

Adaptive Management in the Desert Conservation Program

August 31, 2026



MOJAVEMAX.COM



**desert conservation
PROGRAM**

Purpose

The Adaptive Management Program:

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



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2026 Biennial Adaptive Management Report

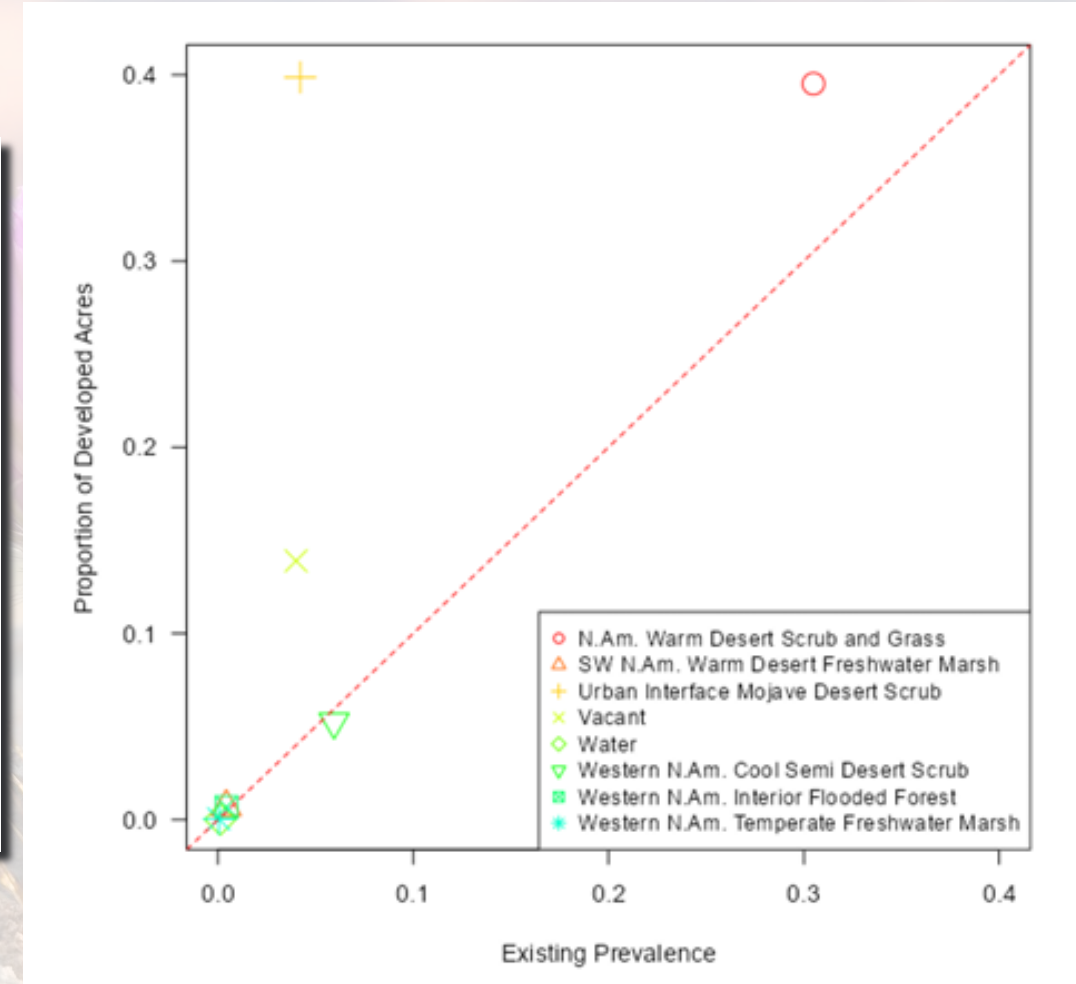
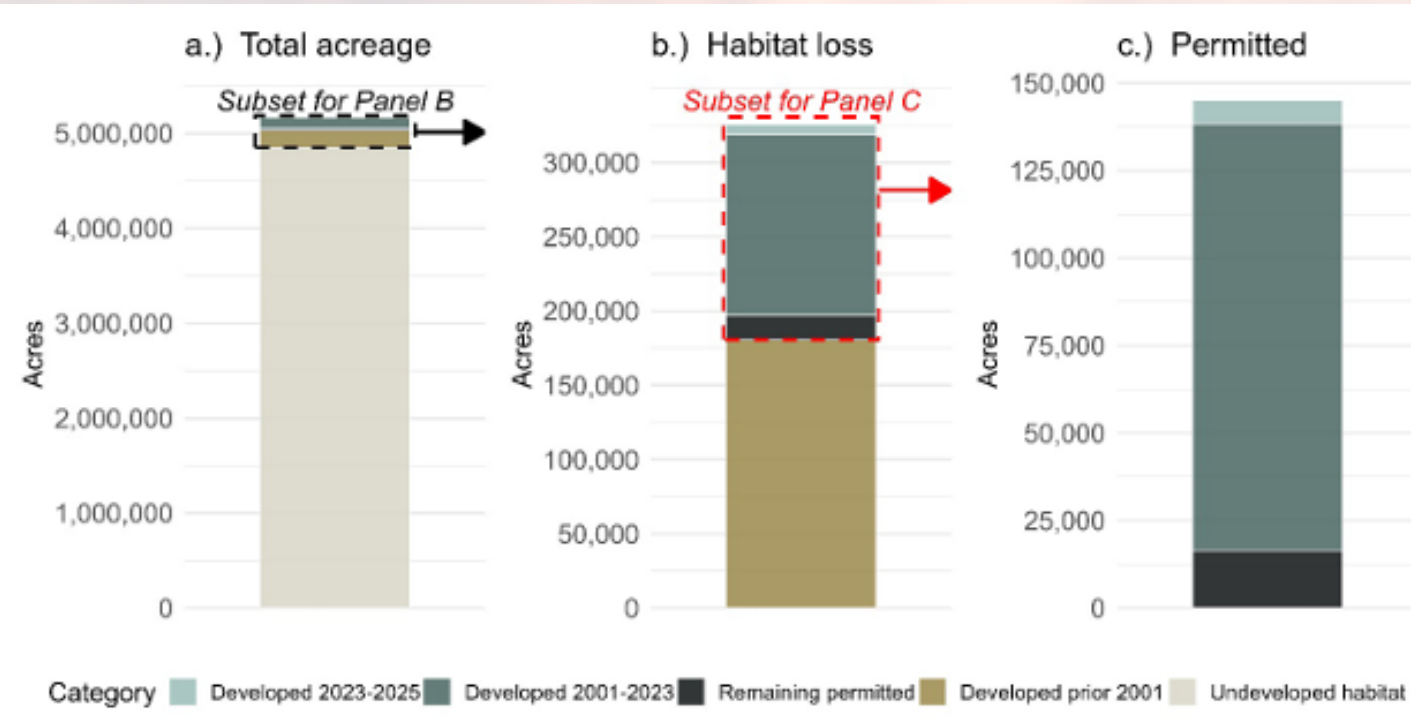


Independent review of the MSHCP and the BGOs

Look at 4 key areas:

- Analyze land-use trends to ensure take and habitat disturbance are balanced with conservation
- Track habitat loss by ecosystem
- Evaluate the effectiveness of management actions in meeting MSHCP conservation and recovery goals
- Monitor population trends and ecosystem health

Land Use Trends/Habitat Loss



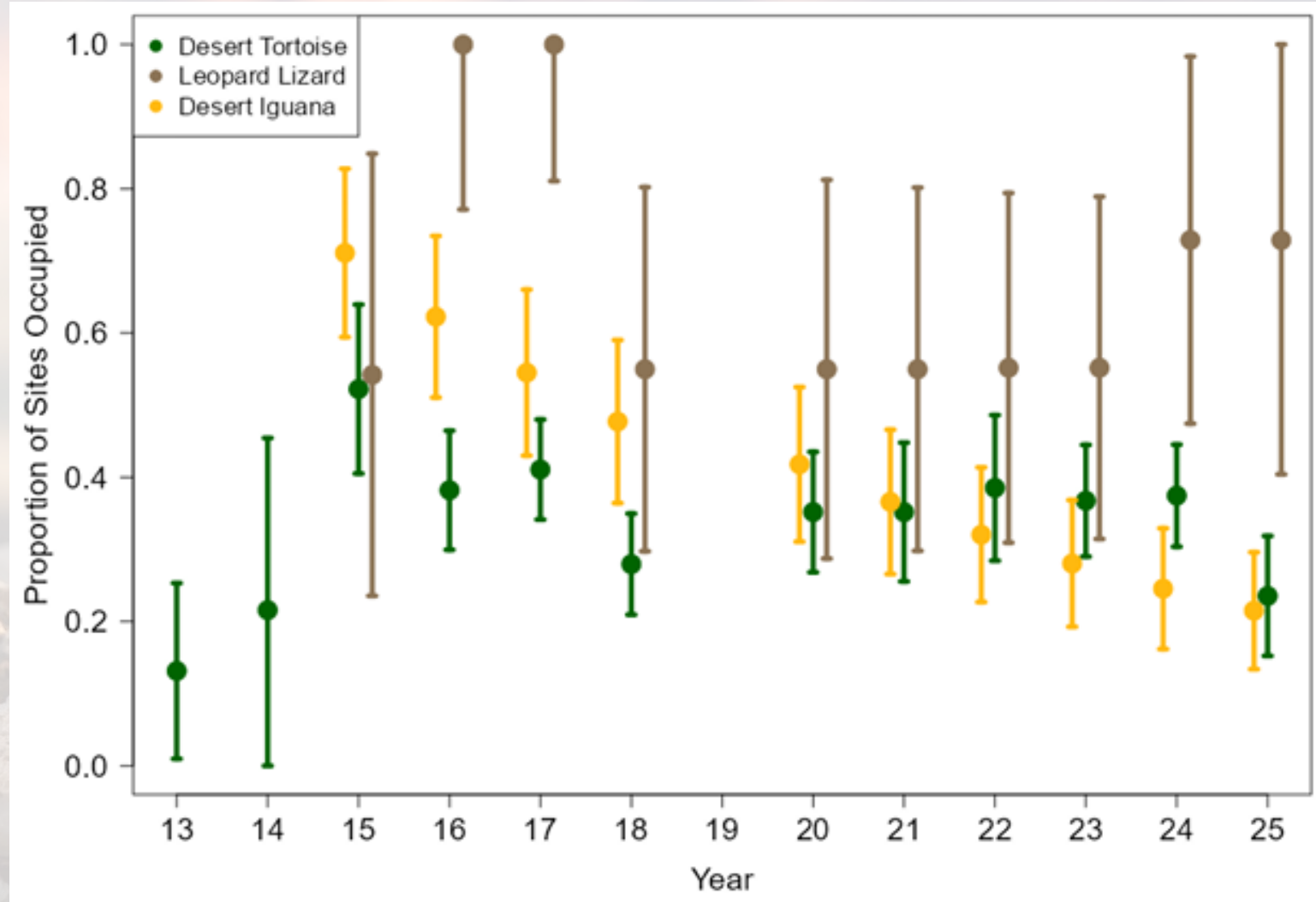
Species Monitoring

- Federal Protocols
- Occupancy surveys
- Habitat monitoring

Species / Habitat ^a	Monitoring Survey	Covered Species Group	Years Monitored
Desert tortoise	Occupancy sampling	Desert upland reptiles ^a	2013-present
Great Basin collared lizard			2015-present
Desert iguana			
Large-spotted leopard lizard			
Yellow-billed cuckoo	Federal protocol	Individual	2017-present
Southwestern willow flycatcher	Federal protocol	Individual	
Blue grosbeak	Point count / passive acoustic occupancy	Riparian birds	2017-present
Summer tanager			
Vermillion flycatcher			
Arizona Bell's vireo			
American peregrine falcon		Desert upland birds	2018-present
Phainopepla			
Silver-haired bat	Passive acoustic occupancy	Bats	2018-present
Long-eared myotis			
Long-legged myotis			
Sticky ringstem	Three-tiered sampling	Desert upland plants ^b	One time survey off reserve lands and incidental observation; monitoring will commence if species are observed on reserve lands
Las Vegas bearpoppy			2023-present
White bearpoppy			
Threecorner milkvetch			
Upland Habitat	AIM protocol augmented with remote sensing	NA	2023-present (AIM protocol)
Riparian Habitat	Remote sensing with ground truthing	NA	Contracting initiated; 1 st monitoring event not yet completed.

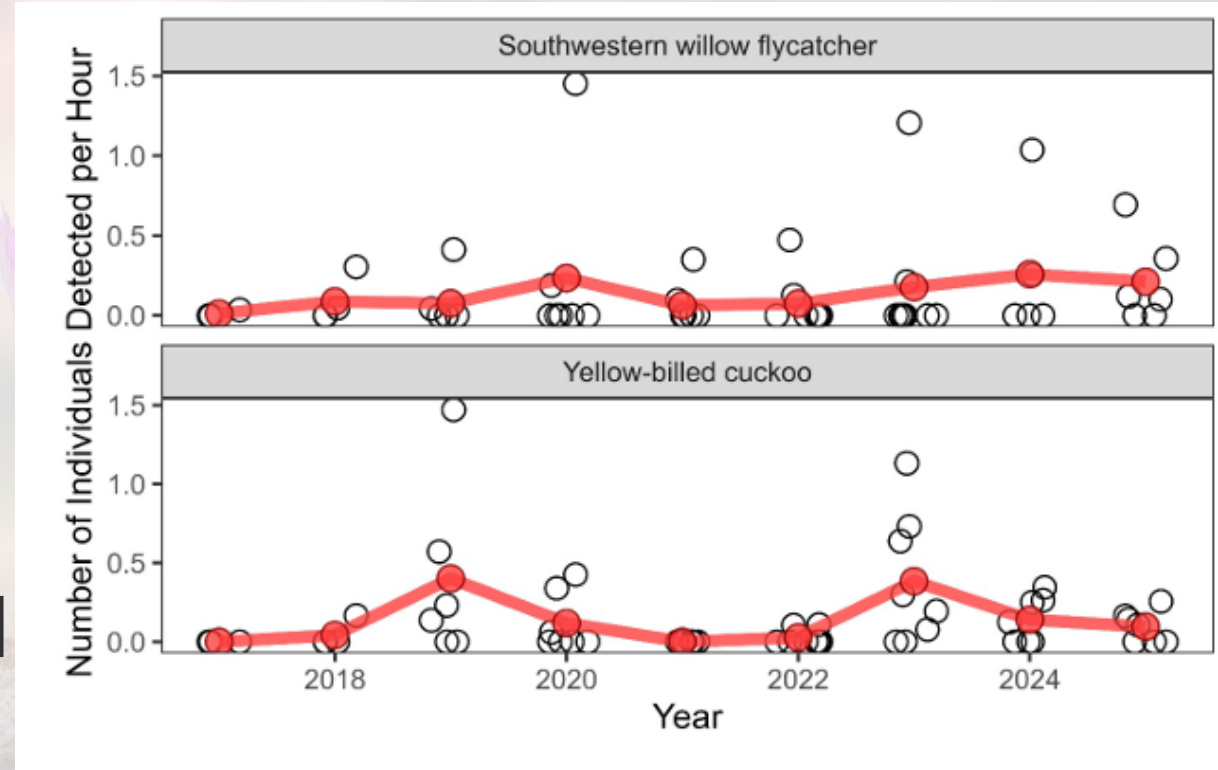
Reptile Occupancy

- Average tortoise detection probability was 0.21
- Tortoise occupancy ranged from 0.13 in 2013 to a high of 0.54 in 2015
- Leopard lizard occupancy ranged from 0.54 in 2015 to 1.0 in 2016
- Desert Iguana occupancy ranged from 0.71 in 2015 to .21 in 2025



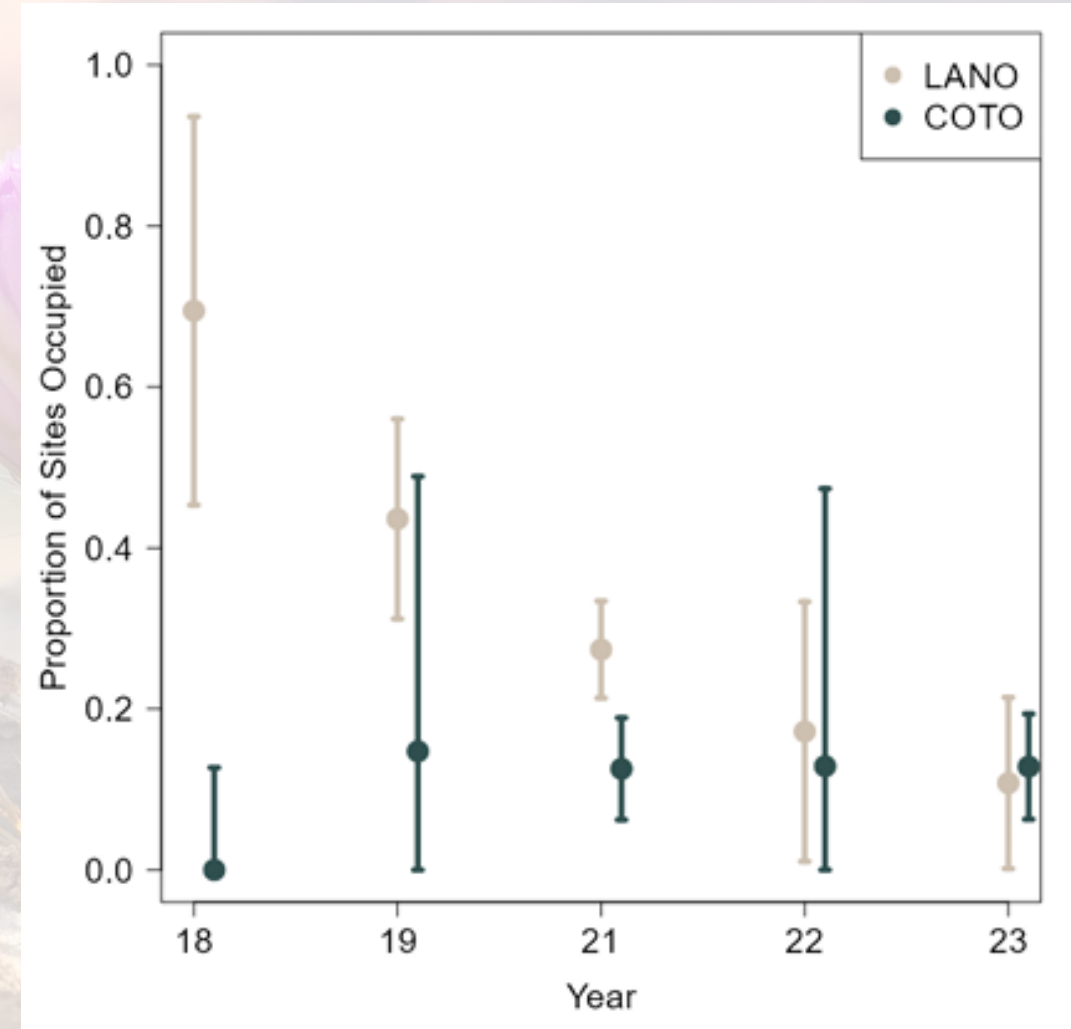
Bird Surveys

- Detections per hour increased from 2017 to 2025 for SWFI and YBCU
- Phainopepla occupancy ranged from 0.51 in 2017 to 0.81 in 2018
- Blue Grosbeak occupancy ranged from 0.60 in 2018 to 0.74 in 2024
- Arizona Bell's vireo occupancy ranged from 0.23 in 2017 to 0.81 in 2018



Bat Surveys

- Passive acoustic monitors deployed across 29 site
- Silver-haired bat
 - Covered species
 - Occupancy ranged from 0.11 – 0.69
- Townsend's big-eared bat
 - Proposed Covered
 - Occupancy ranged form 0.003 – 0.15



Biological Goals and Objectives

Table shows how many project objectives help meet which BGOs

- 2 > 20 BGOs
- 7 between 5 – 20 BGOs
- 4 < 5 BGOs

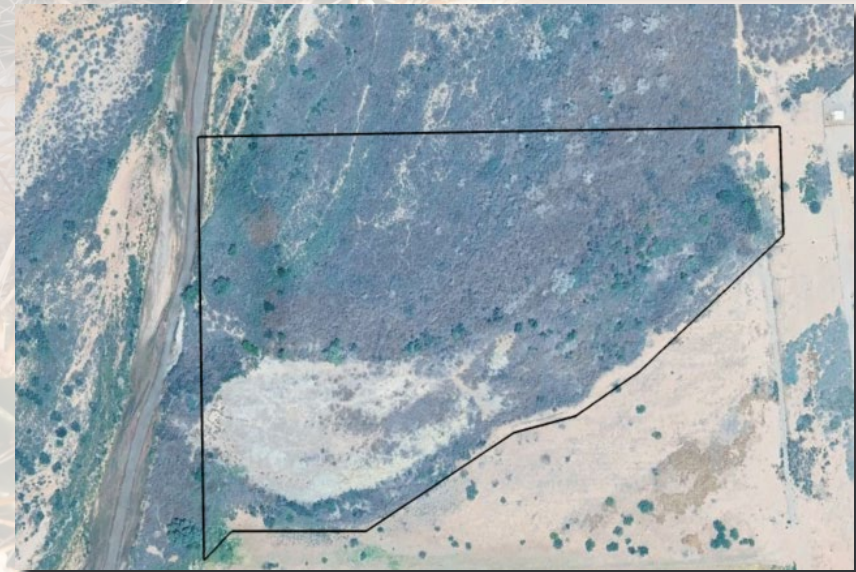
BGO	Project Objectives
1.1	9
1.2	0
1.3	30
1.4	5
1.5	9
1.6	1
1.7	0
2.1	37
2.2	1
2.3	15
2.4	17
3.1	5
3.2	5

Land Acquisition



Purchases have outpaced take over the course of the permit

- New properties in 2026
 - Electric Avenue
 - 21.4 acres



Obj 1.2: Acquire riparian acreage at an equivalent rate as take over the life of the permit.

Management plans

- Currently these are revised on a 4-year cycle
- BCCE management plan was revised in 2025
- Riparian management plan slated for revision in 2027
- Transitioning to a web-based plan

CLARK COUNTY MULTIPLE SPECIES
HABITAT CONSERVATION PLAN

RIPARIAN RESERVES MANAGEMENT PLAN

Version 1.4
April 2023



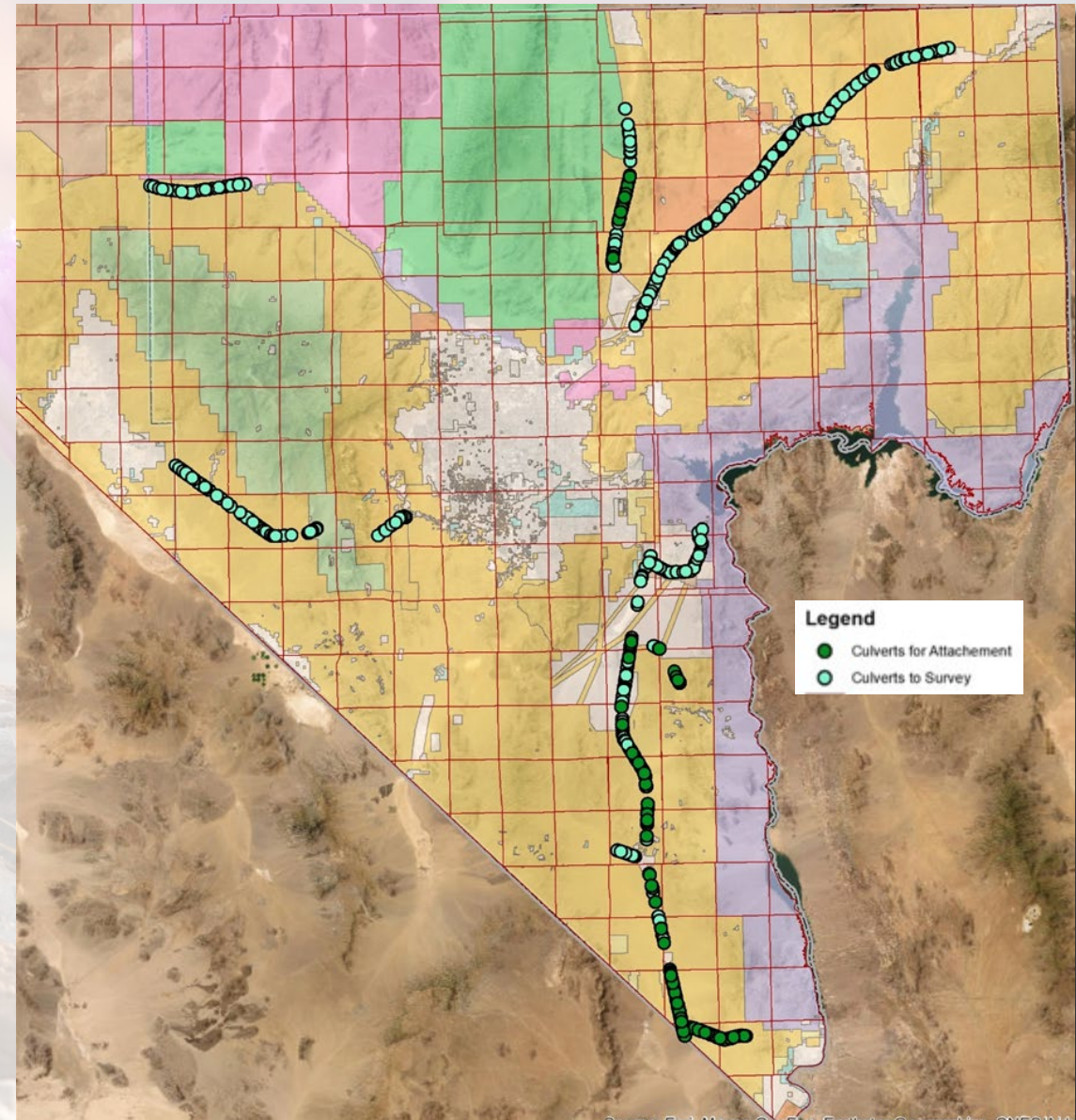
Obj 1.6: Incorporate concepts of ecosystem redundancy and representation to promote ecological resiliency in the biennial updates to the Reserve System land Management Plans.

Connectivity

- SNPLMA Connectivity Plan Implementation
 - Re-examine all culverts
 - 30-40 culverts attached
 - Fire management plan

Implementation of the 2022 Connectivity monitoring plan

Obj 1.5: Identify critical uncertainties
Obj 1.7: Protect and enhance connectivity



Covered Plants

- Whit-margined penstemon surveys
- Threecorner milkvetch
- Las Vegas bear poppy



Obj 2.2: Conduct surveys for Covered Plant Species as described in the AMMP. Protect, conserve, and monitor known occurrences of these species

Translocation

Spring 2025 translocation

- Helped translocate 6 tortoises removed from the Greenlink project off private land.
- Translocated 2 tortoises removed from construction site to the BCCE

Fall 2025 translocation

- Translocated 1 tortoise removed from a construction site to the BCCE

2026 translocations

- We have 6 tortoise with plan release in October

Obj 2.3: Translocate and augment desert tortoise populations in accordance with USFWS guidance



Desert Tortoise Aging Study



- Inter-local agreement with USGS to analyze data is in review
- Held a tortoise blood sample collection event for Clark County residents with tortoises of known ages
- Gathered samples from 19 tortoises so far
- One birth dating back to 1941



Obj 2.4: Ensure the best available scientific information is being evaluated and incorporated into population management efforts for Covered Species

Data Dissemination

- Symposia / Conferences
- Publications
- Website

Harju and Cambrin *Movement Ecology* (2026) 14:7
<https://doi.org/10.1186/s40462-026-00624-2> Movement Ecology

RESEARCH Open Access

Origin of translocated animals is associated with time to settlement and post-translocation survival

Seth Harju^{1*} and Scott Cambrin²



Diversity and Distributions Open Access A Journal of Conservation Biogeography

RESEARCH ARTICLE Open Access CC BY

Environmental Variability Predicts Geographic Patterns of Body Size Variation in Gila Monsters (*Heloderma suspectum*)

[Connor J. Hughes](#) ✉ [Kristoffer H. Wild](#) [Jason L. Jones](#) [C. Richard Tracy](#) [Erika M. Nowak](#) [Daniel D. Beck](#) [C. M. Gienger](#)

First published: 21 August 2026 | <https://doi.org/10.1111/ddi.70251> | [VIEW METRICS](#)

Reclamation Sciences (2026) 3:21–32
<https://doi.org/10.21000/RCSC-202500007>

RESEARCH ARTICLE

Intermittent and Reversible Vegetation Change During a 19-Year Period on Severe Disturbances Receiving Reclamation and on Undisturbed Desert Pavement

Scott R. Abella¹ · Lindsay P. Chiquoine¹ · Seth M. Munson²



Conservation Science and Practice Open Access
A journal of the Society for Conservation Biology

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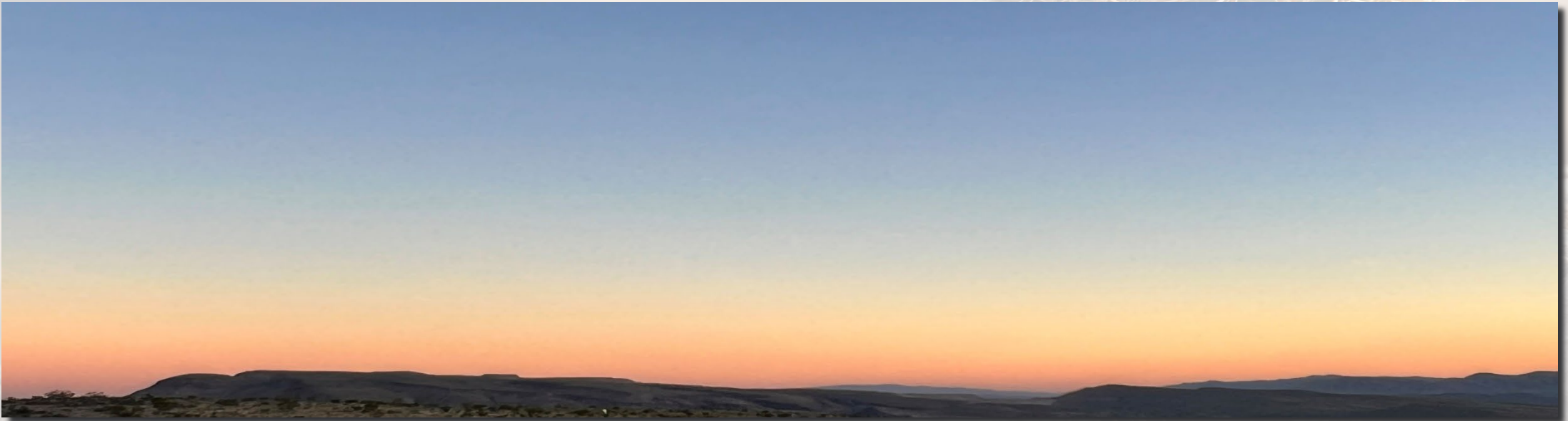
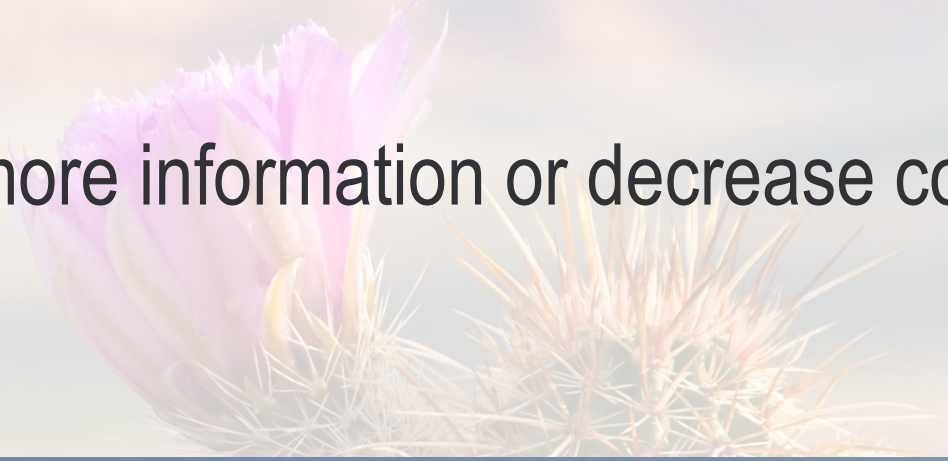
Integrated species distribution modeling to assess species status and current and future threats for an imperiled amphibian

[C. Lane Scher](#) ✉ [Brian J. Tornabene](#) [David F. Bradford](#) [J. Tomasz Giermakowski](#) [Caren S. Goldberg](#) [Evan H. Campbell Grant](#) [David A. W. Miller](#) [Riley O. Mummah](#) [Erin Muths](#) [Mason J. Ryan](#) [Brent H. Sigafus](#) [Kenzi M. Stemp](#) [Brian K. Sullivan](#) [Kevin K. Wheeler](#) [Blake R. Hossack](#)
... See fewer authors ^

First published: 19 August 2026 | <https://doi.org/10.1111/csp2.70371> | [VIEW METRICS](#)

Conclusions

- Working to meet BGO's
- Meeting our monitoring obligations
- Attempting new methods to provide more information or decrease costs



THANK YOU TO THE PERMITEES

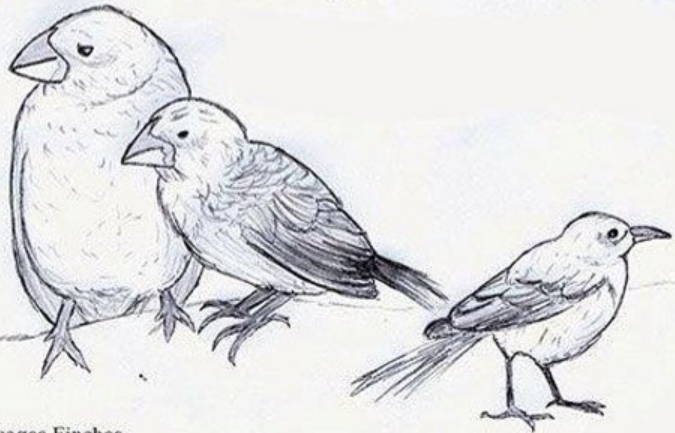


Questions or Memes

Mom, why does brother's beak look different than mine?

I always worried you'd ask about this one day.

It's a secret, so you can't tell anyone, but your brother's adapted.



Galapagos Finches

Humans: *use flashlight to navigate in the dark*

Cats: *use well-built eyes*

Bats:

