

[A race of the] Chisel-toothed Kangaroo Rat (*Dipodomys microps alfredi*)

Species Status Statement.

Distribution

This subspecies is endemic to Utah and occurs only on Gunnison Island in the Great Salt Lake. Durrant (1952, p. 274) considered this kangaroo rat to be the most distinctive of the mammal subspecies that are endemic to islands in the Great Salt Lake—so distinctive that he even considered the possibility that it may deserve full species status.

Table 1. Utah counties currently occupied by this species.

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Abundance and Trends

Oliver (field notes, 15 July 2014 and 22 October 2014) captured numerous individuals on the north and south sides of Gunnison Island. However, its population trends are unknown.

Statement of Habitat Needs and Threats to the Species.

Habitat Needs

The chisel-toothed kangaroo rat (*Dipodomys microps*, full species) is a dietary and a habitat specialist, and typically lives in association with either saltbush (*Atriplex* sp.) or blackbrush (*Coleogyne* sp.). However in some places it is found in association with greasewood (*Sarcobatus* sp.), sagebrush (*Artemisia* sp.), and a few other desert shrubs. Native perennial grasses are thought to be well-tolerated by the species, but introduced annual grasses are considered to impact it negatively (see review of ecology in Hayssen 1991).

Threats to the Species

The State of Utah owns Gunnison Island, and the Utah Division of Wildlife Resources administers it as a bird nesting colony. Therefore many potential anthropogenic threats are already prevented. The principal threat to the existence of *Dipodomys microps alfredi* is the dewatering of the Great Salt Lake. Lowering of lake levels connects the island to the mainland with unnatural increasing frequency, which enables invasion from the mainland by (1) related kangaroo rat subspecies (which will eventually result in genetic swamping of this island endemic), and (2) terrestrial predators such as carnivorous mammals and snakes, of which there are none on the island. The island also hosts a dense population of the introduced, invasive annual grass *Bromus tectorum*

(cheatgrass). This weed invasion increases the likelihood of wildfire and subsequent loss of native plants from the island, which would eliminate this animal's food supply and habitat structure.

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).

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High
Agricultural / Municipal / Industrial Water Usage
Droughts
Water Allocation Policies
Medium
Invasive Plant Species – Non-native
Problematic Animal Species – Native

Rationale for Designation.

This subspecies is restricted to a single island in the Great Salt Lake. Because of its highly restricted distribution and its small population size, it is vulnerable to extinction. UDWR considers it a high priority for conservation (Oliver 2018). In order to maintain understanding of the status of this species in Utah, managers need to conduct occasional surveys, and monitor potential threats. These activities will help prevent the possibility of Endangered Species Act listing of this species.

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. ESA listing could lead to restrictions on water development and use in the Great Salt Lake watershed.

Literature Cited.

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- Hayssen, V. 1991. *Dipodomys microps*. *Mammalian Species* 389: 1–9.
- Oliver, G.V. 2018. Mammal subspecies endemic to Utah; an overview and conservational prioritization. Utah Division of Wildlife Resources. Salt Lake City, Utah. 51 pp.

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