 85% in developed areas near Whiskered Screech-Owls (Gehlbach and Gehlbach 2000).
6. Determine effects of land uses, such as livestock and wood harvesting practices, on Whiskered Screech-Owls and their nesting habitats.

Human Intrusions and Disturbance:

- Recreational activities

Whiskered Screech-Owls are sought after by recreational birders. They nest in areas that are attractive for campgrounds, hiking trails, and OHV trails. Unlike other land uses, these impacts can be directly addressed through public education and outreach.

Recommended Actions:

1. Develop and implement an outreach strategy for recreational birders, photographers, and other visitors to Whiskered Screech-Owl habitat that includes interpretive signs on birding ethics, conservation issues of the species, and federal/state efforts toward its conservation.
2. Protect Whiskered Screech-Owl nests from disturbances with methods such as temporary fencing of exposed nests and brochures with “Dos and Dont's” for birders and the general public.
3. Prohibit use of call-playback devices in heavily visited areas. Discourage approaching owls or their nests beyond minimum buffer distance and searching out males on day-roosts that are in the immediate vicinity of nests.
4. Determine effects of recreation on Whiskered Screech-Owls and their nesting habitats.

Climate Change:

- Ecosystem encroachment
- Changes in precipitation and hydrological regimes



As with other riparian-associated species, Whiskered Screech-Owls are susceptible to prolonged droughts that threaten their year-round habitats. They depend on continued recruitment of sycamores and associated shrubs and trees in which they forage for insects and other small prey.

Recommended Actions:

1. Delineate occupied areas for Whiskered Screech-Owls and potentially suitable areas that could be restored for more strategic conservation planning and action.
2. Develop a Whiskered Screech-Owl population assessment and monitoring protocol that takes into account possible distributional changes due to climate change.
3. Evaluate land uses that may compound the effects of prolonged drought on the sycamore-pine-oak interface areas.
4. Determine options for reducing land use impacts, particularly during periods of drought.

Research and Monitoring Priorities

1. Develop a standardized population assessment and monitoring protocol for Whiskered Screech-Owls. Implement it first as an inventory effort for all potentially suitable habitat areas and then as an ongoing monitoring effort to understand population and distributional changes due to climate change.
2. Determine winter habitat and foraging requirements, which are currently unknown.
3. Determine how common land use practices in Whiskered Screech-Owl habitats affect their populations and nesting success.

Literature Cited

⁴Arizona Bureau of Land Management Sensitive Species List – March 2017.

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

⁹Wise-Gervais, C. 2005. Whiskered Screech-Owl. *In*: Arizona Breeding Bird Atlas. Corman, T.E., and C. Wise-Gervais (eds.) University of New Mexico Press. Albuquerque, NM.

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

⁸Gehlbach, F.R., and N.Y. Gehlbach. 2000. Whiskered Screech-Owl (*Megascops trichopsis*), The Birds of North America Online (A. Poole, ed.) Ithaca: Cornell Lab of Ornithology.

^{5a}Partners in Flight. 2019. Avian Conservation Assessment Database, version 2019. Accessed on March 31, 2020.

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



^{5b}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.

Salafsky, N., Salzer, D., Stattersfield, A.J., Hilton-Taylor, C., Neugarten, R., Butchart, S.H.M., Collen, B., Cox, N., Master, L.L., O'Connor, S. and Wilkie, D. 2008. A standard lexicon for biodiversity conservation: unified classifications of threats and actions. *Conservation Biology* 22(4): 897 – 911.

⁷Sauer, 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.

¹U.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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