U.S. Fish and Wildlife Service

Giant Kangaroo Rat
Dipodomys ingens

CLASSIFICATION
Endangered—April 1987

DESCRIPTION
The giant kangaroo rat (*Dipodomys ingens*) is the largest of more than 20 species in the genus *Dipodomys*.

The name is based on the fact that they are adapted for two-footed (bipedal) hopping like a kangaroo. They have large, flattened heads with short necks. Large, fur-lined cheek pouches extend as deep pockets of skin along the sides if the head. Their hind limbs are large compared to the size of their forelimbs. Their tails are longer than their combined head and body length. The tails have a crest of long hairs, terminating in a large tuft. Giant kangaroo rats are distinguished from the similar San Joaquin kangaroo rats (*Dipodomys nitratoides*) by the number of toes on their hind feet. Giant kangaroo rats have five toes, San Joaquin kangaroo rats have four. Adult giant kangaroo rats weigh from 4.6 to 6.4 ounces (131 to 160 grams) and they are 12.2 to 13.7 inches (311 to 348 millimeters) long.

Giant kangaroo rats prefer annual grassland on gentle slopes of generally less than 10°, with friable, sandy-loam soils. They develop burrow systems with one to five or more separate openings. There are generally two types of burrows: 1) vertical shaft with a circular opening and no dirt apron and 2) larger, more horizontally-opening shaft, usually wider than high with a well-worn path leading from the mouth. Reproduction is influenced by population density and availability of food.

Giant kangaroo rats are primarily seed eaters. However, they also eat green plants and insects. They cache ripening seed heads in small surface pits or large stacks on the surface over their burrow system. After curing for several weeks, seeds are transported to underground larders. Giant kangaroo rats forage on the surface from around sunset to near sunrise, with most activity taking place in the first two hours after dark. Foraging activity is greatest in the spring as seeds of annual plants ripen. Commonly consumed seeds include peppergrass (*Lepidium* spp.), filaree (*Erodium cicutarium*), Arabian grass (*Schismus arabicus*) and brome grasses (*Bromus* spp.).

DISTRIBUTION
The historical distribution of giant kangaroo rats encompassed a narrow band of gently sloping ground along the western edge of California's San Joaquin Valley, with occasional colonies on steeper slopes and ridge tops, from the base of the Tehachapi Mountains, Kern County, in the south, to near Los Banos, Merced County, in the north. Historical habitat was estimated to have included over 1.5 million acres. The population is currently fragmented into six major geographic units. The two units located in the southern San Joaquin Valley are: Kettleman Hills and Western Kern County (Lokern, Elk Hills, McKittrick, Taft, and Maricopa).

The major units are fragmented into more than 100 smaller populations, many of which are isolated by several miles of barriers such as steep terrain with plant communities unsuitable as habitat or by agricultural, industrial, and urban that offer no habitat for this species. Extant habitat is estimated to be 27,540 acres.

Within currently occupied habitat, populations of giant kangaroo rats studied since 1979 have expanded and declined 6 to 10-fold with changing weather patterns. Density estimates range from 2.5 to 275 animals per acre. Changes in density generally coincide with rainfall and herbaceous plant productivity; however, seed caching behavior of the species may offset this effect.

THREATS
Completion of federal and state water projects resulted in rapid cultivation and irrigation of giant kangaroo rat habitat. Urban and industrial developments, petroleum and mineral exploration and extraction, new energy and water conveyance facilities, and construction of communication and transportation infrastructures continue to destroy habitat for giant kangaroo rats and increase the threats to the species by reducing and further fragmenting populations. In addition, use of rodenticide-treated grain to control ground squirrels and kangaroo rats may have contributed to the decline of giant kangaroo rats.

CRITICAL HABITAT:
None

RECOVERY PLAN:
September 1998