

Northern Pygmy-Owl (*Glaucidium gnoma*)

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

NMPIF assessment score: 14

NM stewardship responsibility: Low

National PIF status: No special status

New Mexico BCRs: 16, 34, 35

Primary breeding habitat(s): Mixed Conifer Forest, Ponderosa Pine Forest

Other habitats used: Spruce-fir Forest, Madrean Pine-Oak Woodland

Summary of Concern

Northern Pygmy-Owl is a sparsely distributed resident of montane forests. Populations appear variable from year to year and may be related to prey availability. Although something of a habitat generalist, it requires snags with natural cavities or woodpecker holes for nesting, and is considered moderately vulnerable due to its small population size.

Associated Species

Flammulated Owl (SC1), Broad-tailed Hummingbird (SC2), Williamson's Sapsucker (SC2), Hairy Woodpecker, Northern Flicker, Steller's Jay, Clark's Nutcracker, Western Wood-Pewee, Mountain Chickadee, Mexican Chickadee (BC2), Yellow-eyed Junco (BC1), Western Tanager, Red Crossbill, Evening Grosbeak

Distribution

Northern Pygmy-Owl is broadly distributed across western North America, from southwest Alaska to Honduras. It is present in mountain forests and upland regions throughout the western United States, from the Pacific coast east to western Montana and Wyoming, and central Colorado and New Mexico (Holt and Peterson 2000).

In New Mexico, Northern Pygmy-Owl is a rare resident in most major mountain ranges, somewhat more common in the south (Parmeter et al. 2002).

Ecology and Habitat Requirements

Northern Pygmy-Owl is a year-round resident across a wide range of habitats, from deciduous lowlands to high elevation coniferous forests. In New Mexico it occurs primarily in ponderosa and mixed-coniferous forest types, sometimes ranging higher into spruce-fir. Bailey (1928) described the species as most common in the state in ponderosa pine. In Montana, surveys showed a preference for mixed spruce and fir forests, but also use of cottonwood bottomlands, aspen stands, and mixed pine forests to timberline (Holt and Hillis 1987). In Idaho the species is similarly described as a forest habitat generalist (Hayward and Garton 1988).

This species requires natural cavities or abandoned woodpecker holes for nest sites, but seems tolerant of mixed-age forest types. Very little information on nest sites is available. Nests described from Oregon were located in dense, multi-layer forest with greater than 80% canopy cover but near meadows or logged clearings, and also near running water (Bull et al. 1987). Breeding activities probably take place from March through at least June. Clutch size ranges from 2-7, with a mean of 5 (Holt and Peterson 2000). This species is sparsely distributed across most of its range. In Washington, home range size for breeding males ranged from 1.7-2.3 square kilometers (Kullberg 1995).

Conservation Status

Species Assessment

DISTRIBUTION	2
THREATS	3
GLOBAL POPULATION SIZE	4
LOCAL POPULATION TREND	3
IMPORTANCE OF NEW MEXICO TO BREEDING	2
COMBINED SCORE	14

Northern Pygmy-Owl is a Species Conservation Concern, Level 2 species for New Mexico, with a NMPIF combined score of 14. Its highest vulnerability score is a 4, assigned by PIF for its relatively small population size.

Population Size

Kirk et al. (1995) estimated 2,000-10,000 breeding pairs in Canada. Total population for New Mexico is unknown. PIF estimates a species population of 100,000, and that New Mexico holds about one percent, or about 1,000 birds. This is an estimate based on BBS sampling; however, BBS sampling methods may be a poor fit for this, and other owl species, because the timing of surveys may not coincide with the period of peak vocal activity.

Population Trend

BBS data show possible declines in some areas, including the central Rocky Mountains, but coverage of this species is extremely thin. Although Northern Pygmy-Owls are somewhat diurnal, BBS methods are likely a poor fit for detecting the species. Range-wide it appears to be stable. No data are available on population trends in New Mexico.

Threats

Northern Pygmy-Owl is an obligate cavity-nester, and hence is vulnerable to forestry practices that may reduce suitable nest sites. Habitat alterations that affect prey species or woodpeckers—the primary nest excavators—and nest cavities, would likely harm Northern Pygmy-Owl (Holt et al. 1999). In one location in California, disappearance of this species over a 50-year period was linked to logging and removal of nesting snags; owls remained in an adjacent park where timber was uncut (Marshall 1988). Replacement of open, old-growth ponderosa pine and mixed conifer forest with younger, high-density vegetation is likely detrimental to this species.

Management Issues and Recommendations

Management for Northern Pygmy-Owl in New Mexico will require better knowledge of current species status and trends, and precise habitat requirements. As is the case for other cavity-nesting forest species, management should focus on restoring a more historically typical forest structure with open, multi-storied ponderosa pine, Douglas-fir, and mixed conifer stands comprised of fewer and larger trees, snags for nesting, a grassy understory and patchy shrub cover.

Species Conservation Objectives

NMPIF Objectives

- Devise and carry out surveys to assess the presence and status of this species in major mountain ranges of New Mexico.

- Increase present knowledge of habitat requirements, and likely responses to changes in forest structure and configuration.
- Seek to maintain or increase the present population.

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