

Lewis's Woodpecker (*Melanerpes lewis*)

NMPIF level: Species Conservation Concern, Level 1 (SC1)

NMPIF assessment score: 18

NM stewardship responsibility: High

National PIF status: Watch List

New Mexico BCRs: 16, 18, 34

Primary breeding habitat(s): Middle Elevation Riparian, Ponderosa Pine Forest

Other habitats used: Montane Riparian, Agricultural

Summary of Concern

An endemic woodpecker of the western United States and Canada, Lewis's Woodpecker has experienced broad-scale population declines since the 1960s, thought to be due largely to loss or alteration of nesting habitat. Population trends in New Mexico are uncertain.

Associated Species

Western Screech-Owl, Black-chinned Hummingbird (SC2), Western Wood-Pewee, Cassin's Kingbird (SC2), Black-capped Chickadee, White-breasted Nuthatch, Western Bluebird, Summer Tanager (BC2)

Distribution

Lewis's Woodpecker breeds across much of the western United States, north to southern British Columbia and south to central New Mexico, and from western California to eastern Colorado. Across its range the species is locally distributed and may periodically disappear from breeding sites. It winters in the southern portion of its breeding range and further south, to southern New Mexico and occasionally northern Mexico. Winter occurrence outside the breeding range is irregular, depending on conditions (Tobalske 1997).

In New Mexico, the species breeds mostly in mountain areas from the Mogollon mountains north, and in riparian areas (particularly along the Rio Grande Valley) from Belen north. Most of the state breeding population occurs in the BCR 16 segment. In winter, it extends south to the border and east to the Pecos Valley (Hubbard 1978, Parmeter et al. 2002).

Ecology and Habitat Requirements

Lewis's Woodpecker requires open canopy forests with large dead or decaying trees for nesting. It breeds in both lowland riparian and montane forest habitats. In New Mexico, breeding occurs most commonly in riparian woodland with large, mature cottonwoods. At higher elevations, Lewis's Woodpecker occurs in ponderosa pine forests with large trees and an open canopy. It is absent from dense ponderosa stands where fire suppression and grazing have prevented development of an open forest structure. The species also occupies burned (and sometimes selectively logged) forest areas, in the ponderosa zone and above, where large snags remain standing. Lewis's Woodpecker does not occupy some areas of apparently suitable habitat.

Lewis's Woodpeckers may use existing holes or natural cavities, or excavate holes in trees that are in an advanced stage of decay. Typically, larger-than-average trees are chosen for nesting. In breeding areas, a moderate amount of brushy understory, groundcover including dead or downed woody material, and abundant insects are all important (Bock 1970, Linder 1994). In winter, oak woodlands and commercial orchards are used. An important element of wintering habitat is the presence of suitable storage sites for mast or grains, such as is provided by the bark of mature cottonwood trees or cracks in desiccated power poles (Vierling 1997).

In one comparative study of cottonwood versus burned ponderosa pine habitat (in Idaho), nest success was significantly lower in cottonwood due to nest predation (Saab and Vierling 2001). In southern Colorado, Lewis's Woodpecker used broadleaf cottonwoods exclusively for nesting, and also for winter mast storage. Nest sites tended to be near fallow or mowed fields, and away from structures and grazed fields (Vierling 1997). In ponderosa pine habitat in Wyoming, Lewis's Woodpeckers nested preferentially in burned areas with more ground cover and downed logs. Here and in other studies, nesting occurred in clumps, suggesting a semi-colonial nature. Nesting was more common in an 8-year-old burn site than a 20-year old burn (Linder and Anderson 1998). In Idaho, Lewis's Woodpecker was the most abundant of nine cavity-nesting species in 2-4 year-old burn sites. Within burned areas, it experienced higher nesting success in salvage-logged plots with lower tree density than in unlogged plots (Saab and Dudley 1998). Breeding density varies with food supply; a maximum density of 16 pairs per hectare has been reported in the Pacific Northwest (Tobalske 1997).

Lewis's Woodpecker is an opportunistic and nomadic species, and may undertake short distance and/or altitudinal migration in pursuit of favorable conditions. In Utah, birds move from valleys into higher mountain areas following completion of breeding, before returning to lower elevations or moving south later in the fall (Tobalske 1997). In southeastern Colorado, half of a group of breeding birds were resident, and half migrated to the western part of the state (Hadow 1973). Year to year movements may be difficult to predict. Nomadic flocks typically disperse from breeding areas in late summer or early fall; wintering birds tend to be more solitary. Birds typically arrive in breeding areas in March, with incubation and brood-rearing occurring in May and June (Tobalske 1997). The species feeds on a variety

of insects by gleaning, hawking and flycatching. Fruit, nuts, and grains are also eaten and stored for winter consumption.

Conservation Status

Species Assessment

DISTRIBUTION	4
THREATS	4
GLOBAL POPULATION SIZE	4
LOCAL POPULATION TREND	3
IMPORTANCE OF NEW MEXICO TO BREEDING	3
COMBINED SCORE	18

Lewis's Woodpecker is a Species Conservation Concern, Level 1 species for New Mexico, with a total assessment score of 18. It is also a national PIF Watch List species. It receives high vulnerability scores from PIF for its relatively small breeding distribution, small population size, and threats to breeding. Lewis's Woodpecker is a U.S. Fish and Wildlife Service (2002) national Bird of Conservation Concern.

Population Size

Total population for the state is unknown. PIF estimates a global population of 130,000, and that New Mexico holds about 10%, or about 13,000 birds. This is an initial estimate based on BBS data and should be viewed with caution. Most of the state population is in the BCR 16 segment.

Population Trend

The overall population of Lewis's Woodpecker may have declined as much as 60% from the 1960s to the early 1990s, based on both BBS and Christmas Bird Count data (Tobalske 1997). BBS data through 1994 showed a negative annual trend of -3.4 range-wide; however, data through 2004 show a more moderate rate of decline. BBS coverage is insufficient to determine a statistically significant long-term trend for Lewis's Woodpecker in New Mexico, though a highly negative trend is indicated for the state's small number of routes on which the species is recorded. Tobalske (1997) urges caution in interpreting patterns of apparent decrease, noting that the species' sporadic distribution, relatively uncommon

status, and sometimes cyclical patterns of local abundance all make censusing problematic. BBS data for 1966-2004 are as follows:

	Annual Trend (%)	P-value	Number of Routes
New Mexico	-8.7	29	10
FWS Region 2	-5.7	37	12
Western BBS	-1.5	37	80

Threats

The primary threat to Lewis's Woodpecker, and the likely cause of population declines, is the loss or alteration of suitable nesting habitat. Ponderosa pine forests with an open, park-like structure have declined significantly in New Mexico and elsewhere in the West due to decades of fire suppression and intensive grazing. Suitable burned forest habitat may also be more rare than in historical times, because of fire suppression and salvage logging techniques that leave no large snags for nesting (Linder 1994, Tobalske 1997). These changes may have led to increased reliance on riparian cottonwood forests for breeding. In Idaho, Saab and Vierling (2001) suggest that cottonwood habitat may be a population sink due to proximity to agricultural lands and increased predation.

In New Mexico, cottonwood habitat with mature trees is limited. Along the Rio Grande Valley and elsewhere, senescence and eventual loss of mature trees is occurring, with little or no natural regeneration from bottomland flooding. While dead or decaying cottonwoods provide excellent nest sites, gradual loss of mature "bosque" habitat represents a significant threat to Lewis's Woodpeckers in New Mexico. Even where large trees are present, fire suppression and exotic species invasions have in many places resulted in a dense understory that may not be optimal for this species.

Competition with European Starlings for nest cavities was once considered a possible cause of declines, but subsequent behavioral studies indicate that Lewis's Woodpeckers are dominant competitors for nest sites (Vierling 1998). Pesticide contamination may be a threat, but little information is available (Tobalske 1997).

Management Issues and Recommendations

Management for Lewis's Woodpeckers in New Mexico should focus on the protection and restoration of suitable low elevation and high elevation breeding habitat. Care should also be taken to ensure that the needs of wintering birds across the state are being met.

NMPIF Recommendations

- Maintain and protect riparian habitat with large, mature cottonwoods for cavity nesting.
- Support efforts to restore flooding and cottonwood regeneration in portions of the Rio Grande bosque.
- Maintain and restore (by controlled burning or mechanical thinning) ponderosa pine habitat with large trees, moderate brushy understory, and an open, park-like structure.
- When salvage-logging burned forest, leave tall snags for nesting habitat.
- Management treatments of any habitat where Lewis's Woodpeckers are present should be accompanied by careful demographic studies and monitoring to determine species response.

Species Conservation Objectives

PIF Objectives

The PIF North American Landbird Conservation Plan designates Lewis's Woodpecker as a Management species, and sets an objective of maintaining or slightly increasing the present species population over the next 30 years.

NMPIF Objectives

- Maintain known populations south of Cochiti Lake, in the Corrales Bosque, and along the Rio Grande between Isleta Pueblo and Belen.
- Reverse the BBS trend for the state to a positive significant trend.
- Carry out breeding and demographic studies to determine breeding densities, seasonal movements, and source-sink dynamics of Lewis's Woodpecker populations in riparian and ponderosa pine habitat in the state.
- Increase the number of BBS routes in the state to develop a more robust trend estimate for the species.

Sources of Information

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