

Elf Owl (*Micrathene whitneyi*)

NMPIF level: Species Conservation Concern, Level 2 (SC2)

NMPIF assessment score: 16

National PIF status: Watch List

NM stewardship responsibility: Low/Unknown

New Mexico BCRs: 34, 35

Primary Habitat(s): Southwest Riparian

Other habitats used: Madrean Pine-Oak Woodland

Summary of Concern

The smallest owl species in North America, the Elf Owl is primarily associated with mature riparian and canyon-bottom habitat in the southwest portion of the state. It is threatened by potential loss or deterioration of this limited habitat type.

Associated Species

Western Screech-Owl, Common Poorwill, Acorn Woodpecker, Gila Woodpecker (BC2), Arizona Woodpecker (BC2), Northern Flicker, Dusky-capped Flycatcher, Brown-crested Flycatcher, Hutton's Vireo, Bridled Titmouse (BC2), White-breasted Nuthatch, Lucy's Warbler (SC1)

Distribution

The Elf Owl breeds across the southern portions of California, Nevada, Arizona, New Mexico, and Texas, south through northern and central Mexico. A migratory species, it winters from central to southern Mexico.

In New Mexico, its breeding range is primarily in the southwest quadrant, north to the Glenwood area and east to Las Animas Creek near Truth or Consequences. It sometimes occurs as far north as the Magdalena Mountains (Stacey et al. 1983). A small population has been reported from the Guadalupe Mountains since 1997 (New Mexico Ornithological Society 2007).

Ecology and Habitat Requirements

Across its range, the Elf Owl occurs in a variety of habitats, including Sonoran desert scrub, subtropical thorn woodland, montane oak and mixed conifer woodlands, and wooded riparian canyons. The species is commonly associated with Sonoran desert vegetation in Arizona, where it nests in holes in saguaro cacti. However, it also nests as abundantly or more so in trees in wooded riparian habitat and on the lower slopes of mountain canyons (Henry and Gehlbach 1999). In New Mexico, it is primarily associated with riparian woodlands dominated by cottonwood, sycamore, and willow, and with adjacent upland areas dominated by pine, juniper, and oak (Ligon 1968, Hubbard 1971, Johnsgard 1988, Henry and Gehlbach 1999).

Elf Owls nest in cavities created by primary cavity nesters, including Ladder-backed, Gila, Acorn, and Arizona Woodpeckers. In Arizona, Elf Owl density was positively correlated with incidence of nest cavities in sycamores (Ligon 1968). Holes in Fremont cottonwood, honey mesquite, Goodding's willow, velvet ash, Arizona walnut, Chihuahua pine, and various evergreen oaks are also used (Marshall 1957, Ligon 1968). Elf Owls habituate to human presence and may nest in suburban or agricultural areas, sometimes using holes in utility poles or wooden fence posts, or in nest boxes. Elf Owls may share nest trees with other cavity-nesting species, and in Arizona their density was positively correlated with density of nesting Western Screech-Owls. In favored habitat, nest cavities are abundant and are not thought to limit population density (Henry and Gehlbach 1999).

The Elf Owl is a migratory species in New Mexico, arriving by late March at lower elevations and mid-April at higher elevations. Egg-laying typically begins in early to mid-May, with an average clutch size of three. Birds generally leave the state beginning in late August and September. Elf Owls feed primarily on insect prey. Reduced early-season food at higher elevations may be the cause of later nesting in these areas (Ligon 1968). The species has a generally small home range size (1.05 hectares in Texas) and may nest at fairly high densities (4.6 pairs per square km in Arizona) in suitable habitat (Henry and Gehlbach 1999).

Conservation Status

Species Assessment

DISTRIBUTION	5
THREATS	3
GLOBAL POPULATION SIZE	4
LOCAL POPULATION TREND	2

IMPORTANCE OF NEW MEXICO TO BREEDING	2
COMBINED SCORE	16

The Elf Owl is a Species Conservation Concern, Level 2 species for New Mexico, with a NMPIF combined score of 16. It is also a national PIF Watch List species. It receives high vulnerability scores from PIF for its small breeding and nonbreeding distribution, and its small population size.

Population Size

Total population for state is unknown. PIF estimates a global population of 190,000 individuals, with 24% (46,000) occurring in the United States.

Population Trend

Little BBS data exists for Elf Owl, and no present monitoring system provides adequate data to determine a long-term trend at the state or regional level. The local population trend score of 2 was assigned by expert opinion, and indicates a stable or increasing population.

Threats

Elf Owls are threatened by loss of suitable nesting habitat. In California, Arizona, and Texas, the species has declined due to habitat destruction, particularly loss of riparian habitat to agriculture or urban development (Millsap 1988, DeSante and George 1994). However, the species has also expanded its range in some areas, including west Texas and New Mexico (Guadalupe and Magdalena Mountains, Stacey et al. 1983, New Mexico Ornithological Society 2007). Population density and range limits of this species may be fairly dynamic, with local extirpations followed by periods of recolonization. Drought affects the composition of prey for this species and may be a factor in limiting densities (Henry and Gehlbach 1999). Nesting Elf Owls may be subject to disturbance by researchers or other observers. Use of taped vocalizations or vocal imitations are effective for detection and censusing, but should be used with caution and never repeated at nests (Henry and Gehlbach 1999).

Management Issues and Recommendations

Management for Elf Owls in New Mexico should focus on protection of riparian areas in the southwest portion of the state.

NMPIF Recommendations

- Maintain and protect riparian habitat with large cottonwoods and sycamores for cavity nesting.
- Limit grazing in riparian habitat during the summer months to allow for grass growth that may stimulate insect (particularly moth) production, and for nest tree regeneration.
- Management treatments of riparian habitat where Elf Owls are present should be accompanied by demographic studies and monitoring to determine species response.
- Seek to maintain healthy stands of Madreaan Pine-Oak woodland habitat in the southwestern mountains, and to reduce the risk of catastrophic fire where needed.

Species Conservation Objectives

PIF Objectives

The PIF North American Landbird Conservation Plan designates Elf Owl as a Long Term Planning and Responsibility species, and sets an objective of maintaining the present species population over the next 30 years.

NMPIF Objectives

- Maintain or increase current populations at Las Animas Creek, Mogollon Creek, along the San Francisco and Gila Rivers, and in the Guadalupe Mountains.
- Determine the distribution and breeding density of Elf Owls in riparian, upland forest, and desert scrub habitats in the state.
- Determine breeding habitat requirements in the Guadalupe Mountains.

Sources of Information

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