

Mojave Desert Tortoise Management Oversight Group Webinar Summary July 11, 2019

Start Time: 10:00 am

Conducting: Glen Knowles, U.S. Fish and Wildlife Service (USFWS), Field Supervisor, Southern Nevada Fish and Wildlife Office

The Desert Tortoise Management Oversight Group (MOG) convened via webinar/conference call on July 11, 2019. Glen Knowles (USFWS) reviewed the agenda and Action Item Tracking Report. The call was attended by a diverse group of approximately 50 people including MOG executives, managers, staff, and interested parties.

Upcoming Meetings

- *MOG meeting:* October 29, 2019, Springs Preserve, Las Vegas, Nevada (details TBD)

Meeting Summary

Line Distance Sampling Report: Linda Allison, Desert Tortoise Recovery Office (DTRO), USFWS

Linda presented an update on Mojave desert tortoise status and trend as estimated from the range-wide monitoring program and based on the paper published in 2018 (Allison and McLuckie. 2018. Population trends in Mojave Desert Tortoises (*Gopherus agassizii*). Herpetological Conservation and Biology 13:433–452.). In summary, trends in adult tortoise densities declined or were neutral between 2004 and 2014 in 4 of 5 recovery units, increasing in 1 recovery unit. Although declines have been ongoing over 15 years, Upper Virgin River still has higher adult densities than other recovery units. The Northeast Mojave Recovery Unit and two other individual Tortoise Conservation Areas (TCAs) with increasing trends started with the lowest densities in 2004. Extrapolating densities from the TCAs where surveys were conducted to habitat range-wide, the species saw a net decrease of over 120,000 tortoises (~1/3) between 2004 and 2014. Proportions of juveniles have been declining since 2007, reducing potential cohorts to increase the adult population in the near term.

Roughly half the TCAs in the range are targeted for survey each year at a cost of ~\$1M. Estimates from individual surveys bounce around due to annual sampling variation—estimates from some years are above the average trend and some are below. The estimate from the trend analysis incorporates the information from all the years, so this is the most reliable number. Based on a sampling effort of ½ the TCAs per year, it will take ~6 years to add 3 points to each TCA's data set for a minimal opportunity to update the trend analysis. In this case, we anticipate conducting a new analysis after the 2020 season.

Gerry Hillier expressed appreciation for Linda's tenure and consistency in maintaining the monitoring program. Kerry Holcomb and Linda noted that the data from the monitoring program are input into various other models and analyses, and the data are available from Linda. Raul

Morales asked about future funding needs: Funds are in hand for Nevada via the Southern Nevada Public Lands Management Act through 2020; carry-over funds are available for ~1/2 of the effort in California in 2020; and funds are available from the AZ BLM office for Arizona in 2020. Linda will get a request for the remaining 2020 funds in California to Amy Fesnock, but all agencies should be thinking about how to support monitoring in 2021 and beyond. Linda's presentation will be made available with this meeting summary on the DTRO's webpage.

Recovery Implementation Team Project List: Roy Averill-Murray, DTRO, USFWS
There are no substantive updates to the RIT project list since the last MOG meeting, but Roy described the new format of the list (distributed prior to the webinar) which now subdivides each RIT workgroup section into subsections based on all the TCAs in that workgroup. This highlights the number of projects identified (or the lack thereof) in each of the TCAs, which will hopefully help motivate the development of new projects, especially in light of the declining tortoise-population trends within most of the TCAs.

Update on the Recovery and Sustainment Partnership Initiative: Brian Croft, Division Chief, Mojave Desert Division, Palm Springs Fish and Wildlife Office
Brian reviewed the history of this initiative, which is a high priority for USFWS and Department of Defense (DoD). The goal is to provide greater mission flexibility for installations while also providing a more streamlined approach to contributing to recovery. The Mojave Desert Tortoise is one of 11 other species in our area (all in California) that are included in this partnership. FWS is leading the development of brief implementation plans on 3-5yr time frames (preferably 1-2 years) for these species, which will be approved by DOI and DoD leadership. The desert tortoise plan is intended to dovetail with the MOG/RIT process with hopes to develop more flexible funding mechanisms, such as via NFWF, that will allow DoD to support recovery actions outside their installations.

Most recently, a meeting was held in Sacramento in May 2019 between HQ, regional, and staff levels of DoD and FWS installations and offices to discuss recovery requirements/needs for the DoD installations and the development of a crediting strategy to help offset impacts on installations with recovery actions. FWS is having an internal meeting to start developing a project list for potential funding through the initiative and will work with the RITs to further develop that list. DoD has committed funding to a contractor to write a biological assessment for the crediting strategy with the intent to have a final biological opinion and project list completed by the end of the calendar year.

Update on Table of High Priority Road Fencing Needs and Road Priority Model: Kerry Holcomb, Mojave Desert Division, Palm Springs Fish and Wildlife Office
Kerry reviewed the "top 10" list of priority highways in need of tortoise exclusion fencing as output from the prioritization and modeling exercise he presented at last February's MOG meeting (see notes from that meeting on the DTRO web page). The list (Attachment 1) describes each length of road, its range-wide ranking in the prioritization model, and comments on particular issues that may require coordination or logistical consideration.

Raul Morales will follow up with FWS to talk about fencing options in Nevada and options to help develop programmatic NEPA for this work.

Desert Tortoise “Recovery network” and Connectivity Session – A Preview: Roy Averill-Murray, DTRO, USFWS; and Todd Esque, U.S. Geological Survey, Henderson
Roy and Todd provided an overview of a draft outline for a “recovery network” and connectivity session at the October 29, 2019, MOG meeting (Attachment 2). The session will constitute the majority of the October 29 meeting, covering a background on tortoise status and need for connectivity, existing models of habitat and connectivity and how they have been used in decision-making to date, active research related to the issue of connectivity and that extend the existing models, and multiple time slots for discussion among the MOG managers.

Kerry Holcomb pointed out that this session will tie into questions about fencing needs and priorities. Gerry Hillier asked whether disease transmission and how connectivity might affect disjunct populations would be covered (we will add that to the list of topics).

Review of Action Items

No major action items were identified, but a) Linda’s presentation will be posted to the DTRO’s web page, b) agency personnel should send information on non-RIT recovery projects that are being implemented to Flo Deffner (flo_deffner@fws.gov) to be collated, c) Flo will send out a reminder about the non-RIT projects, and d) Kerry will update the Top 10 list based on recent information (completed; see Attachment 1).

Top 10 Fencing Recommendations Generated by the Recovery Importance Index

August 23, 2019
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Id	Name	RII	Single Side?	Comments	Roads Included	Total Fence Miles	Total Fence Km
1	I-40 Daggett to Newberry Springs, CA	120	south side	Includes private land in right of way, could stop short of Newberry if habitat is the suspected cause of the observation dearth	Pendleton Rd to I-40 to Quarry Rd	17.11156	27.53845
2	I-10 Shavers Valley-Chuckwalla Valley, CA	115	no	Includes private land in right of way	I-10	88.5538	142.5138
3	I-40 National Trails West of Pisgah, CA	110	south side	Includes private land in right of way	National Trails HWY	5.190571	8.353431
4	I-15 Afton Rd to Near Cave Mts, CA	110	no	Includes private land in right of way	I-15	7.320952	11.78195
5	I-40 West of Van Winkle Wash to E of Essex Rd, CA	100	no	Includes private land in right of way	I-40	45.34044	72.96851
6	I-15 Virgin River, AZ	100	no	Includes private land in right of way	I-15	18.34204	29.51872
7	US 95 From Nevada-boarder South	96	no	at grade but low gradient	US95	15.51409	24.96756
8	US 93 Lincoln County line to Evergreen Flat	96	no	n/a	US93	69.85331	112.4182
9	I15 North of Barstow, CA	90	North side	North side of I-15 only	I15	4.978446	8.012049
10	Utah 7 South of Saint George, UT	85	no	n/a	UT7	33.99554	54.71062
Totals						306.2007	492.7833

Table 1 – Based on the rangewide Mojave desert tortoise Recovery Importance Index the ten exclusion fence installation projects listed above are the most critical to tortoise recovery in terms of our current understanding of road-effect zone area, relative habitat potential, and locations of extant meta-populations.

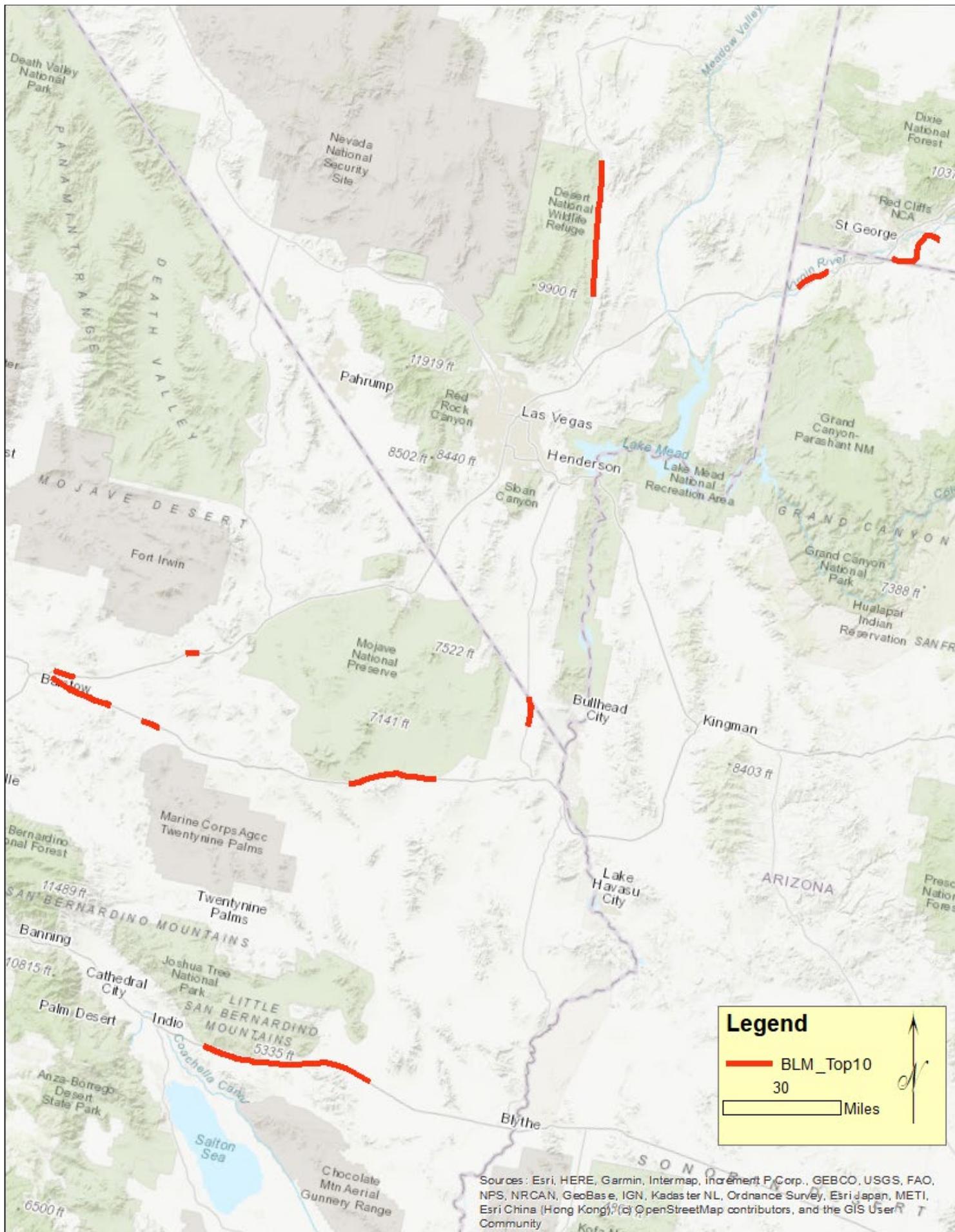
Total Miles Summary Statistics

Smallest project: ~4.9 miles

Largest project: ~88.5 miles

Total miles of desired shovel ready fencing projects: ~306.2 miles

Average miles of fence per project: ~30.6 miles



Attachment 2

Desert Tortoise “Recovery Network” and Connectivity Session for the 29 October 2019 MOG Meeting *Draft Outline (speakers tentative)*

Purpose: Describe the sufficiency (e.g., viability) of existing Tortoise Conservation Areas for recovery of the Mojave Desert Tortoise, the importance of connectivity between the TCAs, and vulnerabilities to the TCAs and linkages

1. Introduction (Roy Averill-Murray, **5 minutes**)
2. The framework for recovery (Linda Allison, **10 minutes**)
 - 2.1. Status and trends of tortoise populations in TCAs
 - 2.1.1. TCA-specific population trends
 - 2.1.2. TCA-specific population densities relative to minimum viable density
 - 2.2. What is connectivity and why is it important?
3. Existing models of habitat and connectivity (Todd Esque, **15 minutes**)
 - 3.1. USGS (2009) habitat model (*basis for most current management*)
 - 3.2. Hagerty gene flow model
 - 3.3. USFWS linkage model (*comparison with gene flow model*)
 - 3.4. DRECP protected areas (*on-the-ground application of habitat/linkage models*)
 - 3.5. Intactness model (in prep.)
4. Making decisions today: putting together the existing information (Roy Averill-Murray, **10 minutes**)
 - 4.1. Vulnerabilities to TCAs and connectivity (*incl. intactness/inholdings*)
 - 4.2. Modeled connectivity vs. on-the-ground, “real” connectivity (*intactness, etc.*)
 - 4.3. Compatible uses (*general framework for thinking about compatible uses inside TCAs vs. linkages*)
5. Discussion, Q&A (**30 minutes**)
6. Active research relevant to future tortoise distribution, habitat, and connectivity (Roy Averill-Murray, **2 minutes**)
 - 6.1. New models on tortoise habitat and connectivity (Brett Dickson, **12 minutes**)
 - 6.1.1. NatureServe habitat model
 - 6.1.2. UNR/USGS habitat model
 - 6.1.3. Conservation Science Partners connectivity model
 - 6.1.4. Conservation Biology Institute connectivity model
 - 6.1.5. NatureServe human footprint model (southern Nevada)
 - 6.2. Ivanpah Valley connectivity (Kirsten Dutcher, **12 minutes**)
 - 6.3. Genomics and connectivity (Brad Shaffer, **12 minutes**)
 - 6.4. The impacts of land use and climate change on Mojave Desert Tortoise structural genetics and corridor functionality (Ken Nussear, **12 minutes**)

- 6.5. Critical habitat breadth for *Gopherus* tortoises (Kevin Shoemaker, **12 minutes**)
- 7. Review (Todd Esque, **10 minutes**)
 - 7.1. Effects of climate change on recovery network (TCAs and linkages)
 - 7.1.1. Are current linkages connecting “lost” or “doomed” populations? (*and how would we know; what metrics [e.g., PVA, climate change scenarios, etc.] would inform this question?*)
 - 7.2. Small-scale connectivity: roads and barriers
- 8. Discussion, Q&A (**30 minutes**)