

DESERT TORTOISES



Photo by Scott Sprague.

Desert tortoises are one of the more elusive residents of Arizona. Although relatively common in the desert ecosystems of the southwestern U.S. and northern Mexico, it often takes patience or pure luck in order to see one.

Cool Facts

- ◇ Two distinct populations of desert tortoises live in the U.S. The Mojave desert tortoise, found north and west of the Colorado River, is listed as threatened under the Endangered Species Act. The Sonoran desert tortoise, found south and east of the Colorado River, is not yet federally listed, but a petition for listing is currently being considered. This population is protected by the Arizona Game and Fish Department.
- ◇ Tortoises are very well adapted to life in the desert. Their thick skin and shell help protect them from predators, while their strong legs and long claws allow them to burrow to escape extreme temperatures.
- ◇ Desert tortoises spend up to 95% of their lives underground! During the winter, they hibernate to avoid the cold, and during the summer, they estivate to avoid the heat. Tortoises are most active during the summer rains.
- ◇ Tortoises acquire almost all of their needed water from their diet and can go for more than a year without drinking. They are able to store water in their bladders for use during drought. However, one of their defense mechanisms is to “void,” or release the contents of their bladders. This can be effective in warding off an immediate threat, but it can also be dangerous during a drought.
- ◇ Tortoises are very long-lived animals with a lifespan of 50–80 years in the wild. They reach maturity between 12–20 years of age.



Photo by Mark A. Wilson.

Threats

As with many species, the primary threat facing tortoises is habitat destruction and fragmentation. Rapid urbanization and development in tortoise habitat causes direct and indirect mortality. Examples of indirect effects include barriers to movement, introduction and increase in predators (e.g. domestic dogs), and spread of non-native plant species that displace important native vegetation and increase wildfires.

Roads and off-highway vehicles can have serious detrimental impacts on tortoise populations. A number of tortoises have been killed or injured by vehicles on both paved and dirt roads as well as off roads. Roads also accelerate the spread of invasive non-native plants.

Upper Respiratory Tract Disease (URTD) is also a major threat to desert tortoises. The disease causes cold-like symptoms, and, once infected, a tortoise may die or become a carrier for life. URTD is one of the primary reasons why the Mojave population was listed as threatened as an alarmingly high number of tortoises have died from it. Its effect in the Sonoran population is not well understood. Release of captive tortoises is one way that URTD is introduced into a wild population.

Removal of tortoises from the wild is, unfortunately, fairly common. People think they're doing the tortoise a favor by moving it or taking it into captivity, but it is actually very harmful to both the tortoise and the wild population.

Climate Change

Climate change is affecting turtle species worldwide. Tortoises are no exception. As temperatures and drought continue to increase, so does stress on tortoises.

Tortoises, like all reptiles, are ectothermic, meaning they depend on their environment to regulate their temperature. Increasing temperatures will force them to stay underground or in the shade longer, limiting opportunities to forage, breed, and disperse. Drought will also reduce movement in order to avoid water loss.

Heat and drought also affect reproduction. During drought years, females lay fewer eggs. Additionally, tortoises use environmental sex determination, which means that the sex of hatchlings is determined by soil temperature during incubation. Higher temperatures produce more female tortoises, which could strongly skew the sex ratio of the adult population.

Climate change is also changing tortoise habitat. Higher temperatures and reduced water availability alter vegetation and allow for rapid spread on non-native species. Tortoises will have a harder time finding the nutrients and water they require in their forage, and habitat may be eliminated completely in some areas.



Photo courtesy of the AZ Game and Fish Dept.



Photo courtesy of the U.S. Fish & Wildlife Service.

What You Can Do

- ◇ Keep wild tortoises wild! Individual tortoises are well-adapted to the area they occupy and are essential to the wild population. *It is illegal to remove a tortoise from the wild in Arizona.* If you would like a tortoise companion, adopt one from the Arizona Game and Fish Department.
- ◇ Keep captive tortoises captive! Captive tortoises pose a threat to wild populations through the spread of disease, displacement of wild individuals, and genetic contamination. Captive tortoises may also die when released into unfamiliar territory. *It is illegal to release a captive tortoise in Arizona.*
- ◇ Practice responsible recreation! Stay on designated trails and roads, keep your dog on a leash and away from wild animals, and avoid activities that are harmful to the desert ecosystem.
- ◇ Do not handle a wild tortoise unless absolutely necessary (e.g. on a busy road). Handling can stress the animal and cause it to void, losing valuable water necessary for survival.
- ◇ Educate others! Education is one of the most important ways to help our sensitive desert species. Tell people about how amazing tortoises are and ways they can help protect our desert ecosystems.

Learn More!

Arizona Game and Fish Department

http://www.azgfd.gov/w_c/deserttortoisemanagement.shtml

U.S. Fish and Wildlife Service

http://www.fws.gov/nevada/desert_tortoise/dt_life.html

Desert Tortoise Adoption

http://www.azgfd.gov/w_c/captive_tortoise_care.shtml

For information on what you can do to help wildlife in Arizona, contact the Grand Canyon Chapter at (602) 253-8633 or grand.canyon.chapter@sierraclub.org.



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