DESERT TORTOISE TRANSLOCATION OF THE MARINE CORPS AIR GROUND COMBAT CENTER IN 2022







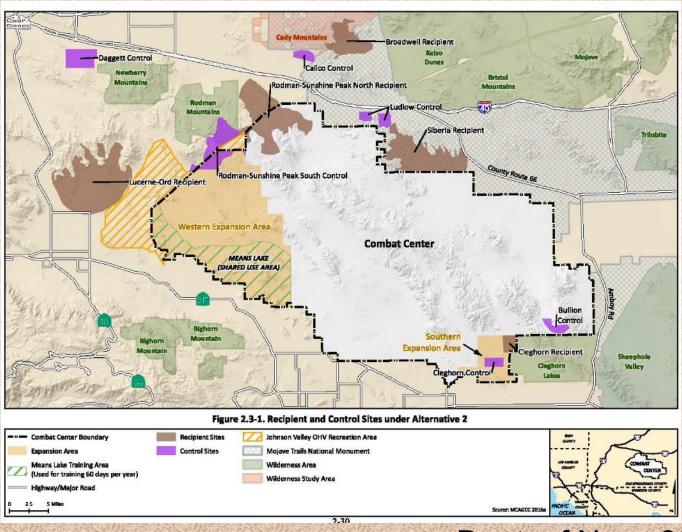


Brian T Henen

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TRANSLOCATION OVERVIEW



Site Criteria (USFWS 2011, USMC 2017)

- 1. Connected system of occupied tortoise habitat
- 2. Populations depleted or depressed
- Good habitat, currently or could be occupied by tortoises, of all life stages

4. Adequate protection

- a. Not subject to elevated threats (predation, disease, non-native invasives)
- b. Disease incidence < 20%
- c. Within 40km of impact areas
- d. Release sites ≥ 10km from major unfenced roads, highways
- e. Recipient areas include dispersal radius of 6.5km from release points
- f. No detrimental rights-of-way, etc.
- g. Site will be managed compatibly with continued desert tortoise occupancy



TRANSLOCATION DENSITIES (adults/km²)



Recipient Site	Size (km²)	Initial Density (adult/km²)	Projected Density	Translocatees	Post- translocation density
Lucerne-Ord	162.5	5.2	4.01	447	8.1
Rodman- Sunshine Peak North	103.4	4.9	3.78	341	8.1
Siberia	63.8	2.6	2.08	155	5.5
Cleghorn Recipient	8.1	6.5	5.21	37	10.4

TRANSLOCATION NUMBERS



	Large	Small	
	≥160mm	<160mm	sum
2017-2020	1014	425	1439
2021*	0	98	98
sum	1014	523	1537

^{*} Holding pen animals

MORTALITY - % PER YEAR*

Controls (C), Residents (R), Translocatees (T)

						Wet
	С	R	T	#	All	Dry
2017	2.8	1.6	4.0	26	3.1	W
2018	6.1	2.6	9.1	36	5.9	D
2019	6.9	2.7	0.6	22	3.8	W
2020	1.4	2.2	2.5	11	2.0	W
2021	4.2	4.0	3.9	22	4.0	D
2022	17.4	11.8	5.9	12	11.8	D

^{*}annualized, 2017 - 9 months; 2022 - 8 months



SURVIVAL - ANNUALIZED

Controls (C), Residents (R), Translocatees (T)

										C				R			T	SL	ım	۱ ۸	10	nth	15
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					20)2	2	8	32	e)	8	38	.2	9,	4.:	1	88	3.2				8

SURVIVAL - INFLUENCES

- Study Group Controls, Residents, Translocatees
- Sex & age Adult males, adult females, juveniles
- Site location, tortoise density, distance
- Size carapace length
- Time seasonal, annual, covariates



RESEARCH

- Survivorship, health
- Assimilation
- Translocation Density
- Grazing compatibility
- Constrained Dispersal















Recovery and Sustainment Partnership (RASP) Initiative / Update



Brian Henen
Conservation Branch Head
MAGTFTC Marine Corps Air Ground Combat Center
(MCAGCC)
12 October 2023





Recovery and Sustainment Partnership (RASP) Initiative / Update

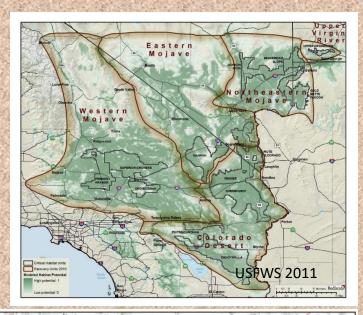
- A. RASP DoD & Dol 2018
- B. RASP Desert Tortoise Mojave DoD (W Mojave)
 - 1. NTC & MCAGCC
 - 2. EAFB, MCLBB, NAWS-CL
- C. Partnerships
 - 1. DoD, USFWS, BLM, other stakeholders
 - 2. Biological Opinions (BO) NTC; MCAGCC (soon)
 - 3. MOA, IA, CA, 'REPI' Program (encroachment)





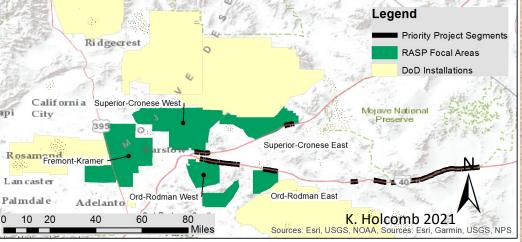
Recovery and Sustainment Partnership (RASP) Initiative / Update

- A. Implementation Plan, May 2022
- B. Monitoring Plan, Nov. 2021
- C. Focal Areas
- D. Partnership
- E. REPI Spring 2022 awards









SUPERIOR-CRONESE (CRITICAL HABITAT UNIT)

Restoration and Route Management 2023 – 2025 Mojave Desert Land Trust

Year 1, Polygons -

- a. field and desktop assessments and workplans, with BLM
- b. monitor high use areas
- c. install route signs

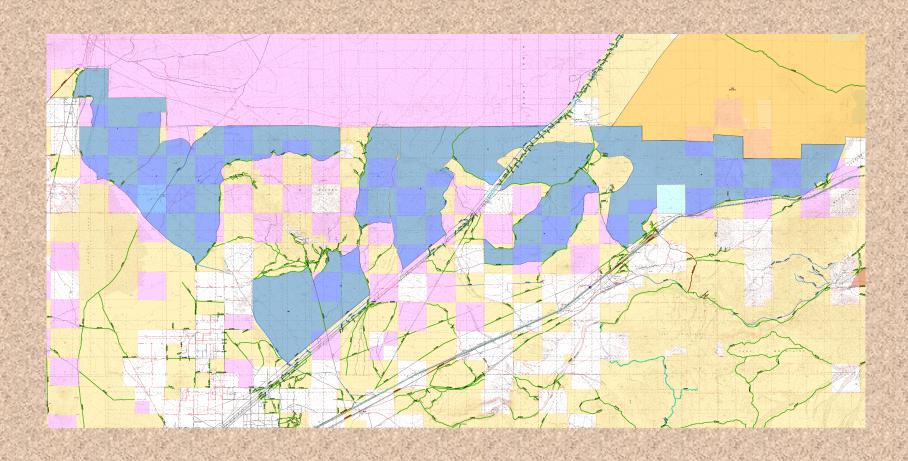
Year 2, American Conservation Experience, crews

- a. route/site restoration
- b. begin **fencing** at polygon perimeters
- c. monitor work & OHV usage for project effectiveness

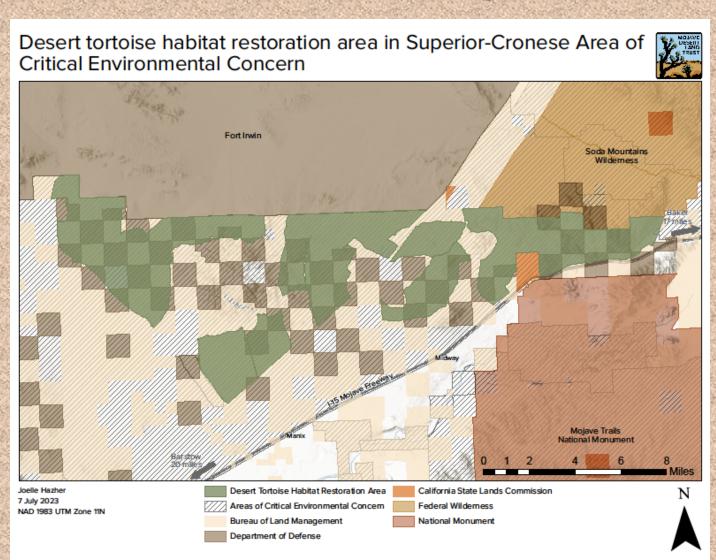
Year 3:

- a. Monitor, maintain sites
- b. Repair sites
- c. Evaluate effectiveness for future efforts

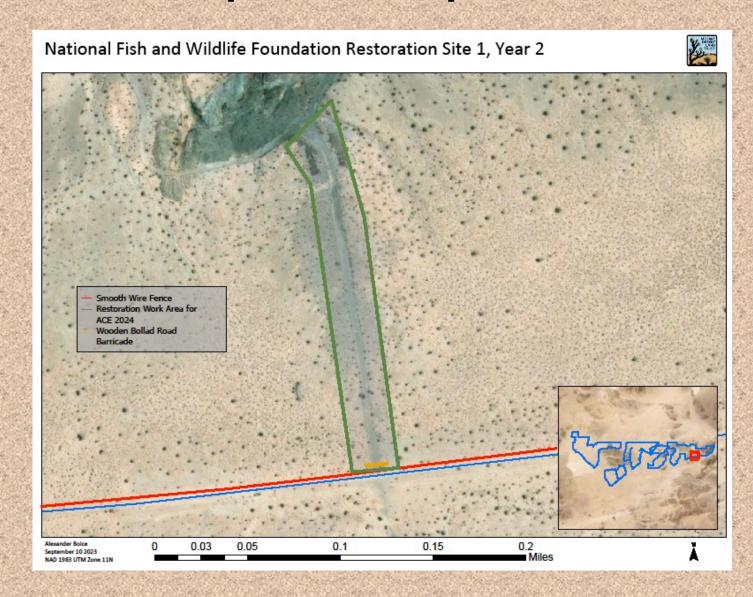
Restoration and Route Management - identify, monitor polygons



Habitat Restoration Areas (green)



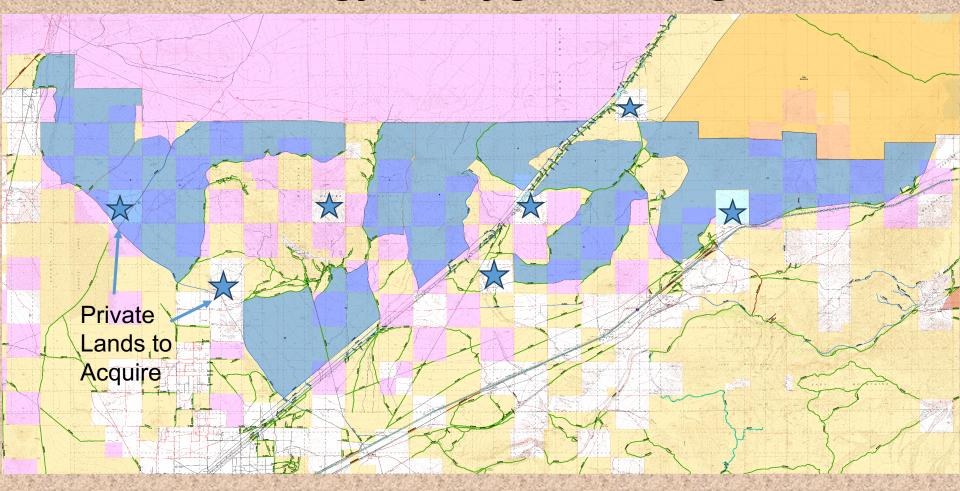
Restoration site plan, example



Superior-Cronese: Habitat Acquisition 2023 - 2025

- Land acquisition: priority, private land inholdings
 - strategic for restoring, managing defensible polygons
 - land control issues and mixed ownership
 - larger, intact parcels of high-quality habitat
 - anchors for defensible polygons.
- Initial (small) grant,
 - ~150-200 acres includes
 - · long-term management funds for permanent protection.
- Year 1: 2023 status-
 - Landowner database created
 - Area-wide appraisal is underway
 - Next: mailing owners, making purchase offers

Parcel strategy - polygon management



PRESERVATION RANCH

Implements on-the-ground actions to benefit the desert tortoise and other sensitive species in and around RASP designated focal areas.

Established partnerships with DoD and MCAGCC to implement RASP concepts and received a REPI Challenge Grant for a RASP demonstration project.

Through these RASP projects, Preservation Ranch is implementing management actions and will conduct long-term maintenance and monitoring across four (4) restoration polygons.

- Total Acreage: 6,344 acres BLM land
- Area within Designated Critical Habitat: 6,275 acres
- Area within RASP Focal Area: 4,426 acres

On-the-ground management actions include:

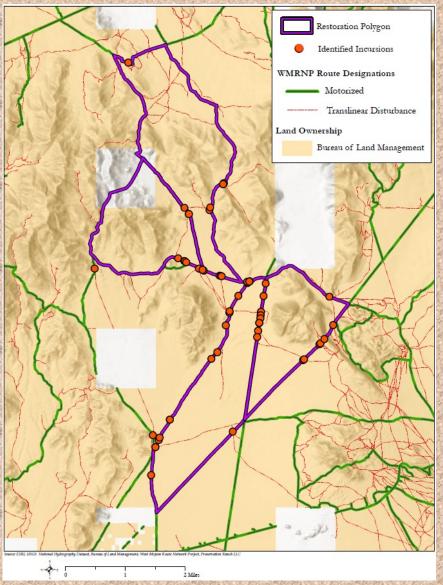
- Rehabilitating unauthorized routes (e.g., vertical mulching and soil decompaction).
- Restoring and/or enhancing water sources for use by native wildlife.
- Erecting hard barriers to prevent unauthorized vehicle access, as needed.
- Removing trash and remediating illegal dumpsites.
- Assisting in maintenance of route and trail signage.
- Making contact in the field with public land users and providing education on the importance of work conducted.

Long-term maintenance and monitoring of implemented actions includes:

- Conducting closure monitoring for a minimum of three (3) years on a bi-monthly or monthly basis depending on time
 of year.
- Addressing new issues/trespass identified during monitoring.
- Initiating long-term ecological monitoring (2021 USGS Protocol for Route Restoration CA DRECP Area) once closure is successful (i.e., no new trespass).



RESTORATION POLYGON METHOD



- "Restoration Polygons" are restoration areas that are bounded by open routes in BLM's Route Network Plan.
- Use of open route network to create polygon perimeter creates a defensible restoration area.
- Unauthorized incursions (translinear disturbances)
 into the polygon interior are treated and
 rehabilitated (e.g., vertical mulch, soil ripping, etc.)
 to close access and stop vehicle trespass.
- Regular monitoring and retreatment, including installation of hard barriers, as needed, is required for successful closure.
- Closure of unauthorized incursions into the interior of the polygon reduces habitat disturbance, allows for the natural recruitment of vegetation, and supports the recovery of ecosystem processes.

ROUTE REHABILITATION PHOTOS









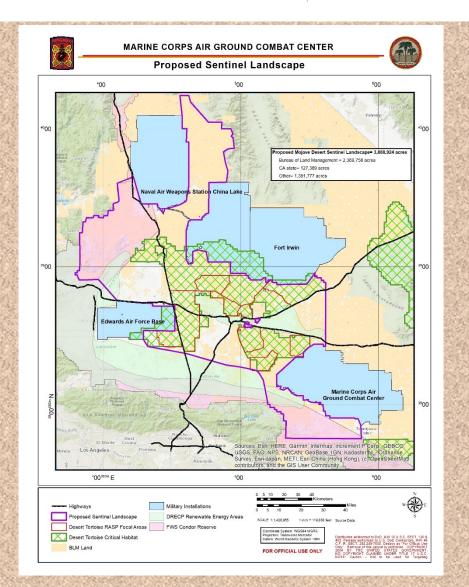
SENTINEL LANDSCAPES















Mojave Desert Sentinel Landscape Designation

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