

The Threatened Desert Tortoise

Life History

The desert tortoise (*Gopherus agassizii*) is the largest reptile and the only wild land tortoise found in the southwestern United States. The tortoise occurs in southern Nevada, western Arizona, southeastern California, and northwestern Mexico. Desert tortoises are typically found in creosote bush, cactus and shade scale scrub, and Joshua tree woodland habitats below 5000' elevation.

Tortoise populations are patchily distributed and densities range from a few per square mile to 200 per square mile. A tortoise will live in the same general area of less than one square mile during its lifespan of 50 to 100 years. This slow-moving desert reptile ranges in size from 2 to 15 inches long and is soil colored. As a result of their color and shape, tortoises can be very difficult to see.

There are several clues that can be used to tell male and female tortoises apart. However, only tortoises greater than seven inches long can be sexed reliably. Males tend to be larger than females, have a longer tail, have longer upward curving gular horns, have larger chin glands, and have a concave plastron (bottom portion of shell).



Tortoises are well adapted to their desert environment and spend up to 98% of their time in burrows they dig. Burrows are crescent shaped and are most often found at the base of desert shrubs or in wash banks. A tortoise may excavate and use many bur-

rows during the year. Some burrows are used for only a short period of time and others may be used for several years. Many mammals, birds, reptiles, and invertebrates utilize tortoise burrows. Burrows and tortoises are most often found on valley floors and slopes, but they may also be found on the less precipitous slopes and ridges of desert mountain ranges.

Besides burrows, and remains; another method that biologists use to determine if tortoises exist in an area is the presence of scat (feces). Fresh scat is dark brown or black, but turns gray over time. Scat length varies, from one half to four inches, depending on the size of the tortoise. Scats usually contain coarse plant fibers.

Tortoises are inactive from mid November until February. The activity period for desert tortoises is from March until late October when they usually spend part of each day above ground. Tortoises are especially active during warm days when it is overcast or raining. During these times they seek water that collects in natural depressions or in depressions the tortoises dig themselves. The diet of tortoises, which are herbivores, includes a wide variety of herbs, grasses, cacti, and flowers. Since droughts are common in the deserts that tortoises inhabit, they rely on the erratic years of good rainfall and the ensuing growth of palatable plants.



Sexual maturity occurs at 15-20 years of age. Breeding occurs in March and April and egg laying occurs from May to July. Nests are almost always located at the entrance of burrows. Clutches can be 1 to 14 eggs and a mature female may lay up to 3 clutches annually. The eggs are covered with soil and hatch after 80 to 130 days, typically in August or September.

Predators are usually only a problem for young tortoises. Predation is the greatest cause of mortality for hatchlings. Eggs are eaten by Gila monsters, foxes, coyotes, snakes, and badgers. The shell of juvenile tortoises does not harden for five or more years and young tortoises may fall prey to ravens, hawks, eagles, coyotes, foxes, bobcats, badgers, skunks, and feral dogs and cats. Up to 200 young tortoise carcasses have been found under raven perches and nests. While successful predation on adults is rare; coyotes, foxes, bobcats, eagles, and feral dogs have been known to prey on adult tortoises. Habitat quality can affect predation in certain habitats.

Research

The Bureau of Land Management will be actively involved in ongoing research projects that address various aspects of tortoise management and physiology. Research is being conducted on disease, livestock grazing, predator-prey relationships, genetics, tortoise translocation/relocation, and habitat restoration.

Legal Status

The Mojave desert tortoise was federally listed under the Endangered Species Act of 1973 as a threatened species on April 2, 1990. The tortoise was listed because of direct losses and threats to tortoise populations and habitat. Desert tortoises are directly impacted by increased raven predation on juveniles, collection by humans, vandalism, losses on roads and to off-highway vehicle (OHV) activities, and Upper Respiratory Tract Disease (URTD). Tortoise habitat is lost directly to urbanization, agriculture, road construction, military activities, and other uses. OHV use, rights-of-way, and grazing degrade habitat. All of these activities fragment tortoise habitat, which may reduce a tortoise population below the level necessary to maintain a minimum viable population.

The U.S. Endangered Species Act makes it illegal to harass, collect, or harm tortoises and provides for penalties of up to **\$50,000 in fines and one year in prison for each count**. State laws and Fish and Game Codes also afford protection to the desert tortoise.

Legal Status continued..

The Endangered Species Act (ESA) allows for individuals of an endangered or threatened species to be taken incidentally to an otherwise lawful activity; as long as the conditions of the Fish and Wildlife Service's (Service) Biological Opinion are followed. "Take" includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing or collecting, or attempting to engage in any such conduct. Harm includes significant habitat modification or degradation that impacts a listed species by interfering with breeding, feeding, or sheltering behavior. The threatened listing of the desert tortoise occurred because of widespread habitat destruction and degradation, illegal collection, disease, raven predation, and other factors.

Tortoises in captivity prior to the initial listing of August 4, 1989 are not protected by the ESA. If you are interested in having a pet tortoise, you may obtain one from an adoption group or from someone that has acquired their pet legally and gifted them to you. Tortoises can offer a unique alternative to more traditional family pets but do not turn them loose or allow your tortoises to breed.



Tortoise Handling

Handle all tortoise carefully and only if authorized to do so! Tortoises can be injured and can die from improper handling. Do not approach tortoises unless absolutely necessary, as your presence can induce stress in the animal. When you must approach a tortoise, move slowly and approach from the rear of the animal. Pick up the tortoise gently and keep it level at all times. When handling large tortoises, grasp the animal with both hands, one at each side of the animal. When moving tortoises longer distances, a plastic tote or cardboard box should be used. Containers should be thoroughly cleaned between tortoises or only used for one tortoise. All personnel handling tortoises will wear surgical type gloves to inhibit the transmission of diseases among tortoises. Always change gloves and disinfect equipment after handling a tortoise.

Remember to always check under your vehicles!!

Southern Nevada District

