
Biological Goals and Objectives and the Adaptive Management Program
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PROGRAM

Overview

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

Overview

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Biological Goals and Objectives for the Clark County, NV Multiple Species Habitat Conservation Plan - Final

Prepared for the:

desert conservation PROGRAM

4701 W. Russell Rd.
Las Vegas, NV, 89118

2013-TERRA-1410B-D10

Prepared by:
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Aridlands Natural Resource Consulting

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University of Idaho

June 22, 2016

Adaptive Management and Monitoring Plan

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Prepared for:
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Overview

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Riparian Reserve Units

- 4 Goals
- 11 Objectives
- 20 projects over the last year

Desert Reserve Units

- 4 Goals
- 13 Objectives
- 30 projects over the last year

Biological Goals and Objectives for the Riparian Reserve Units

BGO's for Riparian Reserve Units

Goal R 1. Maintain, improve, and expand habitat for the MSHCP-covered species on riparian reserve system lands

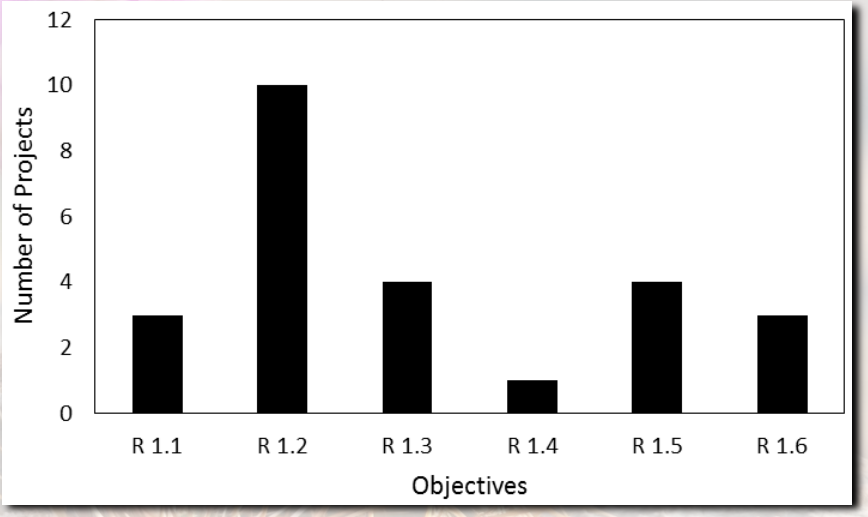
Objectives:

R 1.1: Monitor MSHCP-covered species occupancy

R 1.2: Maintain and/or increase suitable breeding habitat for MSHCP-covered birds

R 1.3: Incorporate elements of natural riparian processes into restoration design and implementation

R 1.4: Inventory, remove, and control invasive and non-native plant species



R 1.5: Reduce habitat fragmentation and/or improve connectivity and habitat quality through restoration design and implementation

R 1.6: Acquire riparian property at an equivalent rate as take (i.e., habitat conversion)

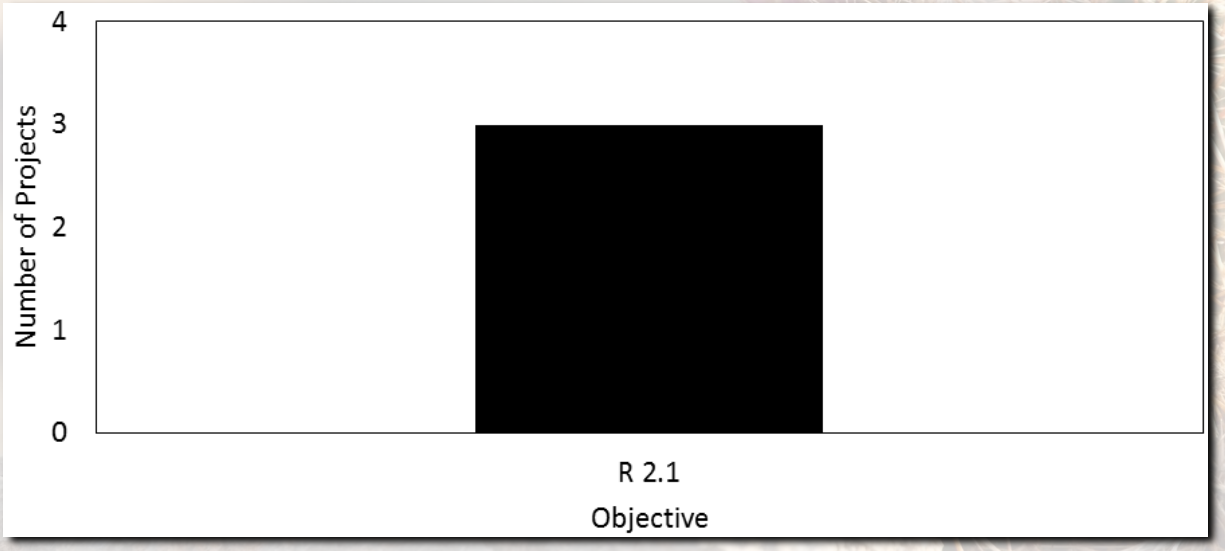
R 1.2: Increasing Suitable MSHCP covered Bird Species

BGO's for Riparian Reserve Units

Goal R 2. Maintain stable or increasing populations of federally-listed threatened and endangered (T&E) species on riparian reserve system lands

Objectives:

R 2.1: Monitor and adaptively manage for breeding bird populations



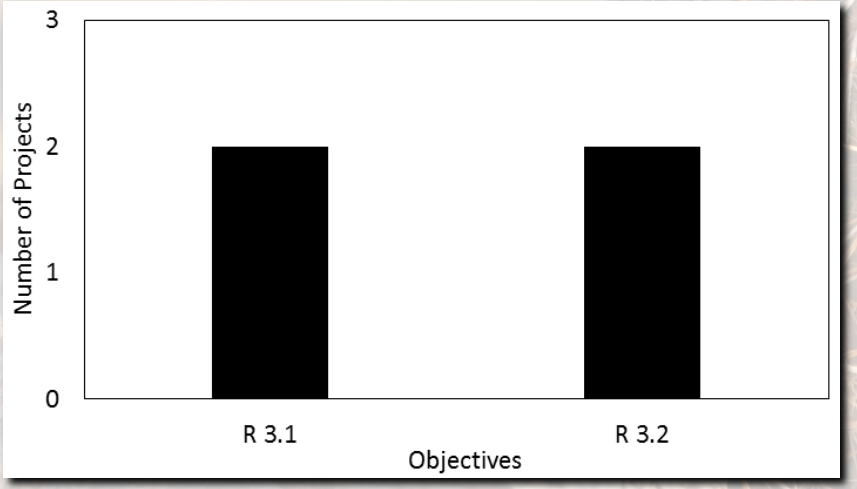
BGO's for Riparian Reserve Units

Goal R 3. Foster community and stakeholder engagement to benefit covered species

Objectives:

R 3.1: Collaborate with other stakeholders on project/mitigation work (e.g., agencies, permittees)

R 3.2: Promote responsible recreation (e.g., signage, education)



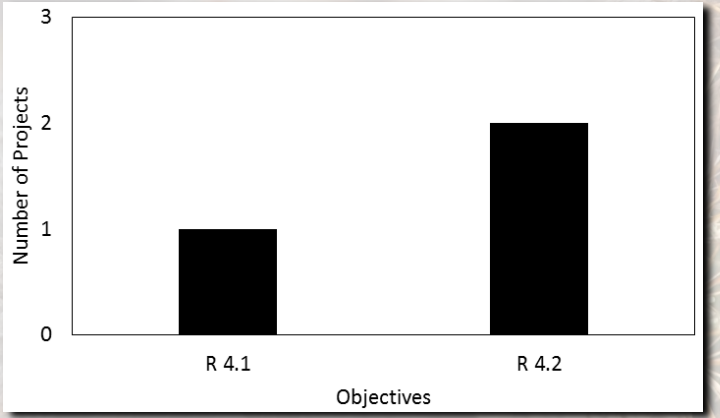
BGO's for Riparian Reserve Units

Goal R 4. Promote ecological resiliency on riparian reserve system lands

Objectives:

R 4.1: Identify critical uncertainties and address these through planning and adaptive management, when feasible (e.g., land use changes, catastrophic events—fire, climate change)

R 4.2: Identify critical connectivity corridors for covered species and prioritize acquisition and/or conservation where feasible



Biological Goals and Objectives for the Desert Reserve Units

BGO's for Desert Reserve Units

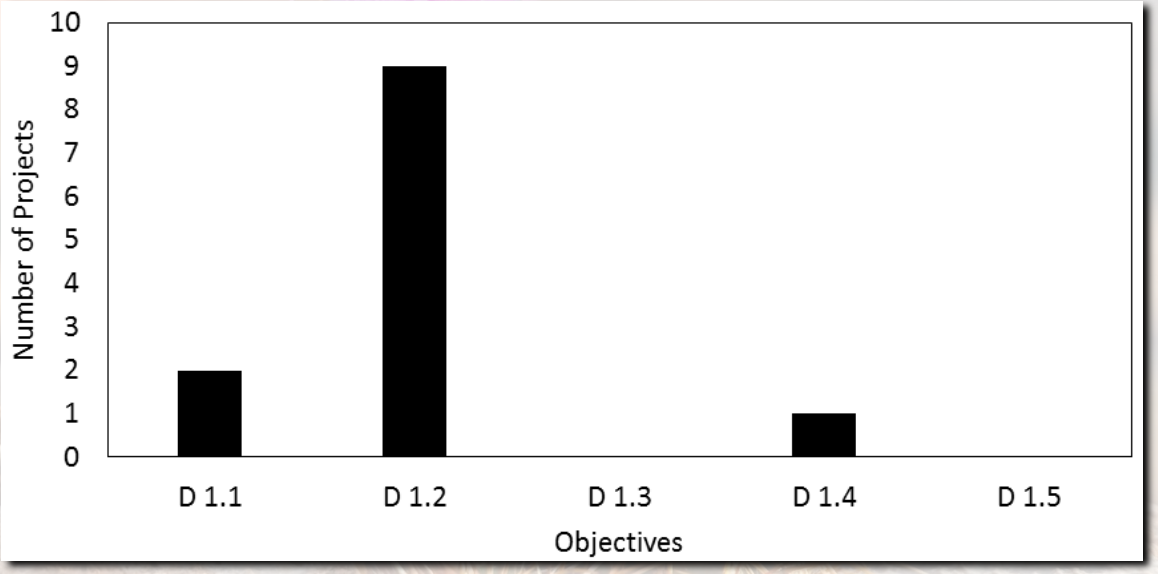
Goal D 1. Maintain, improve, and expand habitat for MSHCP-covered species on desert upland reserve system lands

Objectives:

D 1.1: Monitor MSHCP-covered species occupancy

D 1.2: Maintain existing intact functioning habitat and restore degraded habitat

D 1.3: Protect and conserve habitat for covered plants



D 1.4: Inventory, remove, and control invasive and non-native plant species

D 1.5: Reduce habitat fragmentation and/or improve connectivity through restoration design and implementation

D 1.3: Protect and conserve habitat for covered plants

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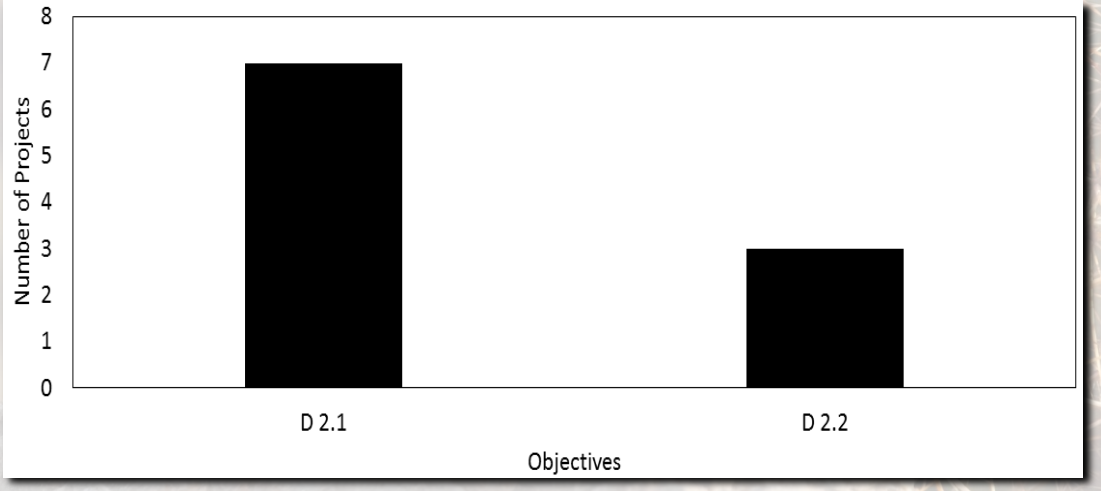
BGO's for Desert Reserve Units

Goal D 2. Maintain stable or increasing populations of Federal T&E-listed species on desert upland reserve system lands

Objectives:

D 2.1: Monitor and adaptively manage for desert tortoise populations

D 2.2: Augment populations through translocation programs when appropriate



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2014 Tortoise Releases

- Eldorado Valley Release
  - 185 adults/125 juveniles
  - 2 control and 2 release plots
  - Surveyed 1 year pre-release and 2 years post release
  - Goal was to increase density of tortoises in release plots
- Boulder City Conservation Easement Release
  - 98 adults/20 juveniles
  - Telemetry 4 years post release
  - Goal was to assess use of habitat type/soils in the area and look at survival and settling rates

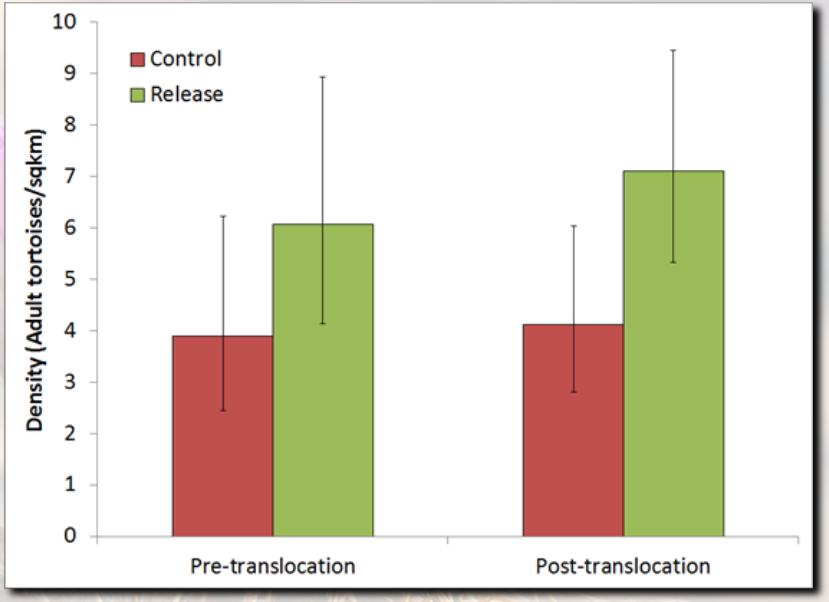

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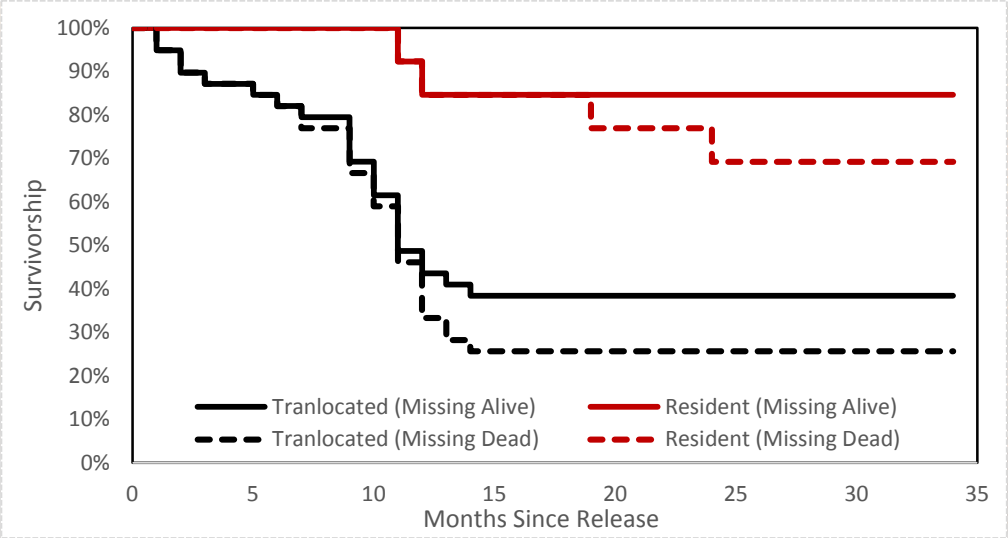
Table 1. Survivorship of adult tortoises at the Boulder City Conservation Easement

	Telemetered Tortoises	Missing	Mortalities	Removed from Study	Survivorship (percent alive)*	Added Since Initial
Translocated	40	5	24	1	25.6% – 38.5%	4
Resident	13	2	2	0	69.2% – 84.6%	9

***Survivorship rate varies based on whether missing tortoises are treated as a mortality or a live tortoise.**

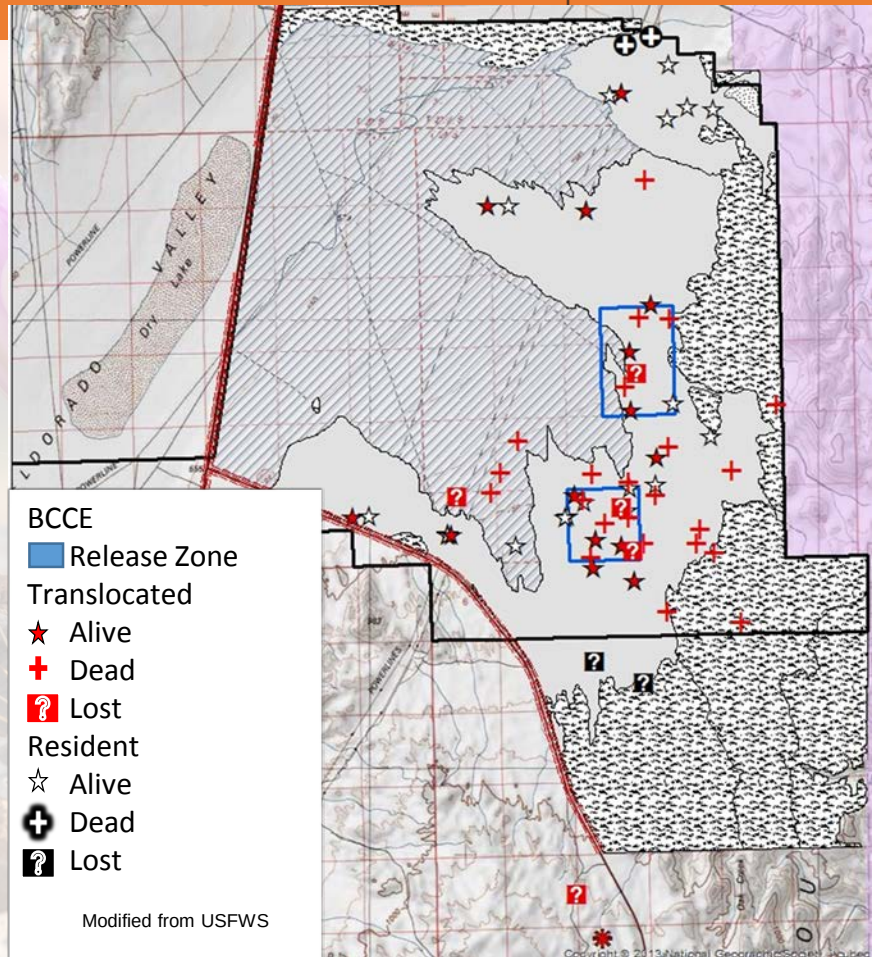


Preliminary Results

- 22 out of 26 known adult mortalities attributed to predation
- Last predation was April 2016
- Tortoises using Searchlight soil spent between 15% and 94% of time there
- Survival of animals using this soil was between 71% and 86%

Current Telemetered Individuals

- 14 Translocated
- 18 Residents



Predator-Prey Dynamics Study

- Determine variability in demographics
- Determine home range and habitat use patterns
- Determine health status and mortality rates
- Develop method to obtain reliable density estimates that are cost effective

Photos By Bill Boarman

BGO's for Desert Reserve Units

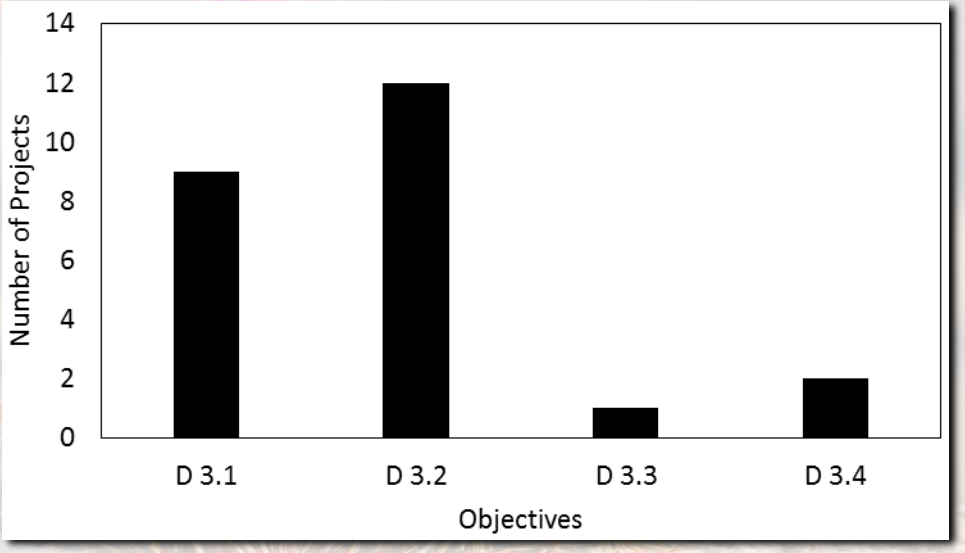
Goal D 3. Foster community and stakeholder engagement to benefit covered species

Objectives:

D 3.1: Collaborate with other stakeholders on project/mitigation work (e.g., agencies, permittees)

D 3.2: Promote responsible recreation (e.g., signage, education)

D 3.3: Provide law enforcement within reserve system



D 3.4: Educate project proponents and construction personnel about procedures for reporting desert tortoises that occur on project sites and provide a mechanism for collection and relocation of tortoises in collaboration with the US Fish and Wildlife Service

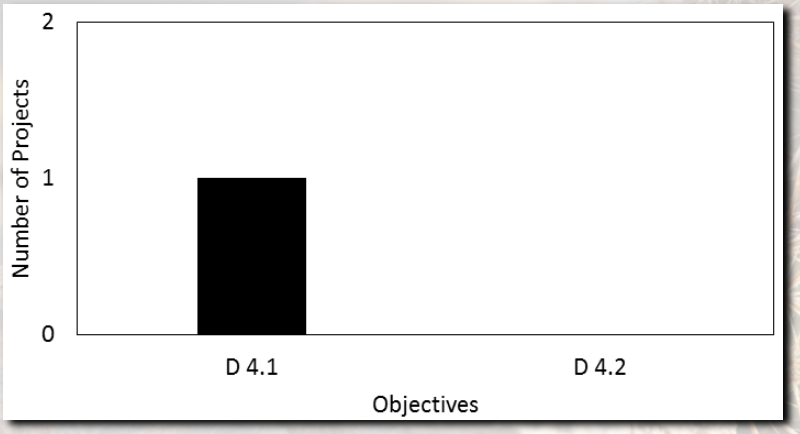
BGO's for Desert Reserve Units

Goal D 4. Promote ecological resiliency on desert upland reserve system lands

Objectives:

D 4.1: Identify critical uncertainties and address these through planning and adaptive management, when feasible (land use changes, catastrophic events—fire, climate change)

D 4.2: Identify critical connectivity corridors for covered species, prioritize conservation and/or acquisition of corridors, and increase permeability for species movement where feasible



THANK YOU TO THE PERMITEES

Questions?

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