Vegetation Data for Desert Tortoise Occupancy Covariate Monitoring Project at the Boulder City Conservation Easement

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Project Overview and Background

- Funding and Agency Involvement.
  - Clark County Desert Conservation Program
  - 100% Section 10 Funding
- Vegetation as a covariate of Desert Tortoise occupancy
- Vegetation Uses
  - Shade
  - Food
- Types of data collected
  - Perennial and succulent cover. (Shade)
  - Ephemeral cover (Food)
  - Perennial and succulent species richness
  - Ephemeral species richness

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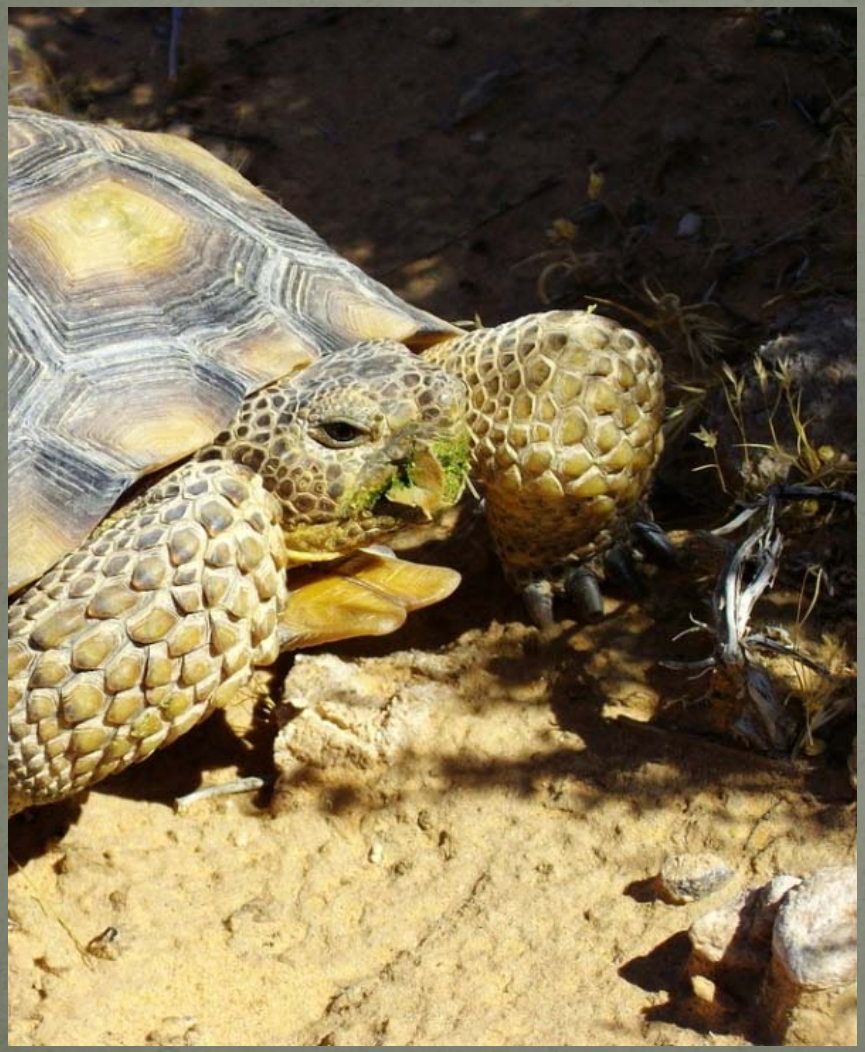
Project Objectives



1. Determine vegetation sampling season.
2. Set up survey.
3. Collect Vegetative and Shade Cover Data
4. Collect ephemeral plant species richness and cover.
5. Data QA/QC and Management.
6. Record incidental tortoise observations.

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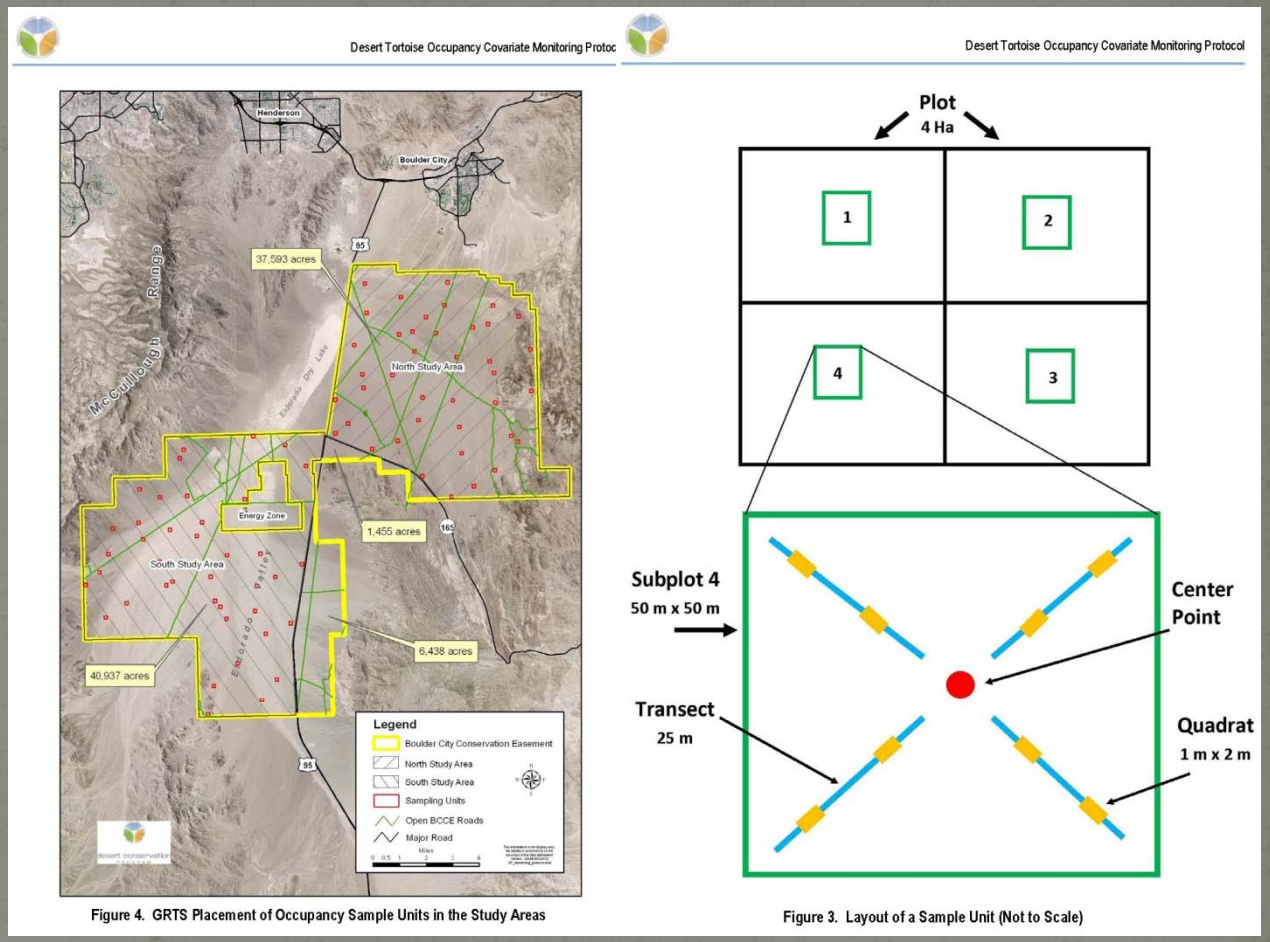
Project Methods

- Within the BCCE
- 80 plots, each plot covers four hectares.
- Each plot contained four subplots
- Each Subplot contained four 25 m transects radiating from the center
- Each transect contained two 1m x 2m quadrats (Sampling Grids)



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Vegetation Cover Varies Greatly

Two photos from the same plot. ~ 100m apart.

Ephemeral vegetation is seasonal.

Dead ephemeral vegetation in the photos is mostly fall vegetation that sprouts after the summer monsoon season.

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Project Status

- This years (2014) spring data collection was completed from March through April during the spring wildflower bloom.
- Permanent metal cap markers were placed on the NW corner of each plot, and at the center of each subplot.
- This is part of a larger covariate study and the data will be used as part of a fine scale predictive model for Desert Tortoise occupancy.

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Project Timeline

- Each crew that was sent out was able to complete 2-3 plots per day.
  - A Crew consisted of one botanist and one field assistant
- The project was broken into zones using GIS and a work plan was developed based on
  - Plot locations in relation to other plots
  - Crew work assignments in relation to the other crews
- Due to limited roads in the area, some days required several miles of walking to reach the assigned plots.
- Fieldwork Start and End
  - Started March 17, 2014
  - Completed April 11, 2014

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Data Collection

- Data was collected in the field
- Verified after each transect
- Data was then entered into an excel table with:
  - Built in validation for logical values
  - Visual cues to identify errors
  - Formulas to help verify data and spot errors not found in the validation scheme
- Data was verified again after entry to ensure data was accurate

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Conclusion

- The project was a success
  - Data was successfully collected
  - A multi-step QA/QC process was completed
  - 2-3 plots per day was an acceptable rate for the amount of data collected.
- Why is this important?
  - This data will be included in a larger model to predict habitat suitability for the desert tortoise.

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Questions