

Mohave Ground Squirrel Technical Advisory Group

Meeting Notes by Nicole Cornelius, CDFW

25 SEPTEMBER 2018

Bureau of Land Management, Ridgecrest CA

Ridgecrest Attendees: Nicole Cornelius, Scott Osborn, Bill Vanherweg, Erica Orcutt, Phil Leitner, Shari Heitkotter, Carrie Woods, Trisha Farmer, Dan Leavitt, Misty Hailstone, Larry Zimmerman, Ryan Lopez, Becky Jones, Don Mitchell, Steve Montgomery, Sarah, Leo Simone, Erin Martinelli,

Remote Attendees (partial list): Dave Hacker, Kelly Schmoker, Lisa Gymer, Scott Harris, Wendy Campbell,Carolynn Daman, Kathy Simon, Kim Marsden, Agnieszka Napiatek, Denise LaBerteaux, Ilene Anderson, Tom Eagen, Marjorie Matocq

Review Agenda: Scott discusses the agenda for today.

Please sign in with the sign in sheet; update email addresses and affiliation, as necessary. Indicate colleagues known to no longer be active with MGS TAG.

Review Action Items: Attached document.

Field Efforts of 2018:

Phil Leitner presents PowerPoint: A lot of work completed on public land for BLM. Thank you to Scott for providing funding for Coso. Thank you to Amy Fesnock for funding for BLM work. This year we have had amazing success finding MGS in all four core populations on Phil's map presented. 2017 we were unable to trap the full five days at Coso. This year we had good results, 12 MGS and females were pregnant. Numbers are up, looking pretty good. Phil's ambitions are to trap there again and Scott is providing funding. New project this year DFAs were sampled at North of Kramer (Bowling Alley), Searles, Haiwee (live trapping and camera trapping). Camera trapping was done in March and May. Live trapping was in May to hopefully get evidence of reproduction status. Next map dates back to 2002, four areas were trapped then and even further back. Last Chance and North El Paso actually trapped MGS. Little Dixie Wash there was evidence of reproduction in 2017. North of Barstow core area three locations trapped previously, 2017 no MGS, 2018 MGS caught 5 females with no sign of reproduction. Conclusions numbers are looking up and there is some reproduction. West of Hinkley this area was camera trapped by Phil and Dave in the past in big camera study, in 2017 they didn't get any MGS. 2018 MGS caught at 4 different locations, there was reproduction and MGS dispersed 4 miles to the east of Hinkley, no sign of RTGS. It appears good rainfall they move to the east, bad rainfall they move to the west. This area was pretty dry last winter, found adults, but no sign of reproduction. West of Harper Lake Rd, adult MGS were captured. Camera sites 3, 4, 7 and 12 of map captured MGS. DFAs traps distributed north to south. Map shows locations of DFAs. Site 4 and 3 in Bowling Alley had been trapped previously, 2018 MGS were captured at all four live-trapping sites, 3 out of 4 camera sites. Searles camera's distributed in areas of potential habitats. Site 2 had detections but none of the other sites had detections. Haiwee was

trapped north of the store, south of store eastern transmission line. Bill asked how many cameras at the sites, Phil said they used 5 cameras. MGS detected at multiple cameras at each site (when detected). Cameras were dispersed 150 meters apart. BLM report to be submitted sometime this year.

EAFB PowerPoint: Larry Zimmerman presents. Presence/absence surveys to see how MGS is doing. Study plot is mostly east of dry lake bed. Cameras going 24 hrs per day. 1.7 million photos (review is 75% complete), MGS found at 20 of the 25 sites, no juveniles. 2015 possible report of RTGS, they thought it was a mistake. Phil said it was not a RTGS. South of Rogers Dry Lake is where the questionable photo was taken. Odd location. After four days the bird seed was gone, but MGS still showed up. Still questionable pictures to be reviewed. MGS showed up late morning and came back later in the afternoon. Predation by prairie falcon depicted in a couple photos (probably the first photo of MGS predation). Ravens only found at two sites, found closer to human habitats. Report will be shared when completed.

Don Mitchell- Work this year south west of Barstow, negative for MGS. West of 5 grids, negative MGS.

Ryan Lopez-Camera trapping 14 and Garlock Rd, negative for MGS.

Trisha Farmer- MGS detected at 2 camera sites at Onyx Ranch. Purina feed block ran out quickly. Tried different baiting mechanisms. The Tupperware staked down to the ground with birdseed seem to work the best.

Phil said that we do not have a good idea of what good bait methods are. Don said it depends upon how long between checking stations. Maybe long-term study should be completed to determine best method.

Ryan Young- Sheet Creek one grid- negative for MGS.

Denise LaBerteaux- Said that they did trapping in Ft. Irwin. EA will be released this fall.

Field Plans of 2019: Misty Hailstone said they will be doing live-trapping and genetic testing for north-east of EAFB and they will continue to move west as funding allows to see if RTGS is moving that way. 1992 RTGS possibly detected through genetics, but discarded. Camera trapping not in the plans.

Don Mitchell - Grids near Harper Dry Lake (PL asked if they are taking tissue samples, he said yes) Two potential solar projects in Bowling Alley next year.

Dan Leavitt: South range camera trapping funded for next year. Five locations. Scouting locations this week.

Don asked if there is a volunteer effort for surveying planned for 2019? Where do we need work? PL said south range (China Lake) is going to be a great addition to the records. Indian Wells Lake area.

Don asked, Is Marjorie asking for samples from certain areas (Issue addressed later in meeting)? Erica has an email and she will go back and check to see if she detailed certain areas that she still need samples.

Leo Simone asked if the vegetation is different in the contact zone? PL said, Yes it is different, but we don't know what they are. Erica said we need funding to analyze fecal samples (\$200/site). Searles and west of the Bowling Alley need fecal samples.

Bill said he thinks that MGS is eating *Atriplex spinosa* in the contact zone during the fall, hence they can reproduce when there is less than the typical required amount of rainfall.

Volunteer along 178 highway for MGS surveys and shrub sampling.

Erin Martinelli asked what did USFWS want for data if they concluded insufficient information for ESA listing? Tom Eagen said that USFWS said they had enough information and that as long as MGS is found west of **certain area** they are fine.

Misty asked what information is needed for fecal collecting? Same data as when trapping. What about storage? **Erica can email lab (Faith Walker) to ask if they need anything in particular.** Dan said that they used DT scat from years ago and it was fine.

Erica said that the limitation to the fecal analysis is that all of the foliage samples are not in a database. **Erica is going to go through the list of what we know what MGS eats and what needs to be analyzed yet.**

Update on CS: (SDO) We have put a lot of effort into the CS. Internal peer review has been completed. The CS is now at our EPM. It has been kicked back to us, we have more work to do. The main problem is the Goals and Objectives, it is too complicated. Scott said he had hoped to share an unapproved draft, but since it was kicked back to us that it would be premature. That's why we can add the DFA data from this year. Phil said that he is always impressed by these documents because they have all these suggestions, but no funding. So he suggests cutting down on the goals and objectives, to make it more realistic.

Scott said that the next step would be to come up with a Recovery Plan. Amy Fesnock suggested to Scott in the past that adding recovery goals would be useful. Leo Simone said federal permits use critical habitat as an indicator of recovery. The state does not do Recovery Plans normally. BLM doesn't do Recovery Plans, but they use mitigation measures.

Becky Jones said that it would help a lot to have the fecal samples analyzed to see what annual plants are consumed.

Bill asked how much power does the Department have over Federal lands? Becky said that we try to work with them on their plans. Zimmerman said that there is an USFWS effort to work on a process to delisting and down listing species. It could be a way to accelerate the process of recovery. This is coming from executive orders. EAFB looks at MGS and has a lot of data, whenever it was brought up to be listed

they provided the data when asked. EAFB said they do not want MGS listed, but they are doing everything they can to protect the natural resources including MGS. The problem is we do not want to make genetic islands due to them only being protected on the DOD land.

PL said that about discussing genetic islands between EAFB and private lands. What can be done? Some of the land in the corridor has mitigation for 3:1 or 5:1. It depends on the suitability of the land.

Lunch Break

Marjorie Matocq Genetics Update: In the first paper the EAFB potential RTGS wasn't included, she has to look through data. She is close to getting the genetic analysis done on the hair samples, and now moving onto the landscape data. She doesn't think the patterns are going to change that much, but they have a more complete picture. Scott stated, that was one question people had is there any areas you need samples from? Marjorie said still send samples from everywhere. It is still important information and nothing is a waste. Phil, a lot of the Coso samples are from the mid-90s and we haven't taken any large samples since then, one thing I was wondering about, with the change in population numbers due to change in rainfall, would it be interesting to look at genetic bottleneck and the consequence on MGS fitness? Marjorie said, if it is something that happens repeatedly there may not be evidence of impacts on the fitness because some mammals have adapted to this cycling and just have low genetic diversity. Phil said, what do you think would be a reasonable sample size? Marjorie, trapping effort in the area where there has had intense sampling would be a good place to infer information. It would allow us to look at dispersal, for genetic variation loss over time 10-20 samples would be good.

Bill asked, some people have issues with taking biopsies, is it okay to take hair? What should we do? Marjorie said, tissue is the gold standard, but plucked hair is okay if they have to. You have to get the pulp, you can't shave it. You need to get a good chunk. The hair would need to be put into a vial or envelope to dry. It is more labor intensive, but it's better than nothing. Is it less painful to pluck hair or biopsy? As long as it's quick.

Phil asked, question about reproductive behavior of MGS west of Hinkley because they can reproduce with less rainfall than other MGS. Is there anything genetically you can link to this adaptation? Marjorie said, because of the database we are still not able to get specific loci behavior associated data. Maybe we could look at mouse or rat loci that has a loci that is drought specific. It would be really great if we could find some connection between hybridization and this reproductive behavior. It would be interesting to get information about the southern portion of the MGS in the contact zone of hybridization. Marjorie said if anyone has any questions feel free to call her or email her.

Inman et al: (PL) Todd Esque is the lead on this, Barbara and I are providing all the data we have for Coso over the last 30 years. They are trying to incorporate shrub data and herbaceous data, and diet data. This portion is just getting started. They hope they will have something for the Spring TAG meeting. The original model didn't take in to account vegetation data.

Becky asked Phil if he has noticed a change in vegetation in Coso over the years he has been up there? Phil says yes, he sees a lot more dead shrubs and worse condition of shrubs. A lot of people have noticed a change in shrub condition.

DRECP Update: (Carrie Woods) Jeremiah sent CW update via email, BLM is continuing discussions with Washington in order to determine the next step in the process, including what we may address in a potential plan amendment. They are continuing to review public comments and anticipate releasing later this year. They are still implementing the existing plan, including addressing any issues that arise during the implementation.

Hinkley HCP: Scott Hoffmann emailed Scott the following, "The impetus for my update is simply for a biological opinion I'm writing for a HCP that includes MGS as a covered species, so I have to include it in my analysis. We haven't compiled data since the 12-month finding was done in 2012, so there's a gap there I'm trying to fill in. So, not a very exciting effort, but feel free to share it with the group if you think it's of value. Becky Jones is the DFW lead for the HCP (PG&E's Hinkley groundwater remediation), so if there are any HCP-specific questions about conservation outcomes she would be the best person to ask during the meeting (I think she regularly attends)." USFWS is trying to add to the information they collected when there was an effort to list MGS. Draft HCP online at PGE website. Department is doing a 2081 Incidental Take Permit for the area. Becky Jones said they are still working on conservation measures that relate to MGS.

Navy Cuddeback Extension Update (Dan Leavitt): We are currently in the NEPA process of evaluating 37,000 acres that has been set aside for. Dan provided a map and the red scored area is the only area that will be used by the Navy. The target area was cleaned up before the legislation. The rest of the area will still be DOD land, but preserved.

Misc. Scott:

MOUs and SCPs: New regulations for SCP coming into effect soon, maybe delayed. All online. Similar to paper application. Don said that the problem he is having with it is that it is too project specific, they don't know all the details for a year. Scott said he has been told that applicants should apply in a very broad way (i.e. throughout the species range). There are still a lot bugs to work out and potential problems. There are two SCP types, general and specific. Permits are good for three years. Don said that the timing of the permits is a big problem and the money. Leo Simone asked what is the reasoning for the new regulations? Scott said it was because of legislature and the public asking for a better SCP system. Fisheries seems to be the difficult department. Bill said that it seems like the process is getting harder each year, instead of easier.

MOUs- Nicole has issued a large backlog of small mammal MOUs. Small mammal MOUs are now broken down into groups of species. We updated the templates with better language. Leo Simone asked how do I ask for multiple species MOUs updates? Scott said, send it all to one person and we will send it to the appropriate people. Scott said that Nicole noticed that there are a lot of people that are not sending in reporting, MGS BIOS database forms need to be submitted. There will be a letter sent out soon requesting the information. Erica said that they noticed the range map on BIOS database is wrong,

needs to be updated. CWHR needs to update. MOUs will no longer cover SSCs, it is covered under your SCP as an attachment.

Leo Simone said that he has been studying the decrease in Joshua Trees. Conditions have to be perfect for them to reproduce.

Wendy Campbell, the Department and USFWS are working on guidelines for fencing mitigation parcels. She has been noticing predation from ravens, they are using the T-posts used for fencing as perches to predate on antelope ground squirrels. Wendy wanted to bring it up to the group to make them aware that this could be an issue. Dave Hacker, said he has been a part of the process of drafting the guidelines. He said the first step in the process is determining if the fencing needs to occur. He would be happy to hear people's comments on the potential predation. Scott, what is the timeline for the development of these guidelines? Dave Hacker, we don't have a timeline at this point. He said there are a lot of things to balance when it comes to fencing mitigation. Carrie said she can provide incidental information about predation on the DTRNA to Dave. Dan- are you only looking at predation effects? There was a paper that recently came out that detailed the behavioral effects of fencing on tortoise. Carrie, the fencing used in tortoise fencing so they can get through. Someone suggested putting a bird-perching deterrent on top of the t-posts, similar to what is used to prevent pigeons from roosting on buildings.

Scott would like to thank Scott Harris for all his help with MGS issues and happy retirement!

Scott, when should we meet next time? Early March here or TWS. Scott will send out a Doodle poll. Potentially have it back up to Coso fieldwork.

Meeting adjourned at 2:30 pm.