

ARIZONA GAME AND FISH DEPARTMENT



State Wildlife Action Plan – Threats to Wildlife and Habitat Models



Eight common elements for each Wildlife Action Plan



- 1) Fish and Wildlife Species
- 2) Habitats and Their Condition
- 3) **Threats and Info Needs**
- 4) Conservation Actions and Objectives
- 5) Monitoring and Evaluation
- 6) Review Process
- 7) Coordination with Land Management Entities
- 8) Broad Public Participation

Element 3



- (3) **Descriptions of problems** which may adversely affect species identified in element 1 or their habitats, and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitats; and,

80 threats based on a standardized threat categorization scheme proposed by Salafsky and others were evaluated for both magnitude and urgency.

Variable: Magnitude (Scope & Severity)

<u>Rate</u>	<u>Area Affected</u>	<u>% Targets Affected</u>	<u>Degree of Impact</u>
4 =	Throughout (>50%)	Most or all (>50%)	Severe damage or loss
3 =	Widespread (15-50%)	Many (25-50%)	Significant damage
2 =	Scattered (5-15%)	Some (5-25%)	Moderate damage
1 =	Local or None (<5%)	Few or None (<5%)	Little or no damage

Variable: Urgency (Timing & Likelihood)		
<u>Rate</u>	<u>Time that Impacts Start</u>	<u>Likelihood of Threat in the Next 10 Years</u>
4 =	Current (<1 yr)	Existing (100%)
3 =	Imminent (1-3 yrs)	High probability (50-99%)
2 =	Near-term (3-10 yrs)	Moderate probability (10-49%)
1 =	Long-term (>10 yrs)	Low probability or None (0-9%)

Missing Threats



- Similar threats which occur in the same area were combined and modeled together
- Threats considered to occur statewide were not modeled
- Threats covered by other threats (light and noise pollution) were not modeled

Dams/Reservoirs/Impoundments

- Water diversions, water catchments
- Altered river flow regimes



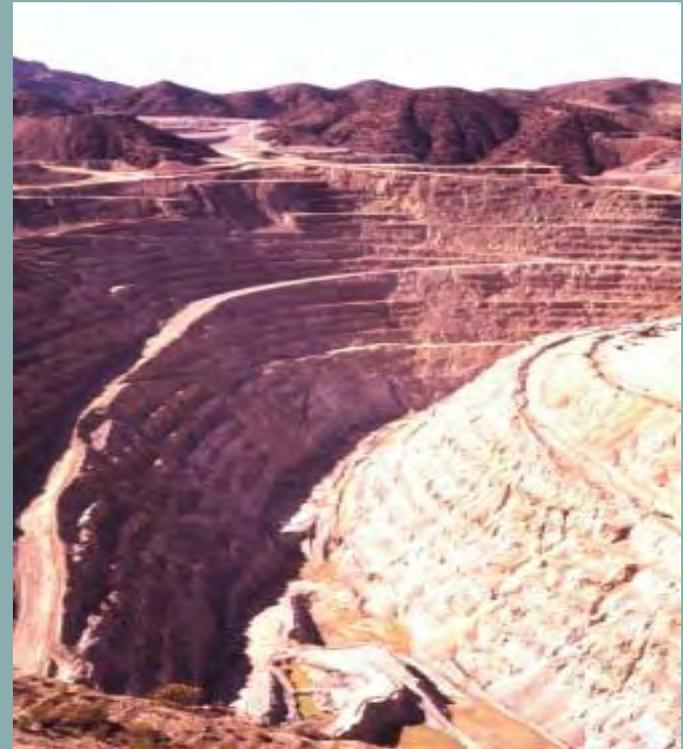
Forest and Woodland Management

- Consumptive Use
- Conversion



Contaminants from Waste Water and Runoff

- Heavy Metals/Mine Tailings



Military Bases

- Defoliation, Munitions testing
- Battles, maneuvers, war games, military camps, guerilla insurgencies



Non-motorized Recreation Off-trail

- Trails for foot, bike, or equine use



Roads for Motorized Vehicles

- Right-of-way fencing along roadways



Border Threats

- Light pollution
- Dispersed camping
- Dumping/Littering
- Feral Animals
- Unauthorized roads & trails
- Altered fire regimes
- Poaching
- Enforcement impacts
- Enforcement fences
- Water use/contamination
- Disease
- DHS overflights



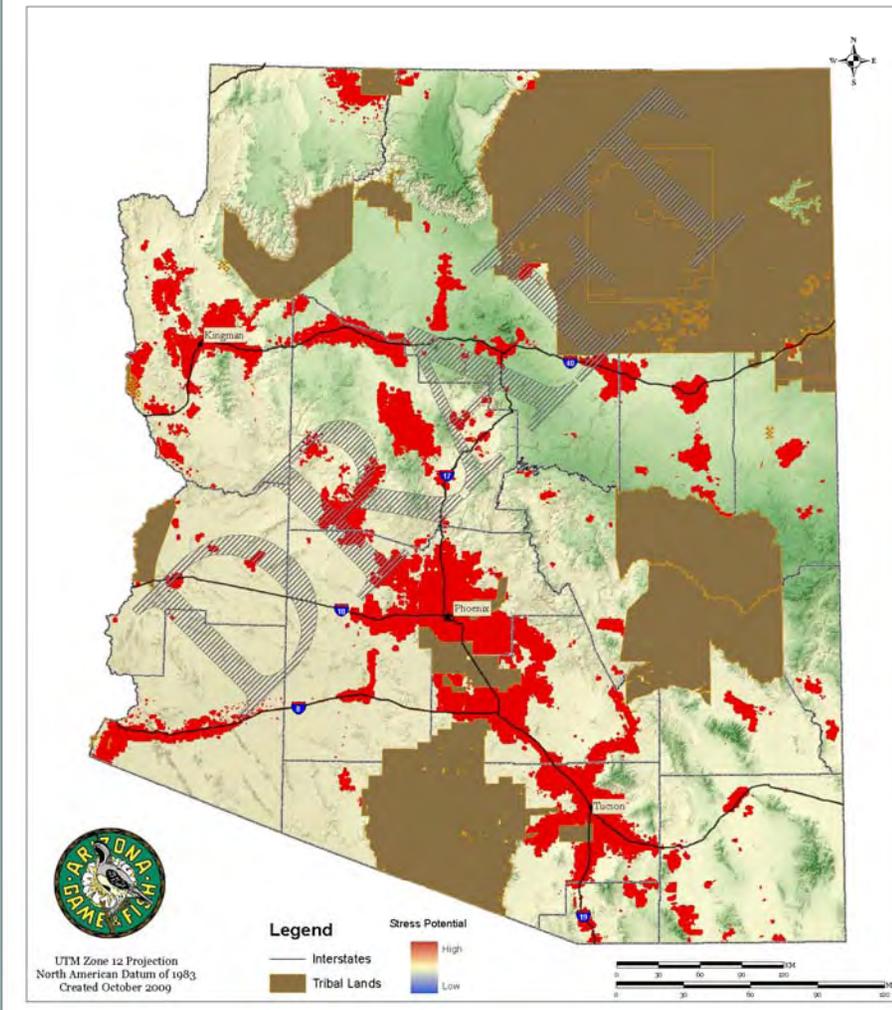
Statewide Threats



- Soil Erosion
- Drought
- Climate Change*
- Nuisance Animals
- Nuisance Plants
- Recreation Sites/Facilities*
- Disease/Pathogens/Parasites
- Scientific Research and Collection
- Telephone Lines/Cell phone Towers
- Unauthorized Roads and Trails

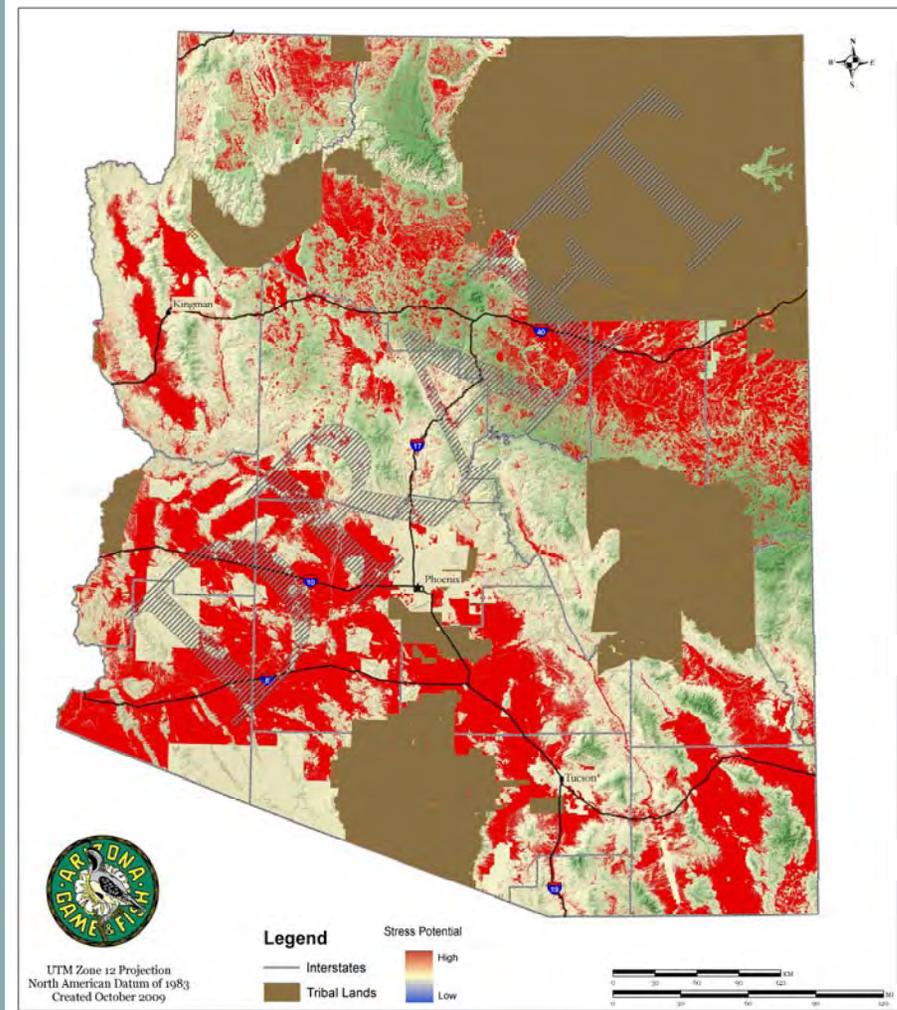
METHODOLOGY

Arizona Game and Fish Department Urban Growth - Draft



Maricopa Association of Governments 2050 Growth Model

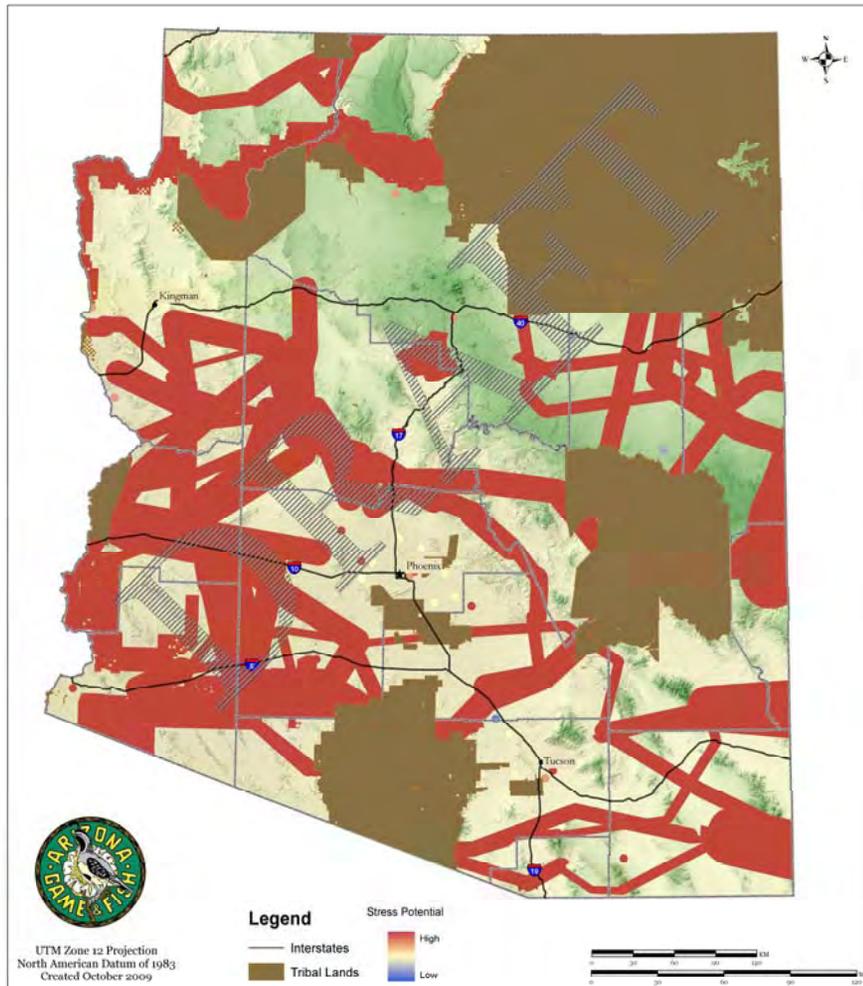
Arizona Game and Fish Department Solar Energy Development - Draft



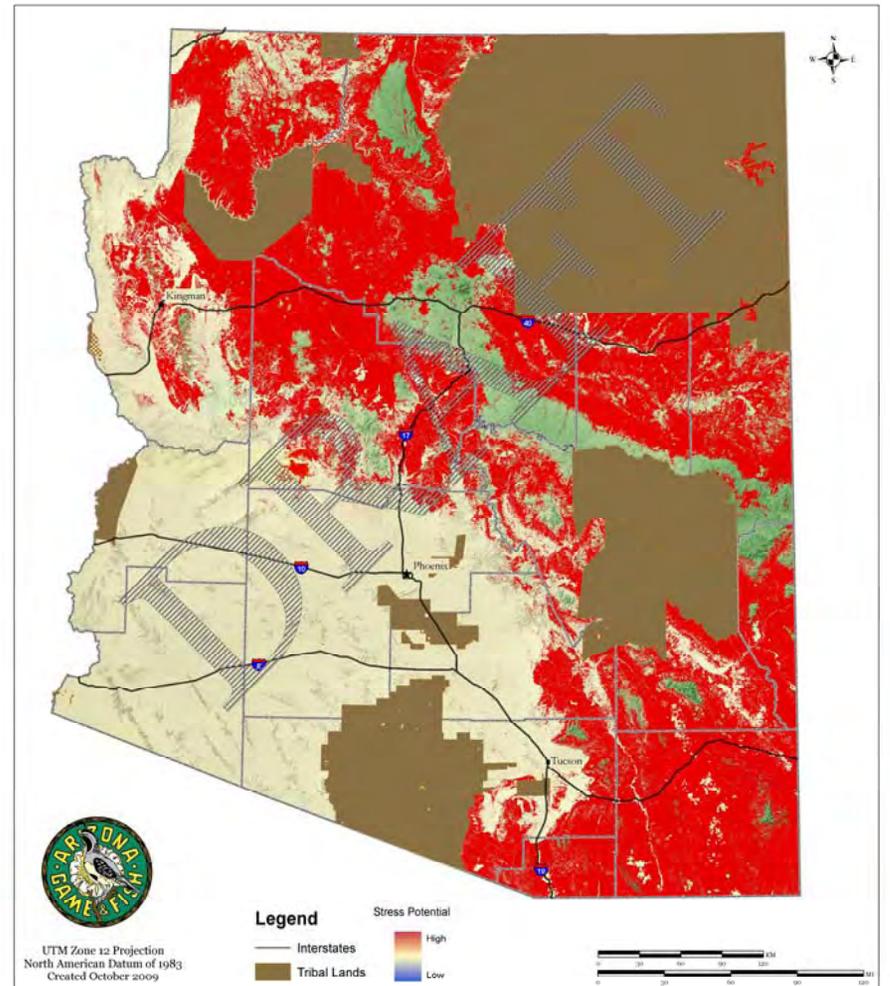
National Renewable Energy Lab's Solar Potential Model

Presence/Absence Models

Arizona Game and Fish Department
Air Traffic Corridors/Overflights - Draft

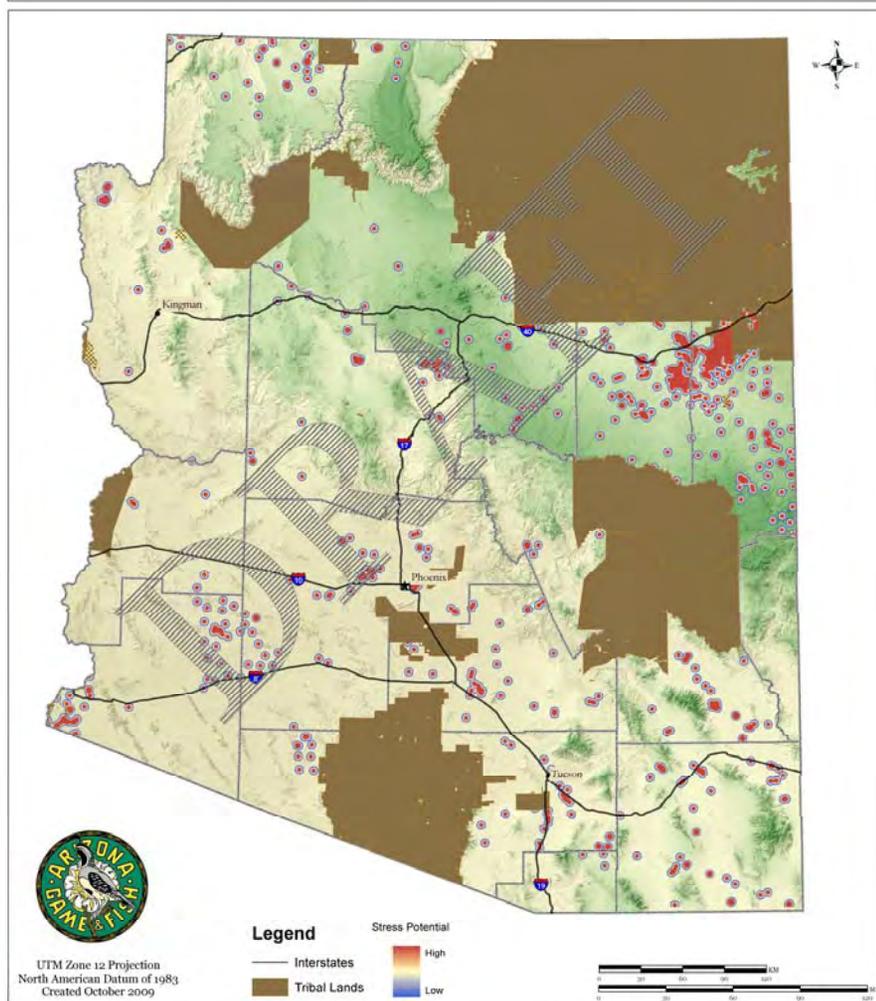


Arizona Game and Fish Department
Habitat Degradation/Shrub Invasion - Draft

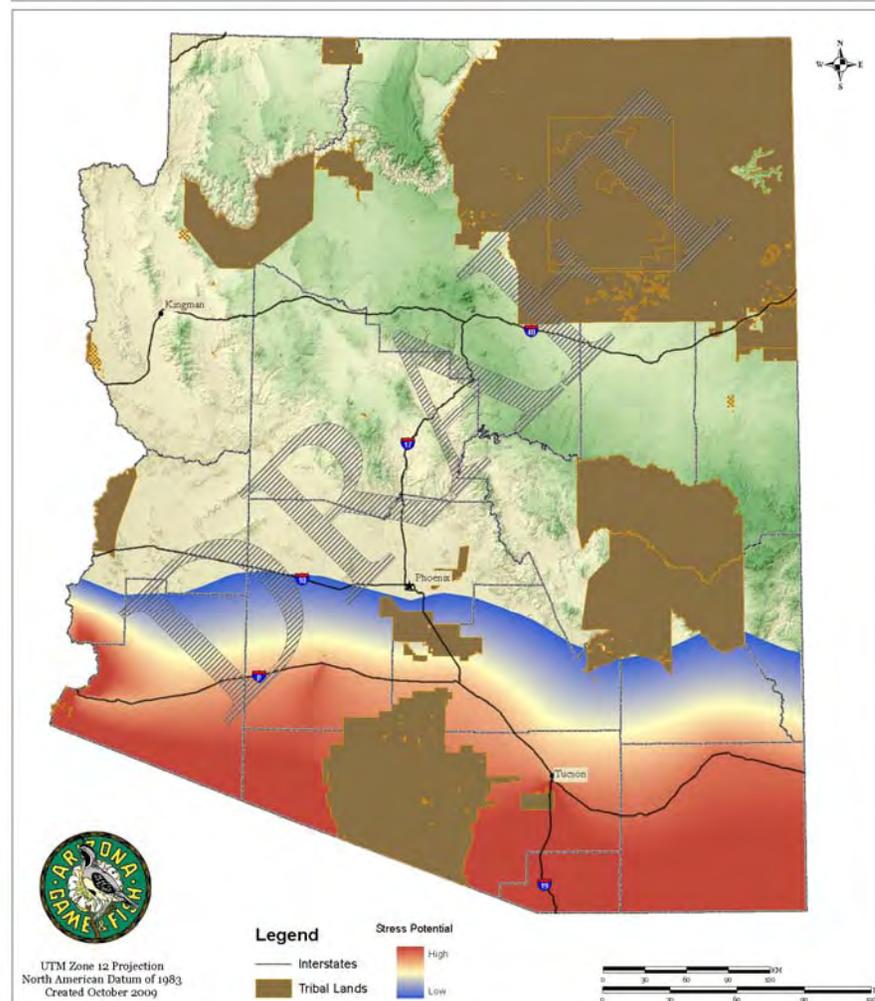


Gradient Models

Arizona Game and Fish Department
Drilling for Fuels - Draft

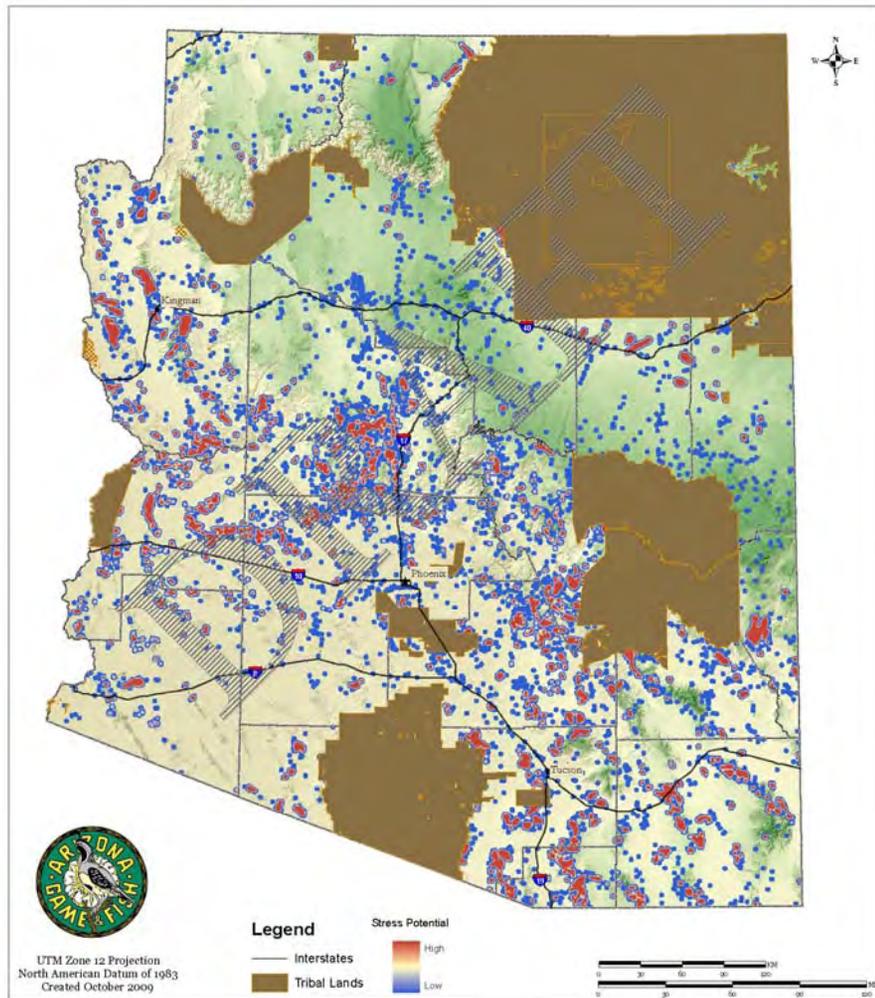


Arizona Game and Fish Department
Border Effects - Draft

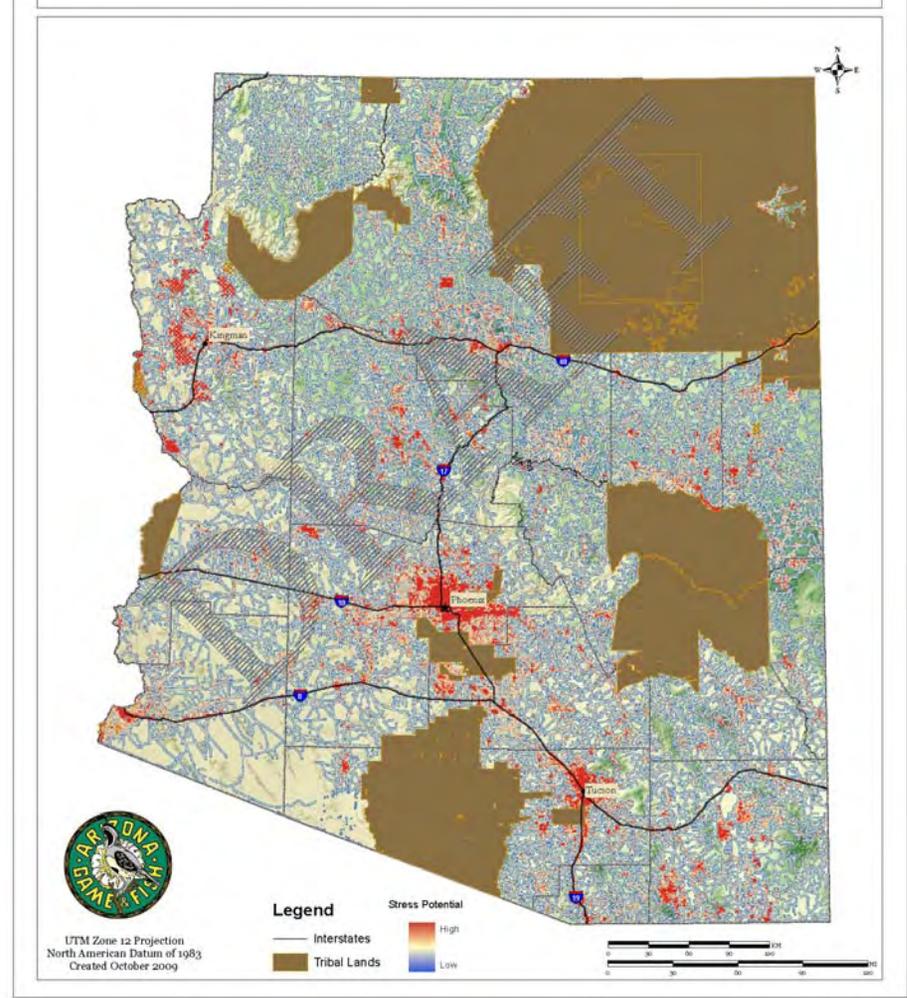


Density Models

Arizona Game and Fish Department
Mining - Draft

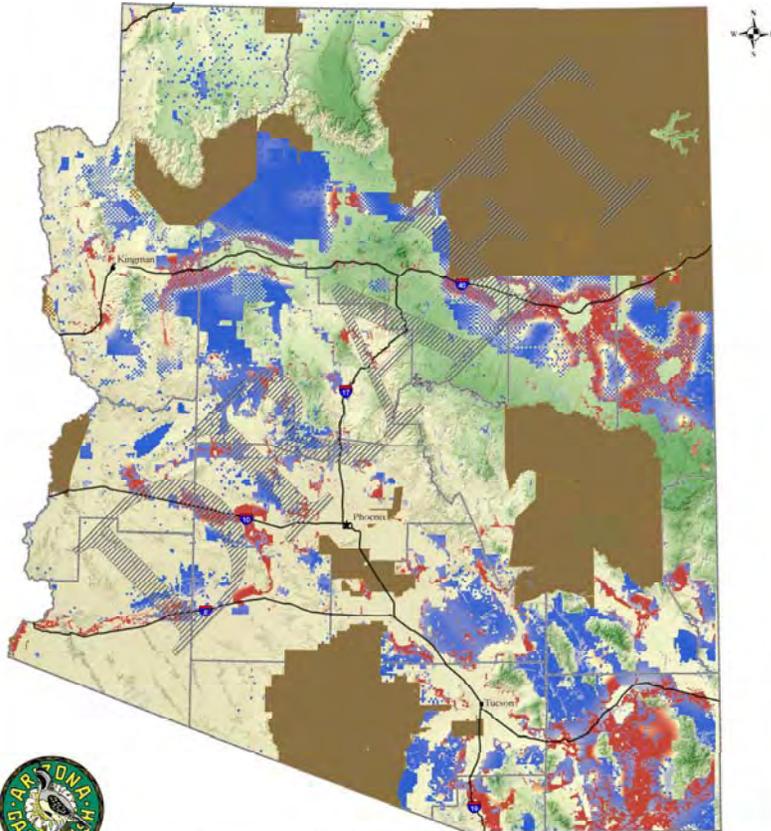


Arizona Game and Fish Department
Roads for Motorized Vehicles - Draft



More Complex Models

Arizona Game and Fish Department
Rural Development - Draft



UTM Zone 12 Projection
North American Datum of 1983
Created October 2009

Legend

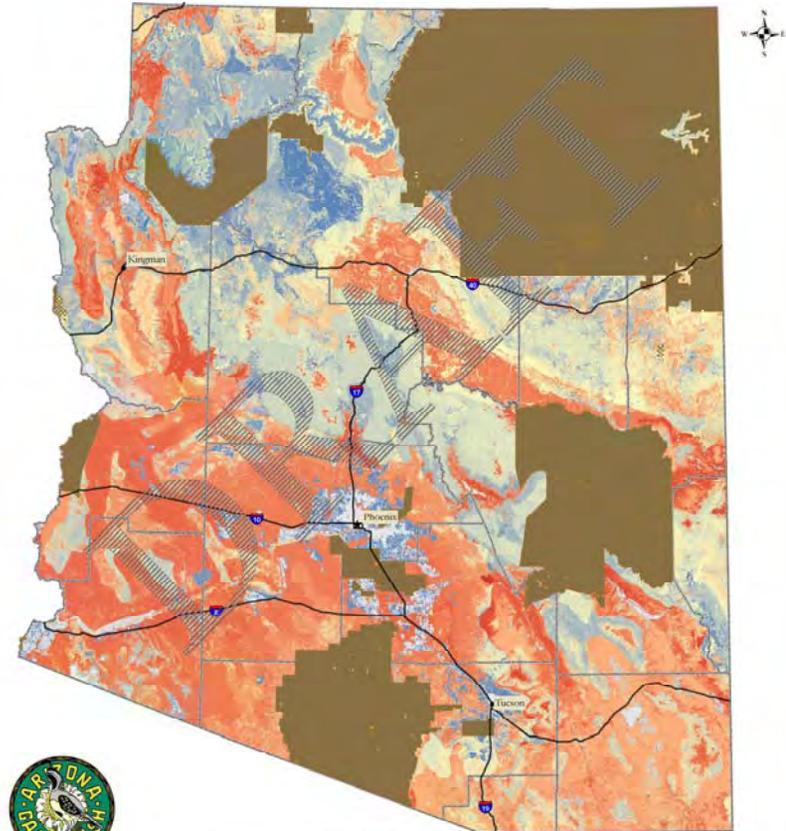
— Interstates
■ Tribal Lands

Stress Potential

High
Low



Arizona Game and Fish Department
Unnatural Fire Regimes - Draft



UTM Zone 12 Projection
North American Datum of 1983
Created October 2009

Legend

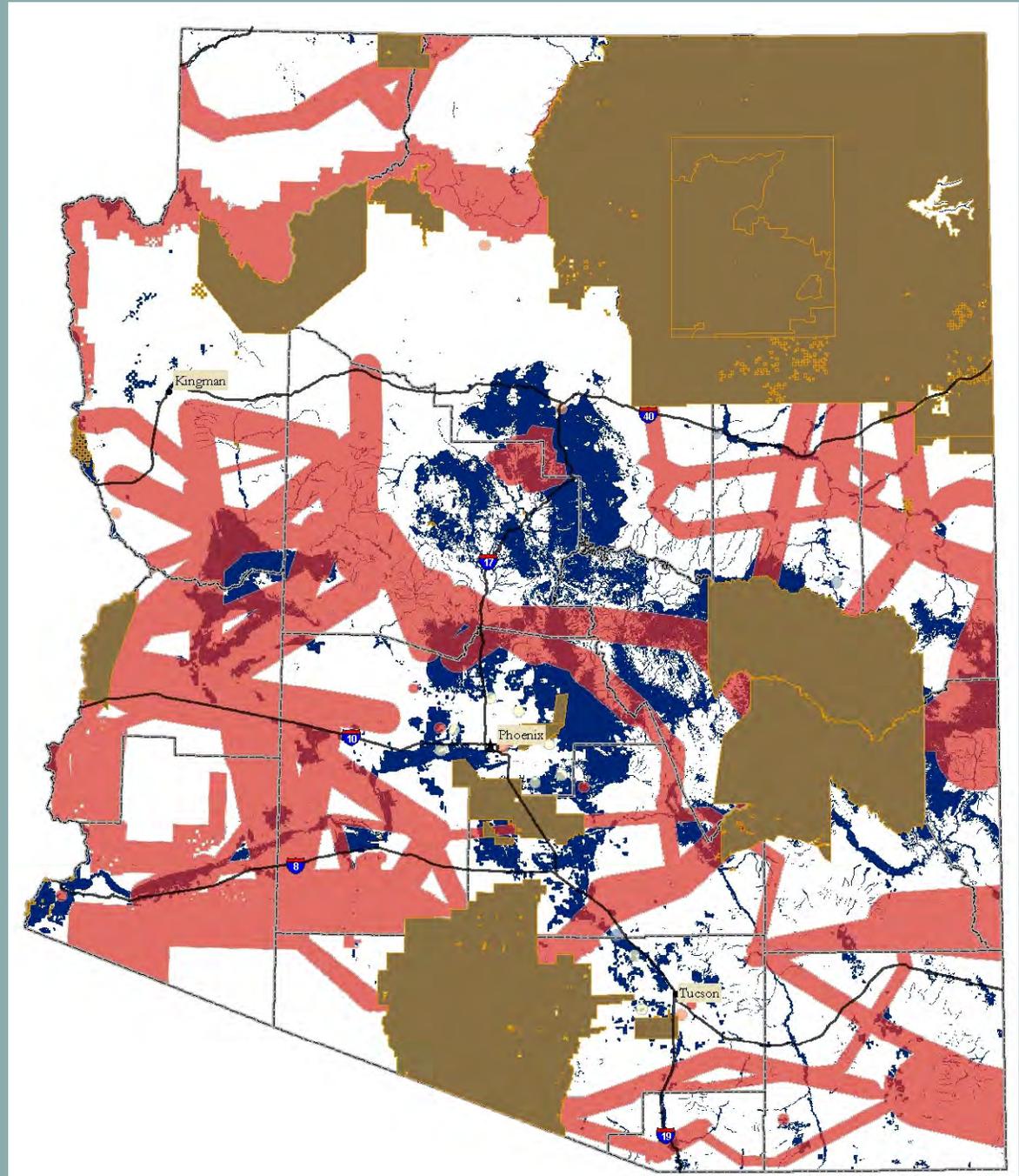
— Interstates
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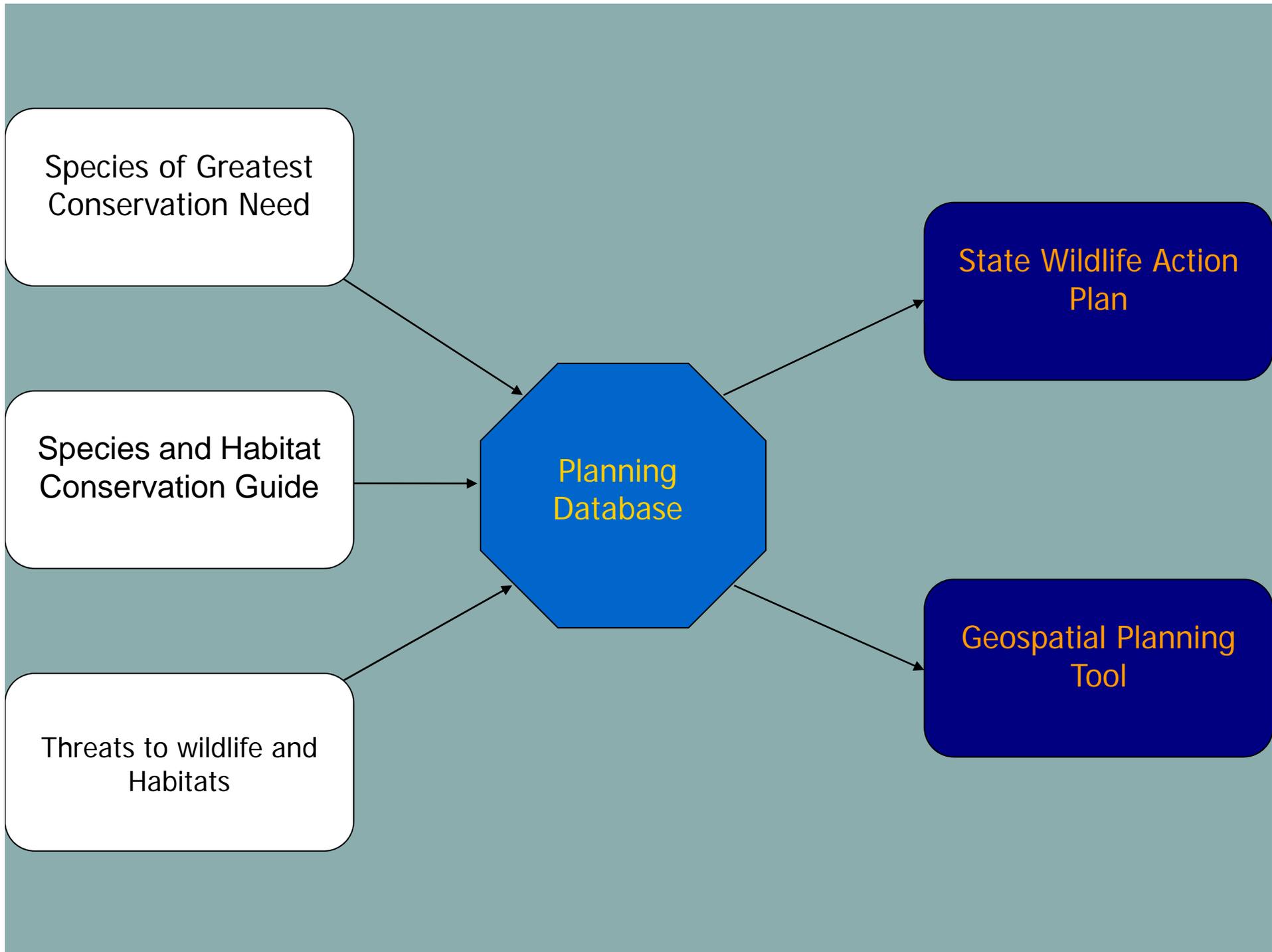
Stress Potential

High
Low



Species Risk Assessments





Species of Greatest Conservation Need

Species and Habitat Conservation Guide

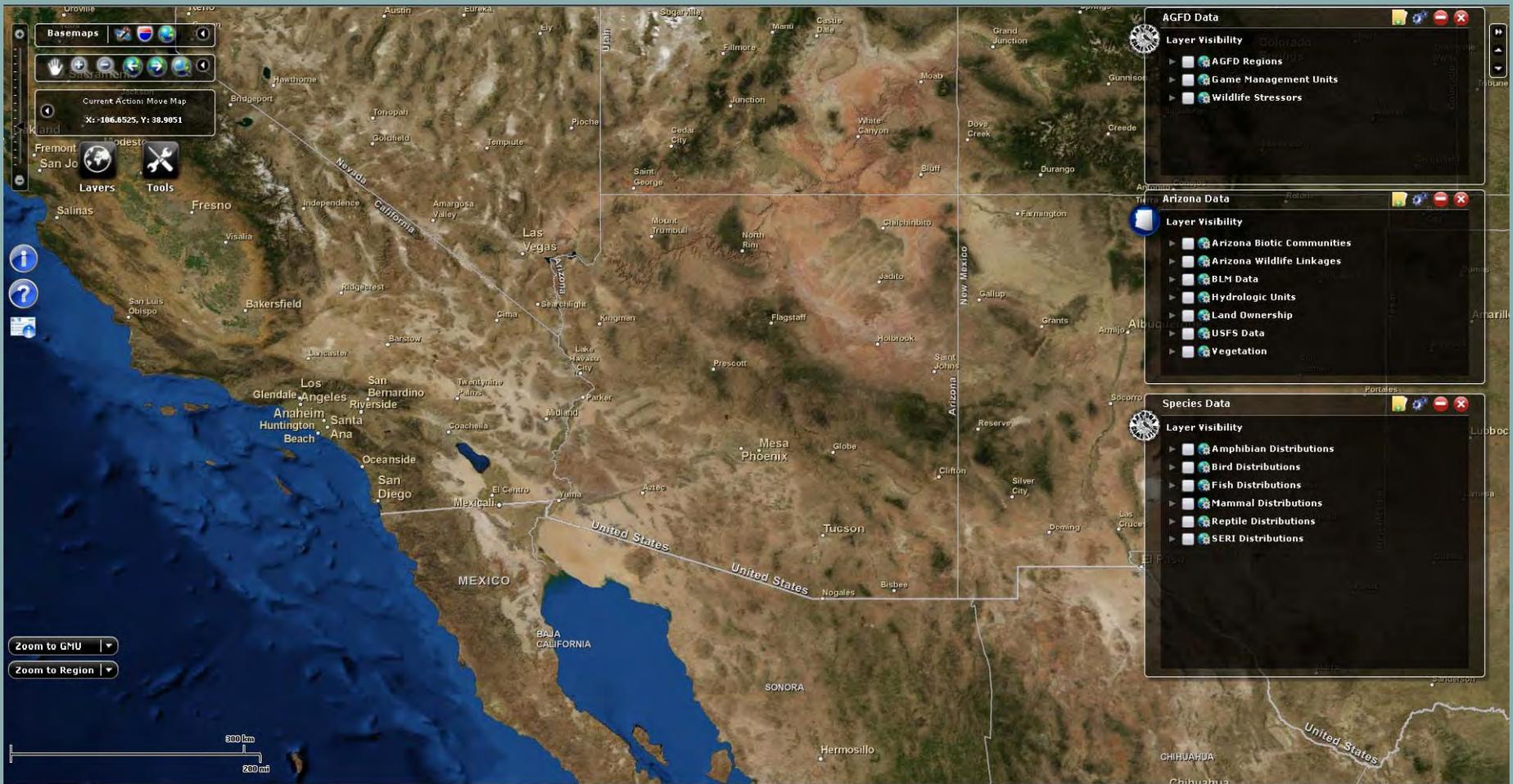
Threats to wildlife and Habitats

Planning Database

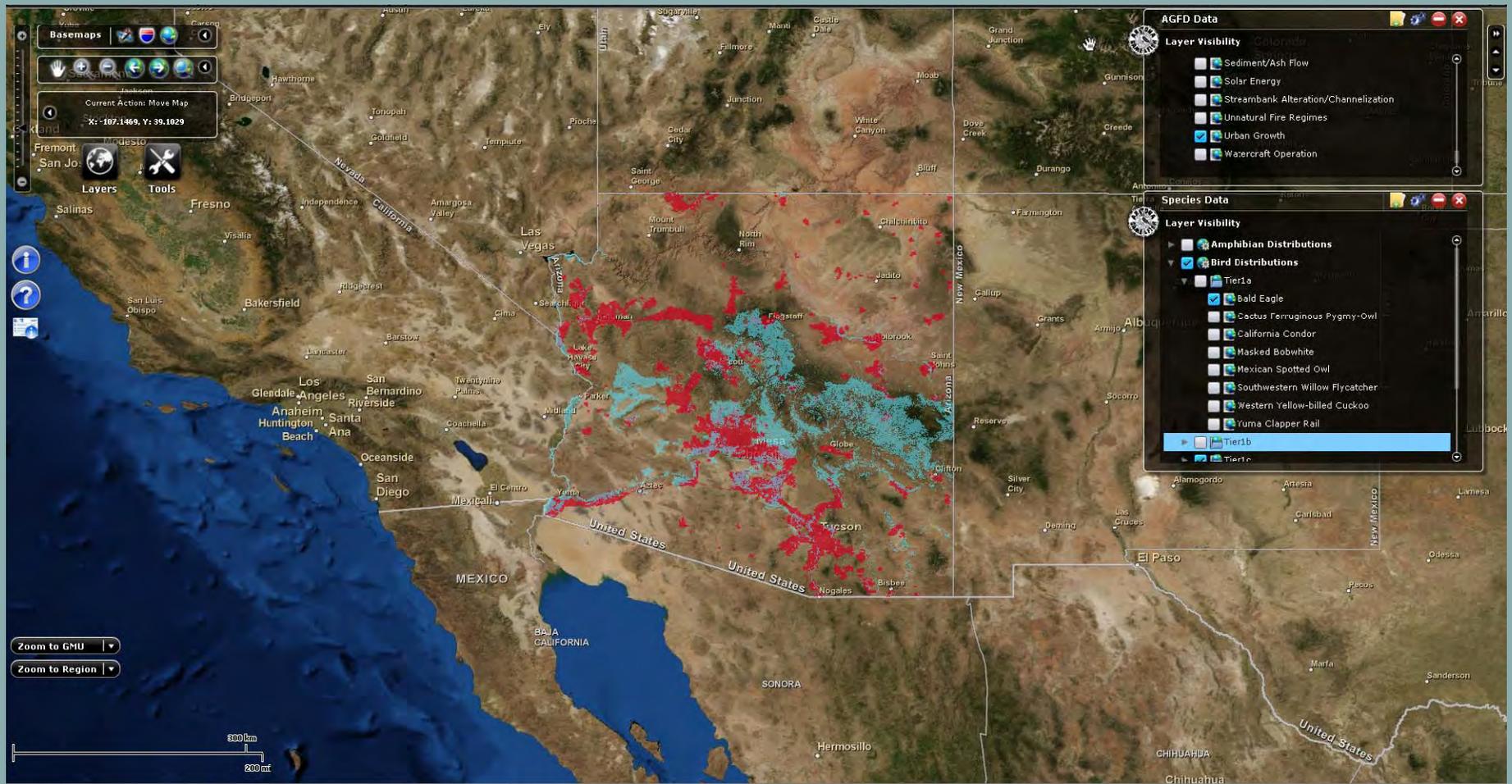
State Wildlife Action Plan

Geospatial Planning Tool

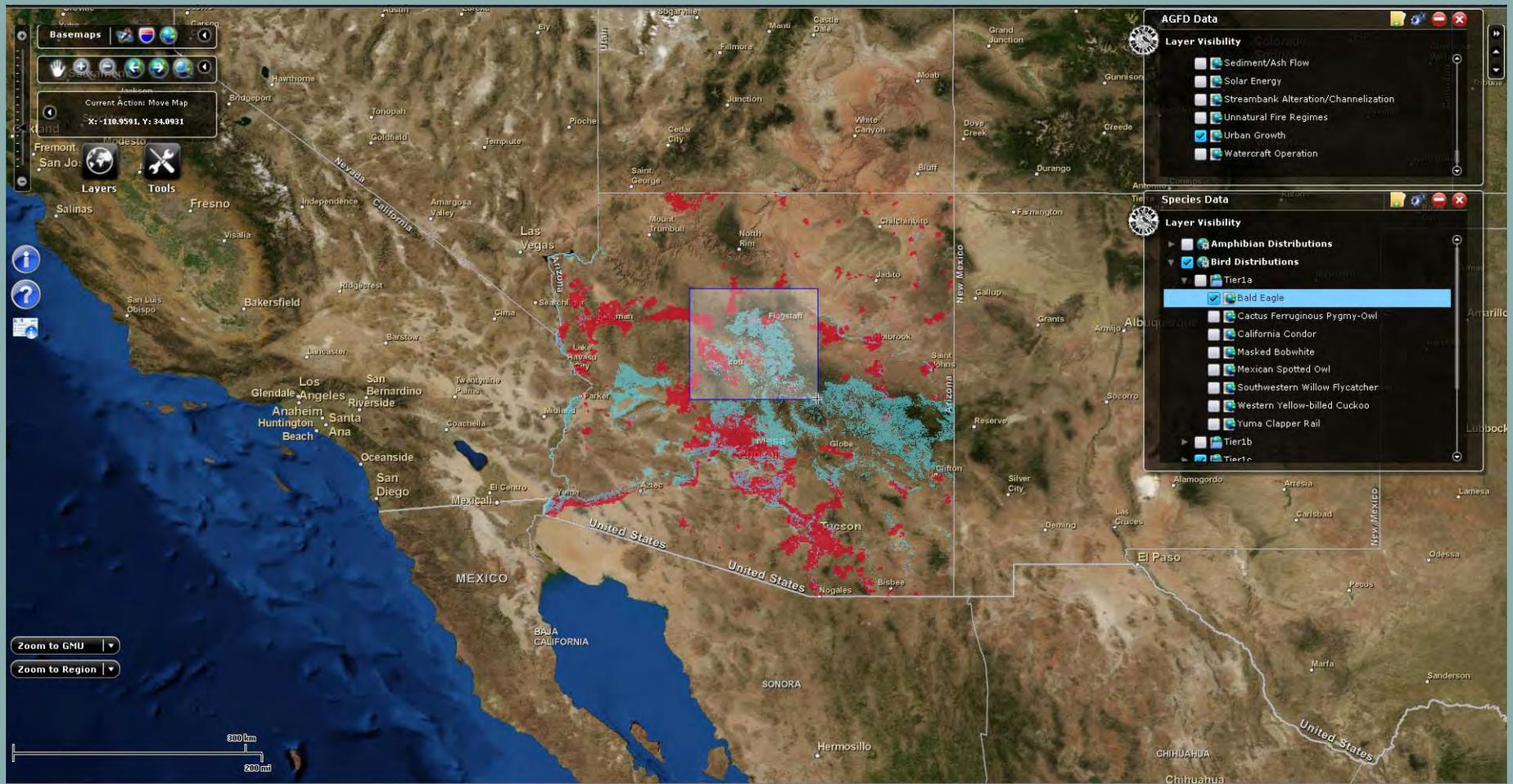
Geospatial Planning Tool



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