

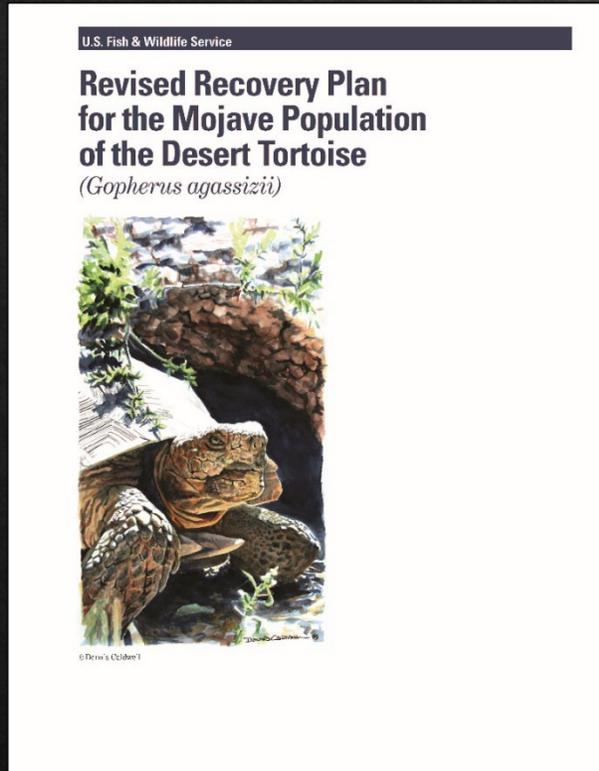
**STATUS REVIEW OF THE
MOJAVE DESERT TORTOISE
GOPHERUS AGASSIZII
(2012-2022)**

Kerry L. Holcomb

Acting Desert Tortoise Recovery Coordinator

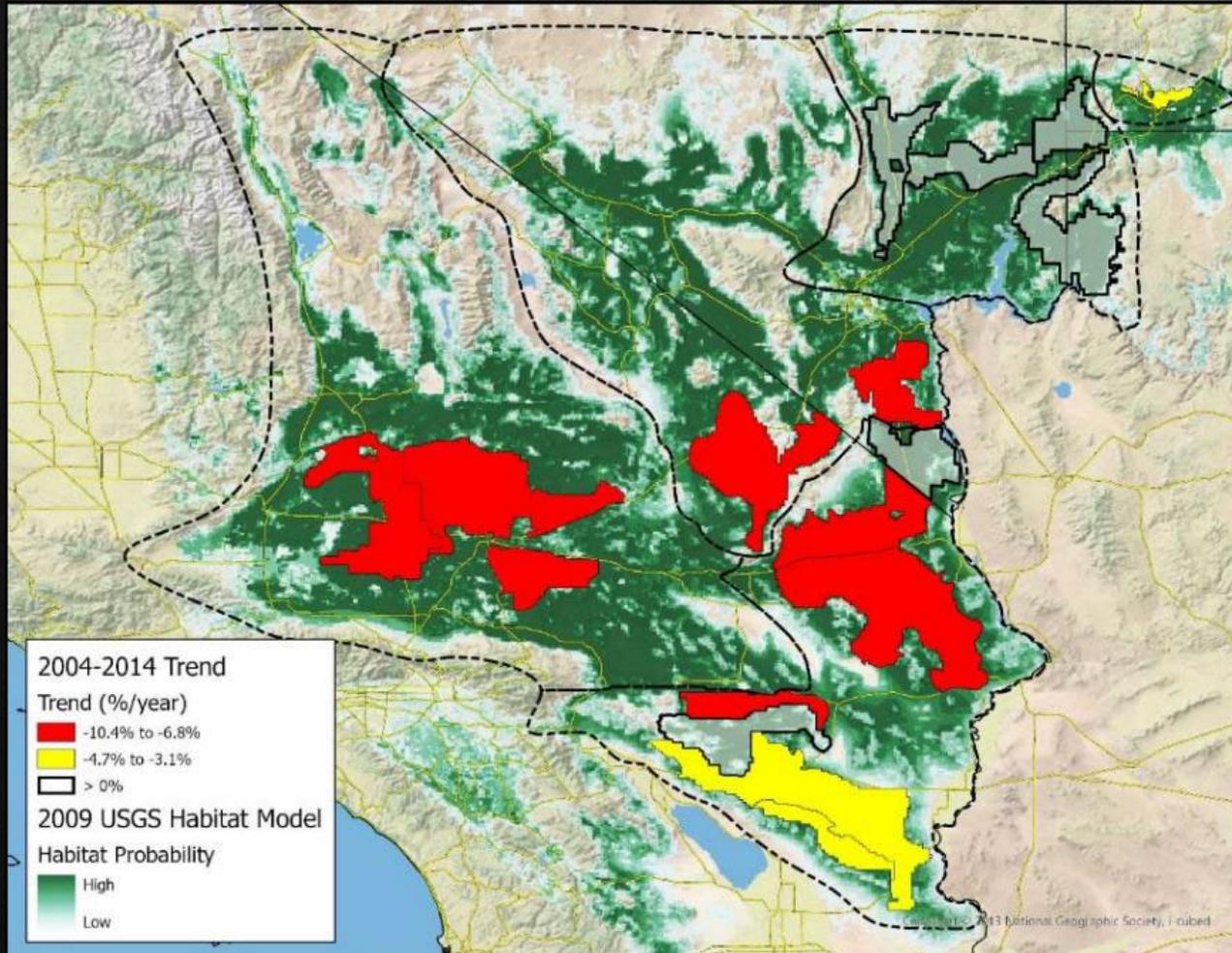
<https://www.fws.gov/program/desert-tortoise-recovery>

INFORMATION SINCE 2011



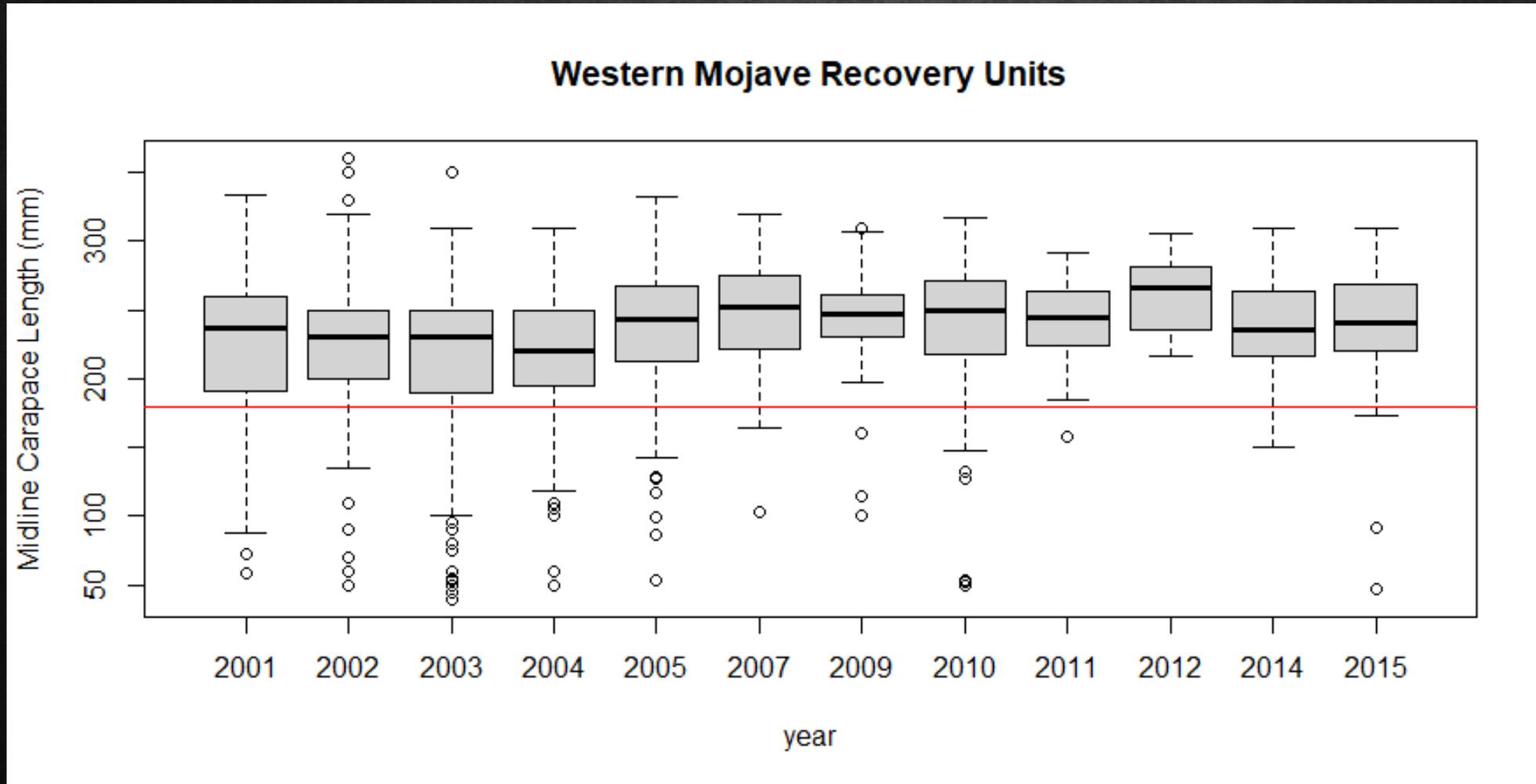
- Summarized substantial new information
 - Comprehensive bibliography
- Reviewed populations east of the Colorado River
- Status has not improved
 - *But* Statutorily still Threatened classification

POPULATIONS DECLINED IN 11 OF 17 TCAS (2004-2014)



- Net estimated decline of 37% (Allison & McLuckie 2018)
 - In the 8 years since 2014, adult trends have not improved in already declining TCAS
 - We also have a limited understanding of population vital rates, particularly for juveniles
- *Spatial* trend analysis forthcoming (2001-2020)
- Spatial Population Viability Analysis (~1980-2020)

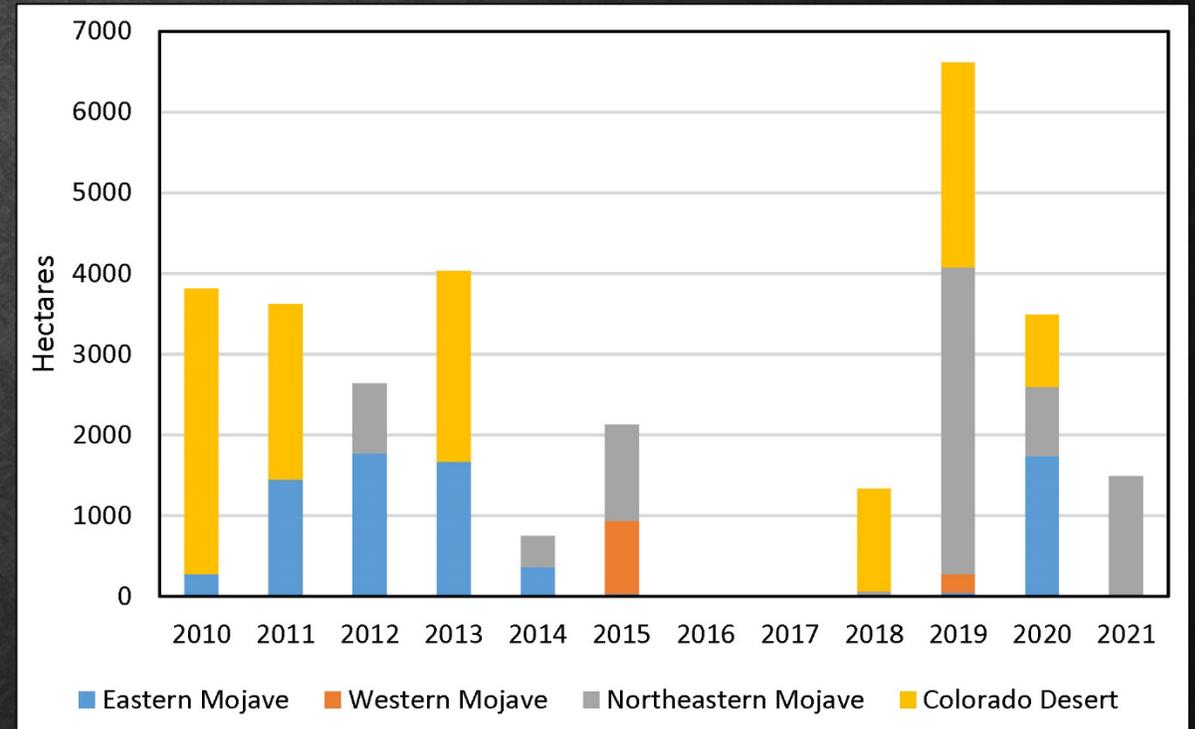
OBSERVED MEDIAN CARAPACE LENGTH



Modified from Alison & McLuckie 2018

FACTOR A: PRESENT OR THREATENED DESTRUCTION, MODIFICATION, OR CURTAILMENT OF HABITAT OR RANGE

- ~29,874 ha solar development approved since 2010 (~0.2% of total)
- ~101,000 ha military base expansions (~1% of total)



~13.3 million ha habitat total north and west of Colorado River

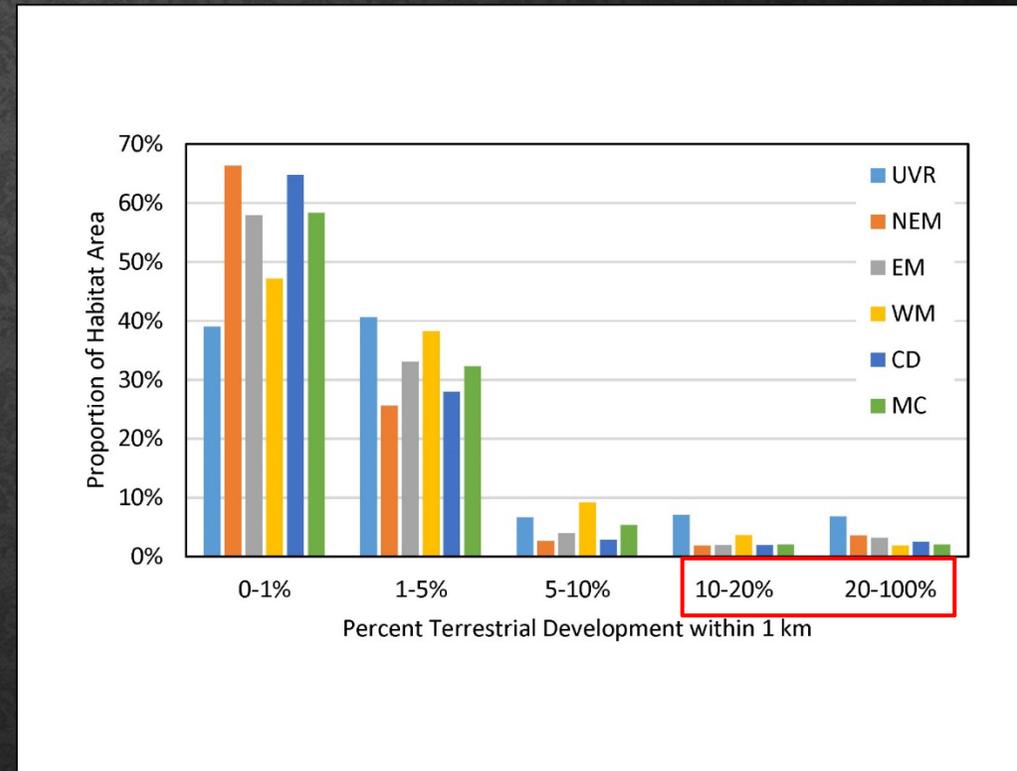
FIRES AND CANNABIS FARMS ARE CONSUMING HABITAT

- >28,000 ha burned since 2020
- Illegal cannabis farms

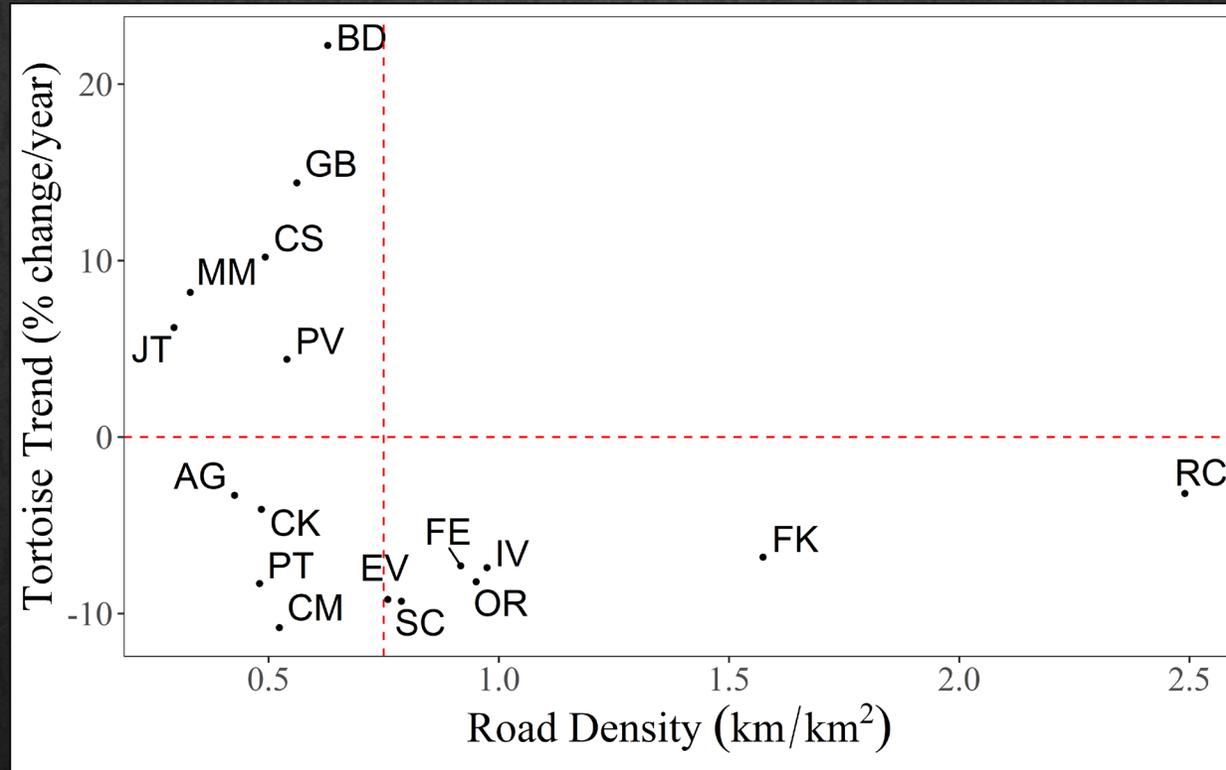


TORTOISES ARE ABSENT WHERE >10% DEVELOPED WITHIN 1 KM (CARTER ET AL. 2020)

- Only 5% of modeled habitat had levels of development exceeding this threshold
- UVR had 14%

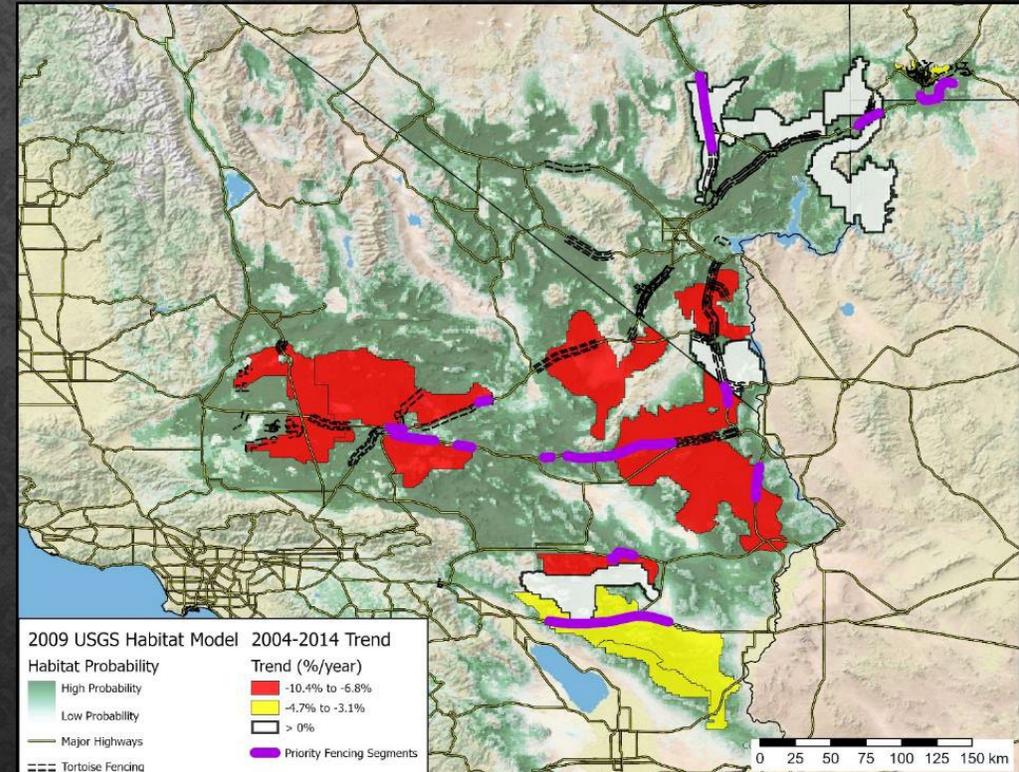


TORTOISE POPULATIONS DECLINED WITH ROUTE DENSITIES (PAVED AND UNPAVED) $>0.75 \text{ km/km}^2$



SOME PROGRESS HAS BEEN MADE

- Habitat restoration
- Highway fencing before 2012
 - 1660 km vs 43 km
 - ~500 km ID'd as priorities
- DOD and DOI Recovery and Sustainment Partnership Initiative in west Mojave
 - 100k ha habitat restoration Proposed
 - 32 km highway fencing Proposed



THE SERVICE DOES NOT RECOMMEND A CHANGE IN THE MOJAVE POPULATION OF THE DESERT TORTOISE STATUS

- Total population = 100s of thousands of individuals
 - Increasing populations in part of the species distribution
- The species is not in “imminent danger of extinction in the foreseeable future” (ESA definition of Endangered)

Future Assessment of Status

- New trend analysis, land-use/climate change models forthcoming
- Spatial population viability analysis

HIGH-PRIORITY RECOVERY ACTIONS NEED TO BE IMPLEMENTED

- Fire management planning and implementation
- Habitat restoration: define desired conditions relative to tortoise fitness
- Increase law enforcement
- Install highway barrier fencing
- Minimize excessive predation by ravens via subsidy reduction and predator control
- Population augmentation
- Targeted environmental education

**DEDICATED TO LINDA J. ALLISON
1961-2022**



<https://www.fws.gov/program/desert-tortoise-recover>