

Loggerhead Shrike (*Lanius ludovicianus*)

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

NMPIF Assessment score: 14

NM stewardship responsibility: Moderate

National PIF status: No special status

New Mexico BCRs: 16, 18, 34, 35

Primary breeding habitat(s): Great Basin Desert Shrub, Plains-Mesa Sand Shrub, Chihuahuan Desert Shrub, Plans-Mesa Grassland

Other habitats used: Pinyon-Juniper Woodland, Chihuahuan Desert Grassland, Agricultural

Summary of Concern

Loggerhead Shrike is a widespread species that has shown consistent long-term declines in many parts of its range, including New Mexico. The causes of these declines are not understood. Although still relatively common in many lowland habitat types across the state, long-term declines with no understanding of causes renders the species vulnerable, and its status bears careful monitoring.

Associated Species

Scaled Quail (SC2), Greater Roadrunner, Mourning Dove, Ash-throated Flycatcher, Western Kingbird, Northern Mockingbird, Sage Thrasher (BC2), Bendire's Thrasher (SC1), Cassin's Sparrow (Stewardship), Black-throated Sparrow (SC2), Western Meadowlark

Distribution

Loggerhead Shrike is a year-round resident of the southern half of the United States from California to the Carolinas, and extending south across most of the Pacific slope and interior highlands of Mexico. Summer breeding populations extend farther north, particularly in the Midwest into south-central Canada, also in the west to Oregon and Washington and more locally in the east to the Great Lakes region (Yosef 1996).

In New Mexico, Loggerhead Shrike occurs in many lowland habitats statewide.

Ecology and Habitat Requirements

Across its large range, this species is associated with many different vegetation types. It is generally found in landscapes with widely spaced shrubs and low trees, interspersed with short grasses, forbs, and bare ground. These include farm and pasture lands, grasslands and desert scrub, and savannah habitats (Cade and Woods 1997). Loggerhead Shrikes inhabit a variety of grassland, shrubland, and ecotonal habitats in the southwest. In New Mexico, this species is associated with open country and with short vegetation, including desert grasslands and shrublands and open woodlands or juniper savannahs. Breeding territories are often centered around isolated trees or large shrubs (Yosef 1994). Dense, thorny shrubs are preferred nest sites. In desert areas, tall yucca stems are often used as hunting perches. Loggerhead Shrikes forage in open areas, often with short grass, but the presence of shrubs is critical (Yosef 1996).

In Oklahoma, shrikes appeared to use presence of conspecifics as a cue for suitable habitat, resulting in an aggregated breeding distribution (Etterson 2003). In Idaho, Loggerhead Shrikes nested widely in sagebrush, and also used bitterbrush and greasewood (Woods and Cade 1996). In urban habitat in Tucson, Arizona, shrikes nested successfully in and around open space areas with low-growing vegetation including parks and parking lots (Boal et al. 2003). A wide variety of prey is taken, including insects, spiders, small birds, reptiles, and mammals. Larger prey is immobilized by being impaled on thorns or barbed-wire fences (Yosef 1996).

Conservation Status

Species Assessment

DISTRIBUTION	1
THREATS	3
GLOBAL POPULATION SIZE	3
LOCAL POPULATION TREND	5
IMPORTANCE OF NEW MEXICO TO BREEDING	2
COMBINED SCORE	14

Loggerhead Shrike is a Species Conservation Concern, Level 2 species for New Mexico, with a NMPIF combined score of 14. It receives a maximum vulnerability score of 5 for local population trend—see discussion below. Loggerhead Shrike is a U.S. Fish and Wildlife Service (2002) national Bird of Conservation Concern.

Population Size

Total population for New Mexico is unknown. PIF estimates a species population of 4,200,000, and that New Mexico holds about 7.6%, or about 320,000 birds. Overall species population is thought to be significantly smaller than historically. Densities vary greatly across the range and between habitats. In roadside surveys from a number of states summarized by Yosef (1996), densities ranged from 1 pair/1.6 km (in Alabama) to 1 pair/10 km (in Texas).

Population Trend

Significant regional declines in this once abundant species have been documented since at least the 1970s. The Loggerhead Shrike is one of only a few species to show significant BBS declines across almost the entire United States. The highest negative trends occur in prairie regions of Canada and portions of the southeast and southwest, including New Mexico. BBS data for 1966-2004 are:

	Annual Trend (%)	P-value	Number of Routes
New Mexico	-4.9	0.00	56
FWS Region 2	-5.5	0.00	305
Western States	-3.4	0.00	457

Threats

Reasons for broad-scale declines in this species are not well understood; probably there are multiple causes. Loss or alteration of habitat is a primary factor (Cade and Woods 1997). In the East, loss of farms and pasture lands with hedgerows has hurt this species, as has re-growth of cleared forests. In prairie regions, losses have been attributed to widespread conversion of native grasslands to irrigated agriculture or other uses (Tyler 1992, Telfer 1993). Loss of native shrub-steppe habitat in the arid west has also had a negative impact (Cade and Woods 1997, Vander Haegen et al. 2000).

Pesticide contamination may also be a threat. High levels of organochlorines have been found in Loggerhead Shrikes, potentially reducing eggshell thickness or affecting development of young (Anderson and Duzan 1978). However, pesticide levels measured in shrike eggs have decreased over two decades while populations have continued to decline (Herkert 2004).

Management Issues and Recommendations

Management for Loggerhead Shrikes in New Mexico should focus on preservation of areas of desert scrub, shrub-steppe, and grassland habitats with a shrub component.

NMPIF Recommendations

- Maintain or enhance grassland areas with a patchy shrub component.
- Avoid herbicide treatments that would eliminate shrub cover.
- In rangeland areas, maintain scattered thorny shrubs where already present and brush along fence lines.
- Leave standing shrubs along roadsides.

Species Conservation Objectives

NMPIF Objectives

- Stabilize negative BBS trends statewide.
- Gather improved information on species breeding densities and population trends.
- Identify causes of population declines in New Mexico.

Sources of Information

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