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# Adaptive Management Program

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## Adaptive Management Program: Overview

### Presentation Overview

- Define adaptive management
- What is the adaptive management program?
- How we use adaptive management
- Dissemination of data



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## Adaptive Management Program: Overview

# Presentation Overview

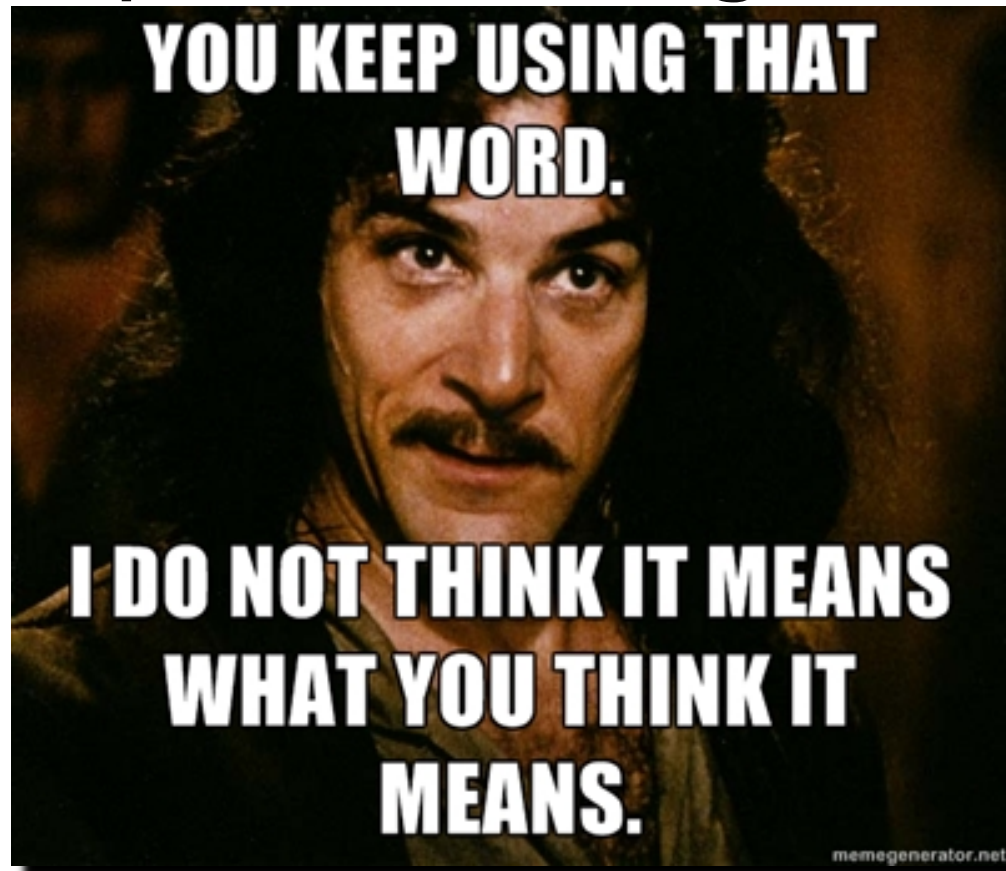
- Define adaptive management
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Adaptive Management Program:  
Adaptive Management Defined

# Adaptive Management





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## Adaptive Management Program: Adaptive Management Defined

### What Adaptive Management is Not

- Not just doing science, even if its management oriented
- Not just tracking of activities or impacts
- Not just strategic planning
- Not the identification of goals and objective
- Not the post-hoc assessment of management





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## Adaptive Management Program: Adaptive Management Defined

### What is Adaptive Management

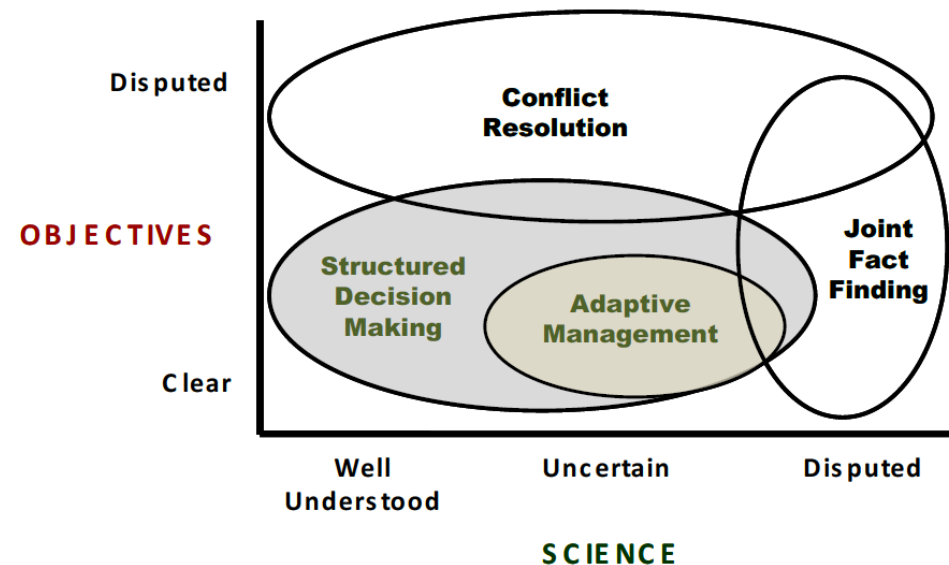
- Structured decision making
- Learning through management, and adjusting management actions based on what is learned
- Recurrent management decision
- Focus should be on:
  - Reducing uncertainty about the influence of management actions on resources
  - Improving management as a result of improved understanding



## Structured Decision Making:

A formal application of common sense for situations too complex for the informal use of common sense.

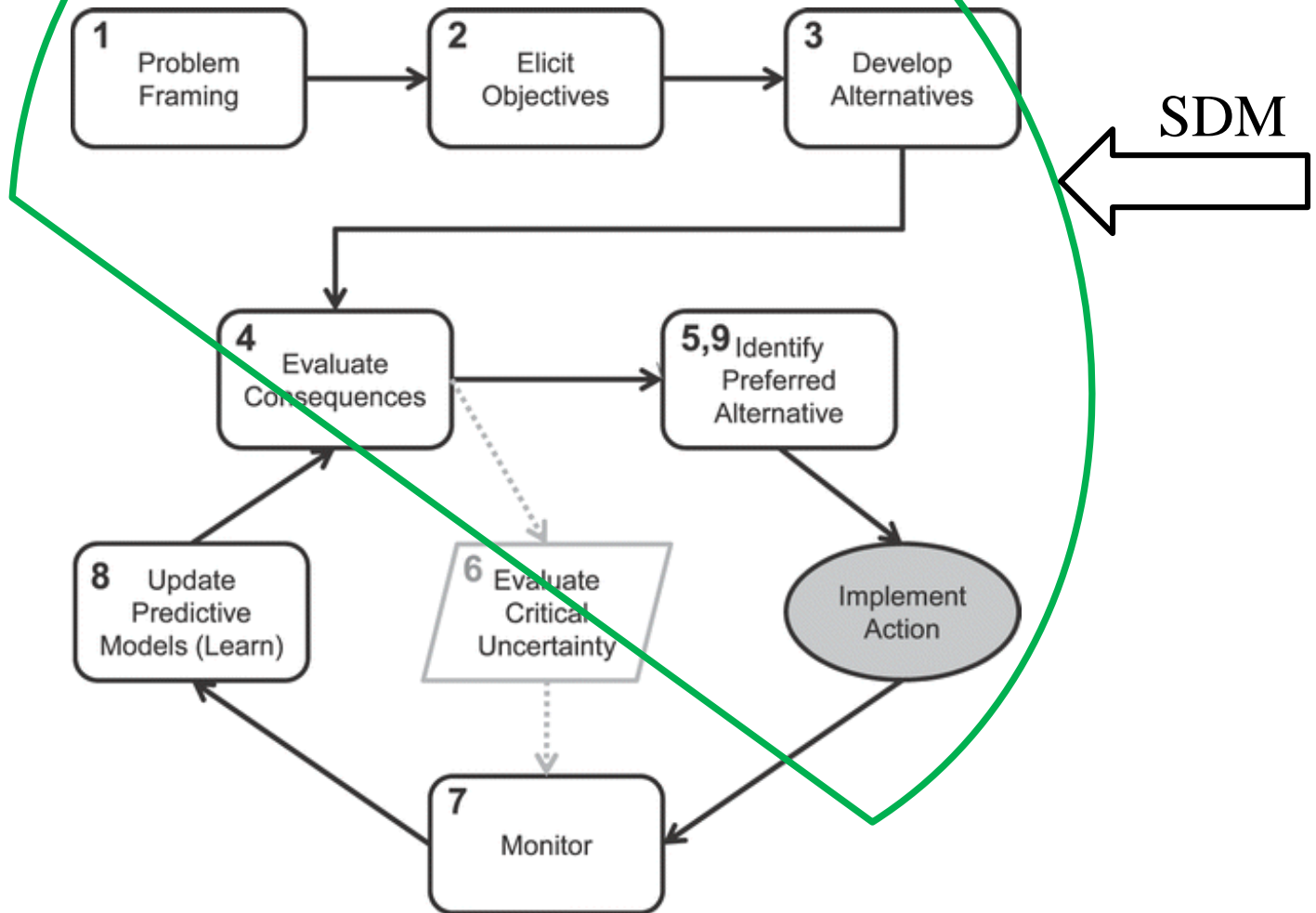
- Problem decomposition
  - break down into components
  - Complete analysis
  - Recompose for decision
- Value Focused
  - Based on objectives
  - IN contrast to alternatives





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## Adaptive Management Program: Adaptive Management Defined







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## Adaptive Management Program: What is the Adaptive Management Program?

### Multi-Species Habitat Conservation Plan

“...[Those involved] are proposing an Adaptive Management Process to gauge the effectiveness of existing conservation measures and to propose additional or alternative conservation measures, as the need arises, and deal with changed or unforeseen circumstances.”





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## Adaptive Management Program: What is the Adaptive Management Program?

### The Adaptive Management Program:

- Provides objective, science-based approach to the implementation of the MSHCP
- Helps direct expenditures
- Leads projects that further the MSHCP
- Ensures an adaptive management approach to all management actions



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# Adaptive Management Program: What is the Adaptive Management Program?

## Who is Involved

- DCP staff
- Science advisor
- Agency personnel
- Land managers
- Academics



**TerraGraphics**  
Environmental Engineering, Inc.



Heron Ecological, LLC



sennabiological 

University of Idaho





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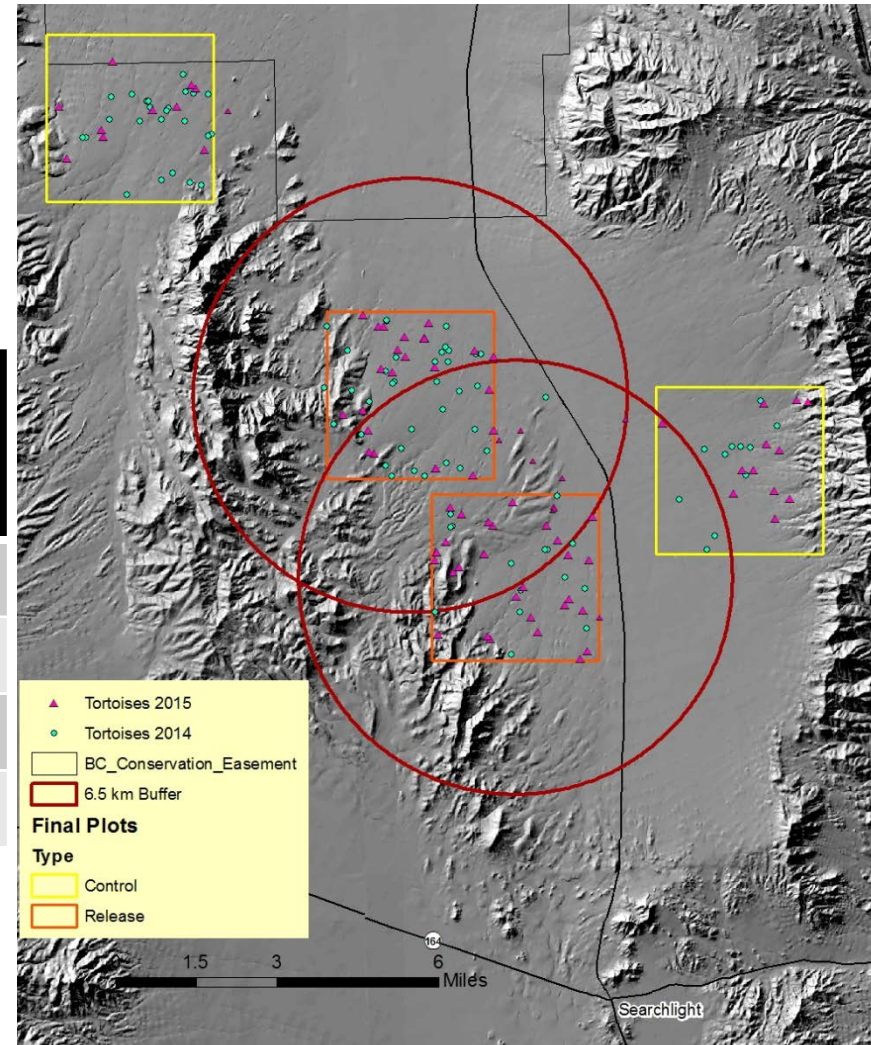


## Tortoise Translocation to Eldorado Valley

- Recently completed final year of study

	Pre-translocation Density (2014)	Post-translocation Density (2015)
Release 1	7.9/km <sup>2</sup>	7.4/km <sup>2</sup>
Release 2	4.5/km <sup>2</sup>	7.5/km <sup>2</sup>
Control 3	4.4/km <sup>2</sup>	2.9/km <sup>2</sup>
Control 4	3.5/km <sup>2</sup>	3.9/km <sup>2</sup>

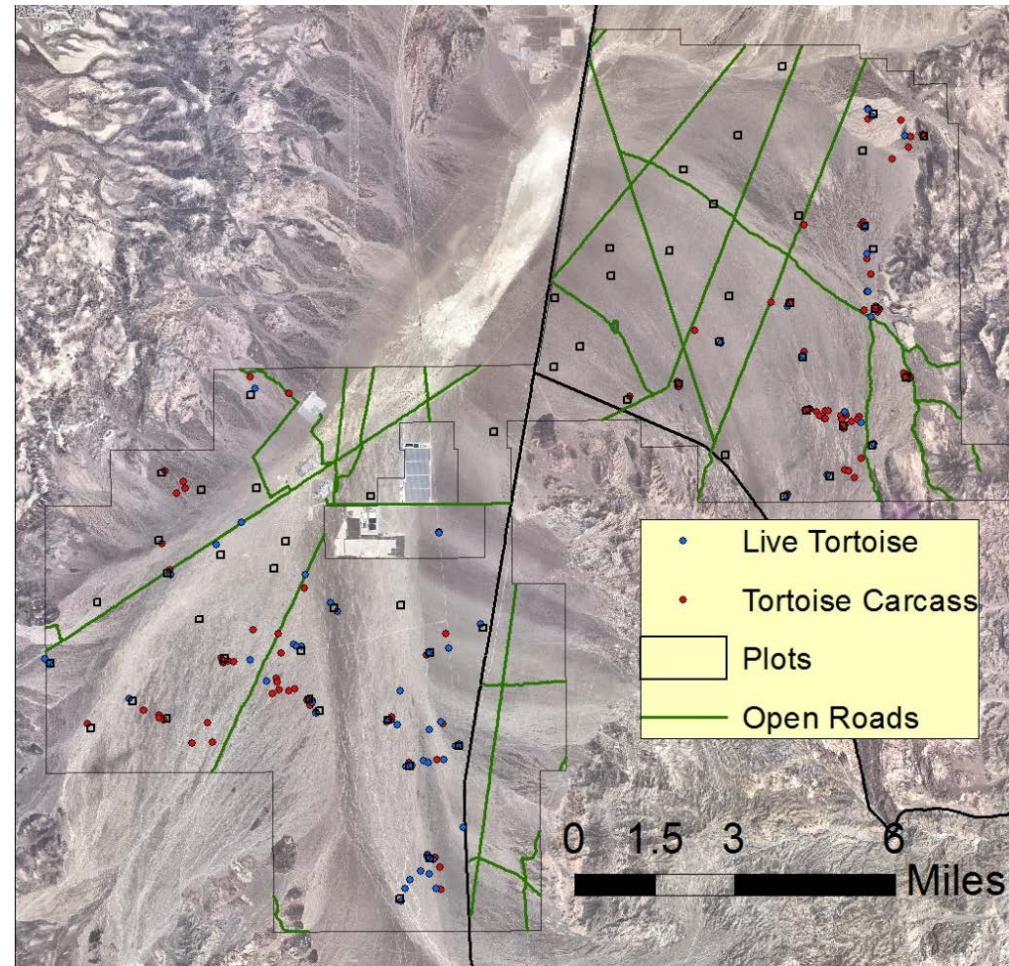
- May look to continue this project in 2018

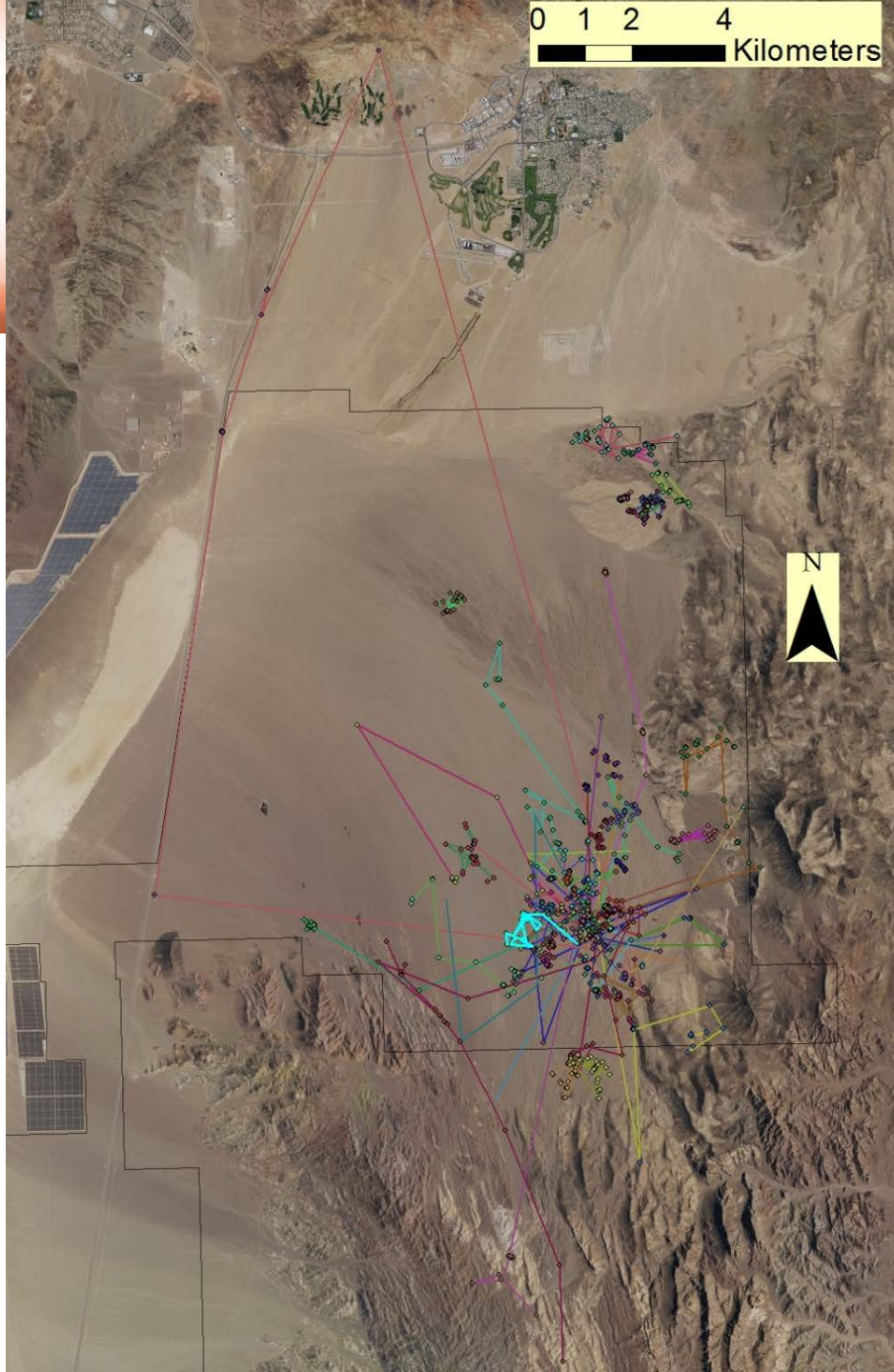




## Tortoise Occupancy Surveys

- Methods
  - 60 plots
  - 7 visits
- Located 53 Tortoise
- Results (First 3 years)
  - Naïve Occupancy = 35%
  - Estimated Occupancy = 49%
  - Detection Probability = 9%





## Adaptive Management Program: How We Use Adaptive Management

- **Methods**
  - Radio telemetry
  - 1x per week in spring, summer, and fall
- **Results**
  - 2,148 observations
  - One tortoise moved more than 22 km before being picked up





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## Adaptive Management Program: How We Use Adaptive Management

- Desert Tortoise Connectivity and Effectiveness Monitoring
- Assessment of Desert Tortoise Guards





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## Adaptive Management Program: How We Use Adaptive Management

- Using Drones to locate tortoises
- Using software to reduce the processing time of trail cameras





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## Adaptive Management Program: How We Use Adaptive Management

- Predator Study Phase 2
- Predator Prey Dynamics





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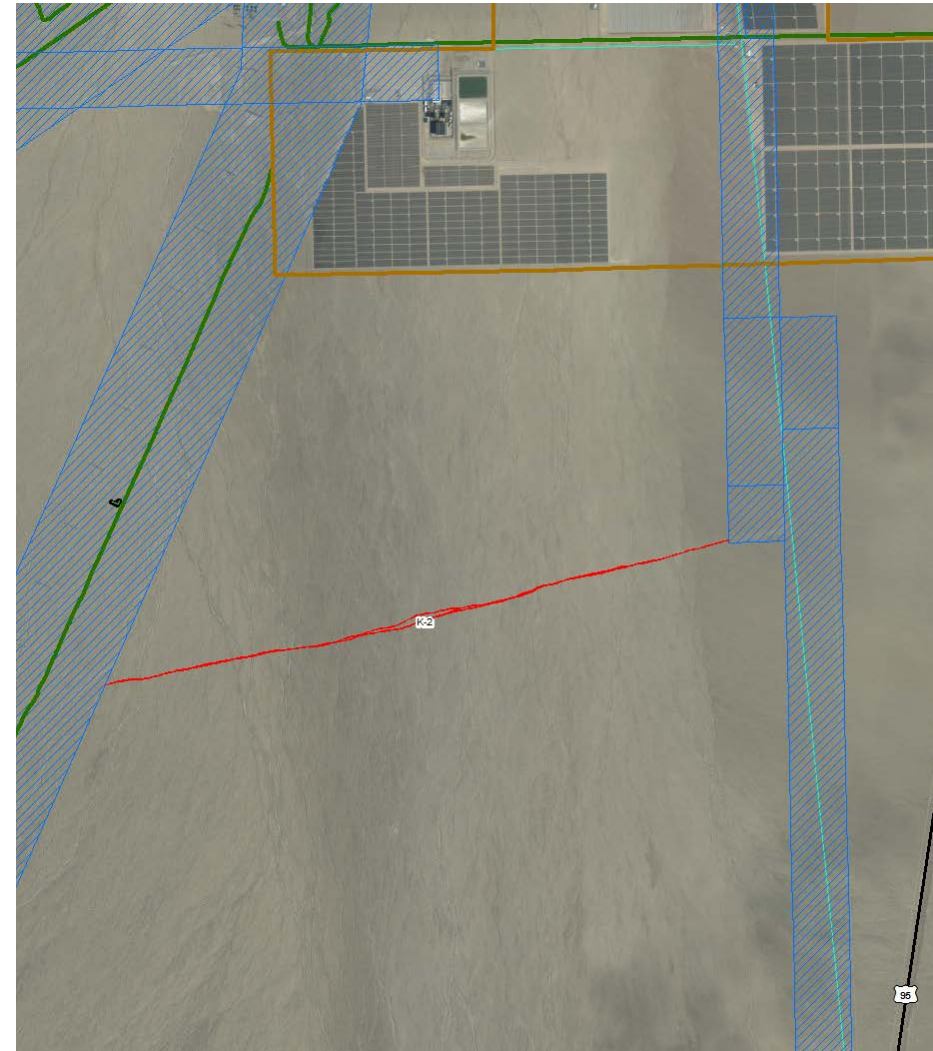
## Adaptive Management Program: How We Use Adaptive Management





## BCCE Restoration

- Two Methods
  - Broadcast Seeding
  - Seed Wafers
- Evaluating Desert Tortoise Habitat Restoration





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## Adaptive Management Program: Dissemination of Data

- DCP Website  
<http://www.clarkcountynv.gov/depts/dcp/Pages/DCPReports.aspx>
- Symposium
- Adaptive Management Report





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## Adaptive Management Program: Questions?

