

# 2014 MSHCP Annual Project Progress Report Symposium



## Desert Tortoise Occupancy Sampling on the Boulder City Conservation Easement 2013 & 2014 Results



### Summary

- Clark County Desert Conservation Program (DCP) is testing the use of occupancy sampling to detect status and trends of Mojave desert tortoise (*Gopherus agassizii*). Study Takes place on the BCCE

#### What is Occupancy Sampling?

Determining the proportion of habitat within an area that contains evidence of a targeted species

#### How It's Implemented

- It uses a sampling design to select sample units, each sample unit is visited three times per sample period
- Occupancy can be determined by the presence of the targeted species and/or sign. In this case, live adult tortoises and active burrows
- For this project, an active burrow must have a live tortoise, fresh scat, or fresh tracks

#### Need

The MSHCP requires tracking the status and trends of covered species, including Mojave desert tortoise

#### Purpose

- Invaluable management input
- Assessment of species responses to changes in habitat quality, threats, and management activities

### Methodology

- Eighty 4-hectare plots surveyed 3 times with each plot being surveyed at least once first in the morning
- 2 field teams (north and south)
- A Data Manager responsible for implementing established protocols and Quality Control reviews after data collection, post plot completion and at the end of each day
- Trimble dataloggers used, backup data collected on a smart phone application



### Methodology Cont.

- 100% coverage was achieved as defined by USFWS
- Field crews utilized the same data entry for incidentals
- Live adult tortoises with an MCL of at least 180 mm were measured, sexed, and tagged whenever feasible
- Burrows were defined as active or inactive

### Results

Data Type Collected in 2013	Numerical Value
Hand entered data entries	27,182
Electronic data sheets recorded	886
Occupied plots	7
Tortoise observations	19
Adult tortoises observed	15
Juvenile tortoises observed	4
Active burrows observed	27
Both tortoise and active burrow	6
Tortoises observed in plots	11
Tortoises observed outside of plots	8
Tagged tortoises	8
Tagged tortoises by NewFields	8
Tagged tortoises found in repeat visits	1
Tortoises observed with preexisting tag/markings	1
Tortoise found mating	2
Burrows observed	171
Carcasses observed	132

Data Type Collected in 2014	Numerical Value
Hand entered data entries	28,534
Electronic data sheets recorded	834
Occupied plots	6
Tortoise observations	21
Adult tortoises observed	15
Juvenile tortoises observed	6
Plots with tortoises and active burrows	4
Tortoises observed inside of plots	6
Tortoises observed outside of plots	15
Tagged tortoises by NewFields	11
Tagged tortoises found in 2014 repeat visits	1
Burrows observed	100
Active burrows observed outside of plots	11
Active burrows observed outside of plots occupied by live tortoise	4
Active burrows observed in plots	5
Active burrows observed in plots occupied by live tortoise	4
Inactive burrows observed	84
Carcasses observed	147
Intact carcasses observed	66
Disarticulated carcasses observed	81

### Results Cont.

2013

2014

