Mojave Desert Tortoise
Management Oversight Group
October 7, 2021
Virtual Meeting Summary

Start Time: 10:00 am
Conducting: Glen Knowles, FWS, Field Supervisor, Southern Nevada Fish and Wildlife Office

The Desert Tortoise Management Oversight Group (MOG) met via Microsoft Teams on October 7, 2021, and was attended by approximately 93 people.

Meeting Summary

1. **Welcome and Introductions:** Glen Knowles, Field Supervisor, Southern Nevada Fish and Wildlife Office, FWS
   Glen introduced Jill Russi, Fish and Wildlife Service Legacy Region 8's new Deputy Regional Director.

2. **Purpose, Agenda, and Action Item Tracking Report review:** No changes to the agenda or action item tracking report were proposed.

3. **Opening Comments from MOG Executives**
   Cody Carter, AZ BLM, noted their contributions to the range-wide monitoring program, their work conducting NEPA review for a fuel-breaks project, and that they are looking at taking a landscape approach to monitoring on the Arizona Strip.

   Karen Mouritsen, CA BLM, noted the receipt of almost $7 million for restoration projecs next fiscal year, including increased law enforcment resources. CA BLM has been working on cultural and NEPA reviews with CalTrans for highway fencing, and they have incrased seed collection for tortoise habitat restoration.

   Jon Raby, NV BLM, mentioned ongoing work with a tri-state renewable energy strategy among CA, NV, and AZ and that NV BLM currently has about 15 ongoing energy projects, including several in southern NV.

   Keith Rigtrup, UT BLM, described work following several recent fires, including outplanting and the Red Cliffs and Beaver Dam NCAs (the plants have shown good survival so far) and seeding in burned areas.

   Jeff Humphrey, Arizona Ecological Services Office, FWS, mentioned that Brian Wooldridge is moving to a new job, and a new Mojave desert tortoise lead will be identified in the future. Work continues on a species status assessment to support a listing determination for the Sonoran desert tortoise in early February. He also anticipates coordinating on how FWS

addresses the “Black Mountains” Mojave desert tortoises on the east side of the Colorado River in the near future.

Yvette Converse, Utah Ecological Services Office, FWS, mentioned the hiring of a local supervisory biologist in St. George (Josh Rasmussen). Work is ongoing in responding to a legal challenge to the Northern Corridor planned through the Red Cliffs Desert Reserve and in coodinating with the restructured AZ/UT Recovery Implementation Team.

Glen Knowles, Southern Nevada Fish and Wildlife Office, FWS, briefly described work on numerous solar development projects on the Moapa Indian Reservation and the Greenlink West transmission line. A five-year review of the Mojave desert tortoise is in progress and is expected to be published around the beginning of the year.

Michael Vamsted, Joshua Tree National Park, highlighed the Park’s participation in Desert Tortoise Week (which occurred last week).

Debra Hughson, Mojave National Preserve, noted work on proposals to mitigate road mortalities of tortoises in the Preserve, their highest priority.

Erin Eichenberg, Tule Springs Fossil Beds National Monument, mentioned work on fencing to protect tortoise habitat on the Monument, a desert tortoise vulnerability assessment and associated surveys, and a raven nest-identification brochure created by Hardshell Labs that will be used for a citizen scientist (general public) and volunteer program helping TUSK identify where raven nests are located and monitoring them for activity. The brochure can be used by all state and federal agencies and will be used in conjunction with a website for the general public to enter data into a collective database for agencies to access.

Keith Miles, USGS, mentioned the recent publication of the open file report on desert tortoise population connectivity, many recent publications by USGS scientists (see the attached, comprehensive list of recent research publications), and various applied research projects in progress with several MOG partners.

Dave Housman, Ft. Irwin, mentioned that funds were secured from the REPI program to support the Recovery and Sustainment Partnership (RASP) Initiative work with the desert tortoise.

Olivia Baez, Nellis AFB, mentioned that tortoise surveys continue on the base, that they developed a desert tortoise awareness training presentation, and that they are conducting a restoration project of an old dirt road that overlaps Desert National Wildlife Refuge.

Larry Zimmerman, Edwards AFB, noted ongoing monitoring of previously head-started tortoises on the base and that 10 miles of fencing were installed along a county road.

Tom Jones, Arizona Game and Fish Department, noted that Cristina Jones has taken a new job, and back-filling with a new tortoise lead is in progress. AGFD also looks forward to collaborating on the “Black Mountains” tortoise situation.

Matt Flores, Nevada Department of Wildlife, mentioned that NDOW is participating in Desert Tortoise Week and that they have four planting events in the Tule Desert upcoming.

Ann McLuckie, Utah Division of Wildlife Resources, summarized work on numerous projects, including suveys of recently burned habitat, work on a new translocation plan, assistance with surveys on the Shivwitz Indian Reservation, and restoration on areas burned in the 2020 fires, among others.

Kristi Holcomb, Nevada Department of Transportation, emphasized work on fencing in identified priority areas.

Scott Quinnel, California Department of Transportation, noted recent contributions to the California raven management fund.

Kimberly Jenkins, Clark County, mentioned the County's funding for range-wide monitoring and translocation monitoring, a connectivity assessment with a management plan anticipated next year, ongoing management of the Boulder City Conservation Easement and the Mojave Max education program, upcoming restoration work funded by the Southern Nevada Public Lands Management Act in the Piute-Eldorado ACEC and Rainbow Gardens, among other County projects.

Lorinda Wichman, Nye County, mentioned that a new draft lands bill may support work on a new Habitat Conservation Plan for the County.

Cameron Rognan, Washington County, described work on new measures in the County's HCP, including acquiring and managing new land added to the Reserve; invasive species control efforts, particularly along dirty road ROWs; working with the state to acquire land within the Reserve; and assisting with surveys on the Shivwitz Reservation.

4. State of the Mojave Desert Tortoise[1]

Roy Averill-Murray, FWS Desert Tortoise Recovery Coordinator, and Brian Croft, Palm Springs Fish and Wildlife Office, gave an overview of the status of the tortoise, progress on MOG recovery priorities, challenges with implementing those priorities, and a proposed approach to improve the effectiveness of MOG coordination in facilitating implementation of priority recovery projects. Details of progress and obstacles can be found in the presentation online, but the essence of the proposed new approach was to adapt the RASP strategy in the western Mojave Desert as a model for the MOG to step down recovery implementation within focal areas across the rest of the range. Agencies could potentially contribute to a funding pool for requests for proposals issued under regional implementation plans (e.g., 5-year plans developed with the Recovery Implementation Teams) that would include specified metrics for monitoring progress. This strategy would concentrate recovery actions within focal areas and work out from there as progress is made.

[1] (see presentation at https://www.fws.gov/nevada/desert_tortoise/dtro/dtro_meet_events.html)

Several people supported the idea of exploring new ways to improve recovery progress. A 1-2 page outline was suggested as pre-meeting material to help focus discussion at the next MOG meeting, and the West Mojave RASP implementation plan should be available by then as an example for further discussion. Jon Raby also mentioned that BLM's mitigation policy has been reinstated and could be a mechanism to help support recovery efforts.

5. **Desert Tortoise Range-wide Monitoring Annual Report**[1]

Linda Allison, Monitoring Coordinator, FWS Desert Tortoise Recovery Office, gave an overview of recent and upcoming monitoring efforts. Line distance surveys were initiated by the MOG to describe population trends over at least one tortoise generation. The surveys are planned to be adequate for annual density estimates in each surveyed TCA. Linda used these survey results to estimate population trends through 2014. Not every TCA is surveyed each year, so as of the 2021 field season we have at least 3 more recent density estimates with which Linda can update population trend estimates in each TCA, and expect those trend estimates to be ready no later than summer 2022. In 2021, 8 TCAs were surveyed, and Linda also coordinated similar surveys in the jurisdiction of the BLM Tonopah Field Office. Although this area is in the far north of the range, densities were similar (albeit low) to densities farther south in the Eastern Mojave Recovery Unit. Linda tentatively plans for surveys in 10 TCAs in 2022, as well as coordinating one year of new surveys through tortoise habitat on Lake Mead National Recreation Area (on both sides of the Colorado River). Finally, remember that the data generated from range-wide line distance surveys also fuels research that is directly beneficial to land managers (and tortoises). A recent publication initiated by Arizona BLM used the data to describe tortoise occurrence in proximity to development impacts, indicating that few or no tortoises were found in areas with more than 5% development within a 1-km radius. In the next year, expect finished products using these data to 1) generate a density surface (heat map) based on distance sampling in a spatial model, and 2) to describe tortoise occupancy across the range at a similarly fine scale. The former project will be coming from the Desert Tortoise Recovery Office working with the University of Arizona; the latter is a project of California BLM working with Conservation Science Partners.

6. **Raven Monitoring and Management Initiatives Update**[1]

Kerry Holcomb, Palm Springs Fish and Wildlife Office, described recent work exploring the relationship between common raven density, distance to active as well as previously active raven nests, and "depredation" rates experienced by randomly placed tortoise decoys to better understand options for restoring stabile recruitment rates to extant Mojave desert tortoise populations. Work to date suggests that managing raven populations with respect to a *tortoise-raven viable conflict threshold* of 0.89 ravens km^{-2} in tortoise habitats and addling or removing all active raven nests located within 1.72 km of tortoise conservation areas has the potential to ensure the annual survival probability of tortoises up to 10 years old (~40–139 mm midline carapace length) will be ≥0.77, assuming other sources of juvenile tortoise mortality is equal to 18.8% annually. This survival threshold was selected because it enables tortoise population stability at an average annual adult survival of ≥0.92. Alternatively, tortoise populations that experience >8% annual adult mortality are likely to require an annual survival probability for juvenile tortoises that is ≥0.81.

7. Road Ecology Workshop and Task Force Update[1]

Flo Deffner, Desert Tortoise Recovery Biologist, Southern Nevada Fish and Wildlife Office, and Liz Fairbank, Center for Large Landscape Conservation (CLLC), provided an overview of the Desert Tortoise Transportation Ecology Workshop and Task Force activities, funding and in-kind support provided to date, and funding needed to support Phase II Task Force activities. Partnerships developed with the CLLC, the Western Transportation Institute (WTI), and local, state and Federal agencies were highlighted. These partnerships allowed the Service to develop and organize a series of five focused-topic virtual Desert Tortoise Transportation Ecology Webinars, develop a pre-workshop survey, film a documentary, host the Capstone Workshop, and the formation of the Desert Tortoise Transportation Ecology Task Force. Key findings of the Capstone Workshop, establishment, organization, and function of the Task Force were presented (see presentation for details).

Phase II funding is needed to support the Task Force in achieving prioritized goals and objectives under the guidance of the Service, CLLC, WTI, and ARC Solutions, such as development of technical solutions, best management practices, and addressing policy issues. Task Force deliverables will be published as guidelines for transportation and natural resources/wildlife agencies. An overview of proposed technical design workshops and agency training that would be complementary to Task Force efforts in need of funding support was also presented. Agencies interested in providing funding support or participating in these activities should contact Flo at flo_deffner@fws.gov.

8. Desert Tortoise Mitigation Strategies for Solar Energy Development

This agenda item was postponed to the next meeting due to time constraints.

9. Review of Action Items

See Action Item Tracking Report below.

10. Closing Comments/Future Agenda Items/Next Meeting Date

a. *Send future agenda items to Glen* (items suggested from previous meetings are listed below)
b. Future meetings: Glen will solicit dates and times for 2022 meetings in the near future.

	Suggested Future Agenda Items
1	Effects Pathways Manager and consultation tool in FWS ECOS
2	RASP update and feedback
3	Consistent mitigation strategies
4	Desert tortoise mitigation strategies for solar energy development

Mojave Desert Tortoise Management Oversight Group
Action Item Tracking Report

Note: Items marked "Closed" will be removed from the next iteration of the report.

Item Date / No.	Action Item	Assigned To / Due Date	Status
Item 2017 Sep#01	Provide list of RIT projects/descriptions/budgets to MOG (the current project list is posted at the bottom of the page at https://www.fws.gov/nevada/desert_tortoise/dtro/dtro_rits.html)	DTRO	Suspended
Item 2018 Jun#01	Let FWS know about proposals that could use mitigation funds	All	Ongoing
Item 2019 Feb #02	Report annually on range-wide line distance sampling surveys	Glen Knowles	Ongoing
Item 2020 Oct#03	Provide verbal commitment for monitoring funding to Linda Allison by end December; transfer funds NLT end January	All	Open
Item 2021 Oct#01	Provide refined proposal for MOG coordination of regional recovery efforts, based on RASP model, before next meeting	Glen Knowles, Brian Croft, Roy Averill-Murray	Open