

Fringed Myotis (*Myotis thysanodes*)

Species Status Statement.

Distribution

Fringed myotis is a small bat that occurs in most of the western United States, much of Mexico, and part of southwestern Canada. The species is widely distributed throughout Utah. It is considered common in the Colorado Plateau and Mojave Desert, and less so in the Great Basin Desert.

Table 1. Utah counties currently occupied by this species.

Fringed Myotis
ALL

Abundance and Trends

Fringed myotis is widespread, and within its range is locally common to rare (NatureServe 2018). In Utah, both capture and acoustic surveys frequently detect this bat. Monitoring surveys since 2009 show increasing occupancy estimates (UDWR data).

Statement of Habitat Needs and Threats to the Species.

Habitat Needs

In Utah, this small bat is found in a moderately wide range of habitats: lowland riparian, salt desert shrub, sagebrush, piñon–juniper, mountain meadow, ponderosa pine forest, and Douglas-fir–aspen forest and woodland (Oliver 2000). This species requires free water, especially lactating females (Adams 2010). Fringed myotis roosts in caves, mines, tree snags, rock crevices, and buildings. The species commonly occurs in colonies of several hundred individuals. Its wintering habitats in Utah are largely unknown, with only a few records from mines.

Threats to the Species

The invasive fungal disease white-nosed syndrome (WNS) is the greatest known threat to fringed myotis. The disease affects bats during hibernation leading to dehydration, emaciation, and eventual death. A fringed myotis found in Washington State in 2017 tested positive for WNS. In 2019, the fungus that causes WNS was potentially detected on a fringed myotis at Grand Canyon National Park, although the bat did not show clinical symptoms. There are currently no estimates of population impact.

Researchers have found that reproductive success of fringed myotis declines in dry years, and thus hypothesize populations will decline under climate change predictions (Adams 2010).

Table 2. Summary of a Utah threat assessment and prioritization completed in 2014. This assessment applies to the species' entire distribution within Utah. For species that also occur elsewhere, this assessment applies only to the portion of their distribution within Utah. The full threat assessment provides more information including lower-ranked threats, crucial data gaps, methods, and definitions (UDWR 2015; Salafsky et al. 2008).

Fringed Myotis
Very High
Disease – Alien Organisms
Medium
Mine Shaft / Adit Closures

Rationale for Designation.

As of 2019, Utah managers have not detected WNS in the state. Elsewhere, managers have documented the causative fungus as near as eastern Wyoming and western Washington. Given its past rate of spread, WNS will probably reach Utah within 5 years. The impact of WNS on bat populations is highly variable. Some species experience population declines of greater than ninety percent, while other species exhibit more moderate population declines, and still others show no population-level impacts (Lanwig et al. 2016). Managers do not know how WNS will affect fringed myotis populations, but given the rapid declines in other small-bodied bat species, there is cause for increased conservation attention.

Conservation actions will focus on implementing the Utah Bat Conservation Plan and WNS Management and Surveillance Protocol (Oliver et al. 2009, Roug et al. 2016). These documents outline goals, objectives, and strategies designed to prevent this disease from establishing in Utah bat populations, and provide management and surveillance strategies should WNS be detected in Utah.

Economic Impacts of Sensitive Species Designation.

A core intent of Sensitive Species designation is to facilitate state management of this species and thereby prevent the need for federal intervention in its management. Endangered Species Act listing of other bat species in eastern states has prompted requirements for extensive regulatory compliance for a wide variety of project categories including transportation, utility rights-of-way, habitat management, and forest management. Given the wide distribution of this bat, formal and informal consultation could be required for most projects with a federal nexus. Restrictions would be placed on activities around sensitive areas including maternity roosts and

hibernacula. Even where mitigation is not ultimately required, ESA compliance increases the cost and alters timelines of many projects.

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