Recovery Implementation Teams Orientation Webinar

Desert Tortoise Recovery Office

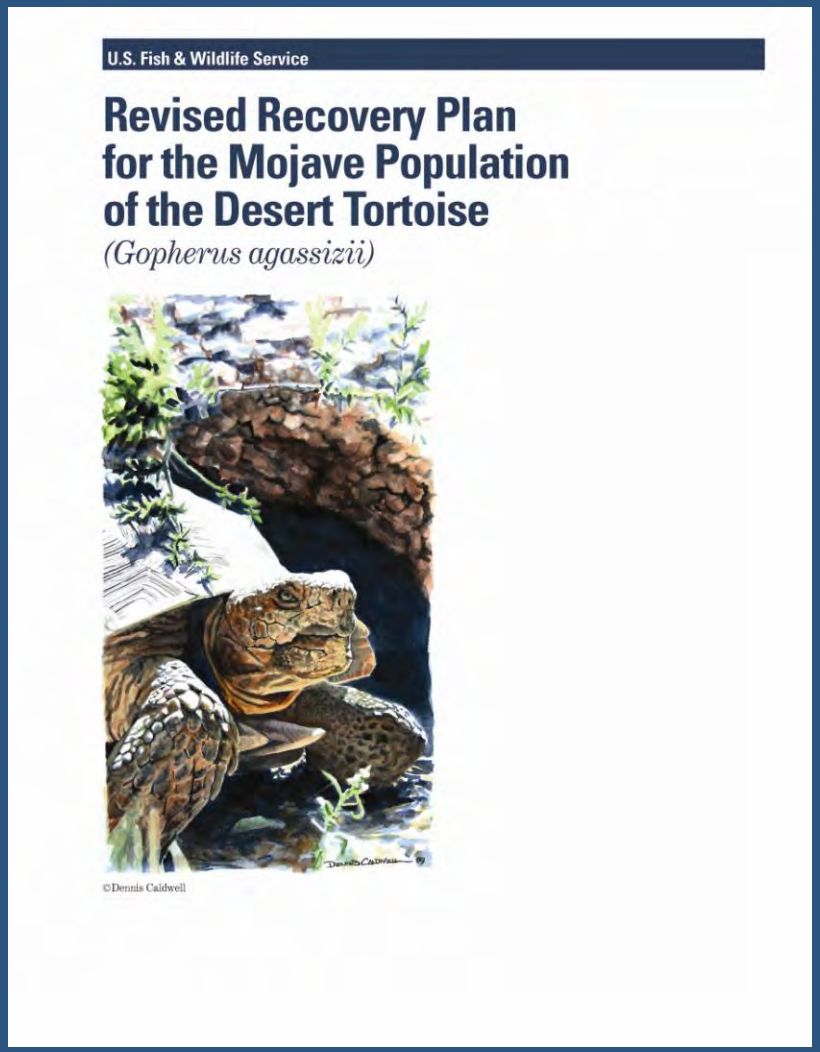
March 26-29, 2012

RITs Orientation Webinar

Webinar Structure

1. Overview
2. Process & Timelines
3. Spatial Decision Support System (SDSS)
4. Online Model & Data Explorers
5. Next Steps

Revised Recovery Plan


U.S. Fish & Wildlife Service

Revised Recovery Plan for the Mojave Population of the Desert Tortoise

(Gopherus agassizii)

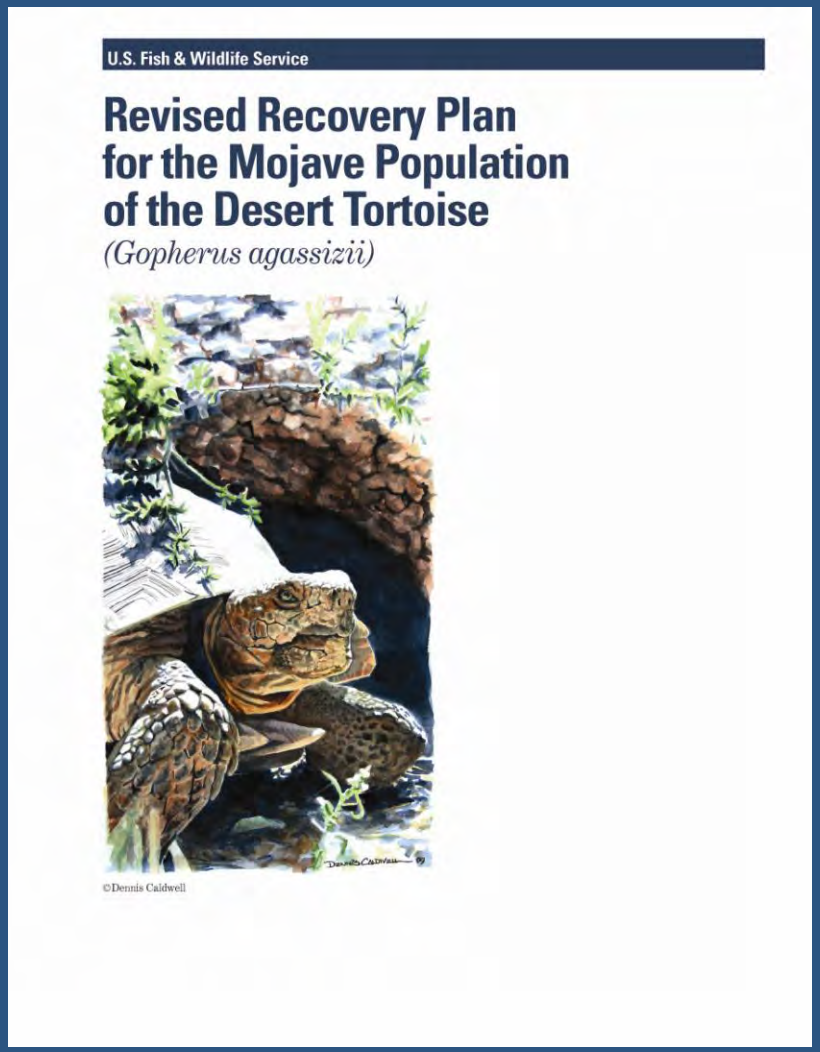
©Dennis Caldwell

- Description of threats
  - Appendix A
- List of recovery actions
  - Strategic Element 2

Revised Recovery Plan is available at:

http://www.fws.gov/nevada/desert_tortoise

Revised Recovery Plan



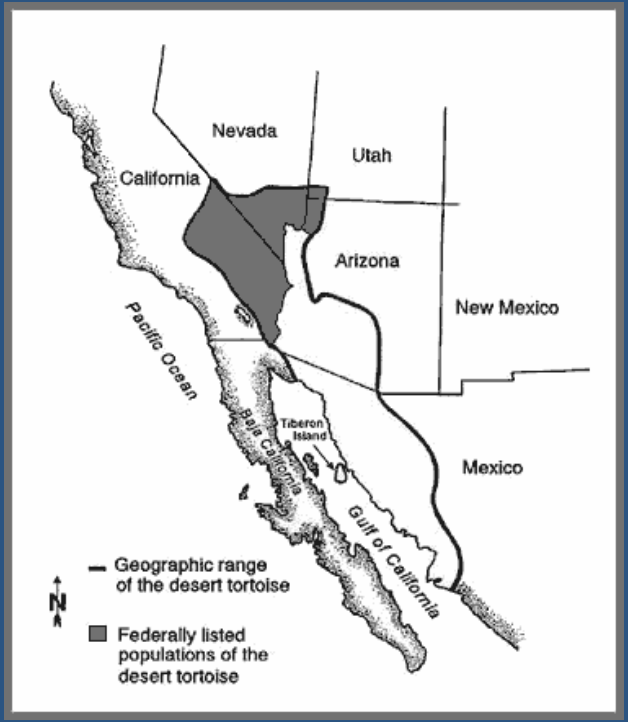
- GAO (2002), Recovery Plan Assessment (2004), USGS (2006)
  - Recovery actions based on best information
  - Effectiveness info is lacking
  - Implementation info is lacking

- New process to focus implementation
  - SE 1: Partnerships
  - SE6: Adaptive Management

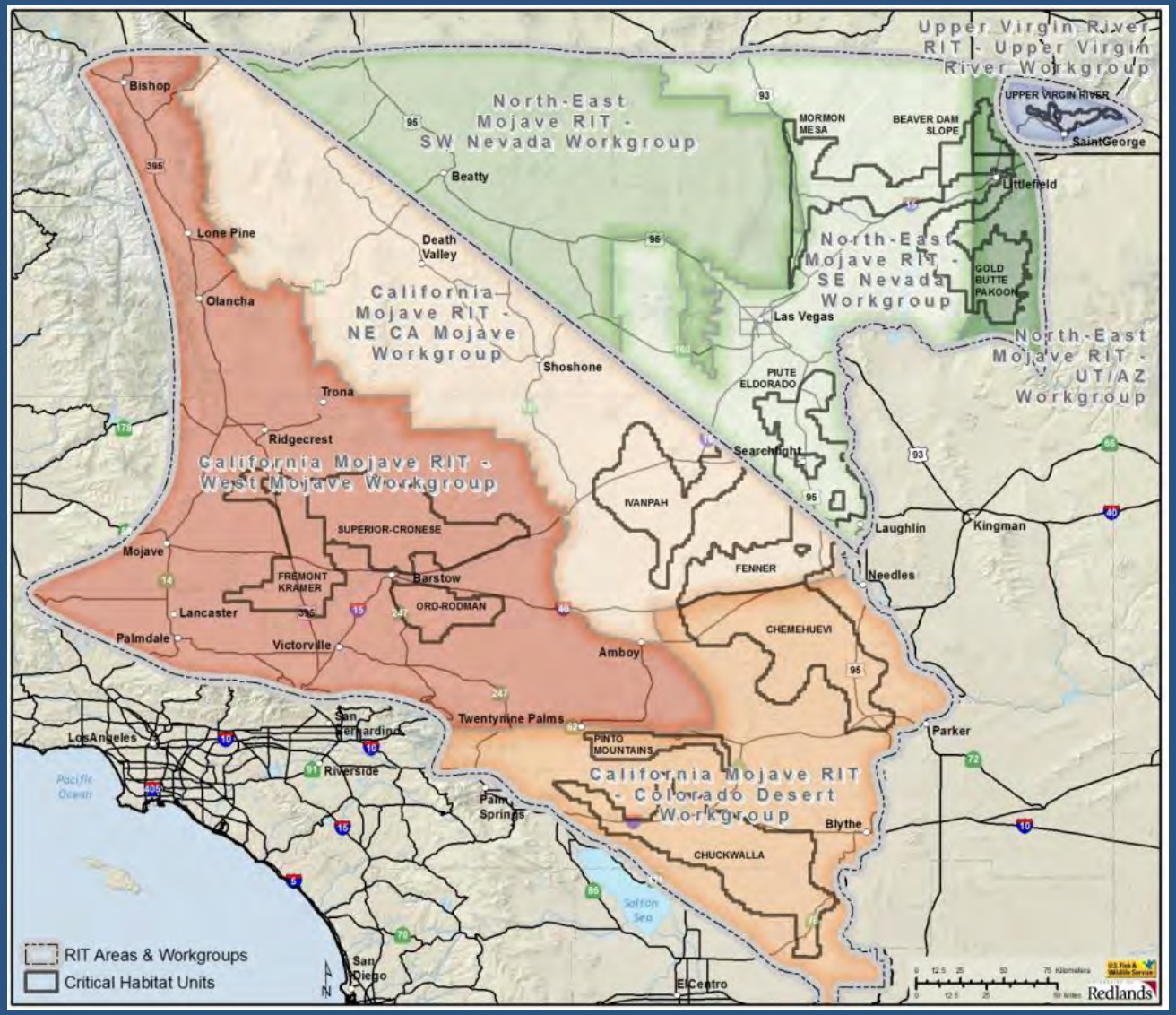
Recovery Implementation Teams

Why?

- The desert tortoise has a huge range which includes portions of four states crosses many jurisdictions
- Variable set of threats exist across the landscape
- We need a structure to coordinate activities across this diverse and varied area



Recovery Implementation Teams



Recovery Implementation Teams

Purpose

- Create prioritized, science-based 5-Year Recovery Action Plans
- Track regional implementation of recovery actions and threat reduction
- Examine correlations between management actions and tortoise recovery

5 - Year Action Plans

- Identifies priority recovery actions at regional and local scales
- Clear objectives -> expectations of outcomes
- Leverages cooperative opportunities
- NOT exclusive or prohibitive
- NOT a NEPA document

Iterative and Dynamic Process

- Using the best available information
- Planning, implementing, and monitoring creates revised and updated priorities over time
- Ongoing review and input from MOG, scientists, and stakeholders

RITs Orientation Webinar

Questions?

RITs Orientation Webinar

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Recovery Implementation Teams

Participation

- Webinars
- RIT in-person meetings
- http://www.mojavedata.gov/deserttortoise_gov/recovery/rits.html
  - Place to publicly post RIT documents
  - SharePoint for each RIT (password protected)
- Worksheets, feedback, reporting back-out
- Coordinate with peers

Recovery Implementation Teams

RIT Process for 2012

- Overall Orientation: First Webinar in late-March
- Workgroup-specific: Second Webinar in early/mid-June
- In-person Meeting in October (central locations for each RIT)

What do we hope to accomplish in the first year?

Recovery Implementation Teams

Goals for Webinar #1

- Understanding of RIT process
- Improved familiarity with model and datasets in SDSS via tutorials for Model & Data Explorer
- Your review of SDSS model structure via feedback as you use Model Explorer
- Improved spatial datasets within SDSS via your feedback as you use Data Explorer

Recovery Implementation Teams

Goals for Workgroup-specific Webinar #2

- Improved familiarity among RIT members with SDSS outputs for your workgroup: prioritized broad recovery action types for your areas
- Sets of site-specific recovery actions via worksheets tiered off of SDSS outputs for your area for use at in-person meeting

Recovery Implementation Teams

Goal for the In-person Meeting

- Completed draft 5-Year Action Plan for your workgroup area and associated tortoise conservation areas

Recovery Implementation Teams

What happens after the first year?

- ~ 3 webinars/meetings each year to:
  - Report on implementation
  - Track change in threats
  - Assess what's been learned
  - Re-evaluate action plan as necessary

RITs Orientation Webinar

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RITs Orientation Webinar

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Spatial Decision Support System

Goal of 1st in-person meeting:
Development of 5-Year Action Plan for each Workgroup

BACKGROUND
I. Ranked threats
II. Prioritized broad recovery action types

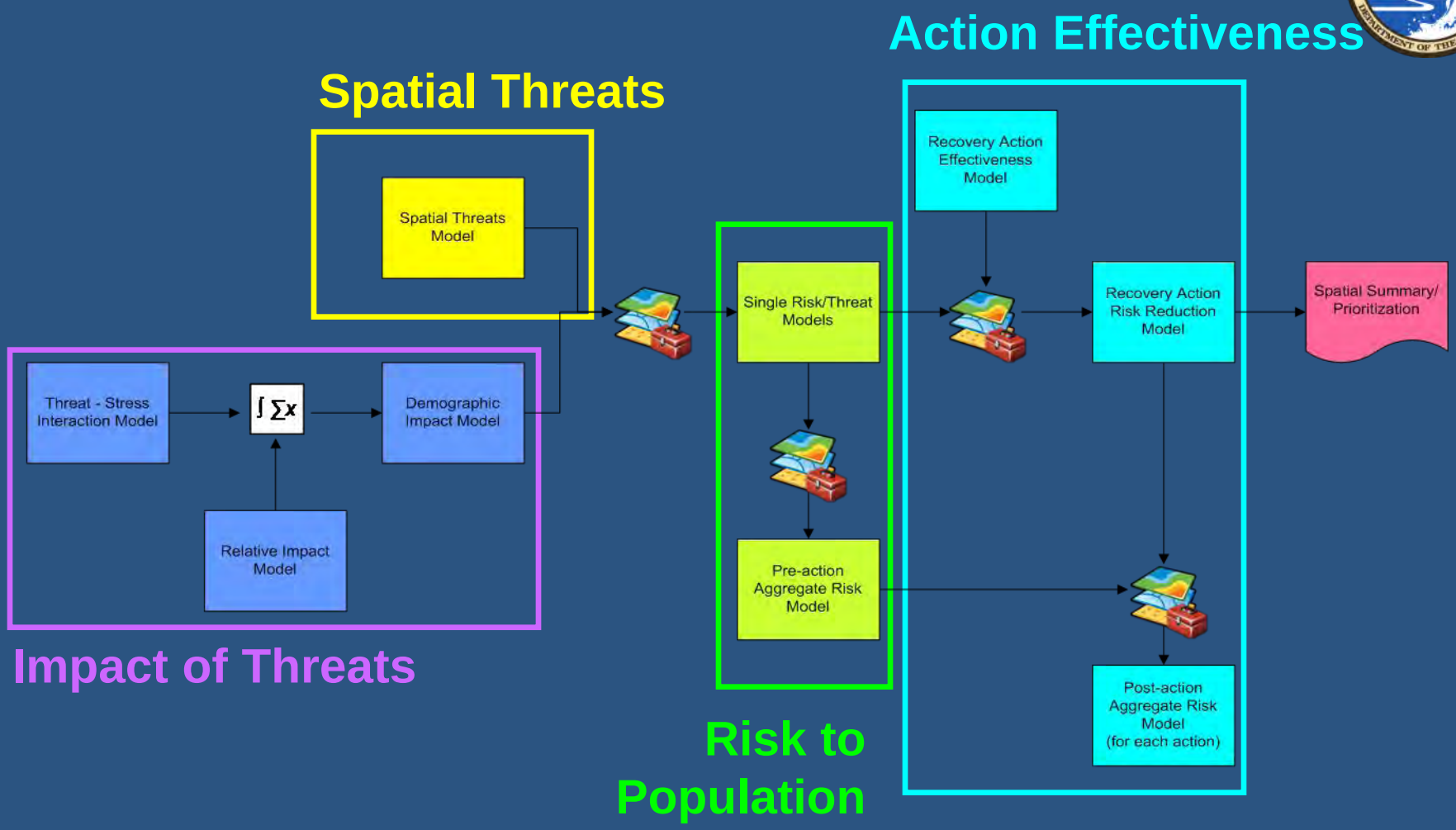
SDSS

PRIORITIZED ACTION PLAN
I. Site-specific actions within broad action types

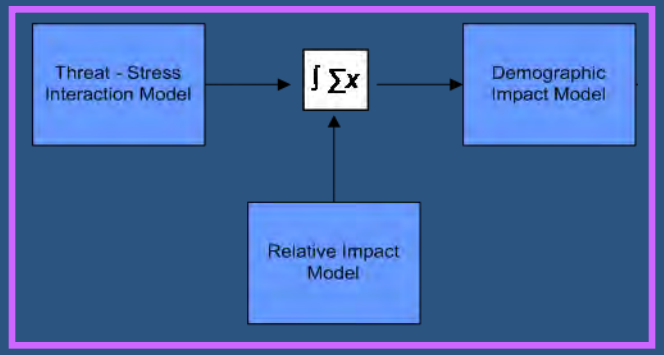
TRACKING & MONITORING PLAN
I. Prioritized needs for implementation reporting
II. Prioritized effectiveness monitoring metrics
III. Prioritized needs for research related to threats and recovery actions

RITs

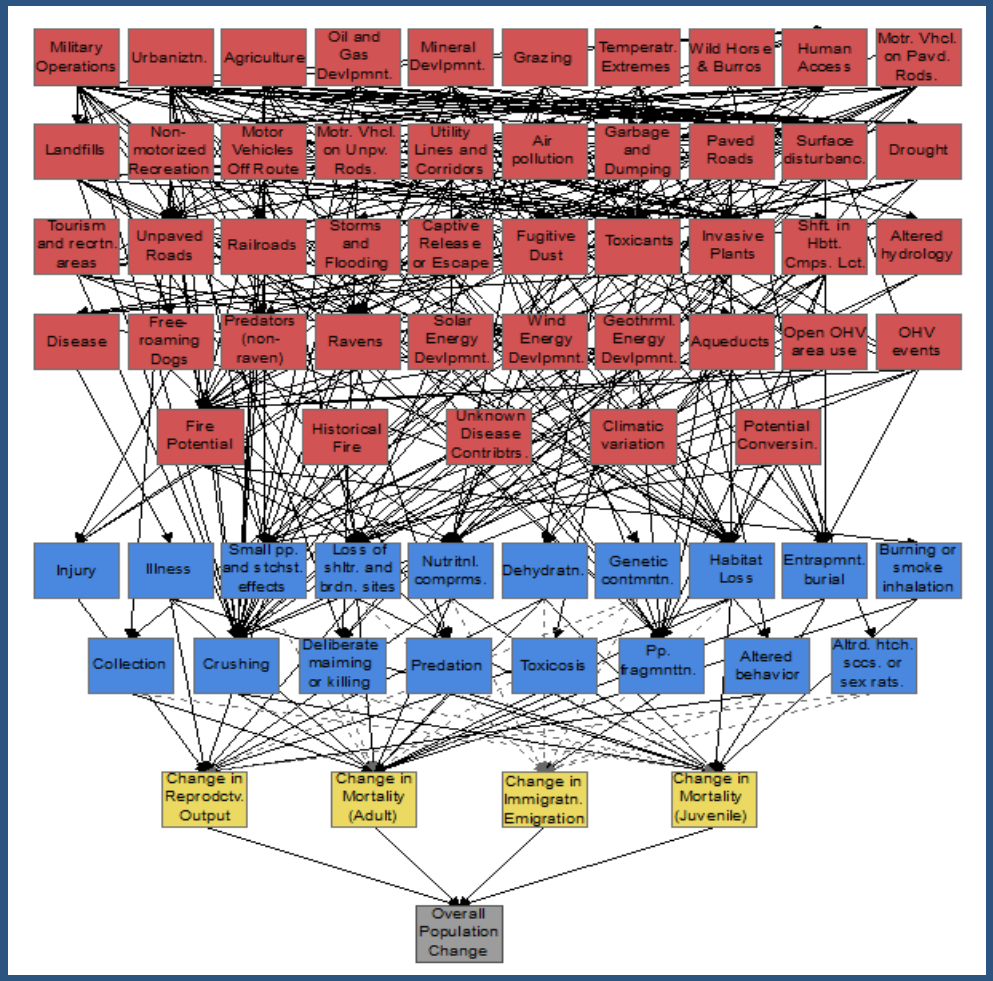
Spatial Decision Support System



Spatial Decision Support System



Estimates the contribution of each individual threat to tortoise decline



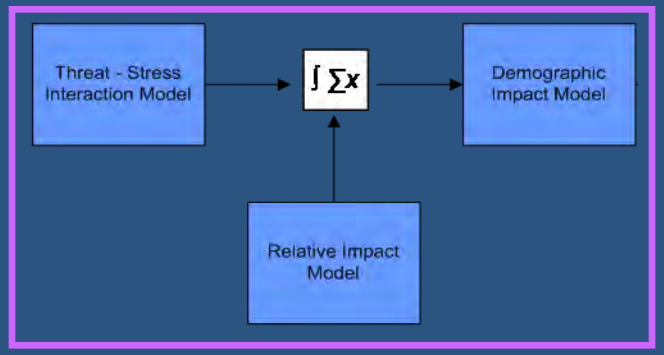
Impact of Threats

Utilizes Salafsky et al. 2008 lexicon for biodiveristy conservation

Every link is defined with citations as available

<u>For details on methods:</u>
"SDSS Modeling Strategy"

Spatial Decision Support System



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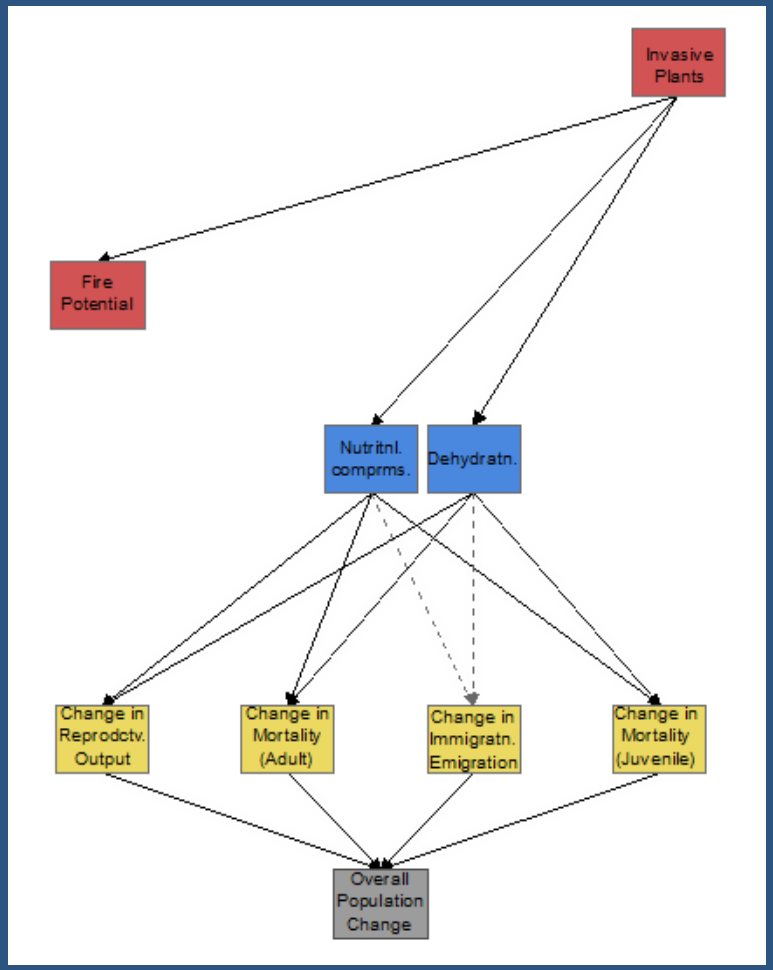
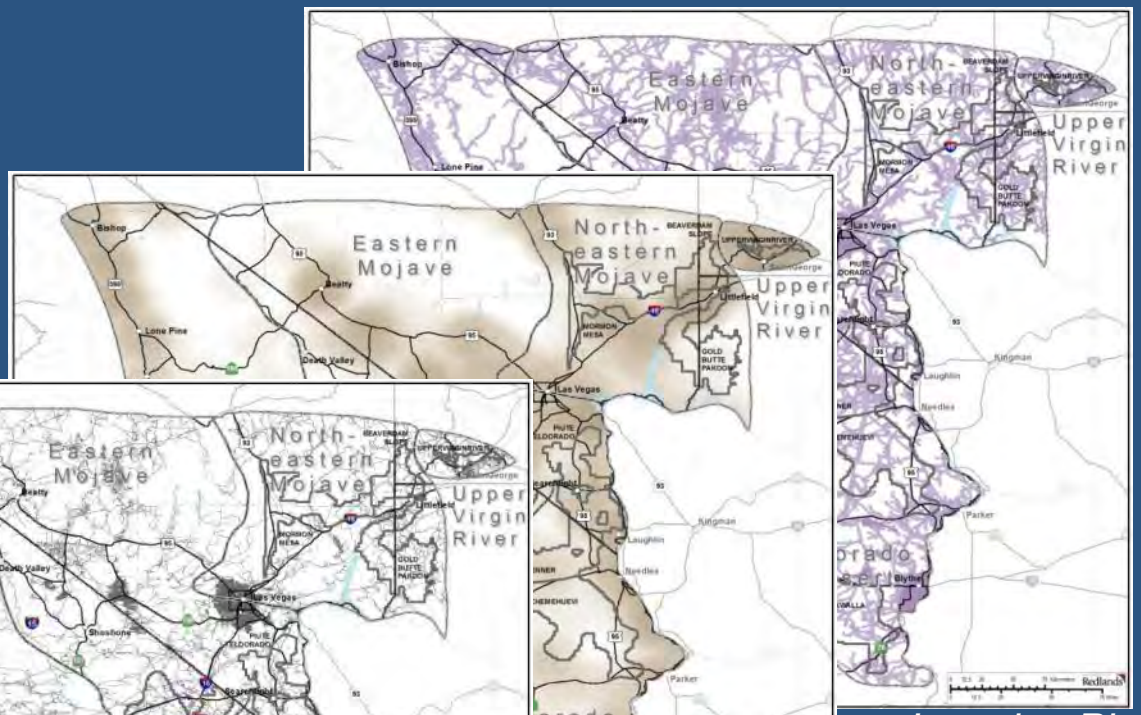


Utilizes expert assessments to quantify the relative strength of relationships between threats and overall population change

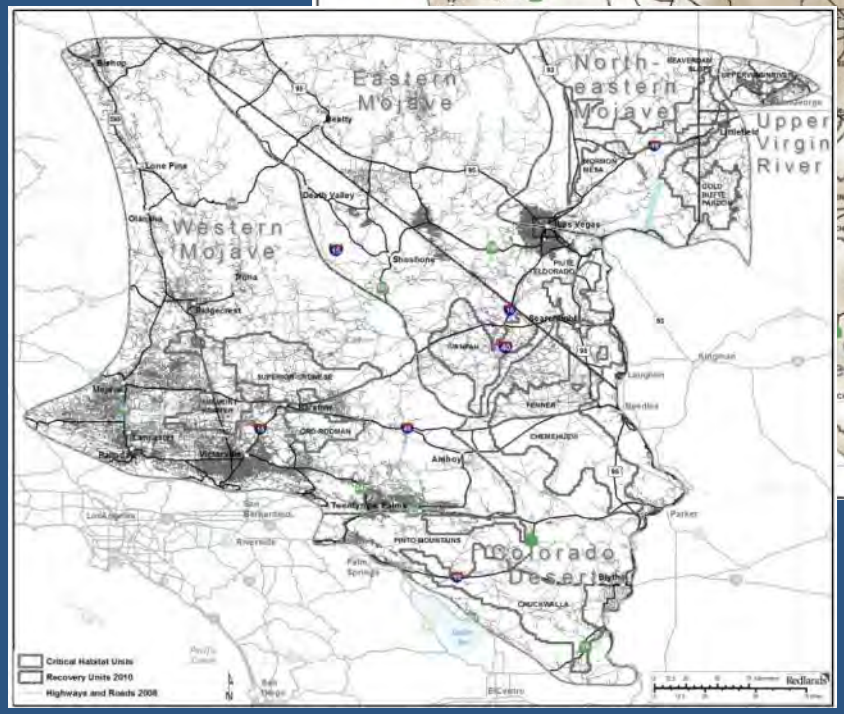
Spatial Decision Support System

Spatial Threats



Invasive Plants

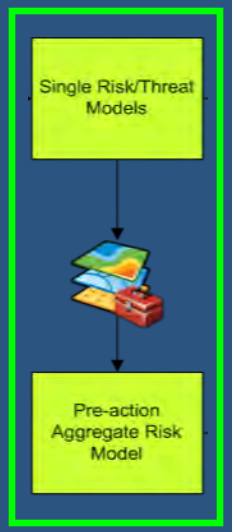
Ravens



Roads

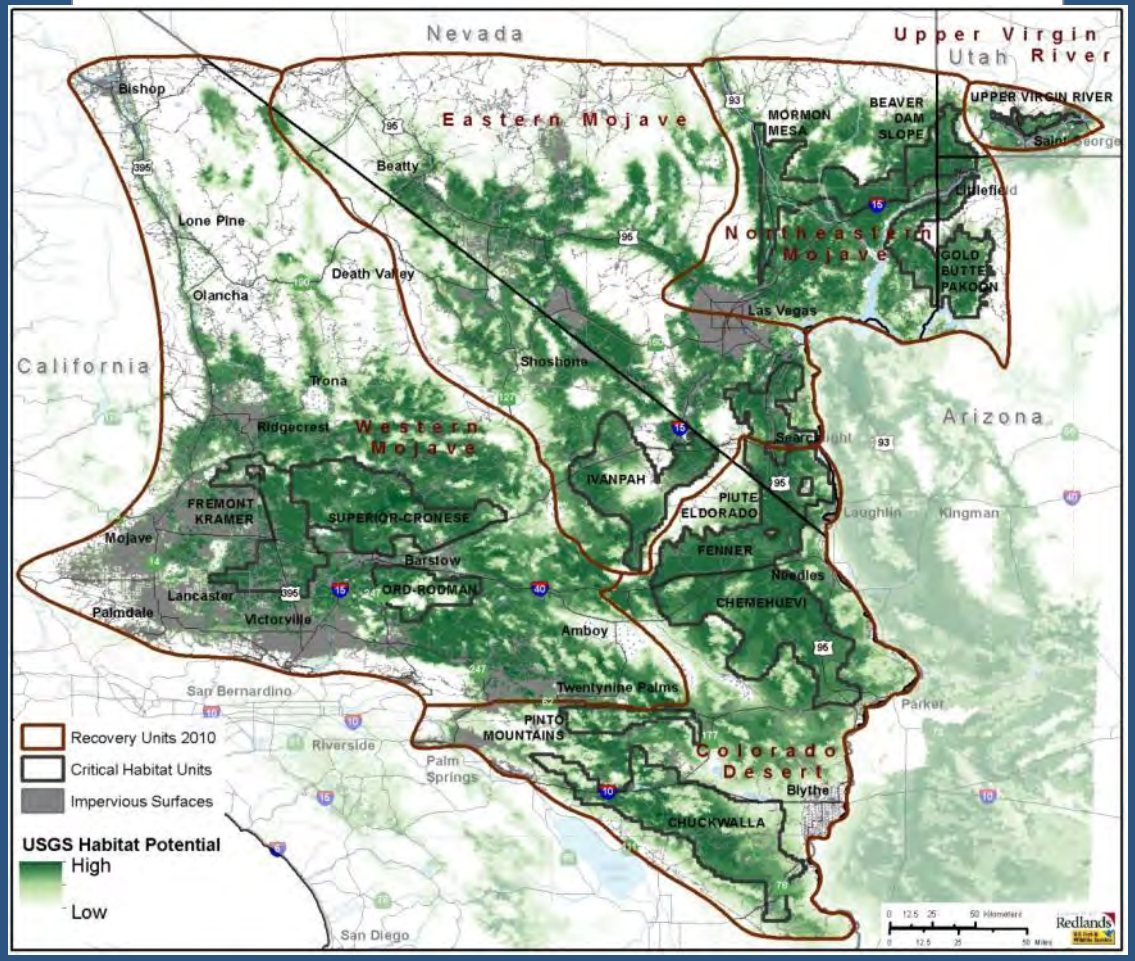
Locations of threats to desert tortoise

Spatial Decision Support System



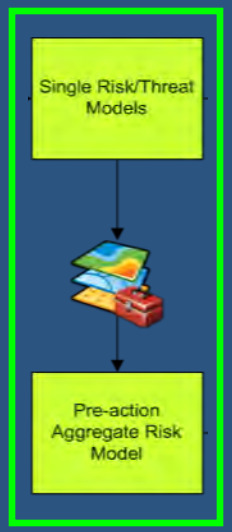
Risk to Population

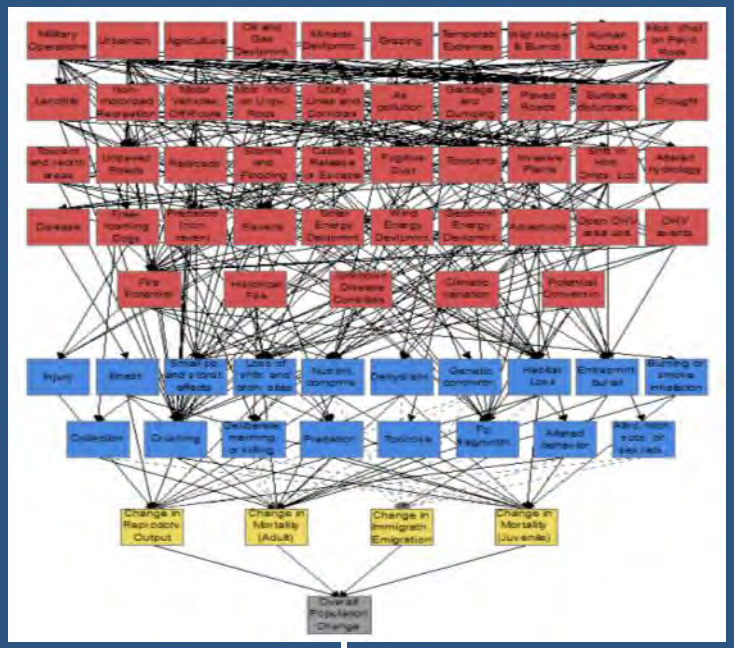
Probability of Presence of Tortoises



Habitat Potential Model minus Impervious Surfaces

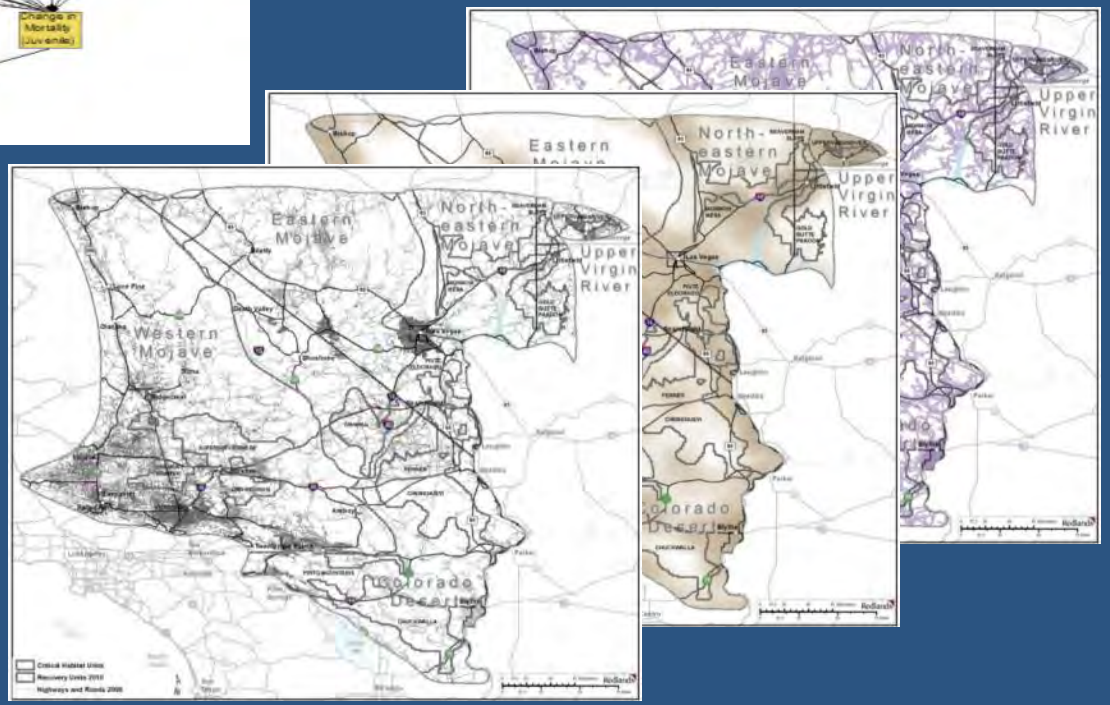
Spatial Decision Support System



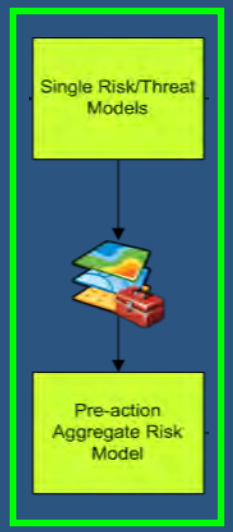


Risk to Population

$\int \sum x$

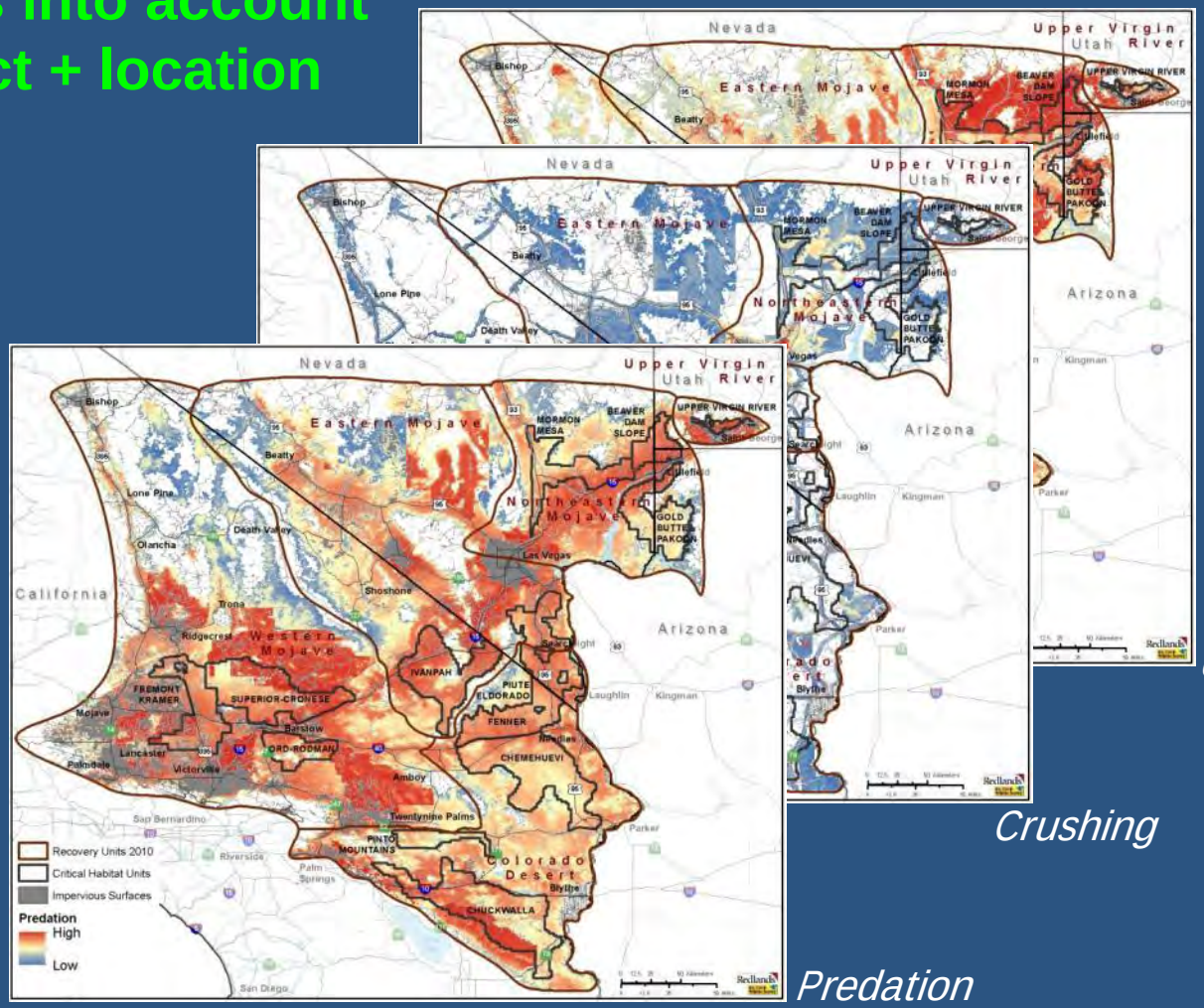


Spatial Decision Support System



Takes into account impact + location

Risk to Population



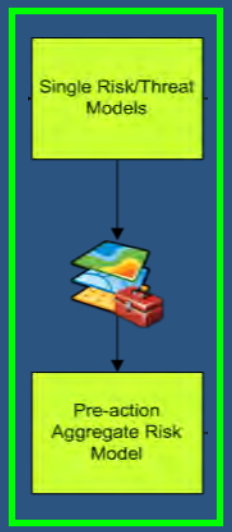
Nutritional compromise

Crushing

Predation

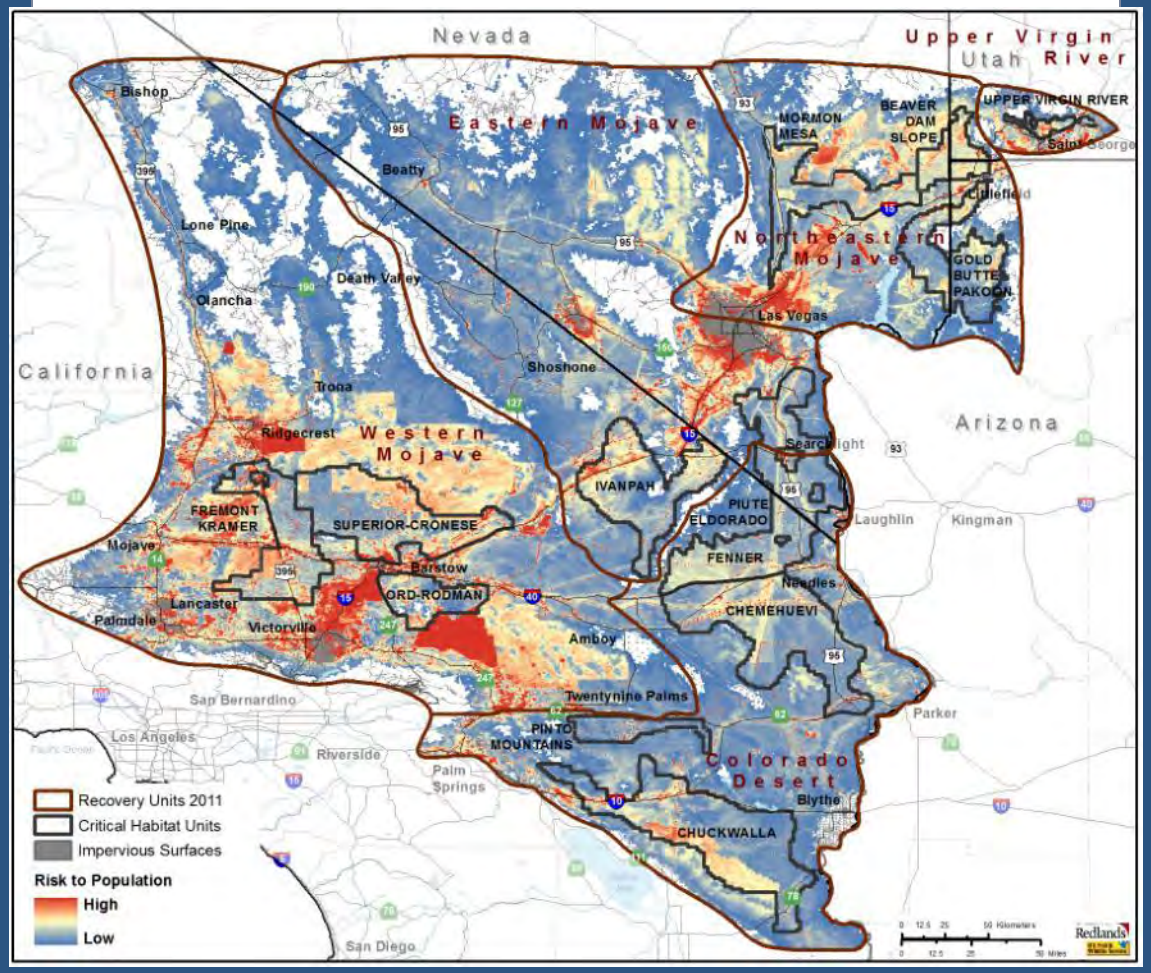
Spatial contribution of each stress to tortoise decline = risk to the tortoise

Spatial Decision Support System



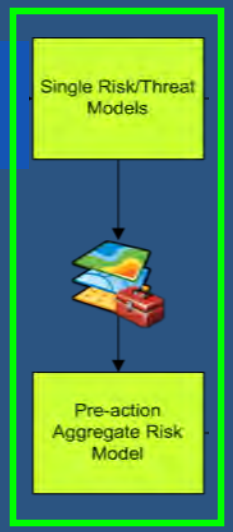
Risk to Population

Aggregate Population Risk to Tortoises



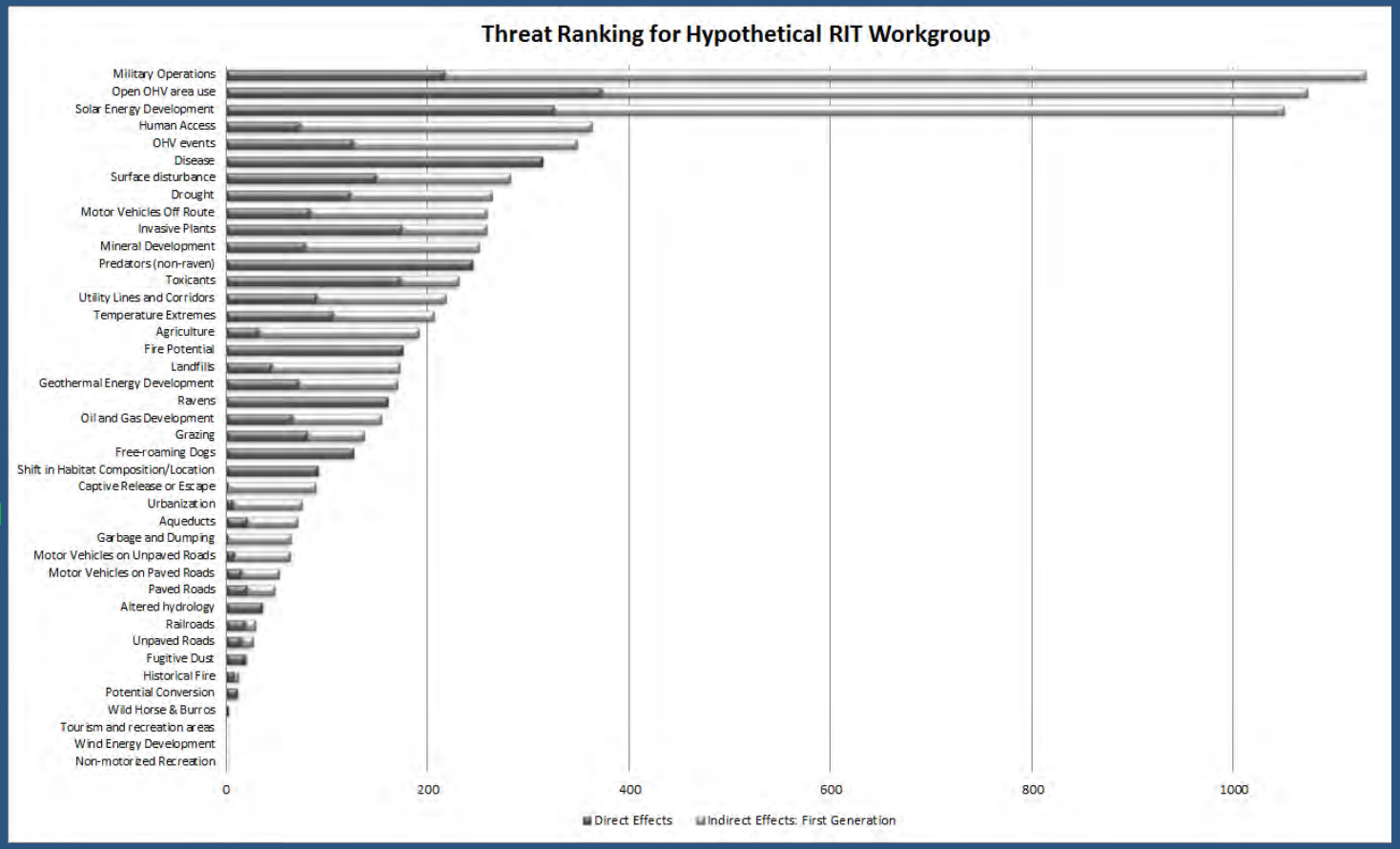
Aggregate contribution from all threats to risk to the tortoise

Spatial Decision Support System



Risk to Population

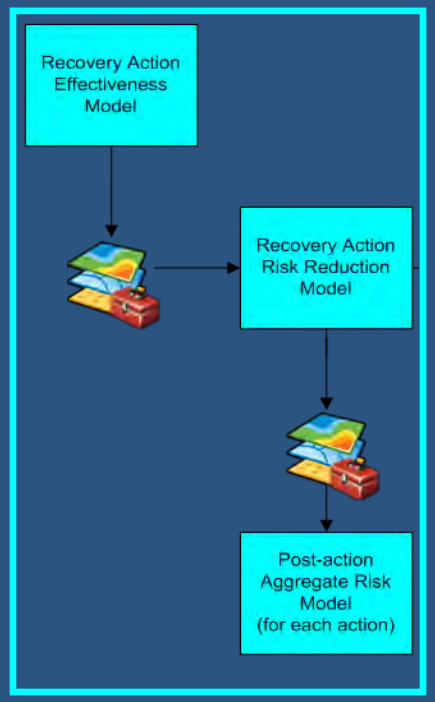
Ranked Threats in an Area



Contribution to risk is calculated for all possible threats within a given area, threats can then be ranked

Spatial Decision Support System

Action Effectiveness



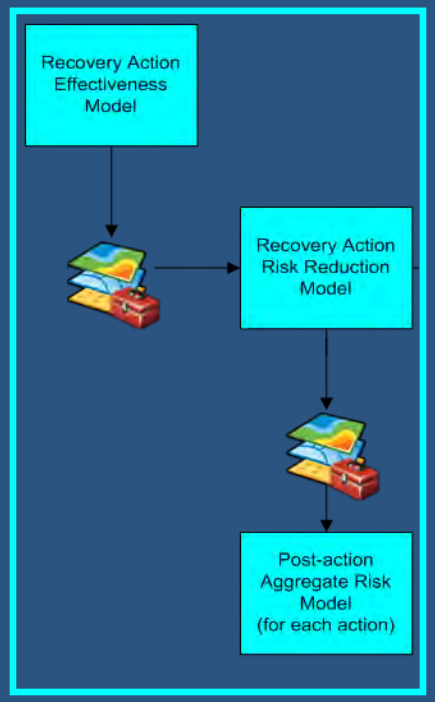
Takes into account how individual recovery actions effect threat–stress links

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

Utilizes expert assessments of threat–stress and action relationships on a scale of 0 (none) to 5 (high)

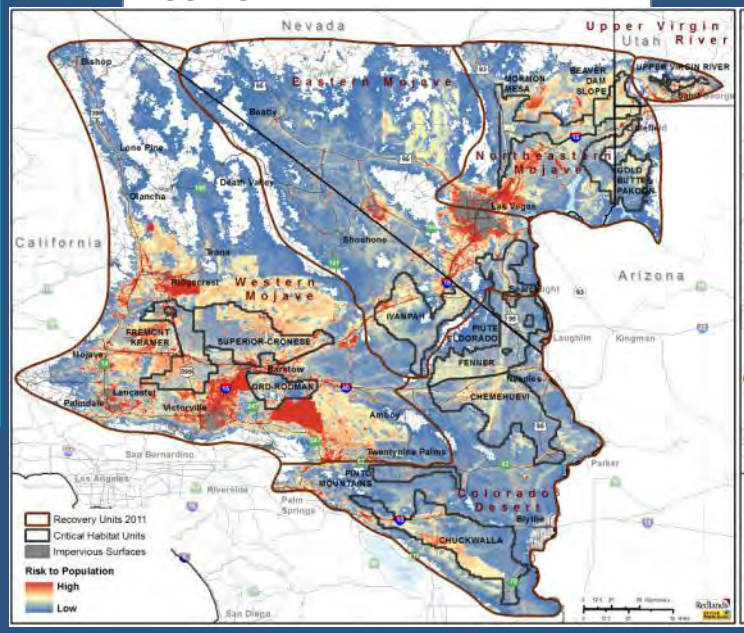
Spatial Decision Support System

Action Effectiveness

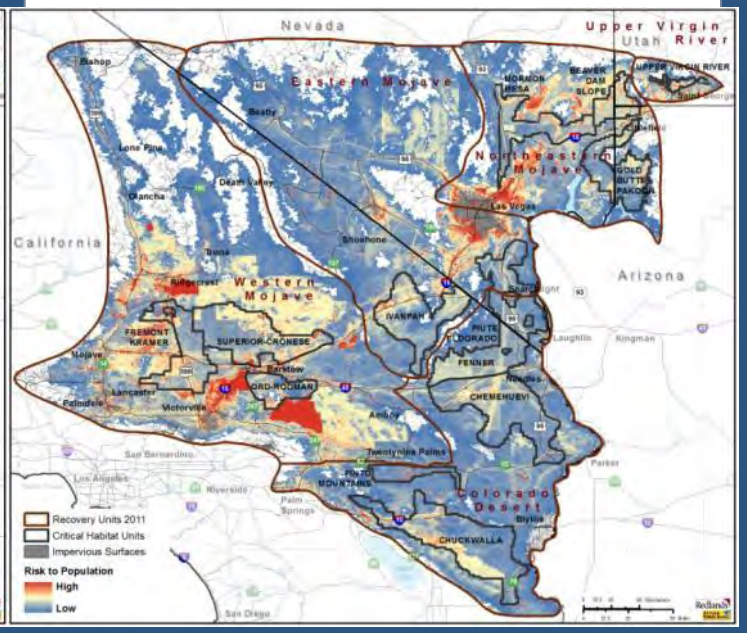


Takes into account how individual recovery actions effect threat–stress links

Aggregate Risk to the Tortoise



Remaining Risk after RA
"Decrease predator access to subsidies"



Post-action risk to the tortoise as a result of: "Decrease predator access to subsidies " across the entire range of the tortoise

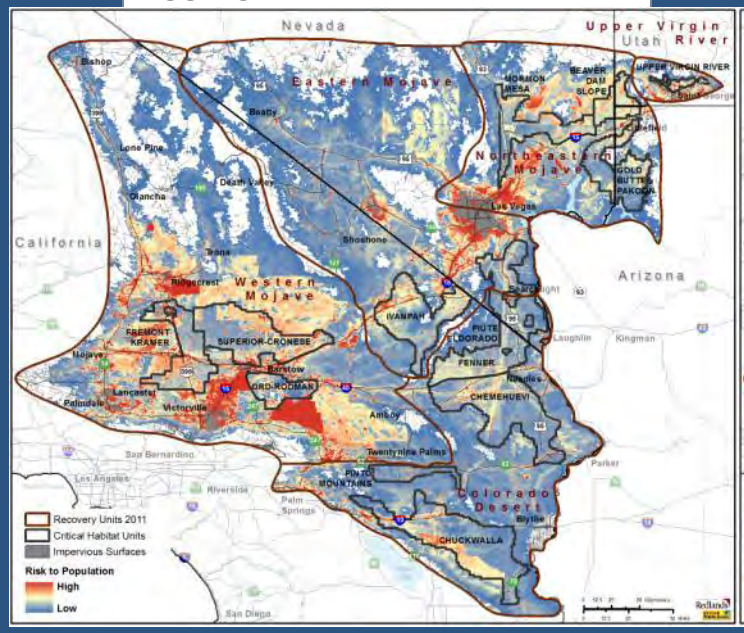
Spatial Decision Support System

Spatial Summary/ Prioritization

Extent of threat after actions

Compares remaining risk across recovery actions

Aggregate Risk to the Tortoise



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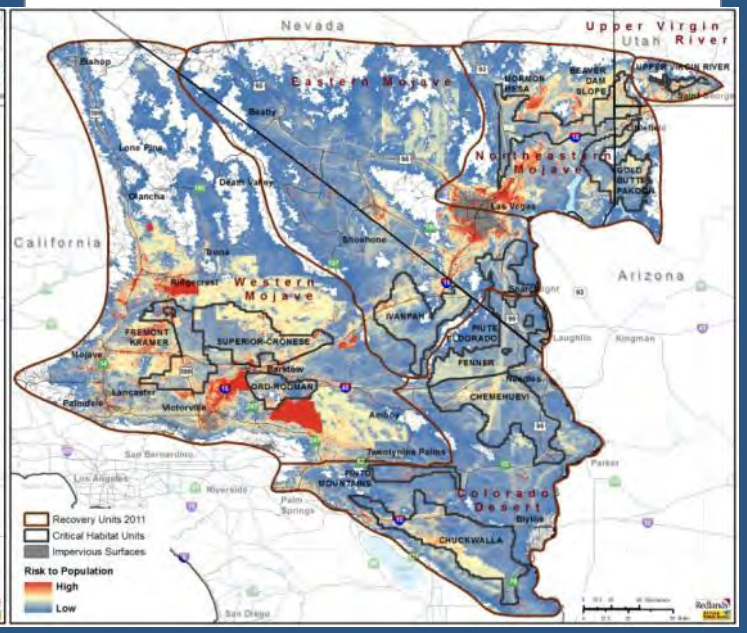


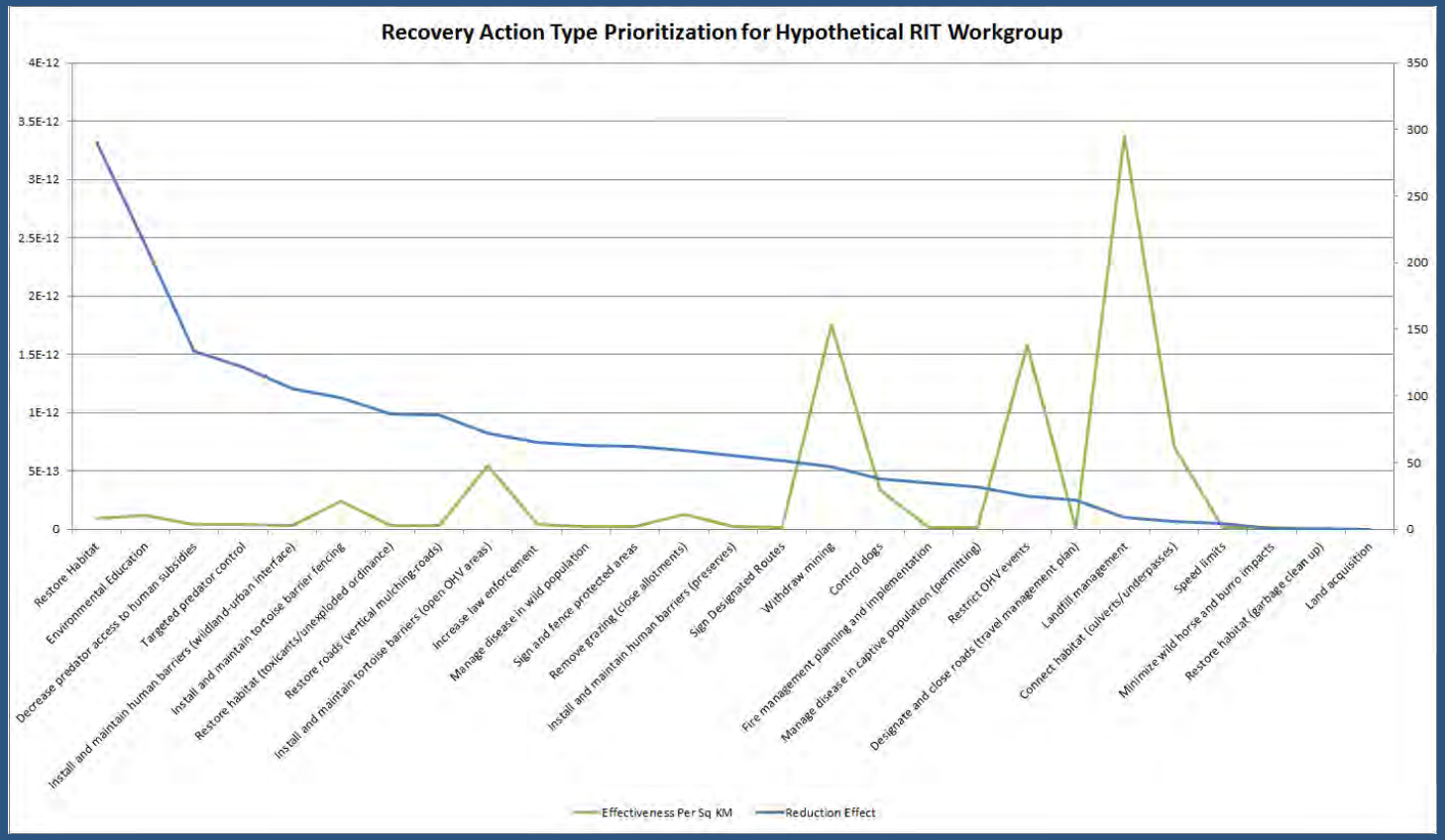
After "Decrease predator access to subsidies,"
Δ risk to the tortoise = 310

Spatial Decision Support System

Spatial Summary/ Prioritization

Creates Prioritized Recovery Action Types

Extent of threat after actions



Decrease in overall risk is calculated for all actions within a given area, actions can then be prioritized according to total risk reduction

Spatial Decision Support System

Goal of 1st in-person meeting:
Development of 5-Year Action Plan for each Workgroup

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RITs

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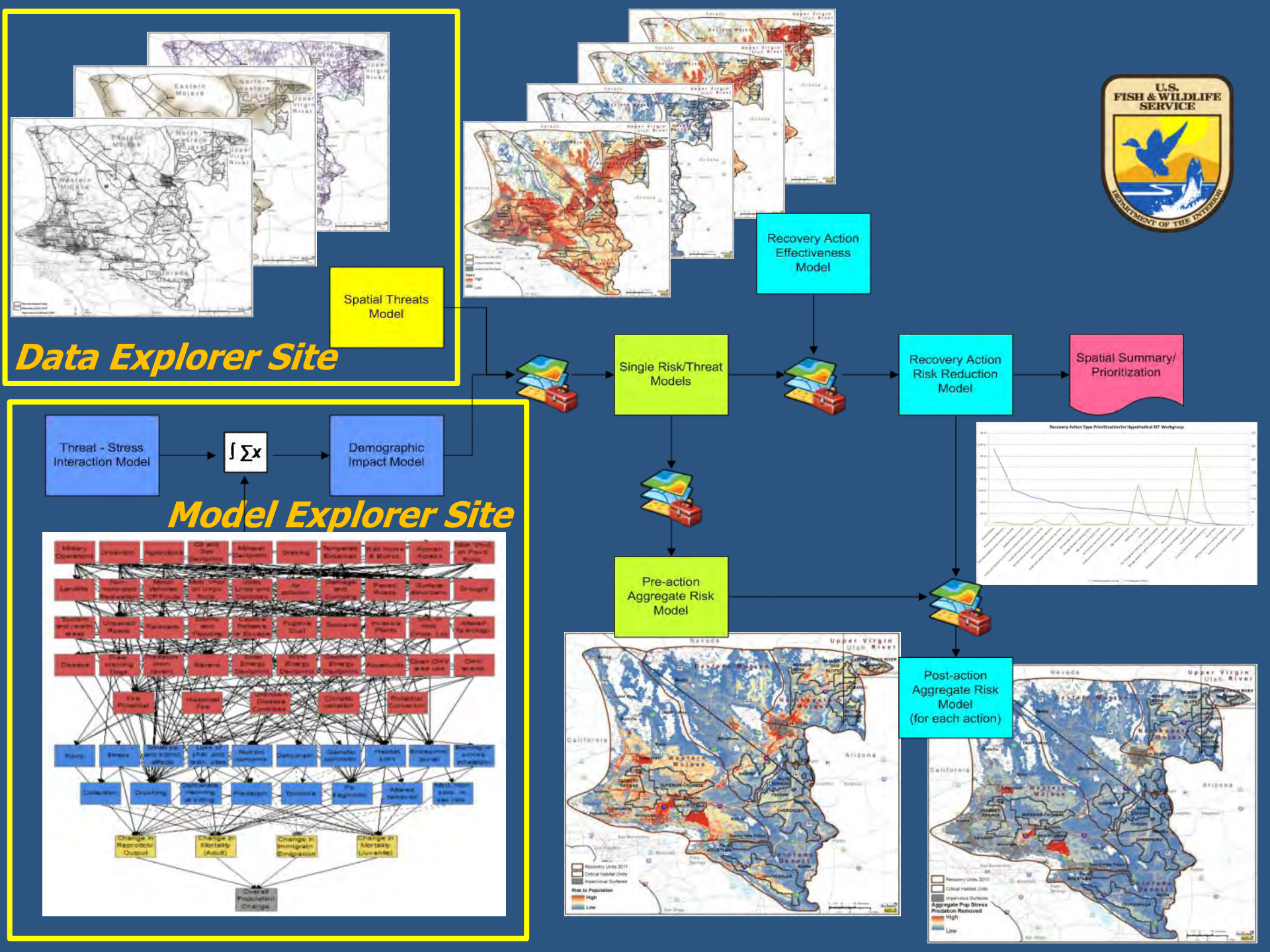
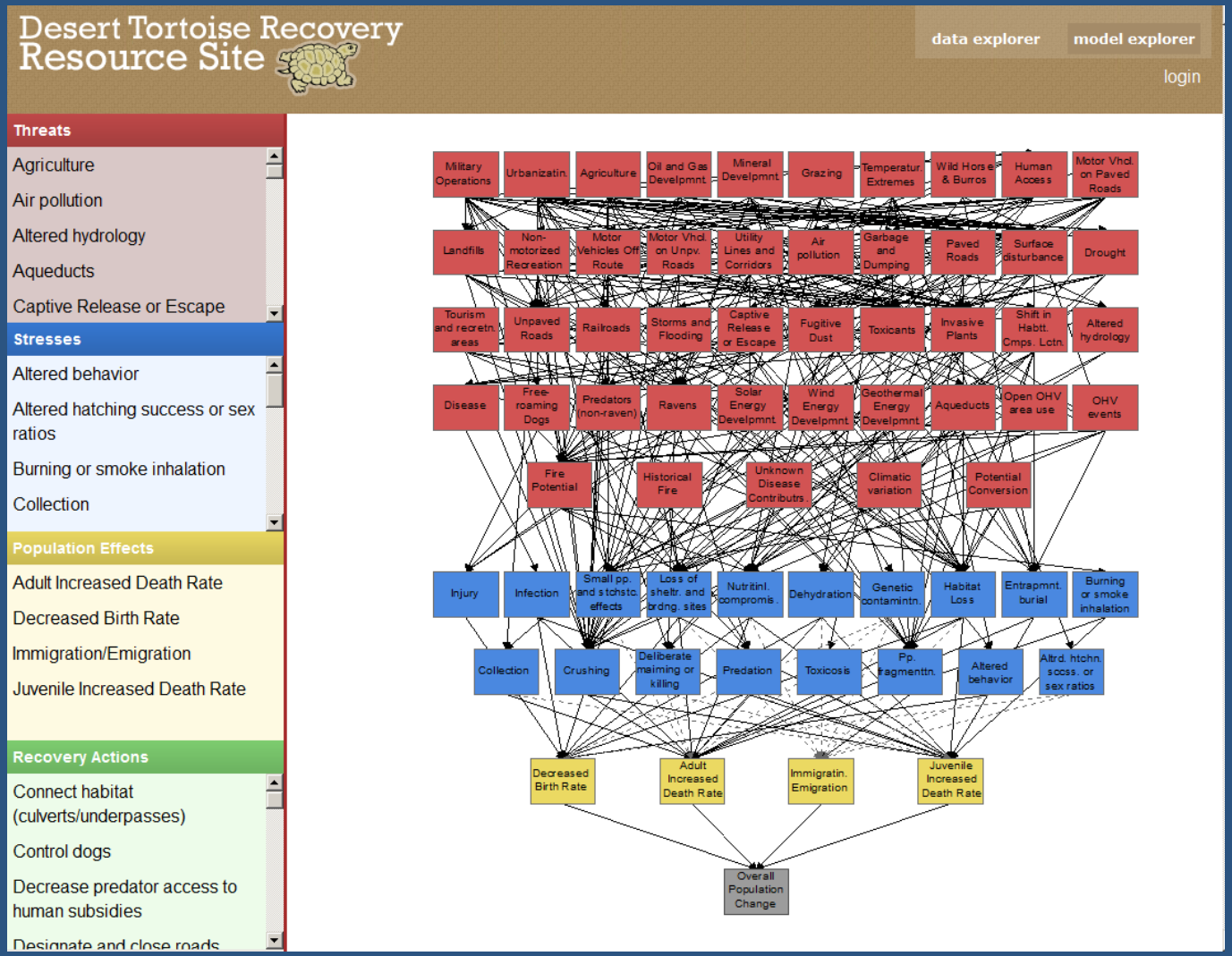

Data Explorer Site
Spatial Threats Model
Recovery Action Effectiveness Model
Single Risk/Threat Models
Recovery Action Risk Reduction Model
Spatial Summary/ Prioritization
Threat - Stress Interaction Model
∫ ∑x
Demographic Impact Model
Model Explorer Site
Pre-action Aggregate Risk Model
Post-action Aggregate Risk Model (for each action)
U.S. FISH & WILDLIFE SERVICE
DEPARTMENT OF THE INTERIOR

Online Model Explorer



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

Online Data Explorer

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

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Next Steps

- Deadline: April 27 --- Reviews of Model & Data Explorer; feedback on charter
- Deadline: May 25 --- DTRO report back to RITs about Model & Data Explorer reviews and revisions
- May/June --- Start scheduling Webinar #2 for each RIT workgroup; information presented will be specific to the threats and recovery actions in each workgroup
- Mid-June --- Tentative scheduling for Webinar #2
- Early October --- Tentative date for In-Person Meeting