

Large Mammal Advisory Committee

Approved Project

QUARTERLY PROGRESS REPORT

**Project Name:** Monitoring Desert Mule Deer Using DNA-Based Capture-Recapture (Riverside County, CA)

Quarter: Time Period: April –June 2015; FY2014/15

**Work Performed:** Project Lead, local Biologist, and Dr. Mary Conner met April 13-14 for site visit. At this time there was minimal deer trailing to the drinker sites. Drinker locations and driving/walking route to each drinker was captured in a GPS unit. There will be 10 drinker sites for the study. Each site will have up to 4 transects, each approximately 200m long. Selected transects will be those that indicate comparatively high deer use.

Supplies were ordered and obtained by early June, and June 2- 3, staff ran field surveys of each drinker site and designated transects for sampling. June 9-10, Scientific Aids, working out of the Bishop DFW office, traveled down to sampling site and were trained for the field work and office processing. Sampling protocol and design for the summer work was established during the first three sampling sessions, and is available upon request. To simplify use of GPS units, W. Patterson, Biogeographic Data Branch, created a basemap that contains the designated routes, drinkers, and transects for this season. Maps of study design for onsite viewing were created by K. White, GIS R6. It was decided early in the field season to have one crew of two individuals sampling transects over a two day period; each sampling session was 3 to 4 days apart. Out of town staff stayed at hotels in Blythe. During this LMAC quarter, there were four sampling sessions, ending June 22. Session dates and total samples collected are summarized in the table below.

Schedule of sampling sessions and total samples collected for June 2015 field season. The number of days between sampling sessions is in parentheses.

Sample Date*	Total Number of Samples Collected
9 – 10 June (7 days)	388
13- 14 June (4 days)	182
17-19 June (4 days)	89
20-22 June (3 days)	229
4 sampling sessions in June	
Total Samples as of June 30 = 888	

\*On 2-4 June, sites were cleared.

There were significantly more samples collected than we had anticipated based on other fecal DNA collections (Pacific Deer Herd, AK studies). However, most likely over the course of the study, there were deer coming to the drinker sites daily, but not all deer. After a two week break, and to spread the sampling over time, sampling started back up in July for two additional sessions for a total of 6 sampling periods this field season.

Initially, samples were to be collected and stored in ethanol, but due to logistics, this method of preserving and storing was deemed cumbersome. So, dry storage of samples was decided and all samples were stored the dry method. This entailed purchase of additional supplies. However, cost for small brown bags is relatively minimal.

All samples, to date, have been dried, catalogued, entered into a spreadsheet, and transferred to GIS along with the waypoint location of each sample. Sample processing and data entry is being completed by a summer volunteer and G. Mulcahy, Environmental Scientist. For the duration of the project, samples will be stored at the DFW Blythe field office.

Initially the plan was to have UC Davis analyze the samples; however, due to collection and storage of samples in a dried state, we are looking at other labs that have experience with dried DNA extraction and genotyping. In addition, if we receive funding from CDA we anticipate using those funds for lab work.

**Funds Expended:** See budget worksheet below. First costs of this project were in June 2015. O&E for the June field season is not included.

**Work Anticipated for Next Quarter:** In July, sampling will resume with two final sessions. All samples will be catalogued and stored until lab for analysis is determined. Data entry and GIS downloads will be finalized once field season is completed. CDA meeting set for July 18 will give us some indication of funding. It's anticipated we'll know by August 1 whether or not we received the funds. In the meantime, because we have so many samples to process, we need to subsample. The protocol for subsampling needs to be determined. Also, during this quarter, a lab analysis agreement needs to be written and so that processing the samples can begin. Finally, by end of Quarter, a brief cost analysis will be produced, and last FY budget will be updated with costs from June.

Budget FY2014/15

YEAR 2 (FY 2014/15) LMAC PROJECT CODE NC 8001-35; BGMA Fund #0200.33	START DATE: 1 July 2014 (4120, 23352)	2014						2015						FISCAL YEAR	
		Funding Amount	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	14/15 Totals
<b>Personal Services</b>	(4 months in year 1)														
Temp Help (2 Aids for 3 mo each)*	\$8,000.00														0.00
<b>Subtotal Personal Services</b>	\$8,000.00														0.00
<b>Operating Expenses &amp; Equipment</b>															
Field Supplies	\$3,000.00														
Lab Costs @ \$25/sample	\$15,000.00												58.09		58.09
Publication Costs	N/A														0.00
Travel (Per Diem/Mileage)	\$4,000.00												1,336.23		1,336.23
Miscellaneous	\$1,000.00														0.00
															0.00
															0.00
															0.00
<b>Subtotal OE&amp;E</b>	\$23,000.00									0.00		Incomplete		1,394.32	1,394.32
<b>Subtotal Personal Services and OE&amp;E</b>	\$31,000.00								0.00	0.00	0.00	0.00	0.00	1,394.32	1,394.32
<b>Total Expenses</b>	<b>\$31,000.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$1,394.32</b>	<b>\$1,394.32</b>
<b>Total Personal Services Expenses + IDC in FY2014/15</b>		<b>\$0.00</b>	<b>Total invoiced in FY2014/15</b>				<b>\$1,394.32</b>								
<b>Total OE&amp;E Expenses in FY2014/15</b>		<b>\$1,394.32</b>	<b>Total Paid in FY2014/15</b>				<b>\$1,394.32</b>								
<b>Total Personal Services Expense + IDC Remaining to date</b>		<b>\$8,000.00</b>	<b>Total Remaining to be invoiced</b>				<b>\$29,605.68</b>								
<b>Total OE&amp;E Remaining to date</b>		<b>\$21,605.68</b>													

**Notes**  
 Project Title: MONITORING DESERT MULE DEER USING DNA-BASED CAPTURE-RECAPTURE (Riverside County).  
 AKA "Desert Deer DNA"  
 Budget tracking based on invoices received.  
 Project Start Date: July 1, 2014; Project End Date: June 2018  
 \*Sci Aid time paid from other source; volunteer time (2 weeks) for data entry