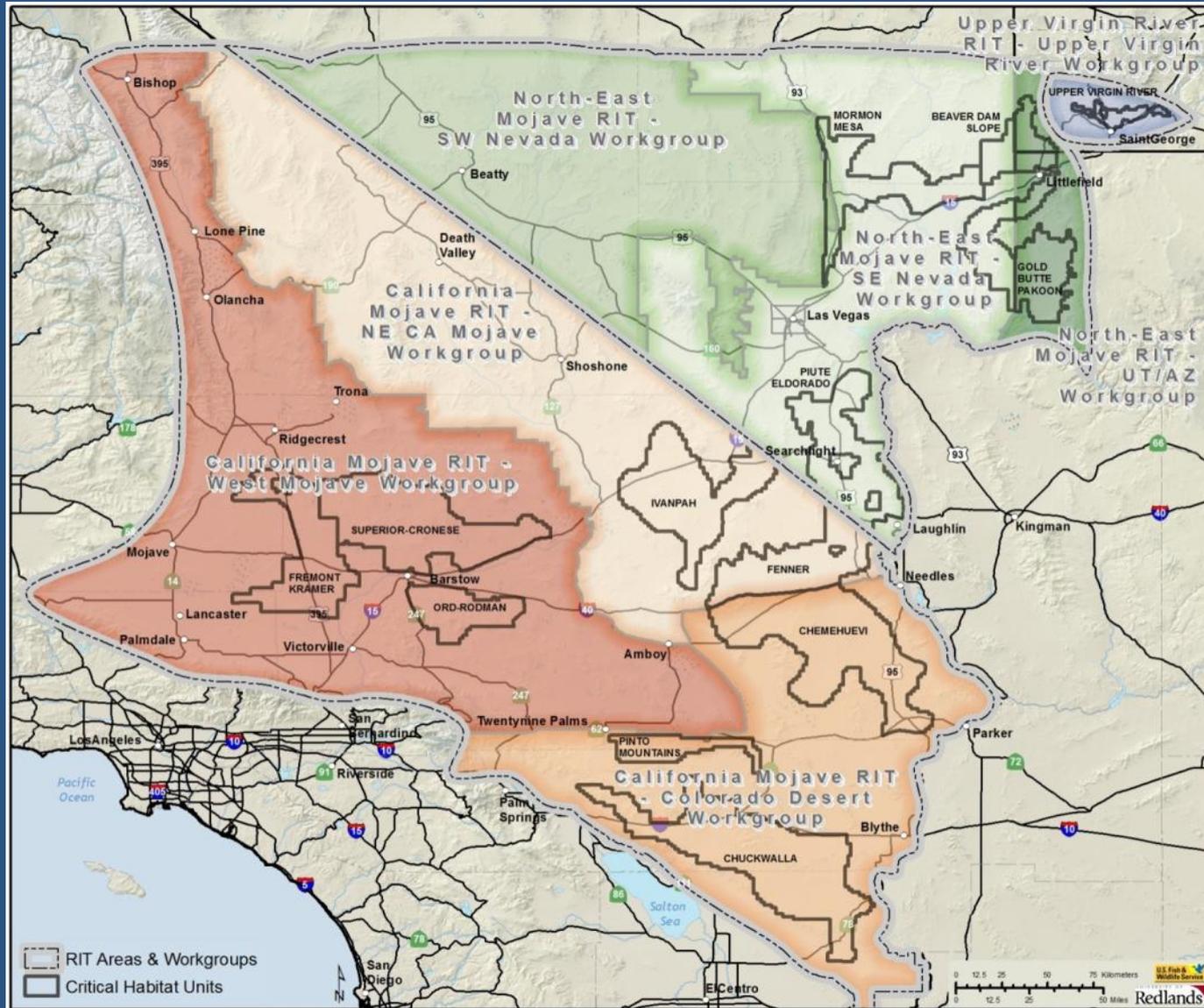


Recovery Implementation Teams



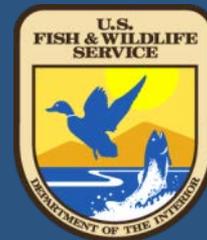
Updates



- RIT Orientation Webinars: late March
- Review by RIT members of SDSS model and data: Model Explorer & Data Explorer (early-May)

*We received a total of 168 comments ;
>30 new GIS datasets; 10 new references*

- Revisions completed to SDSS & Explorers: June 15th
- 2nd round of webinars: late June



Recovery Implementation Teams

Timeline for 2012

- Overall Orientation: First Webinar in late-March
- Workgroup-specific: Second Webinar in late-June
- In-person Meeting late-fall to develop 5-Year Action Plans

Goal of 1st In-Person Meeting



Development of 5-Year Action Plan for your Workgroup

- Your workgroup's recommendations for what specific actions should be undertaken for tortoise recovery in the next 5 years
- Provides guidance to agencies in their budgeting and planning processes
- Provides a prioritized menu of possible mitigation options which may be implemented as part of mitigation packages

Spatial Threats

$$\int \Sigma x$$

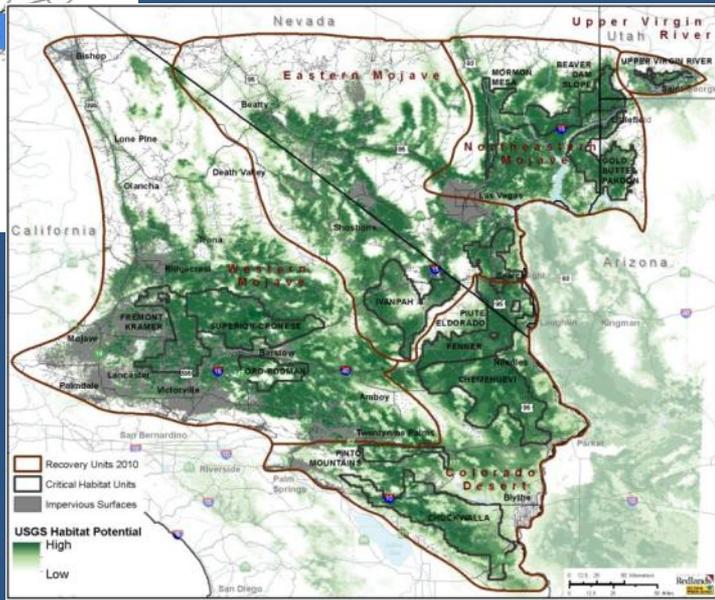
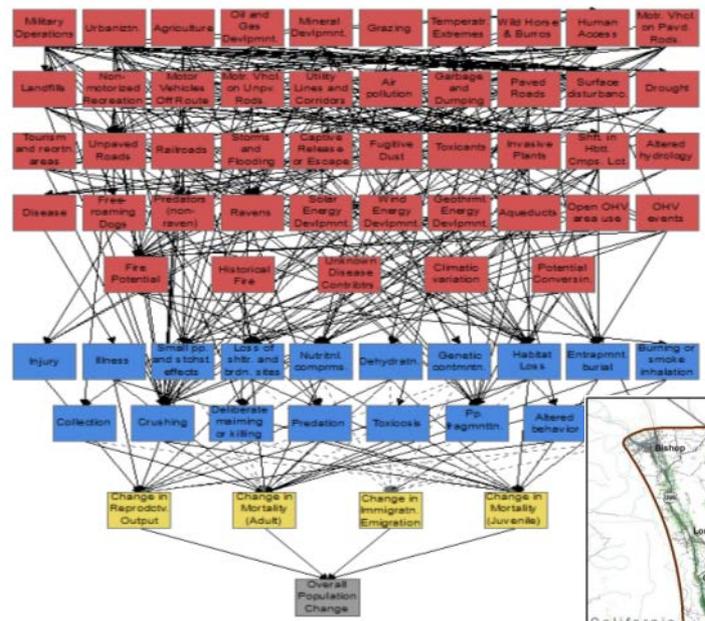
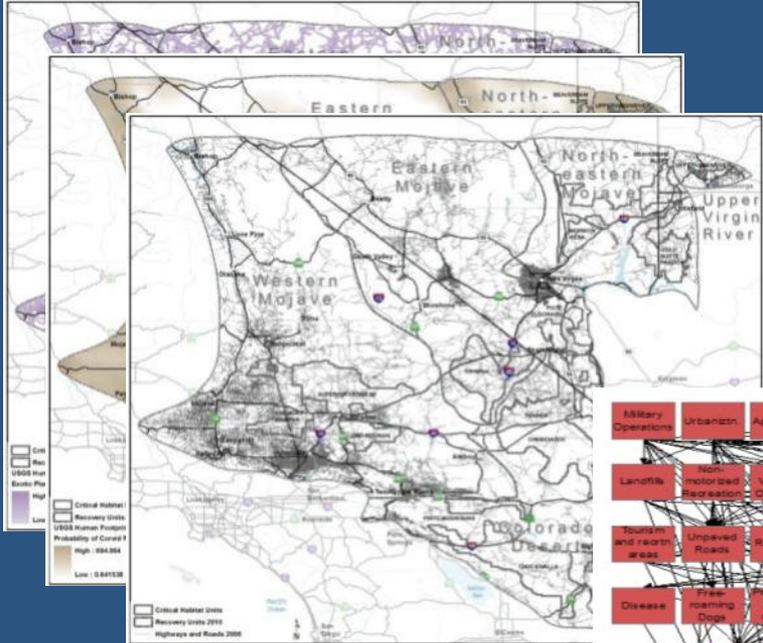


Impact of Threats

$$\int \Sigma x$$



Risk to Population



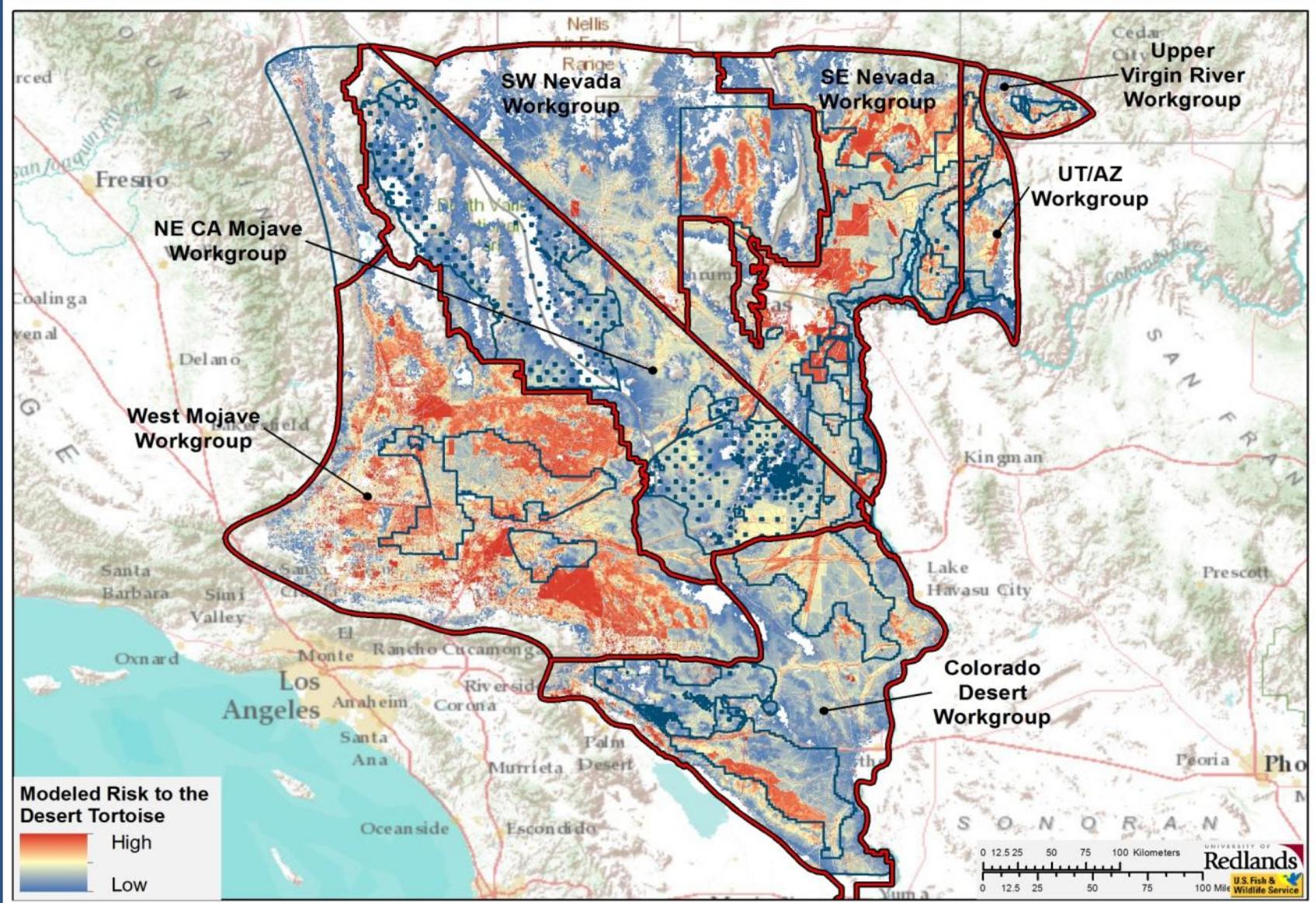
Spatial variation in threats
Data Explorer

Revised based on RIT review!

How threats effect tortoises
Model Explorer

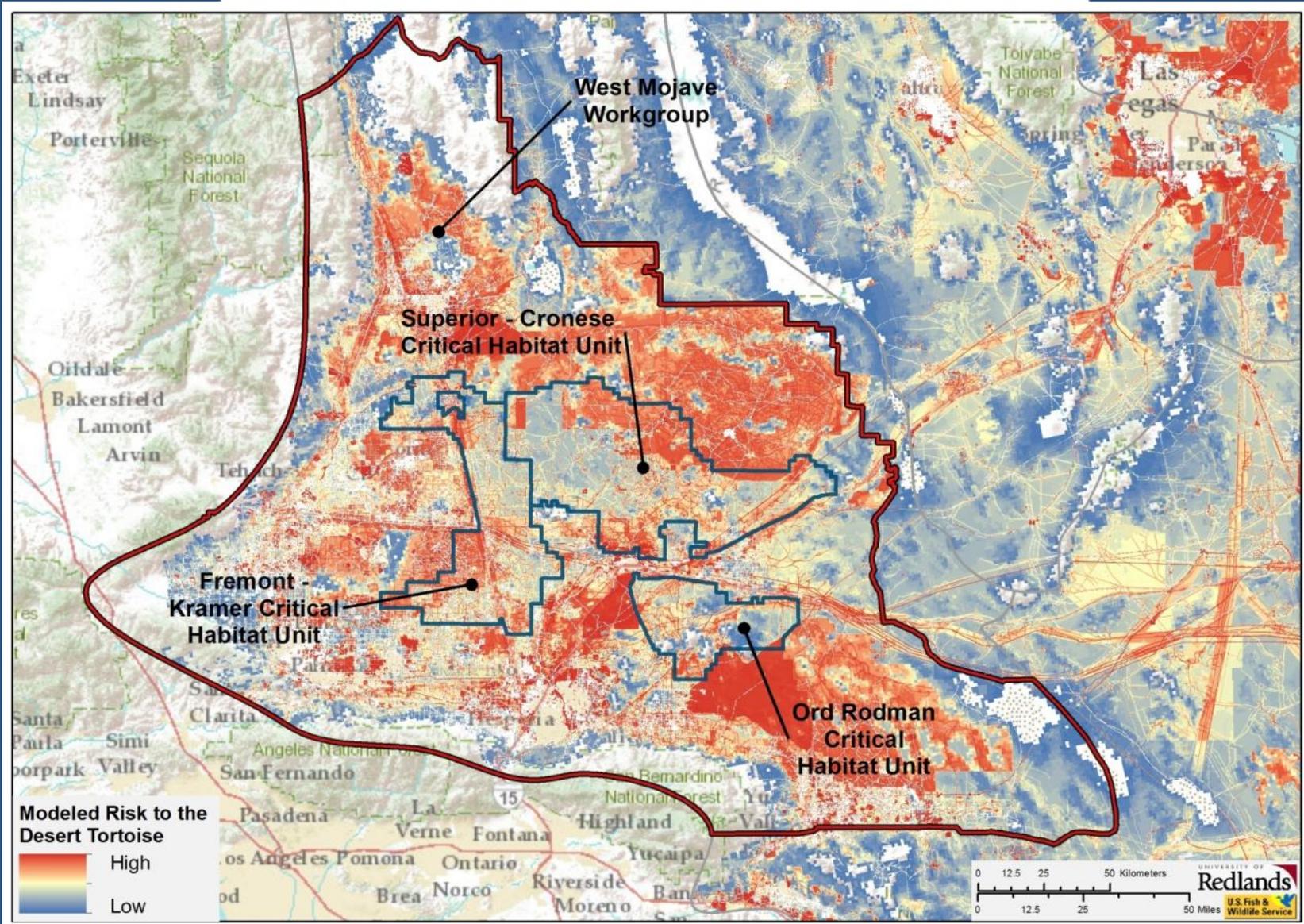
Where we expect tortoises to occur

Aggregate Population Risk to Tortoises

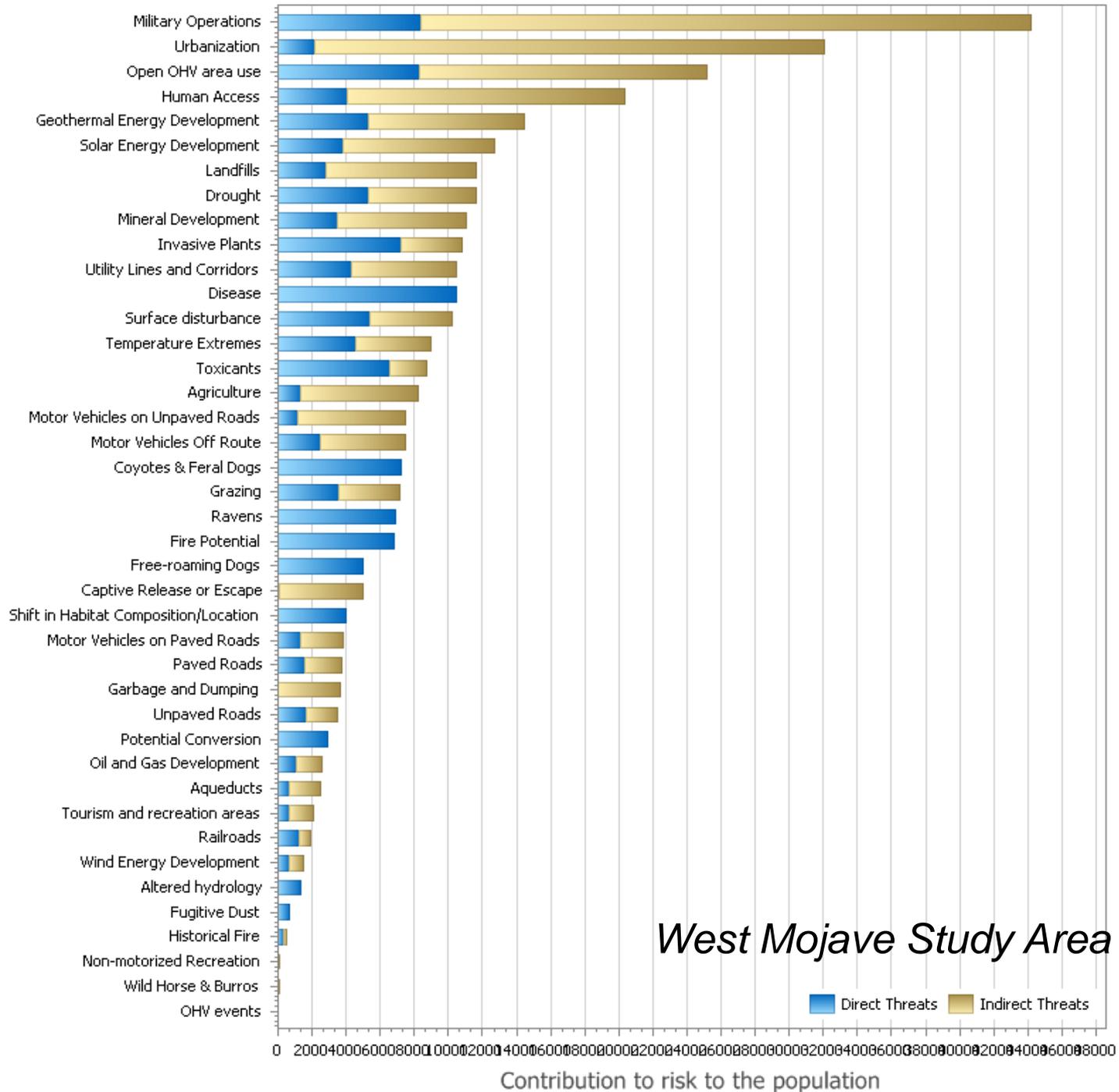


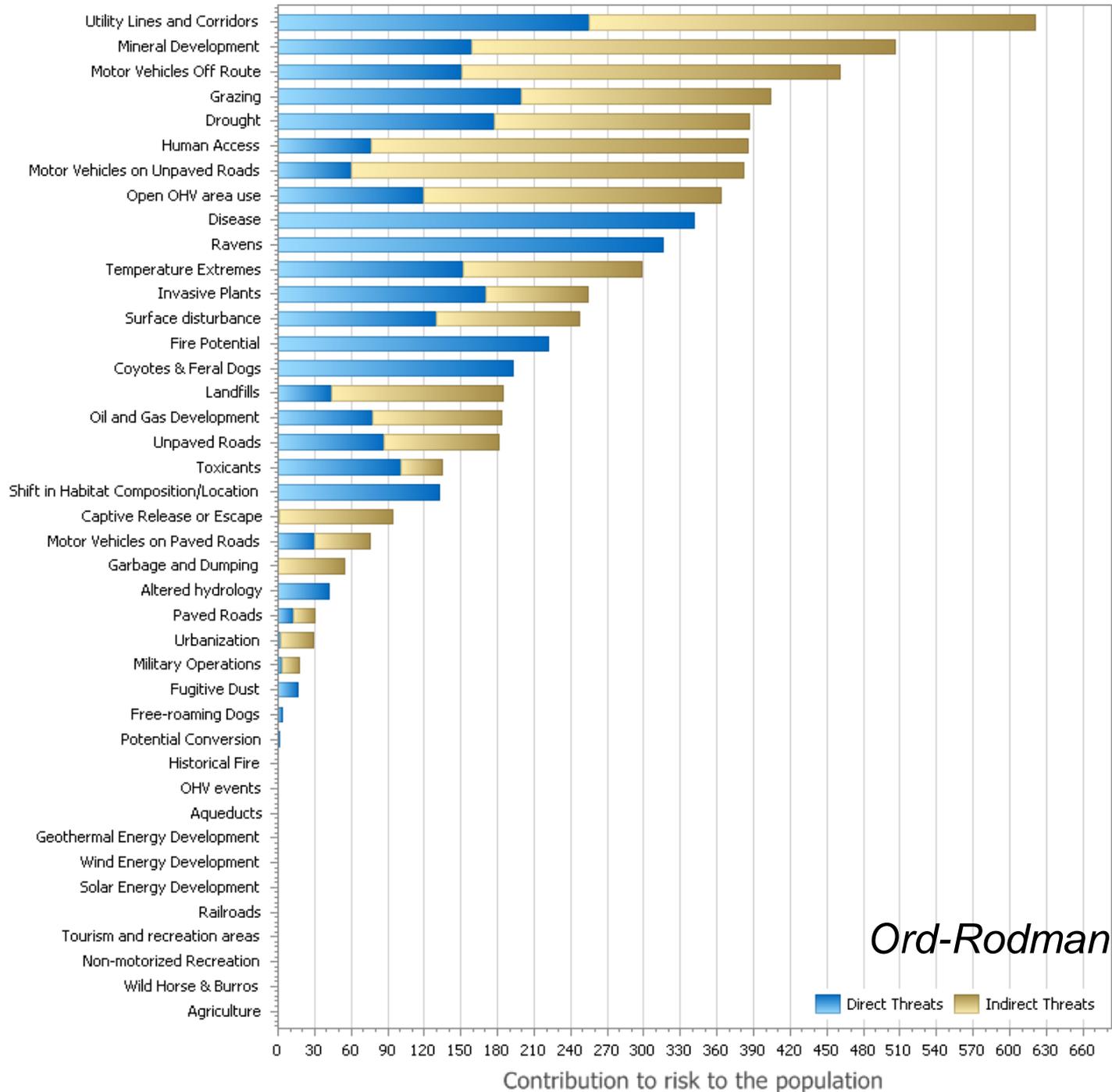
Aggregate contribution from all threats to risk to the tortoise

Aggregate Population Risk to Tortoises



Aggregate contribution from all threats to risk to the tortoise



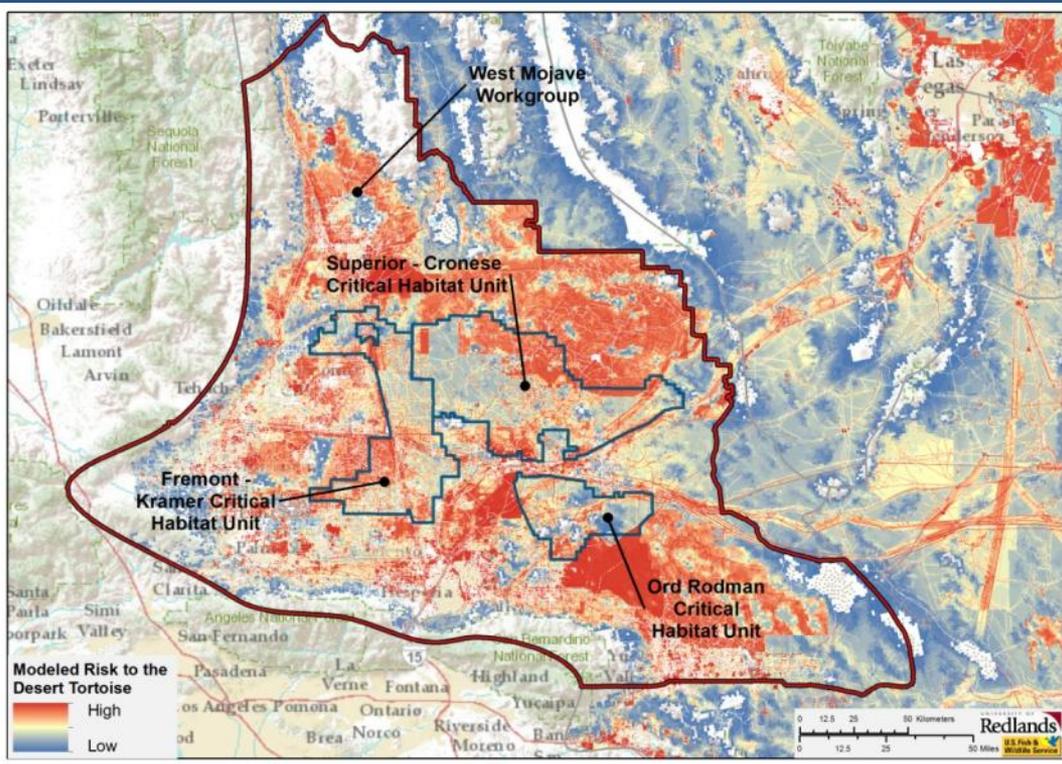


Ord-Rodman

Direct Threats Indirect Threats

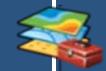
Contribution to risk to the population

Rank	West Mojave	Fremont - Kramer (Critical Habitat Unit)	Ord - Rodman (Critical Habitat Unit)	Superior - Cronese (Critical Habitat Unit)
1	Military Operations	Mineral Development	Utility Lines and Corridors	Military Operations
2	Urbanization	Motor Vehicles Off Route	Mineral Development	Urbanization
3	Open OHV area use	Military Operations	Motor Vehicles Off Route	Human Access
4	Human Access	Invasive Plants	Grazing	Mineral Development
5	Geothermal Energy Development	Human Access	Drought	Drought
6	Solar Energy Development	Utility Lines and Corridors	Human Access	Utility Lines and Corridors
7	Landfills	Drought	Motor Vehicles on Unpaved Roads	Motor Vehicles on Unpaved Roads
8	Drought	Motor Vehicles on Unpaved Roads	Open OHV area use	Disease
9	Mineral Development	Disease	Disease	Motor Vehicles Off Route
10	Invasive Plants	Urbanization	Ravens	Surface disturbance



Risk to Population

$$\int \Sigma x$$

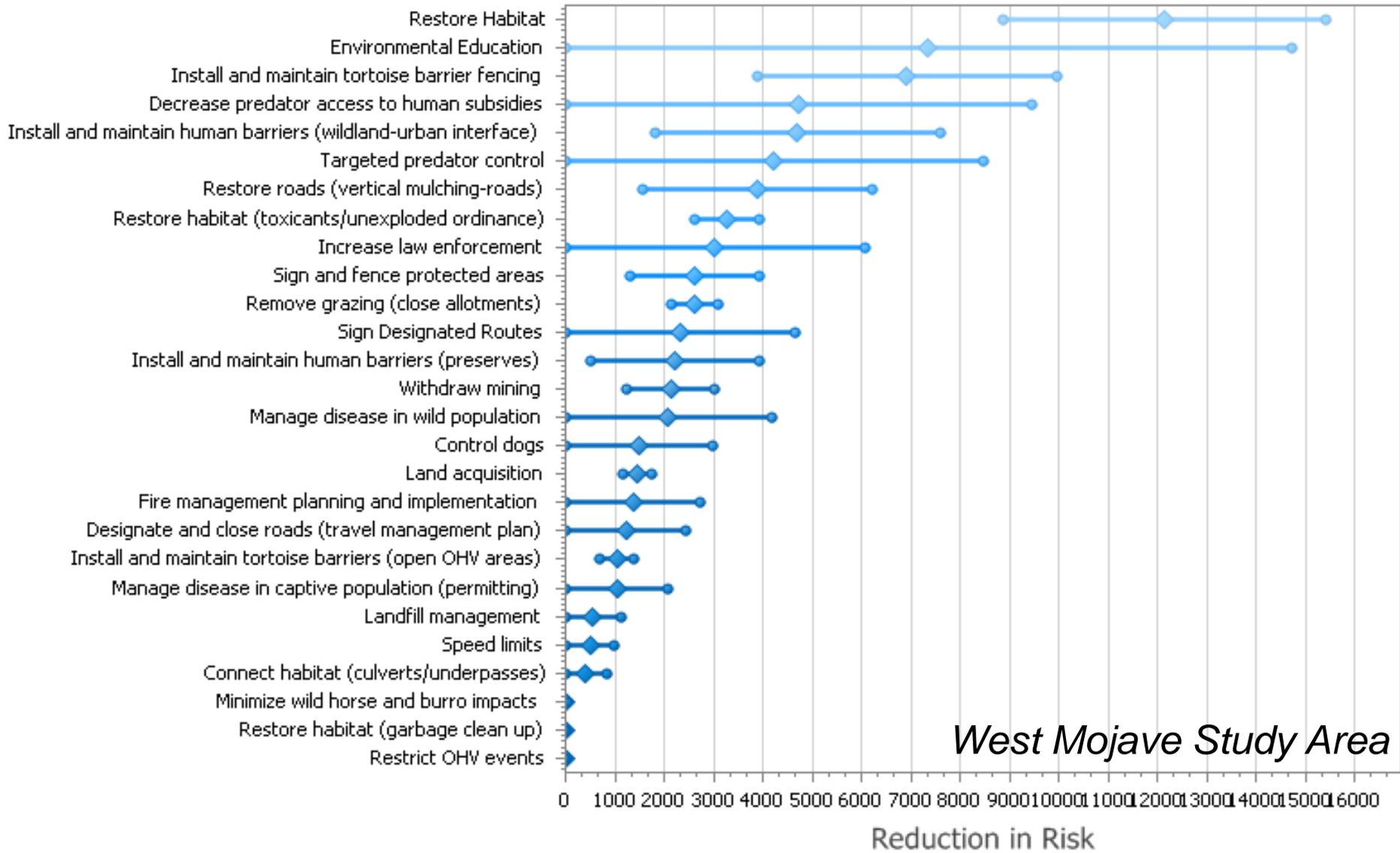


Action Effectiveness

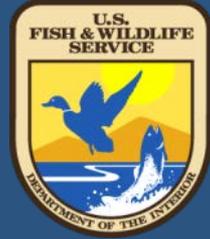
Aggregate Population Risk

Recovery Action Types/ Threat–Stress	Predation– Ravens	Crushing–Cars on Paved Roads	Collection– Human access	Nutritional comp–Invasive Plants
Designate & Close Routes	0	0	3	0
Install & Maintain Tortoise fencing	0	5	0	0
Environmental Education	1	2	3	0
Decrease Predator Access to Subsidies	3	0	0	0
Increase Law enforcement	0	2	2	0
Habitat Restoration	0	0	0	4

Estimates how individual recovery actions effect threat–stress links



Online Recovery Action Proposal Tool



Recovery Action Proposal Tool - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Recovery Action Proposal Tool

www.spatial.redlands.edu/dtro/rit/ProposalTool.aspx?wg=1

Google

Desert Tortoise Recovery RA Proposal Tool

data explorer model explorer

Welcome cat_darst@fws.gov | [Logout](#)

Welcome to the Recovery Action Proposal Tool. Use this site to propose specific actions that you think should be implemented for desert tortoise recovery in the next five years. Actions are submitted under the associated recovery action type, which are listed in order of expected benefit to tortoise recovery. Please spend more of your effort developing proposals for highly ranked action types, also considering the range of effectiveness indicated in the chart associated with each planning area. Although less effective action types are accessible here, due to the low return estimated for these actions, it is not expected that they will be adopted by the workgroup without particular justification, such as being important preconditions for future implementation of higher priority recovery actions. For each proposed action, please provide the specific location, area, and/or number of activities. Please provide enough detail about what should be implemented and where, so that all proposals can be easily assessed by your workgroup during the prioritization process.

You are a member of multiple workgroups. Please select a workgroup:

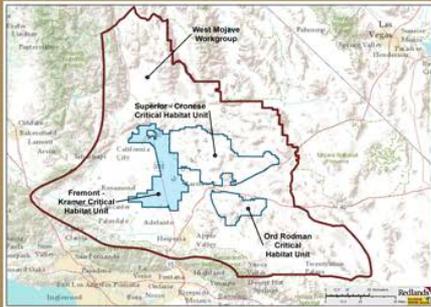
West Mojave Upper Virgin River Northeast California Mojave Utah/Arizona Southwest Nevada Colorado Desert Southeast Nevada

Workgroup: West Mojave

[Click here to see a table comparing top ranked threats and recovery action types](#)

Select an area:

- ▶ **Fremont - Kramer (Critical Habitat Unit)**
- Ord - Rodman (Critical Habitat Unit)
- Superior - Cronese (Critical Habitat Unit)
- West Mojave



Ranked recovery action types for Fremont - Kramer (Critical Habitat Unit)

Recovery action types below are ranked based on their expected ability to decrease risk to the tortoise in Fremont - Kramer (Critical Habitat Unit). Please type your specific proposals for actions within this tortoise conservation area below the action type, one action at a time. For each proposed action, please provide details to describe location, area, and/or number of activities.

[Click here to see the chart of ranked threats and recovery action types for this area](#)

- 1) Restore Habitat (2 proposed actions)
- 2) Environmental Education (no proposed actions)
- 3) Restore roads (vertical mulching-roads) (no proposed actions)

<http://www.spatial.redlands.edu/dtro/rit/proposaltool.aspx>

Online Model Explorer



Desert Tortoise Recovery Resource Site

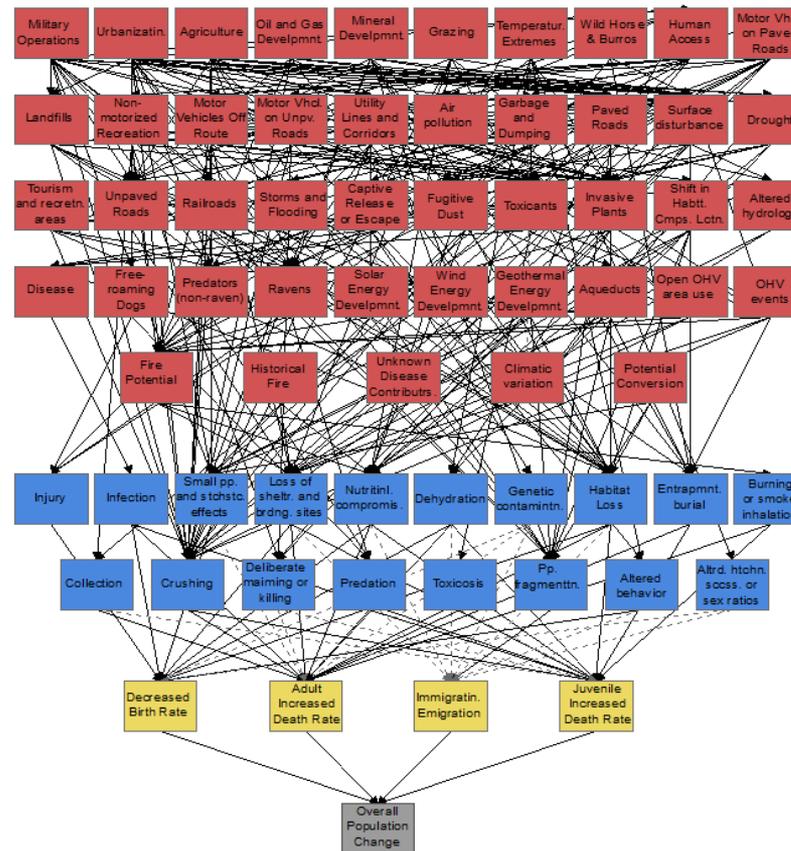


data explorer

model explorer

login

- Threats**
- Agriculture
- Air pollution
- Altered hydrology
- Aqueducts
- Captive Release or Escape
- Stresses**
- Altered behavior
- Altered hatching success or sex ratios
- Burning or smoke inhalation
- Collection
- Population Effects**
- Adult Increased Death Rate
- Decreased Birth Rate
- Immigration/Emigration
- Juvenile Increased Death Rate
- Recovery Actions**
- Connect habitat (culverts/underpasses)
- Control dogs
- Decrease predator access to human subsidies
- Designate and close roads



http://www.mojavedata.gov/deserttortoise_gov/tools/model.html

Online Data Explorer

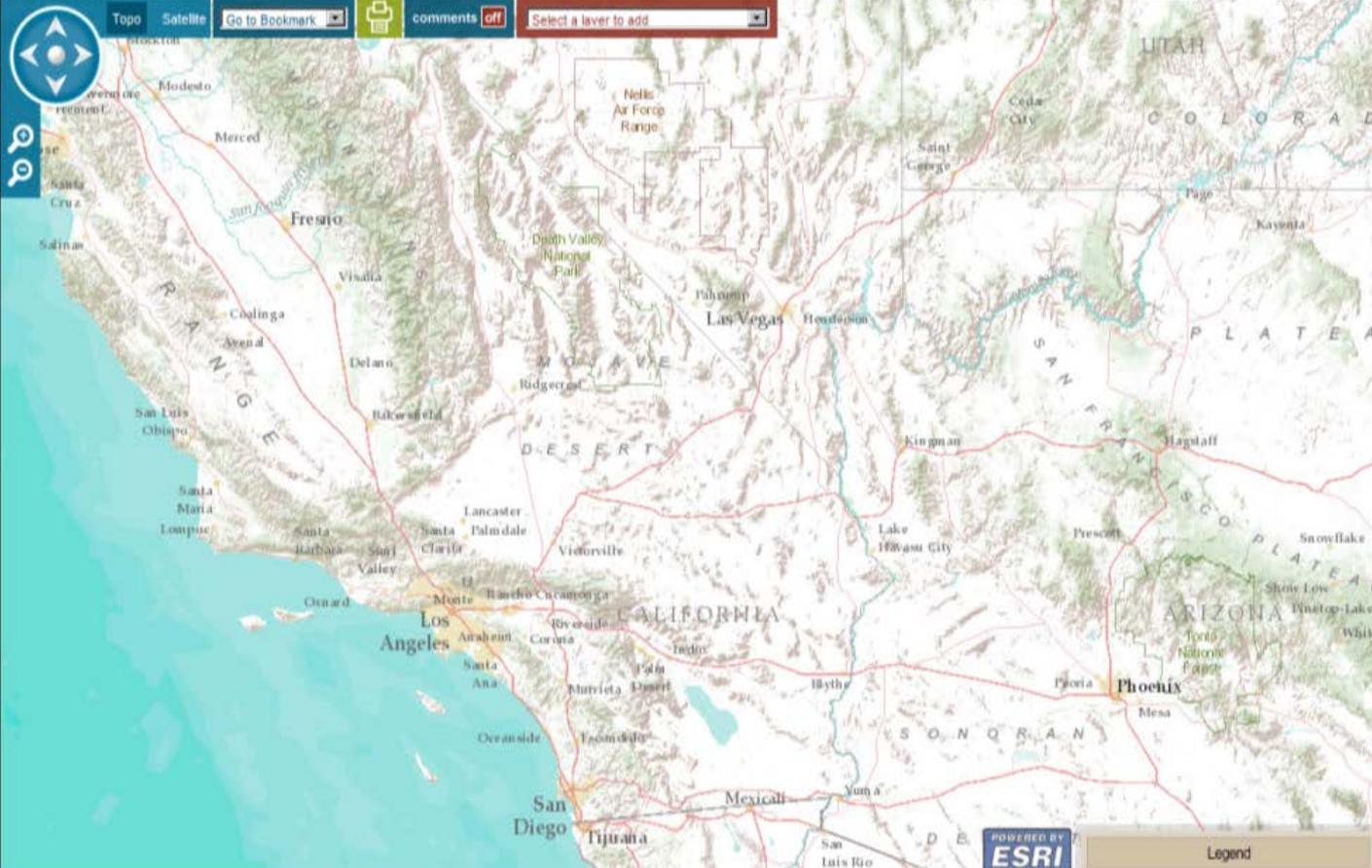


Desert Tortoise Recovery Data Explorer 

login | disclaimer | v0.068

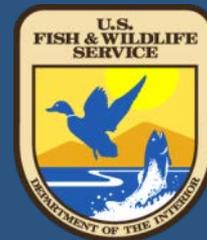
UNIVERSITY OF Redlands 

Topo Satellite Go to Bookmark  comments **off** Select a layer to add



The map displays the Mojave Desert region, covering parts of California, Nevada, and Arizona. Key cities and locations labeled include Modesto, Merced, Fresno, Visalia, Coalinga, Avenal, Delano, Lancaster, Palmdale, Victorville, Riverside, Corona, Santa Ana, Murietta, Oceanside, Escondido, San Diego, Tijuana, Mexicali, Yuma, San Luis Rio, Kingman, Henderson, Las Vegas, Palm Springs, Ridgecrest, Death Valley National Park, Nellis Air Force Range, Cedar City, Saint George, Panguitch, Tropic, Hatch, Blanding, and Cortez. The map also shows the Colorado Plateau, Sonoran Desert, and various mountain ranges like the Sierra Nevada and Coast Range. A legend and ESRI logo are visible in the bottom right corner.

http://www.mojavedata.gov/deserttortoise_gov/tools/data.html



Recovery Implementation Teams

Next Steps

- In-person Meeting to develop 5-Year Action Plans
 - California Mojave RIT: December 4-5, Barstow