Rethinking Recovery:
Using science, technology and collaboration for recovery of the Mojave Desert Tortoise

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U.S. Institute for **Environmental Conflict Resolution**
Morris K. Udall Foundation

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# In a nutshell...our partnership story

CHALLENGES

- Complex, wicked problem

- Many partners with historic lack of trust

- High degree of conflict

RESPONSES

- Multi-partner collaborative process

- Science and technology to support that process

- Advocacy and outreach

Mojave Desert Tortoise

(c)Walter Feller - DigitalDesert.NET

Mojave

Sonoran

Sinaloan

Pacific Ocean

Mexico
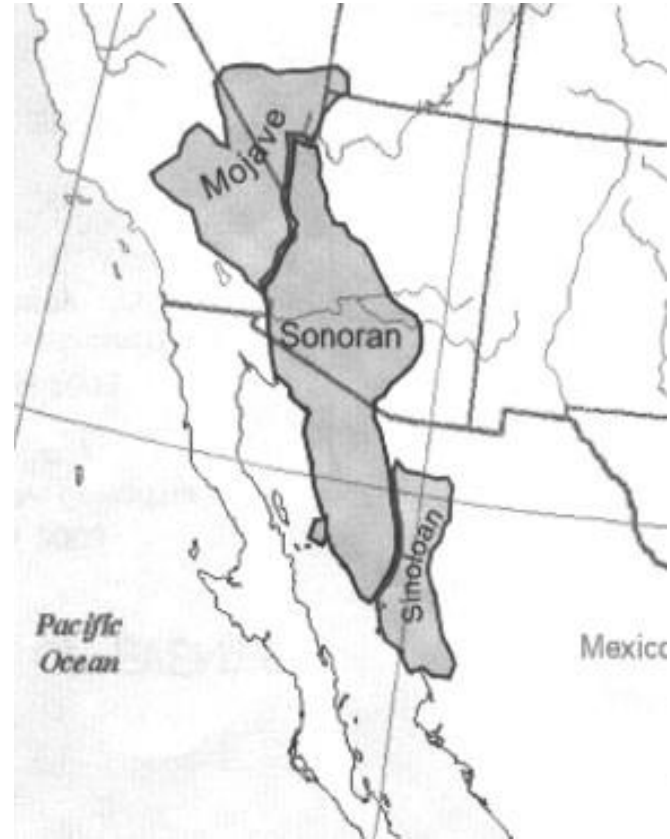
Listed as Federally Threatened in 1990
Critical Habitat designated in 1994
Recovery Plan published in 1994

What makes a species easily "recoverable"?
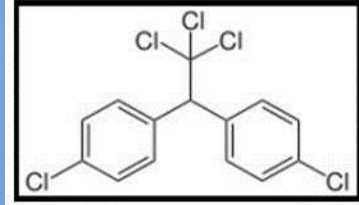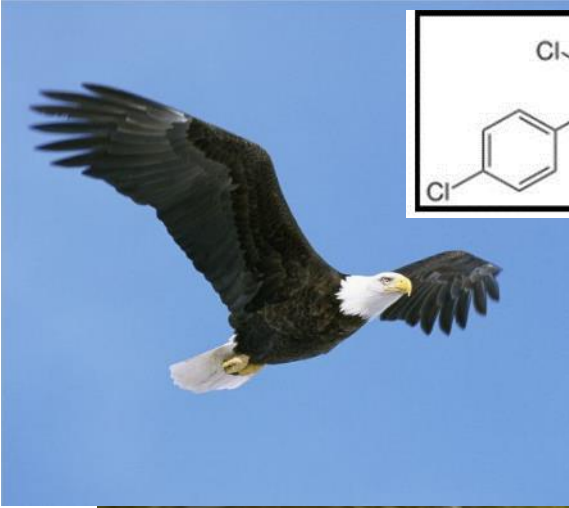
- Declines are primarily result of specific, remediable threat

- Preventing recurrence of the threat can happen through existing management or regulatory mechanisms
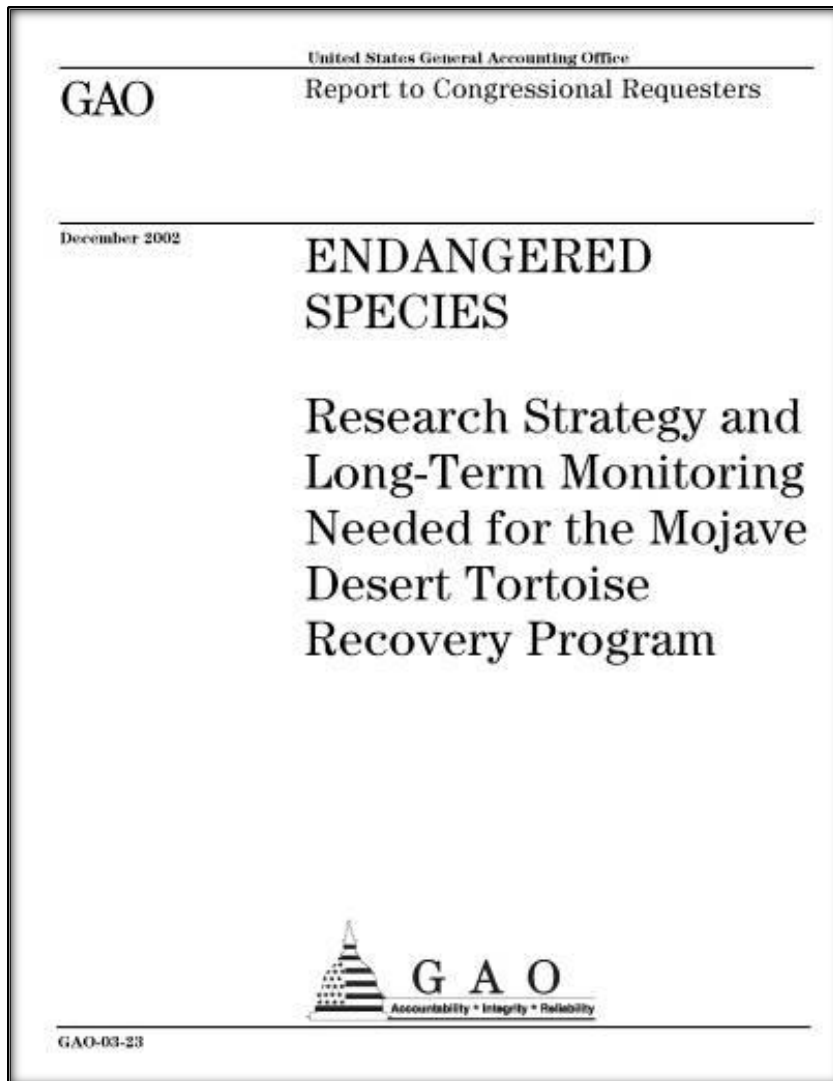
Challenges to Tortoise Recovery

- Observed population declines result from numerous, diverse threats that vary spatially and temporally

- Not all individuals, or even all populations, are affected by every threat

- Most populations likely are affected by several of these threats simultaneously
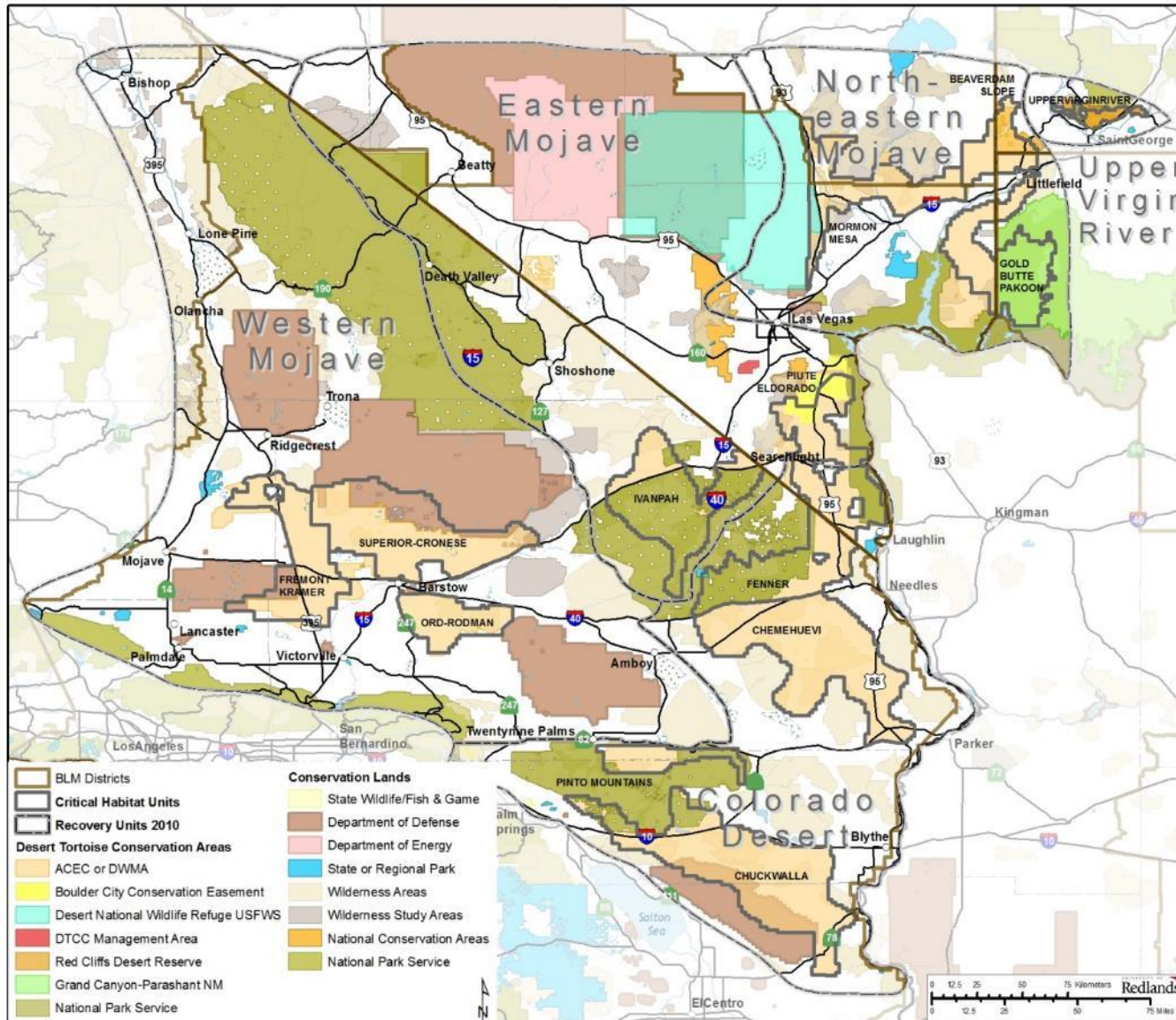
Challenges to Tortoise Recovery

- While some threats result in direct mortality of individuals, many affect the *habitat* upon which the species depends

- Multiple threats may interact synergistically

- Many significant threats will return if there is not a sustained management effort

Challenges to Tortoise Recovery

United States General Accounting Office

GAO

Report to Congressional Requesters

December 2002

ENDANGERED SPECIES

Research Strategy and Long-Term Monitoring Needed for the Mojave Desert Tortoise Recovery Program

G A O
Accountability * Integrity * Reliability

GAO-03-23

- >$100M on recovery
- Recovery action effectiveness unknown
- Tragedy of Fragmentation (Goble 2009)

Challenges to Tortoise Recovery

Challenges to Tortoise Recovery

U.S. Institute for **Environmental Conflict Resolution**
Morris K. Udall Foundation

FEASIBILITY ASSESSMENT REPORT

for
**Collaborative Desert Tortoise Recovery Planning Process
Proposed by U.S. Fish and Wildlife Service**
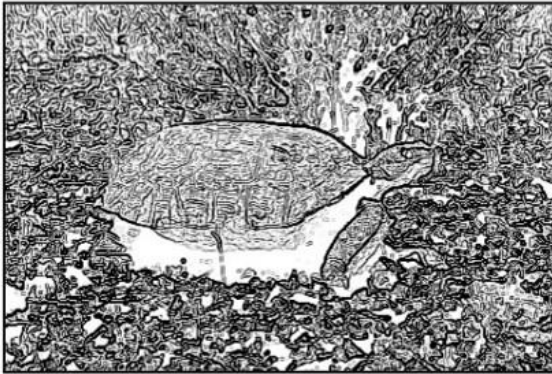
September 26, 2006

Prepared by:

U.S. Institute for Environmental Conflict Resolution
and
Center for Collaborative Policy
California State University, Sacramento

- Long history of controversy and conflict among stakeholders

- Lack of trust amongst agencies

- Complete collaborative overhaul of recovery planning and implementation process necessary to progress

- Build scientific credibility and confirm the availability of resources for implementation

New Approach

U.S. Fish & Wildlife Service

**Revised Recovery Plan
for the Mojave Population
of the Desert Tortoise**
(Gopherus agassizii)

©Dennis Caldwell
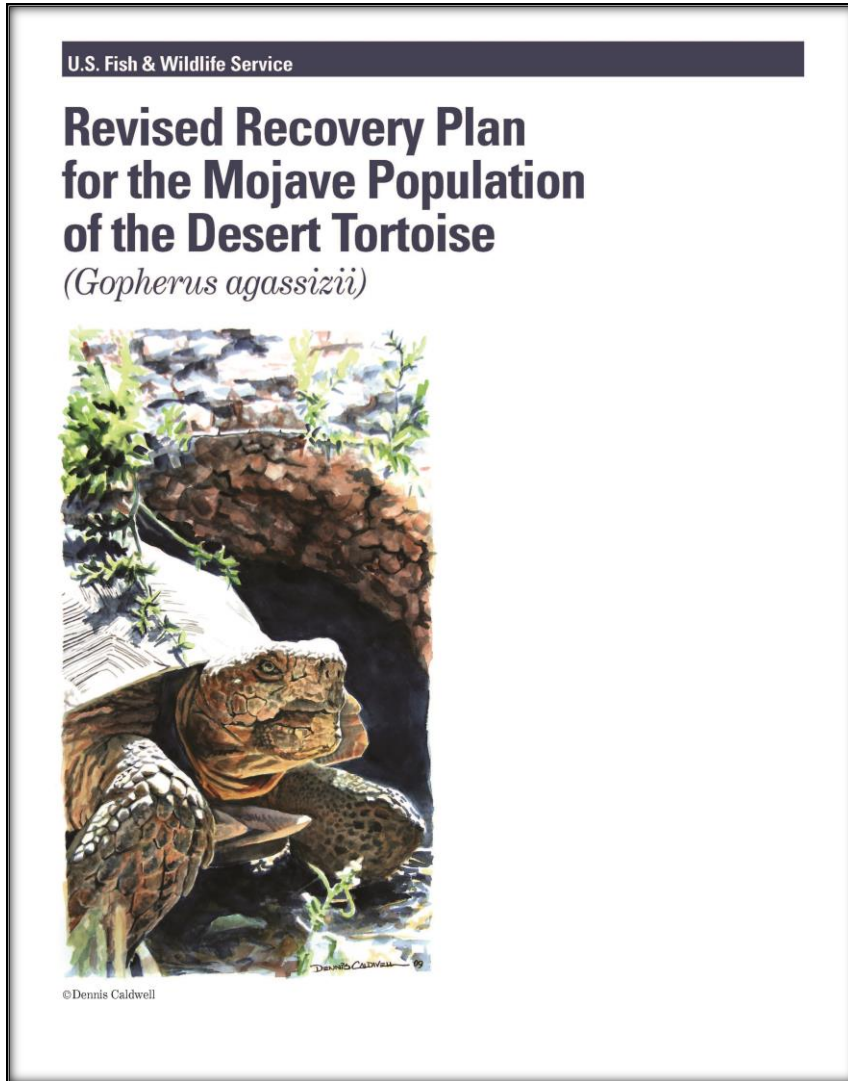
To address complexities that have prevented recovery progress to date:

- Coordinated, structured recovery program
- Broad participation

Recovery Implementation Teams
&
Spatial Decision Support System

Recovery Implementation Teams
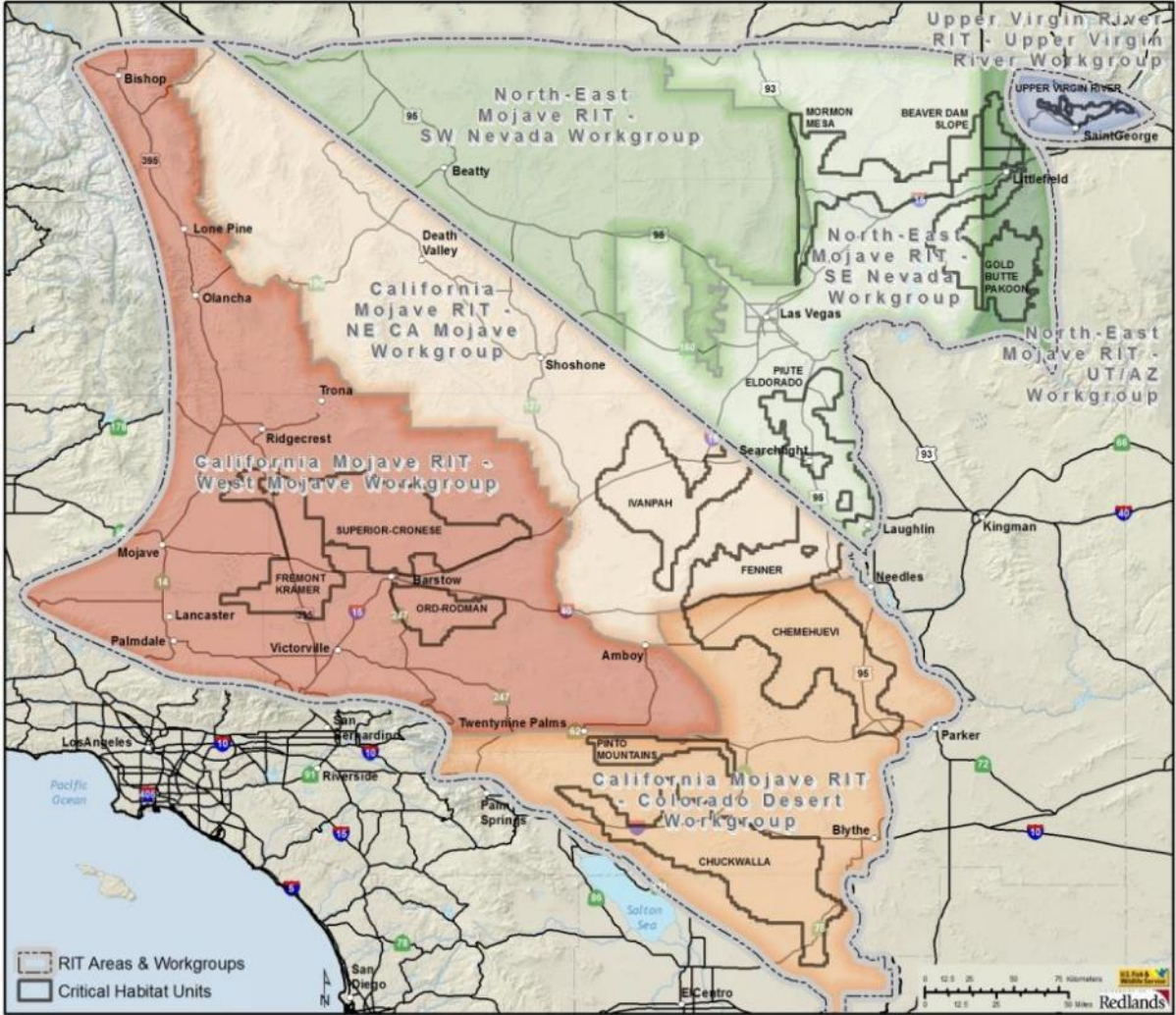
Seven workgroups each composed of 10-14 individuals including:

- Land managers
- Wildlife managers
- Local governments
- Environmental groups
- User groups
- Scientists

OVERALL RECOVERY IMPLEMENTATION TEAM (RIT) PROCESS

REVISED RECOVERY PLAN SIGNED
MAY 2011

RIT ORIENTATION WEBINAR
MARCH 2012
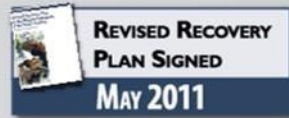
2007

INITIAL **SDSS** DATASETS & MODELS DEVELOPED

Recommended establishment of regional Recovery Implementation Teams to prioritize actions and track recovery progress

MODEL & DATA UPDATES

RUN MODEL:
UPDATE THREAT & ACTION RANKINGS

MONITOR & REPORT:
IMPLEMENTATION, EFFECTIVENESS & NEW SCIENTIFIC FINDINGS

RECOVERY ACTION PLAN
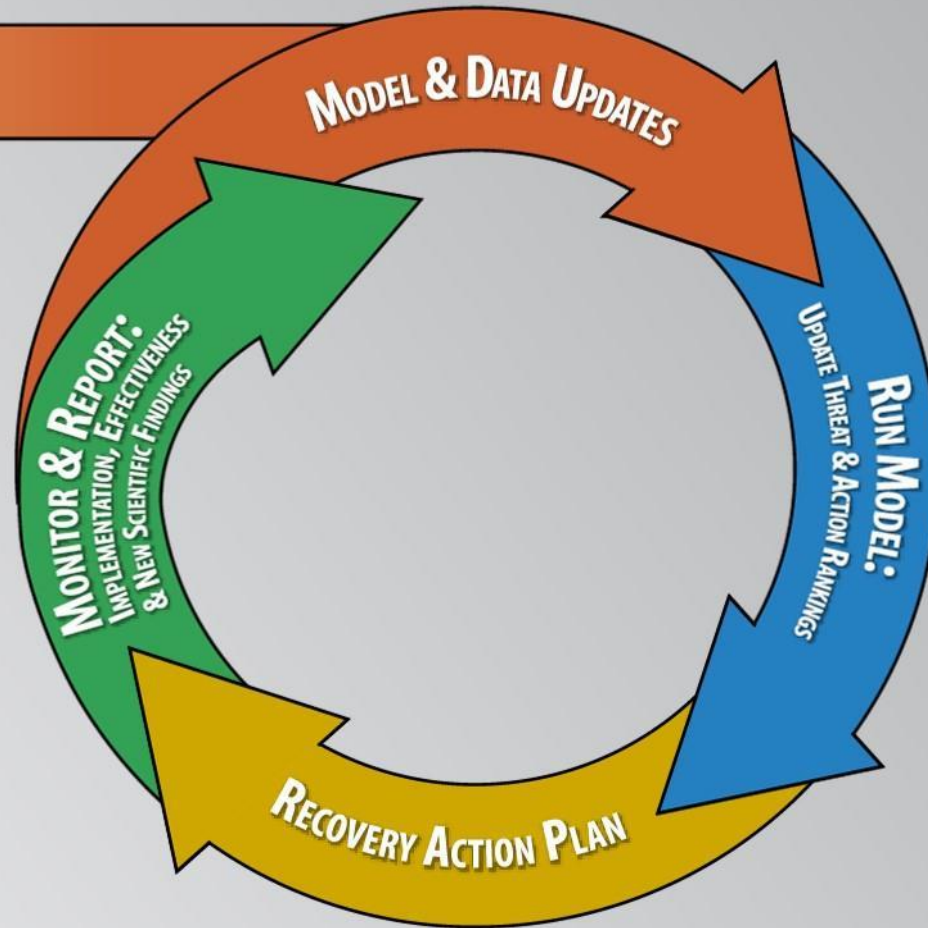
Spatial Decision Support System (SDSS)
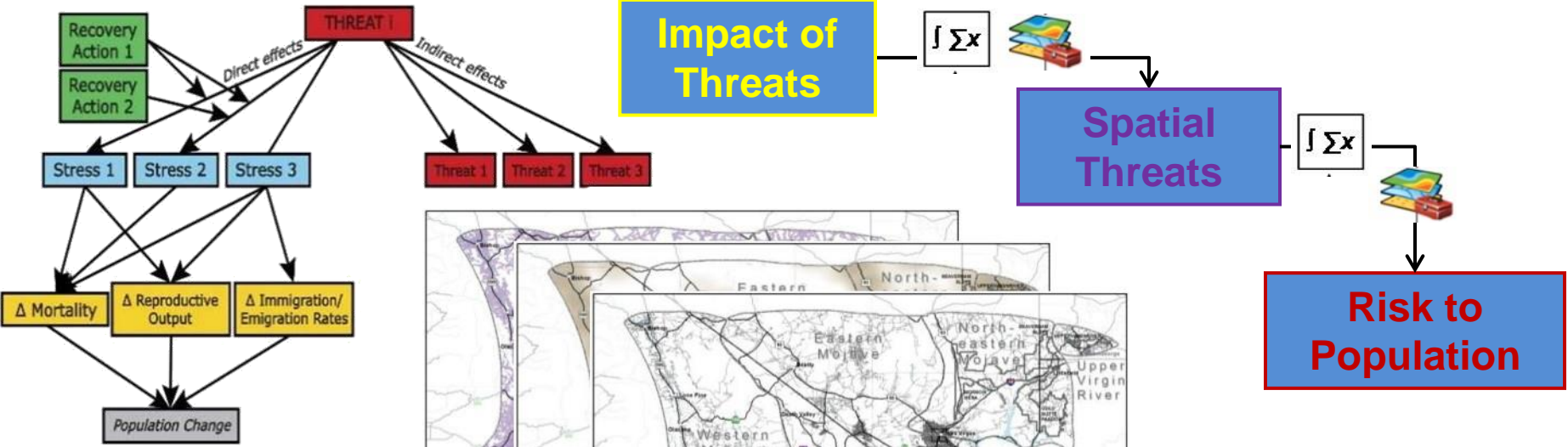
Model of how threats and recovery actions affect tortoises
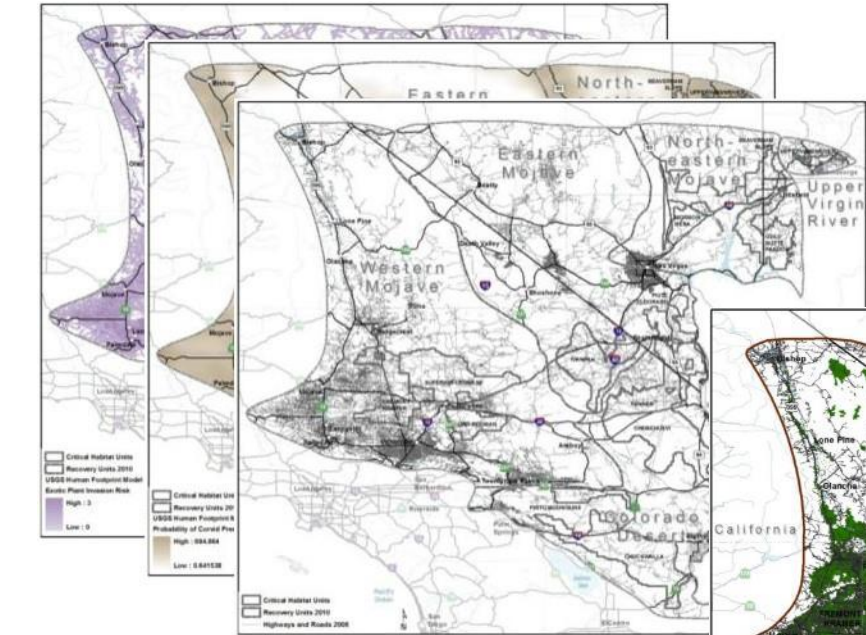
Spatial variation in threats
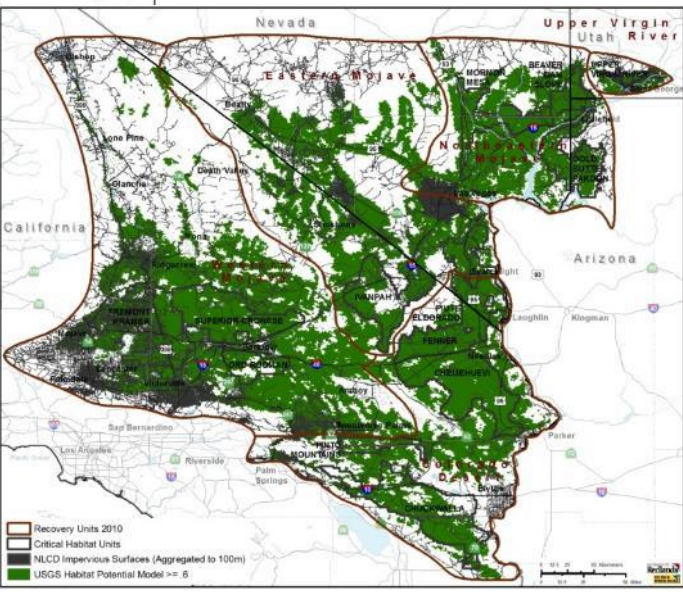
Where we expect tortoises to occur

Spatial Decision Support System (SDSS)
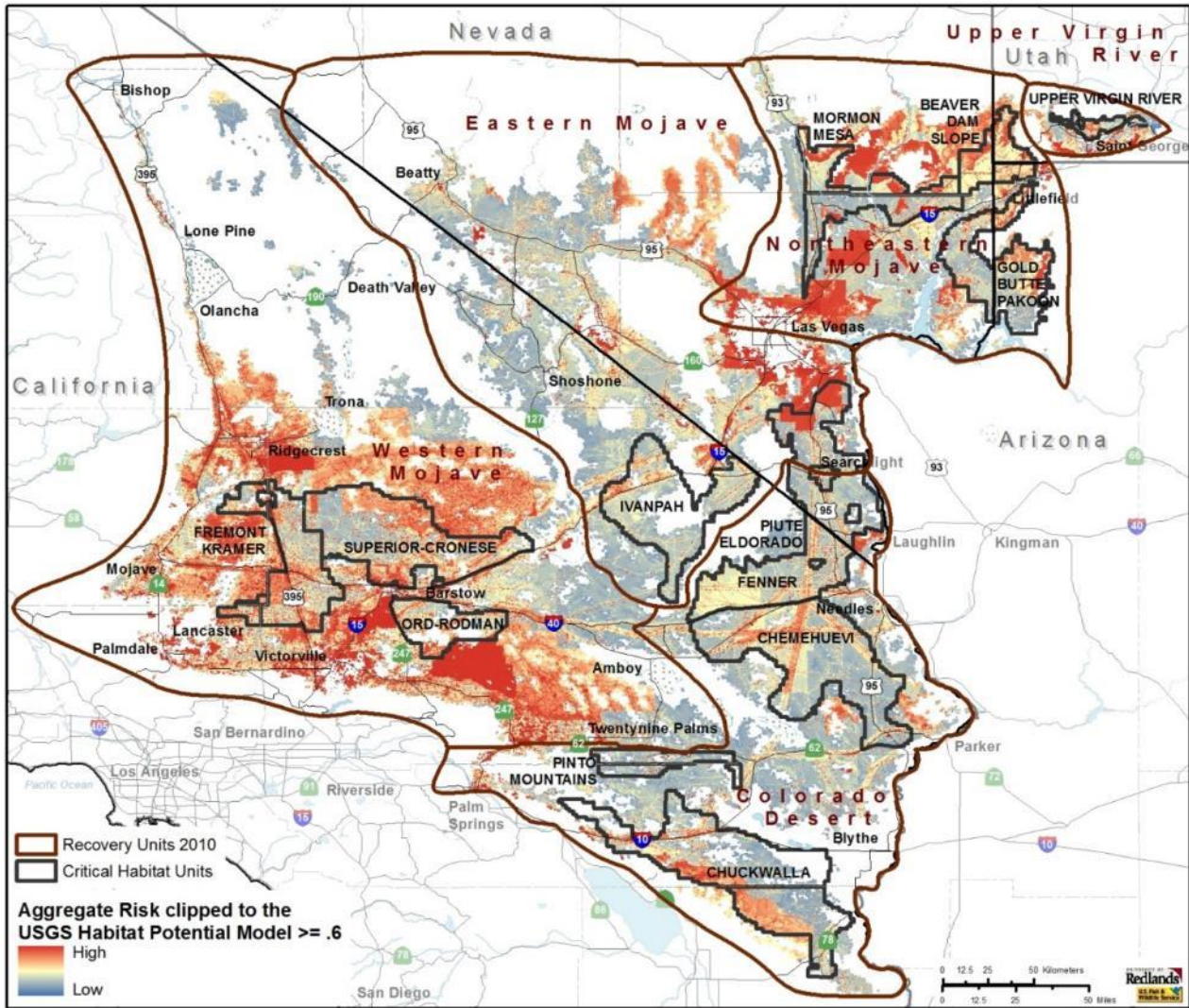
Risk to the Tortoise

Model Explorer & Data Explorer

http://www.fws.gov/nevada/desert_tortoise/dtro/dtro_tools.html

Model Explorer & Data Explorer

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OVERALL RECOVERY IMPLEMENTATION TEAM (RIT) PROCESS

Spatial Decision Support System (SDSS)

Spatial Decision Support System (SDSS)

Ranked Recovery Actions

Fremont-Kramer & DTRNA

Reduction in Risk

Overall Recovery Implementation Team (RIT) Process

Revised Recovery Plan Signed
May 2011

RIT Orientation Webinar
March 2012

2007
Initial SDSS Datasets & Models Developed

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

Model Explorer & Data Explorer Tools

Model & Data Updates

Run Model: Update Threat & Action Rankings

Monitor & Report: Implementation, Effectiveness & New Scientific Findings

Recovery Action Plan

Workgroup-specific Webinar
June/July 2012

Recovery Action Proposal Tool
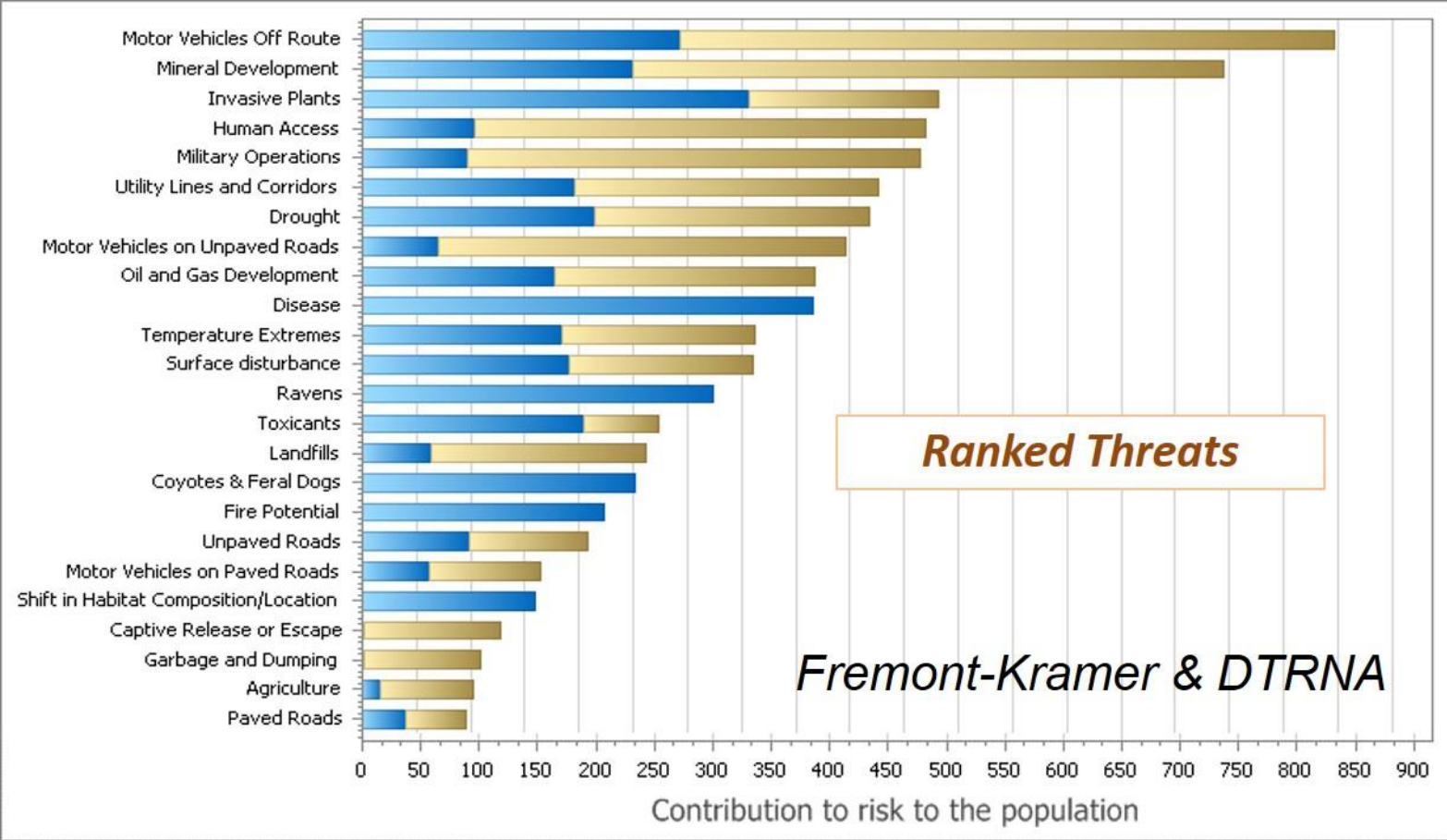
In-Person RIT Meeting
Fall 2012

>900 proposals; ~70% participation across workgroups

RIT In-person Meetings

Using a consensus-based framework, RIT workgroups prioritized:

1) Action proposals; and

2) Effectiveness monitoring & research topics

Recovery Action Plans v1
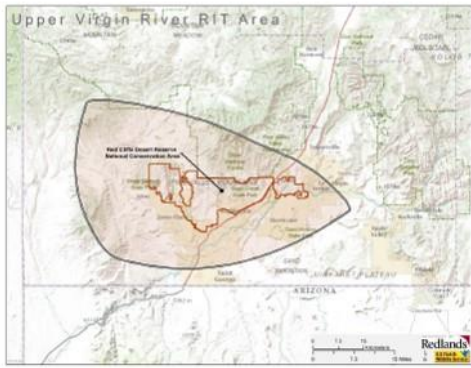
Recommendations **for on–the-ground actions in need of funding to be considered by agencies as budgeting and planning opportunities arise**

Overall Recovery Implementation Team (RIT) Process
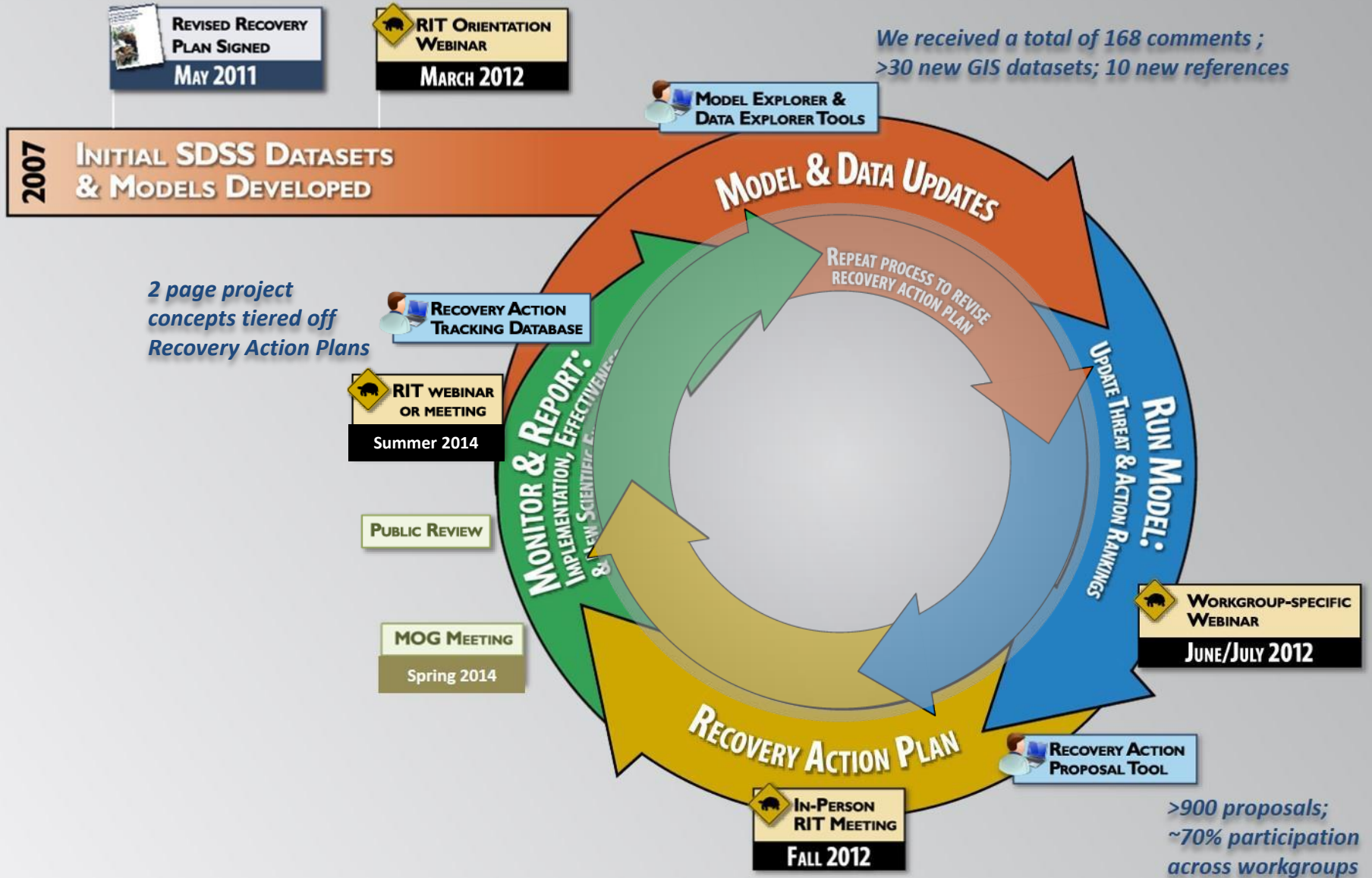
Broader Context for the SDSS

FWS: RITs & SDSS

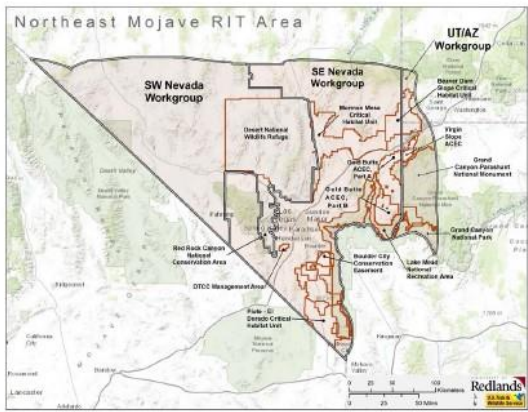- **Recovery action planning** — FWS, BLM, NPS, DoD, CDFW, NDOW, ADFG, UDWR, Local Government, Stakeholders

- **Mitigation Ratios** — FWS, BLM, CEC, CDFW *Alternatives to land acquisition*

- **Evaluation of new threats and mitigation portfolios** — FWS, BLM, DoD, CEC *Energy, expansion, reallottment*
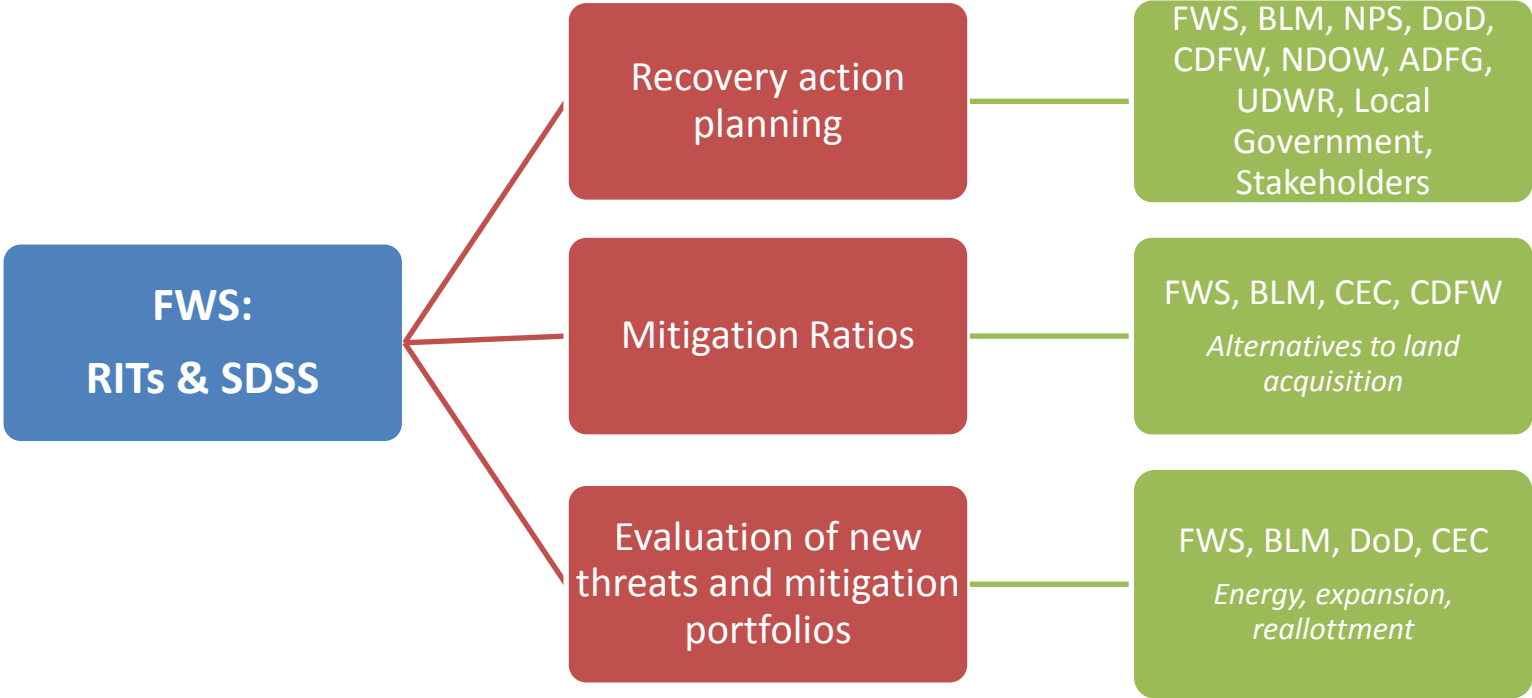
Better science, technology & collaboration → Better management and decision making

Lessons Learned: What worked well

- Get started: managing even with incomplete information

- Using a structured process and shared information to build trust

- Using maps and visuals to communicate complex, spatial information

- Application: getting managers the numbers they need

- Our approach can be used for other species and ecoregions

- Advocate: your solution may work for other problems

Lessons Learned: Challenges

- Get started: managing even with incomplete information

- Using a structured process and shared information to build trust

- Using maps and visuals to communicate complex, spatial information

- Application: getting managers the numbers they need

- Our approach can be used for other species and ecoregions

- Advocate: your solution may work for other problems

- Good science and process may be ignored

- Lack of core information hampers trust

- Nice maps can't make up for bad data

- Where science is sparse, numbers hard to validate

- Our tortoise implementation is perceived as too complex

- Sustainability: What is next? Who will fund? Who will manage?

Thank you!