

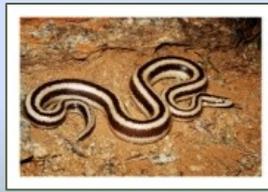
Maintaining Connectivity for Wildlife: The Maricopa County Wildlife Linkages Project



Arizona Game & Fish Department

Presentation Outline

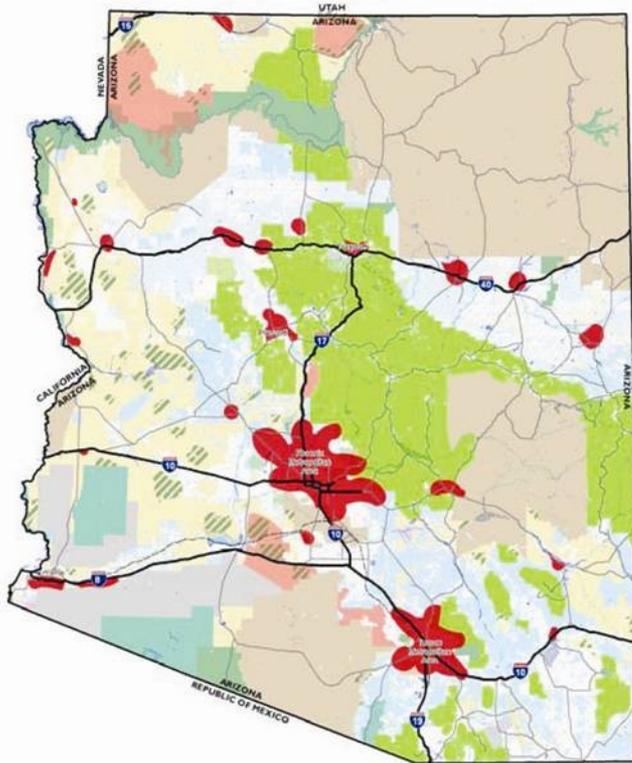
- Why we need wildlife linkage planning
- What are linkages and why are they important?
- AZ research and planning
- What can planners do?
- Conservation solutions...AZ examples
- Closing statements



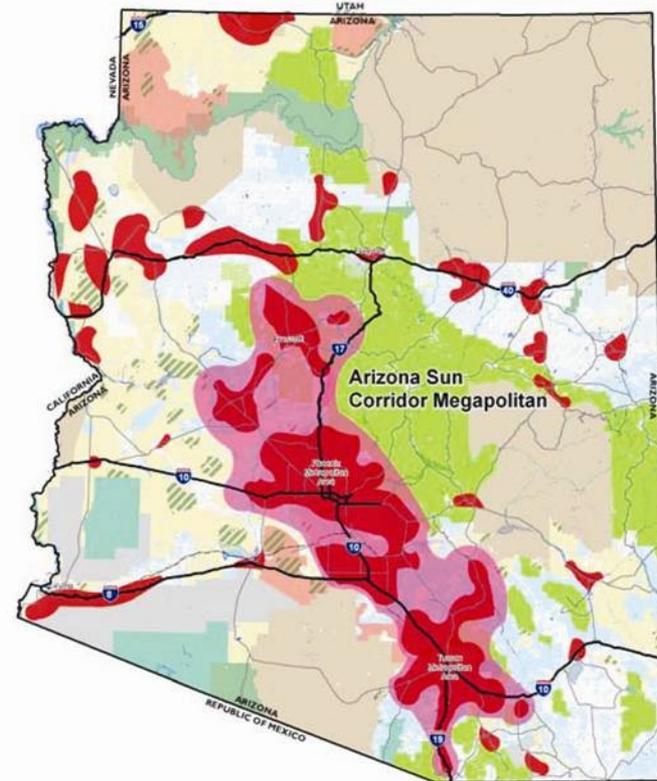
WHY WE NEED WILDLIFE LINKAGE PLANNING IN MARICOPA COUNTY

- POPULATION GROWTH
 - greater than 14 million by 2050 (Arizona Department of Transportation 2010a, US Census Bureau 2011)
 - TRANSPORTATION INFRASTRUCTURE
 - BQAZ
 - UTILITY INFRASTRUCTURE
 - alternative energy
- = significant losses of wildlife habitat and connectivity in parts of the county that are as yet undeveloped.**

Arizona's Potential for Growth



2005 Growth Areas
Population: 5.1 million



2050 Growth Areas
Population: 14.1 million

URBAN DEVELOPMENT



- HABITAT FRAGMENTATION & LOSS IS CUMULATIVE
- LEADS TO ANIMAL POPULATION DECLINES AND EXTINCTION

Globally 3,000 species/year being lost ¹

- OTHER COSTS TO SOCIETY

Lost biodiversity

Unhealthy ecosystems

¹Meyer, S.M. End of the Wild. April/May.2004. Boston Review



CANALS



RAILROADS



AGRICULTURE & FARMING



ALTERNATIVE ENERGY



Roadways

- “Road Effect” Zone -15-20 times size of paved ROW

- 48 acres lost with every mile of Interstate
- 4 million miles of roadways in US
- Human death, injury ,property loss – Billions/Year



Fragmentation

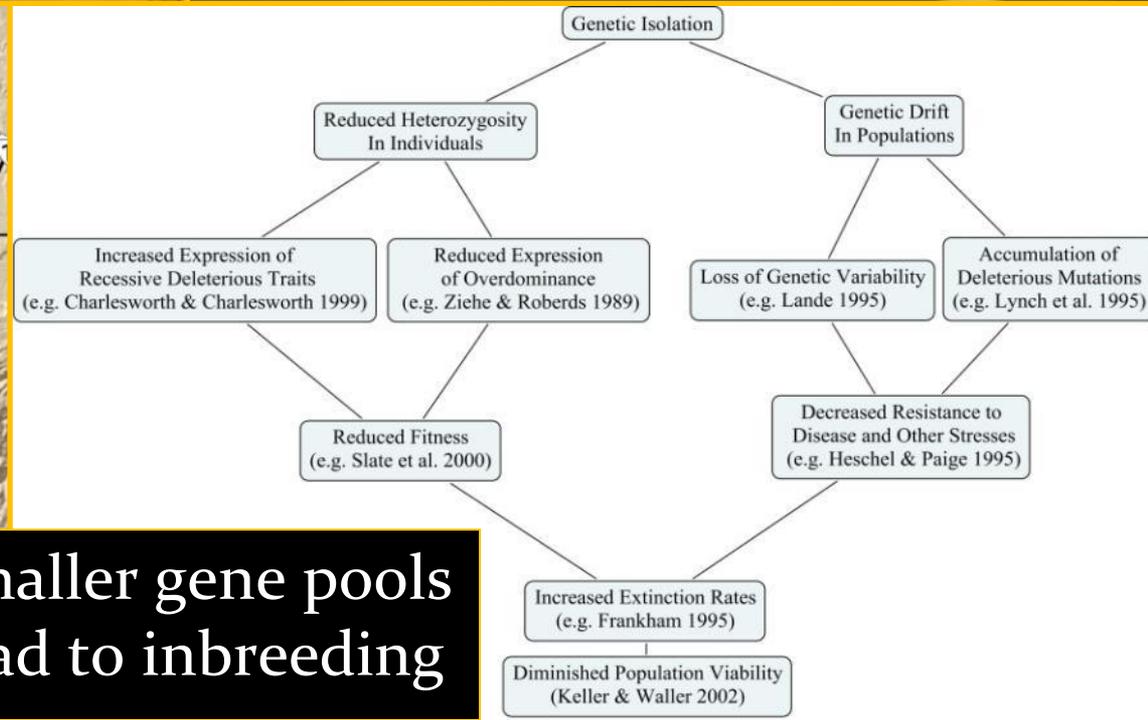


Blocked resources

Cuts off migration corridors

Partitions population into smaller gene pools

Smaller gene pools lead to inbreeding



WHAT ARE WE DOING ABOUT IT?

- Wildlife Research
- Linkage Planning
- Design Guidelines
- Outreach
- Collaborative Planning & Implementation



Snapshot of AGFD Research...

- **SR 260 Crossing Structures, Fencing, and Automated Crosswalk Studies**
- **SR's 93 and 68 Bighorn Sheep Crossing Studies**
- **I-17 and SR 64 Elk and Deer Crossing Studies**
- **SR 89 Pronghorn Crossing Studies**
- **Mountain Lions in Prescott, Payson and Tucson Area Studies**
- **Cactus Ferruginous Pygmy-owl Crossing Studies**
- **Flat-tailed Horned Lizard Culvert Study**
- **Statewide Wildlife Linkages Assessment**
- **Sun Valley Wildlife Corridor Study**
- **Road Kill "Hot Spot" Definition Studies**
 - Camino de Manana**
 - SDCP Connectivity Areas**
- **Roadway Ecology**
- **Movement**
- **Habitat Use**
- **Mitigation Designs**
- **Roadkill Assessments**



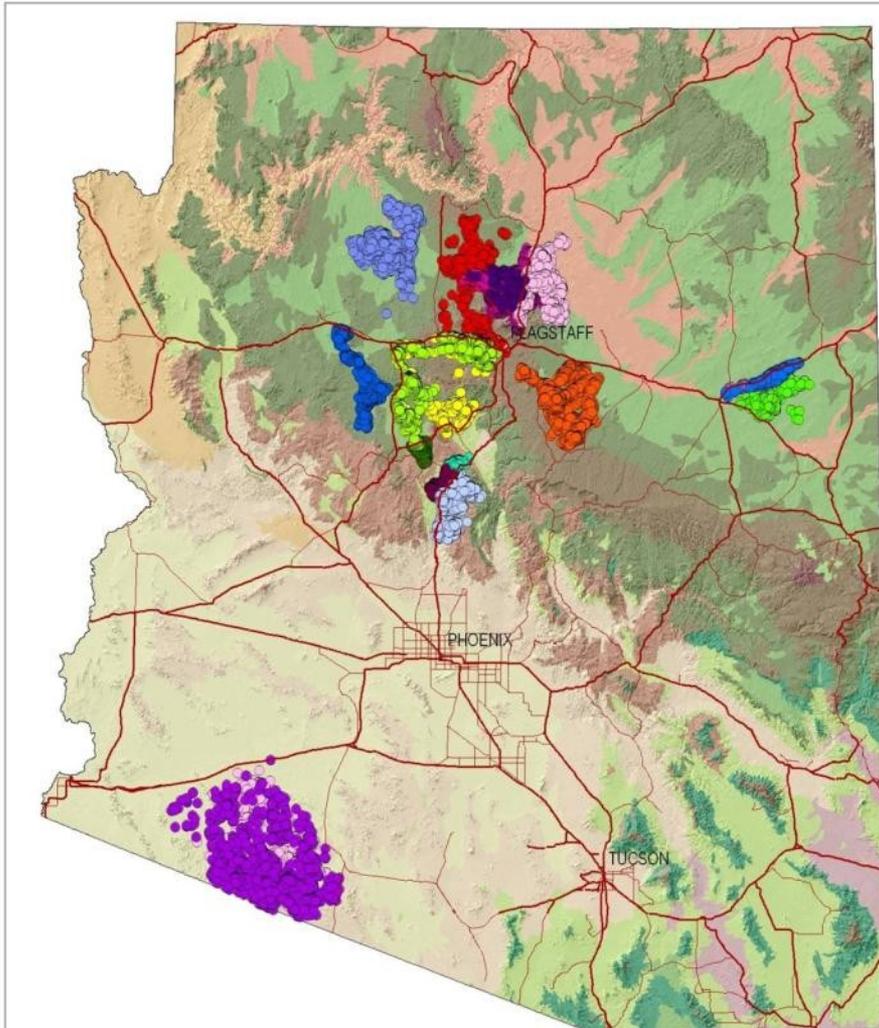
WILDLIFE ROAD MORTALITY ALONG WILDLIFE CORRIDORS IN THE TUCSON, AZ AREA

- **34 survey days**
- **20 miles of roadway**
- **~ 2,540 vertebrates found dead**
 - **Amphibians (55%)**
 - **Reptiles (26%)**
 - **Mammals (14%)**
 - **Birds (5%)**



Consequences for wildlife

- Example: The pronghorn wouldn't cross the road

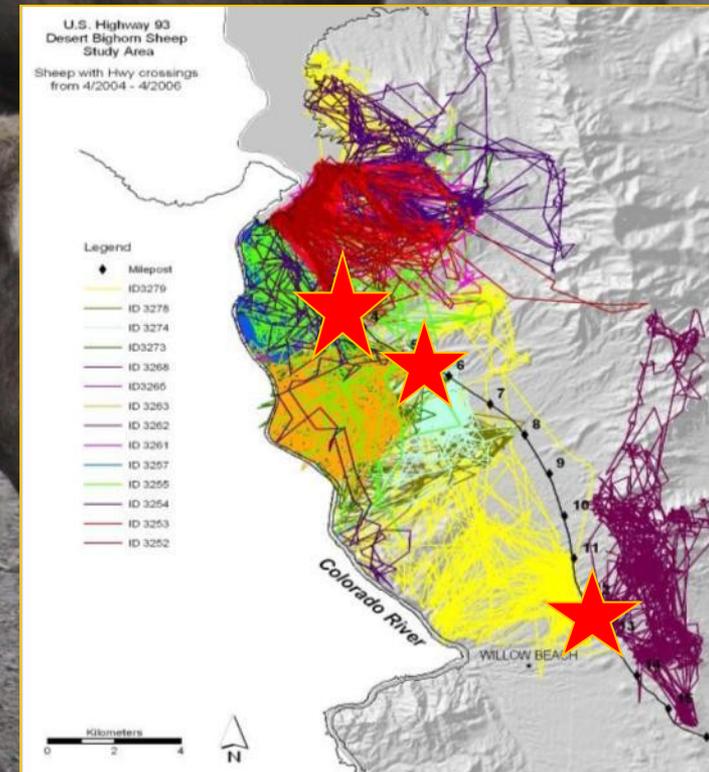


Pronghorn locations from 1983 - 2008 collected by AGFD Research Branch using VHF telemetry and later GPS Satellite technology. Colors indicate various projects.

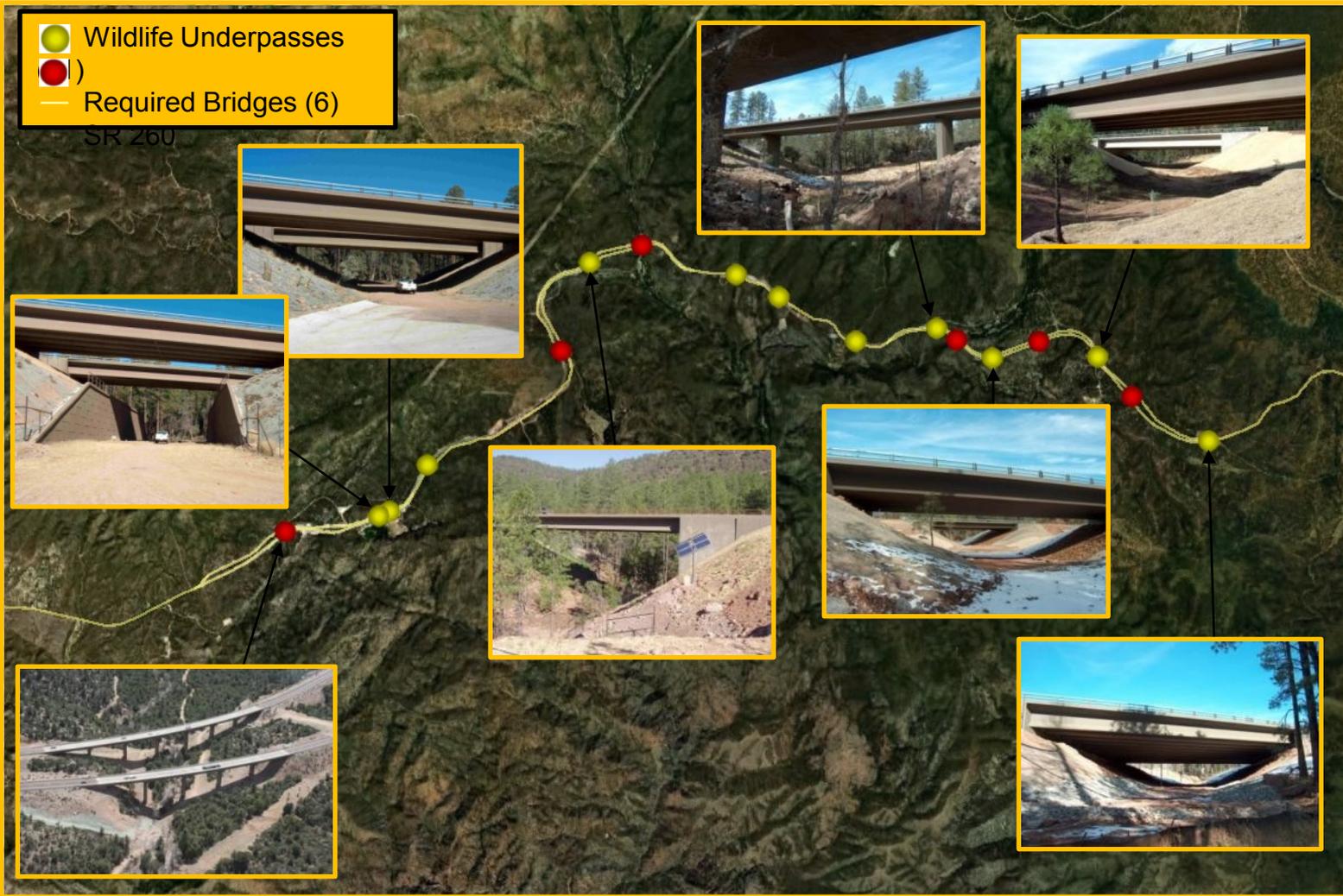


U.S. Highway 93 Desert Bighorn Sheep

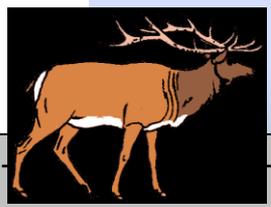
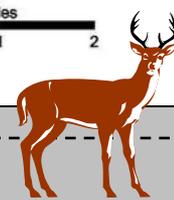
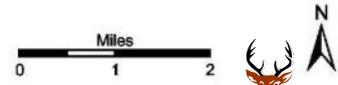
- Pre-Construction Sheep Data
 - 2004 – 2006
 - 82% of bighorn crossings occurred at 3 ridge locations, at which overpasses were recommended







State Route 260 Wildlife Structures
(2013 completion)



Wildlife Linkages

A photograph of a desert landscape. In the center, a deer with small antlers stands on a rocky path. The background is filled with various desert plants, including green shrubs and dry grasses, under a bright sky. The overall scene is a natural, arid environment.

AZ Planning Approach

Functional Connectivity: some key terms

Wildland blocks – what we want to connect

Can be hard to define: Do we want to connect protected areas, biodiversity hotspots, a particular habitat, populations of a particular species?

Matrix – the land between & around the wildland blocks

Barriers – highways, canals, railroads, border fences, urban areas and other things that impede animal movement

Linkage – a portion of the *matrix* that, if conserved, can promote movement of multiple species and propagate ecosystem processes

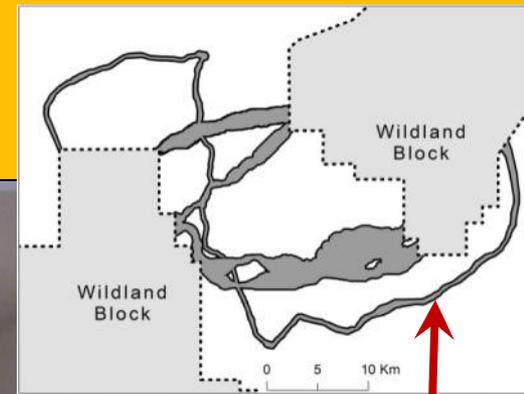
Corridor – a synonym for *linkage*?

Yes, but “corridor” (like “hallway”)...

emphasizes
structure
(linkage
emphasizes
function)

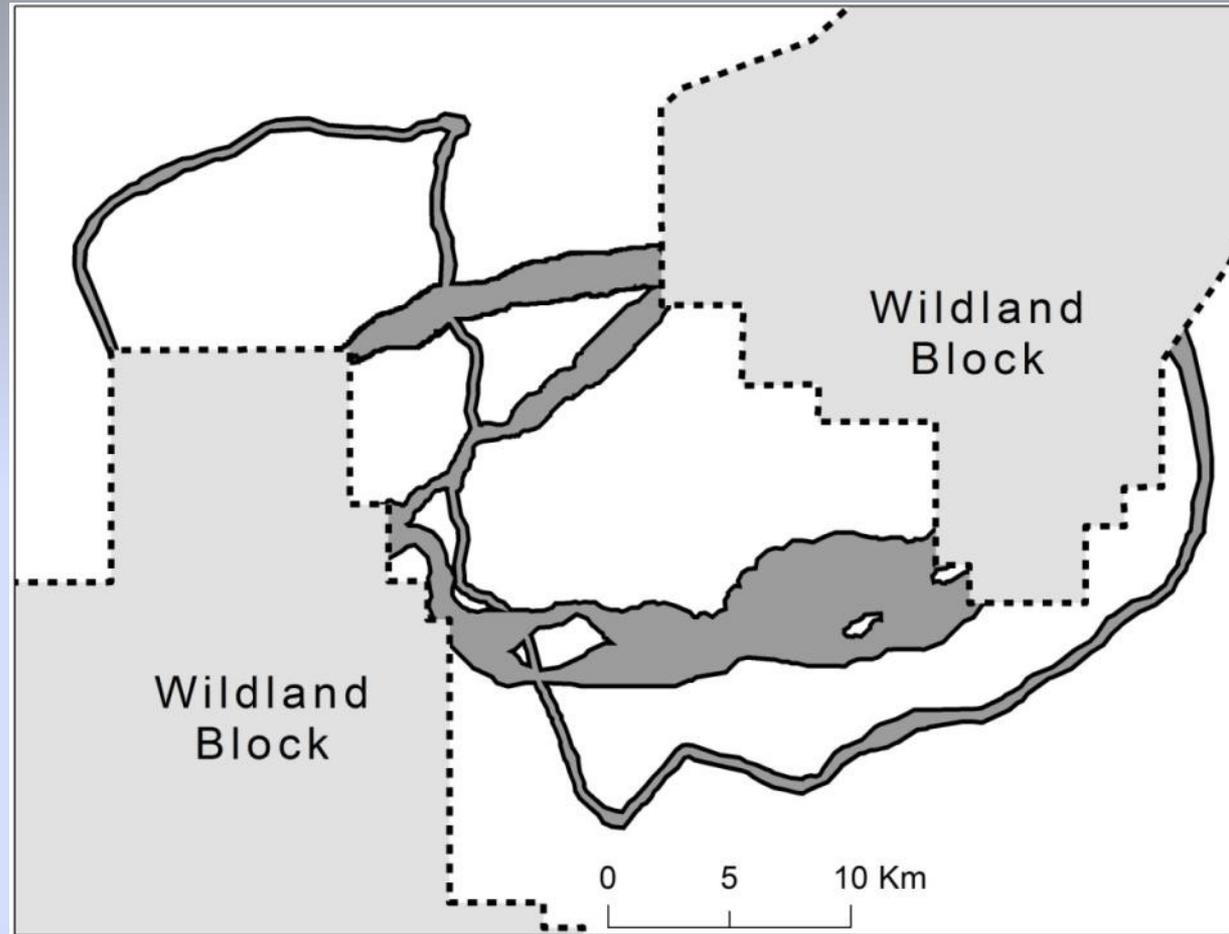


implies a *single, highly linear,* connection that may be appropriate for a single focal species (linkage may include *several, non-linear strands*)

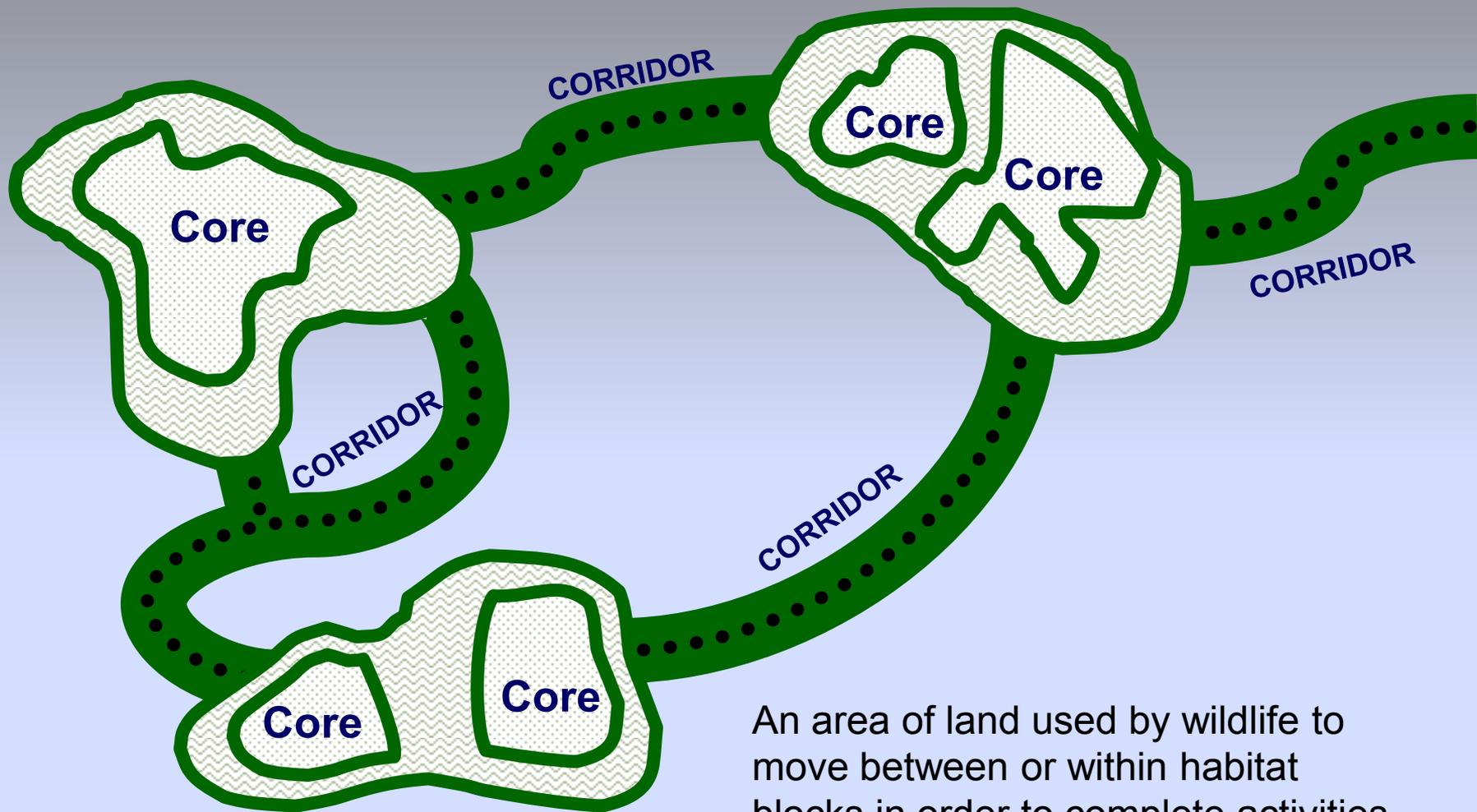


“Linkage” and “Corridor”

Linkage – connective land, if conserved, can maintain functional connectivity between wildland blocks for multiple species and ecosystem processes.



What are linkages & corridors?



An area of land used by wildlife to move between or within habitat blocks in order to complete activities necessary for survival and reproduction.

Why conserve linkages?

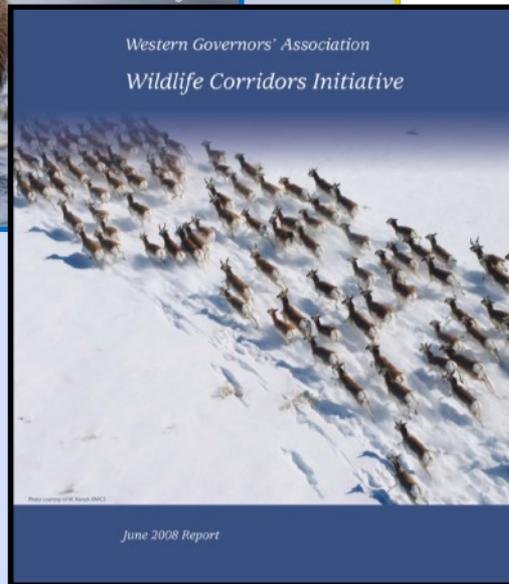
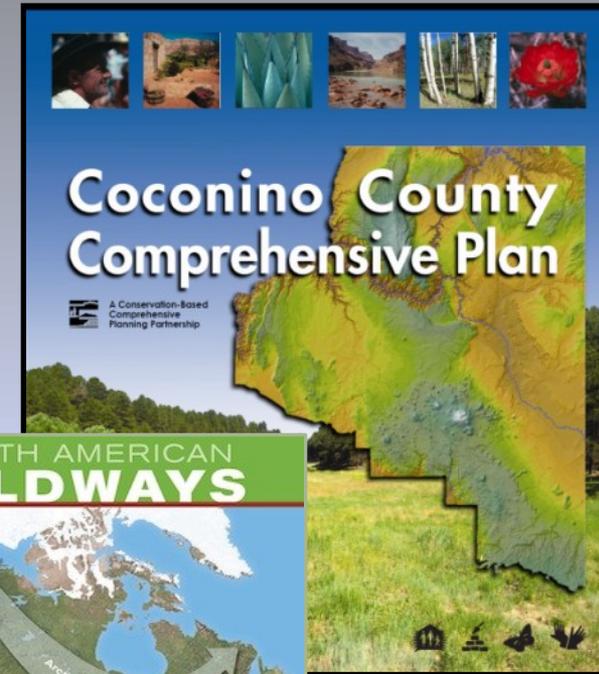
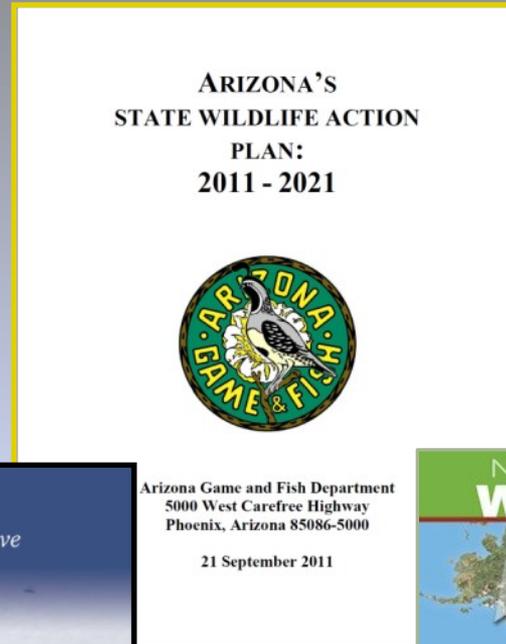
Nature needs room to roam



Connectivity is the ability of a landscape to support natural levels of:

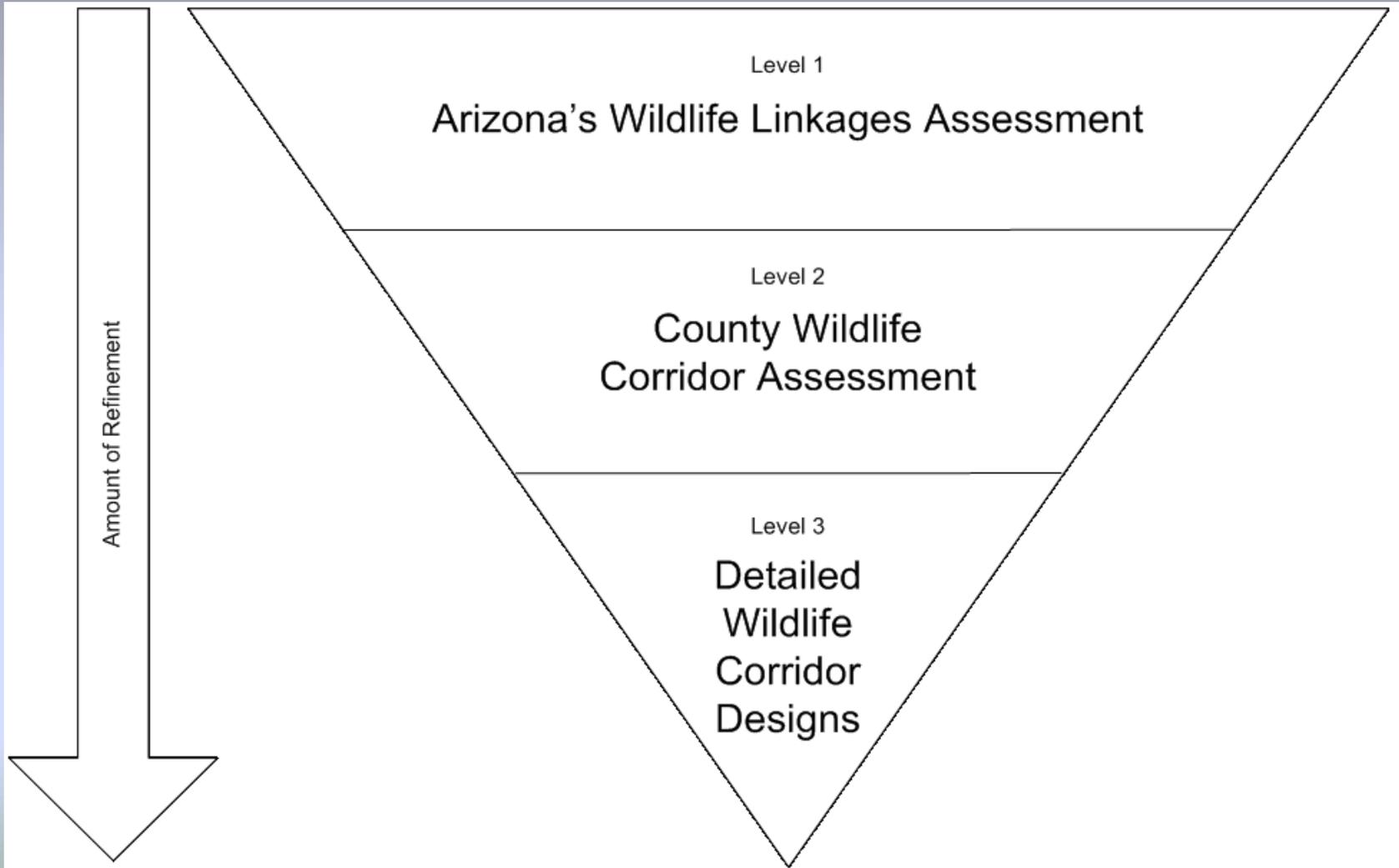
- Individual movement for needed resources (food, water, cover)
- Immigration or recolonization after local extinction; emigration to new habitats
- Seasonal migrations
- Gene flow (the ability to evolve; genetic variability)
- Population movement in response to changing climate or stochastic events
- Ecological processes and flows (e.g., disturbance, predator-prey interactions, pollination/seed dispersal, nutrient cycling)

Maintaining connectivity is a growing priority...



Planners and managers need spatially explicit tools to identify linkages & guide conservation actions

Arizona approach: Statewide-to-Local



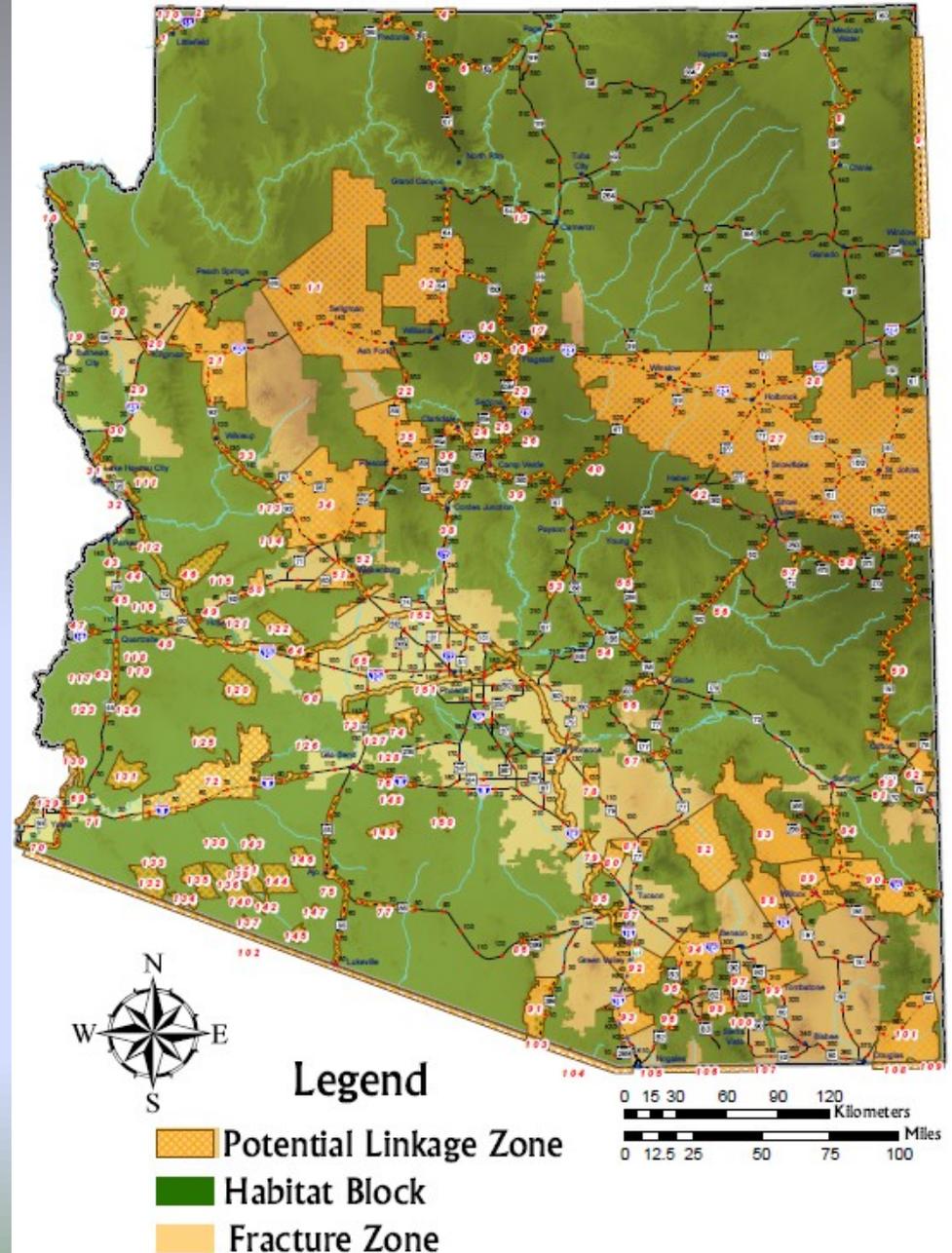
ARIZONA'S WILDLIFE LINKAGES



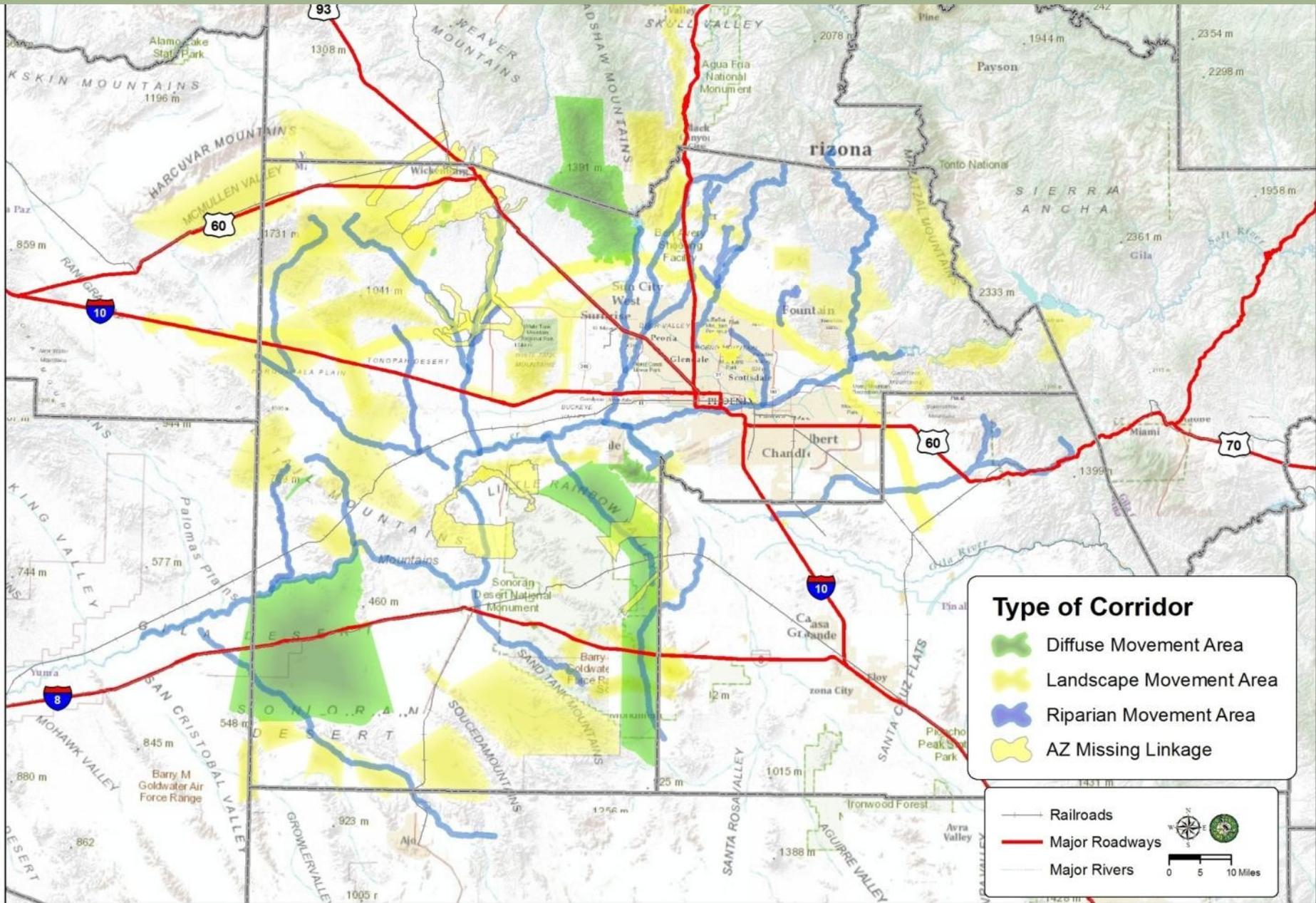
Statewide -

Over 100 experts defined
large-scale linkages

http://www.azdot.gov/Inside_ADOT/OES/AZ_Wildlife_Linkages/index.asp

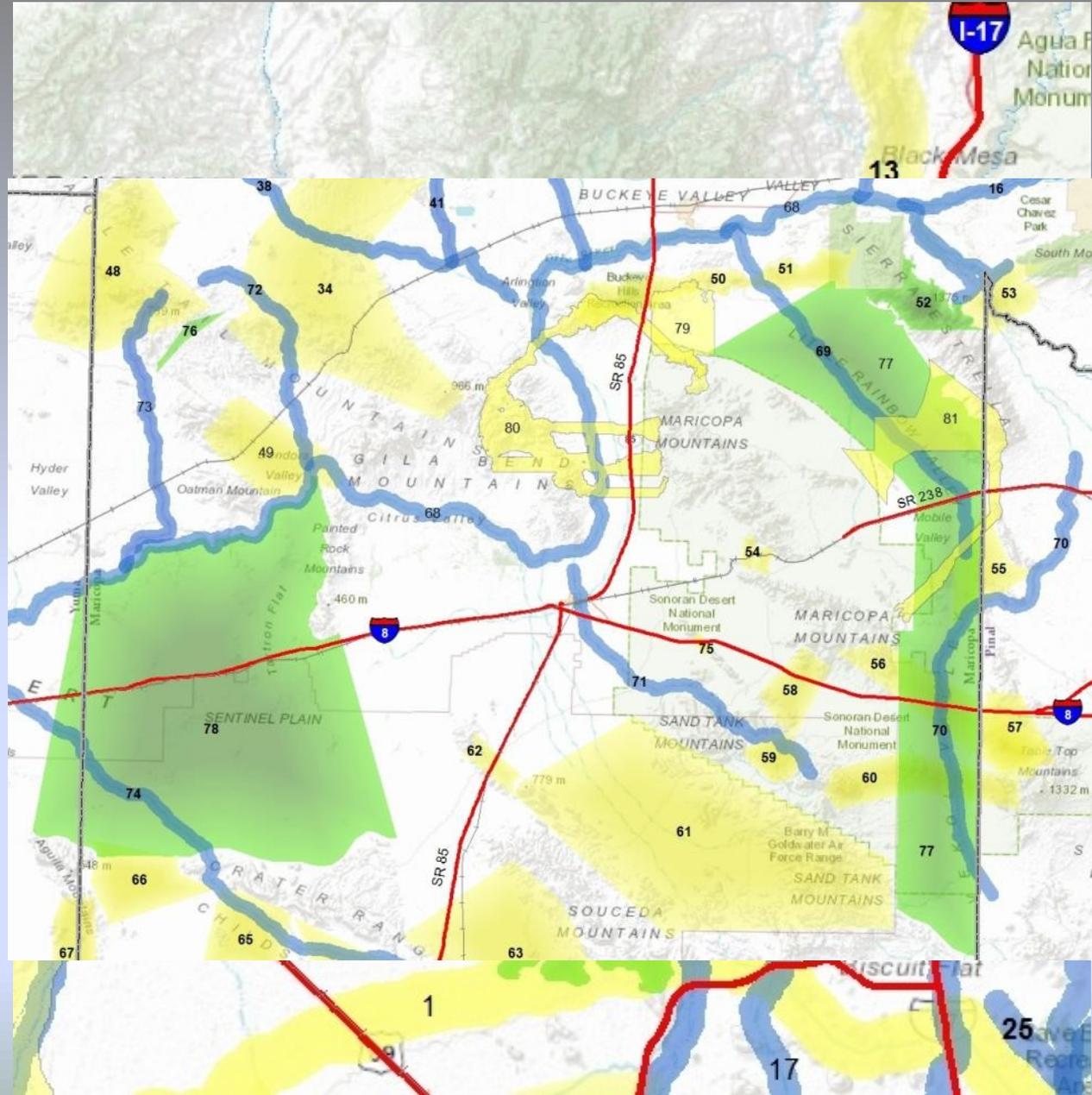


Maricopa County Wildlife Connectivity Assessment



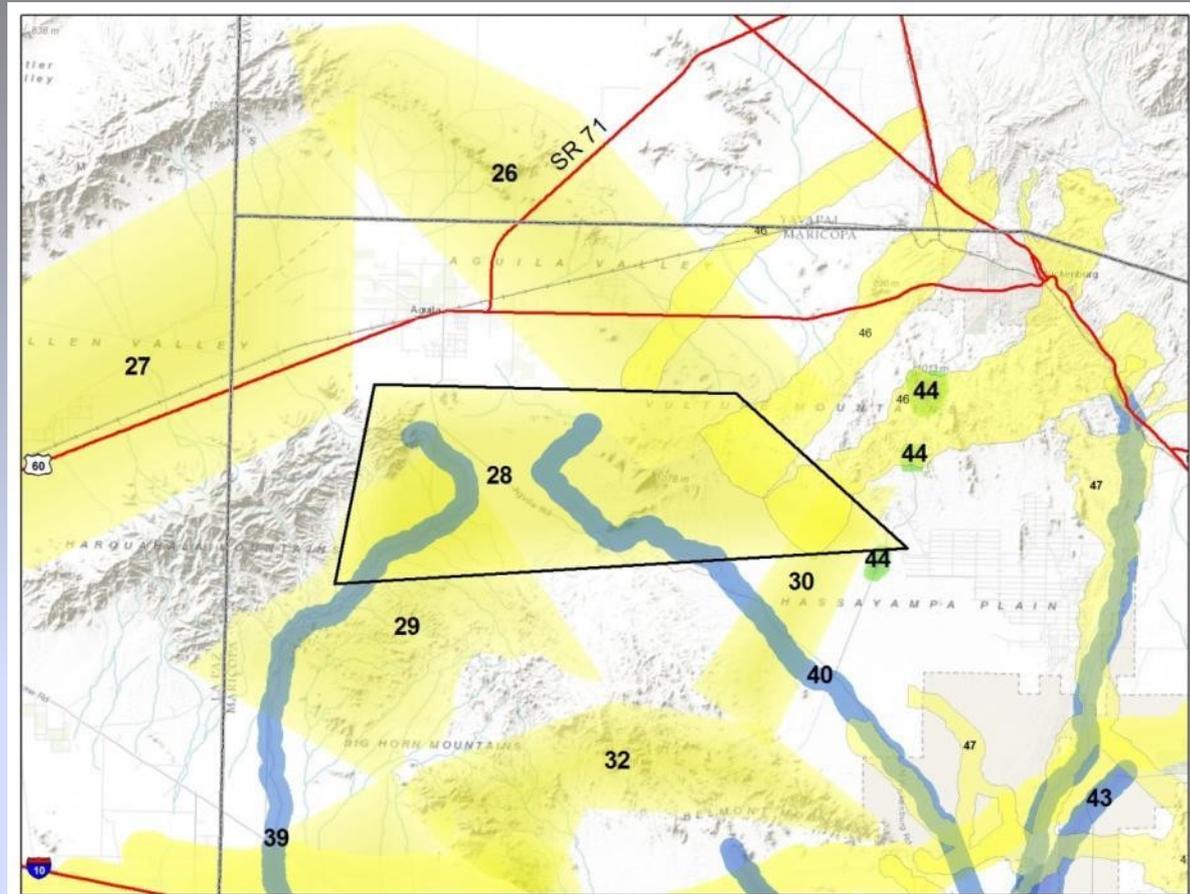
Diffuse Movement Areas (7)

A type of linkage area in which wildlife move within a habitat block across a relatively broad area, rather than between habitat blocks through well defined linkages



Landscape Movement Areas (46)

A type of linkage area in which wildlife move between distinct habitat blocks; area may be relatively broad or a well-defined linkage



28. Vulture Mountains – Harquahala Mountains

Habitat Blocks Connected: Vulture Mountains /Black Butte - Harquahala Mountains

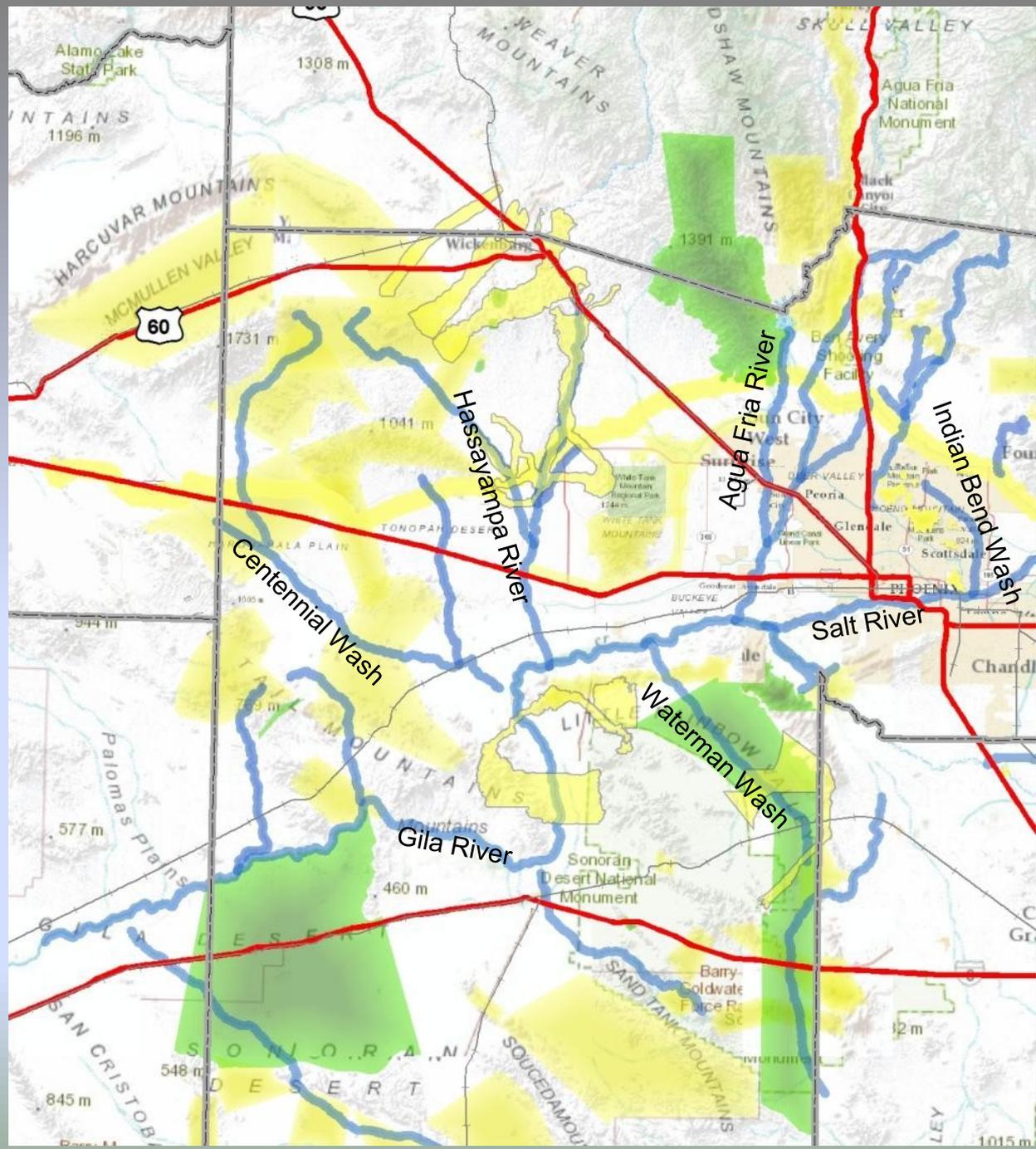
Species Identified: Mule deer, Desert tortoise

Current Threats/Barriers: Roads, grazing, Eagle Eye Rd, Aguila Rd, potential SR74 extension, urbanization of state lands & development pressures on adjacent BLM lands

Notes: This linkage area is also a priority in the Sonoran Desert Protection Proposal (Sonoran Institute)

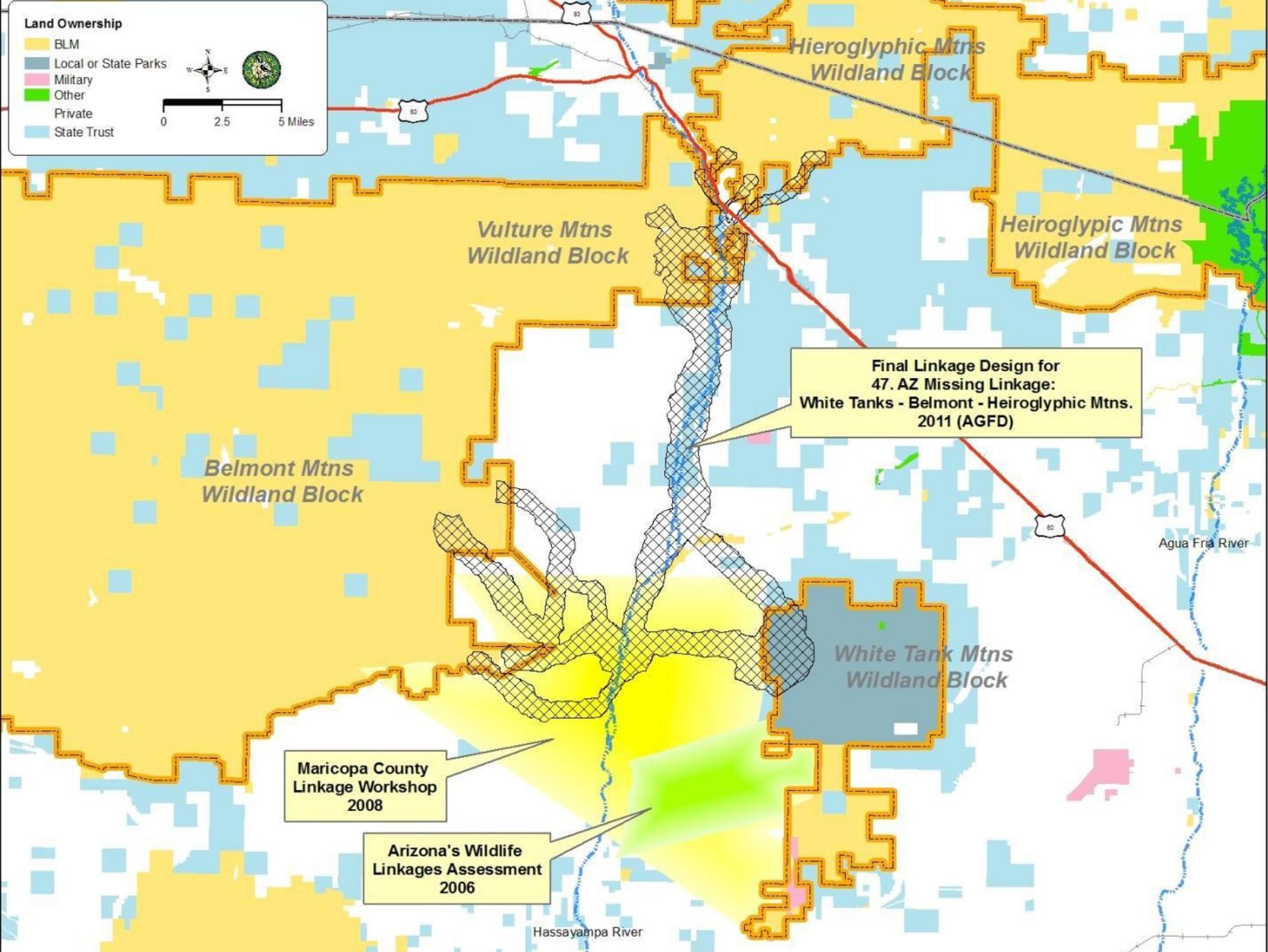
Riparian Movement Areas (23)

A type of linkage associated with perennial or ephemeral surface or subsurface water; includes washes and dense vegetation



Land Ownership

- BLM
- Local or State Parks
- Military
- Other
- Private
- State Trust



*Belmont Mtns
Wildland Block*

*Vulture Mtns
Wildland Block*

*Hieroglyphic Mtns
Wildland Block*

*Heiroglyphic Mtns
Wildland Block*

**Final Linkage Design for
47. AZ Missing Linkage:
White Tanks - Belmont - Heiroglyphic Mtns.
2011 (AGFD)**

*White Tank Mtns
Wildland Block*

**Maricopa County
Linkage Workshop
2008**

**Arizona's Wildlife
Linkages Assessment
2006**

Hassayampa River

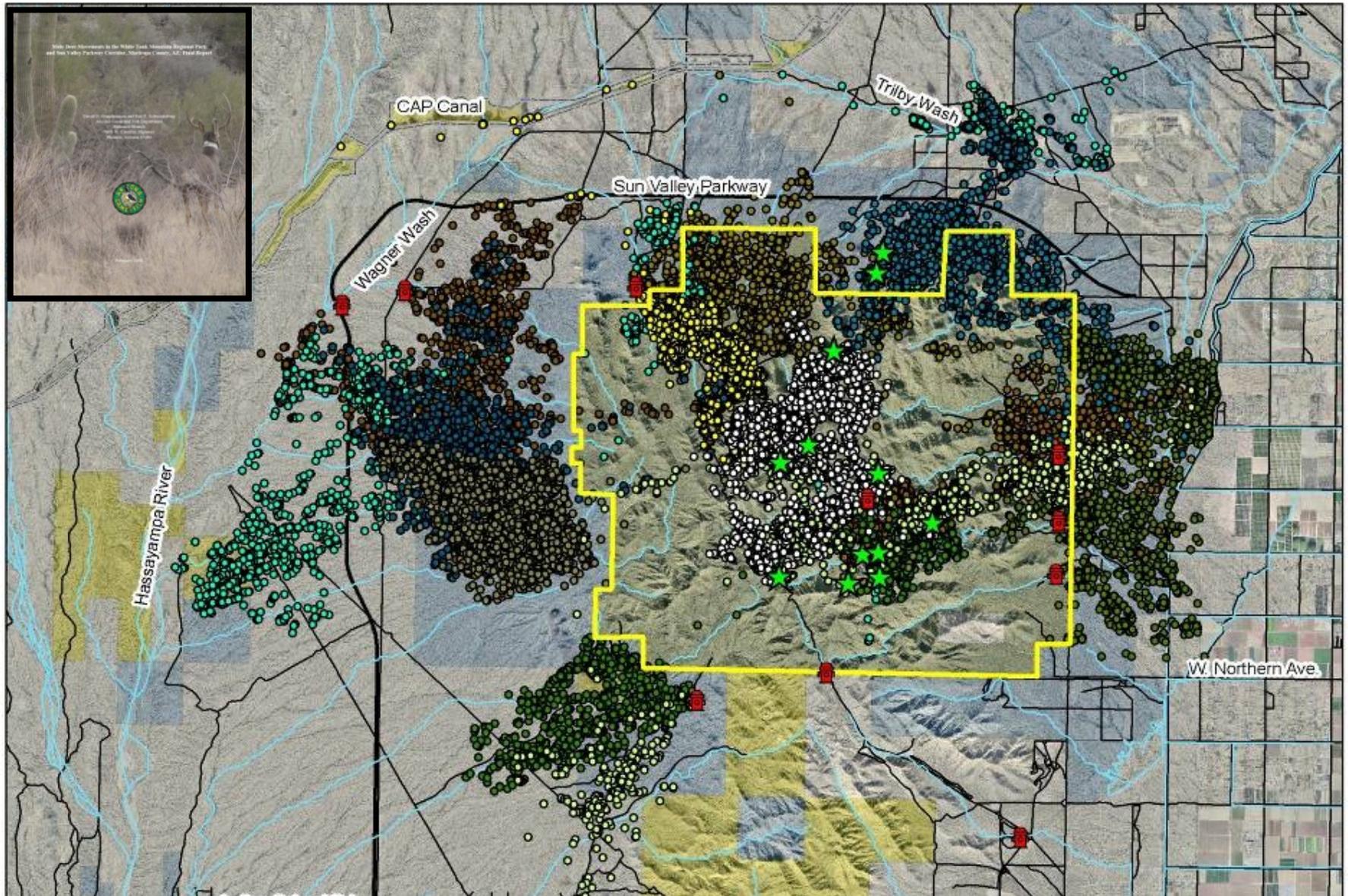
Agua Fria River

Level 3: GIS-based linkage designs



Least-cost corridor GIS modeling

- Focal species approach assumes:
 - habitat suitability = landscape permeability
 - modeled species represent **many** species & processes
- Overlay multiple species' **corridors** to form a **linkage**



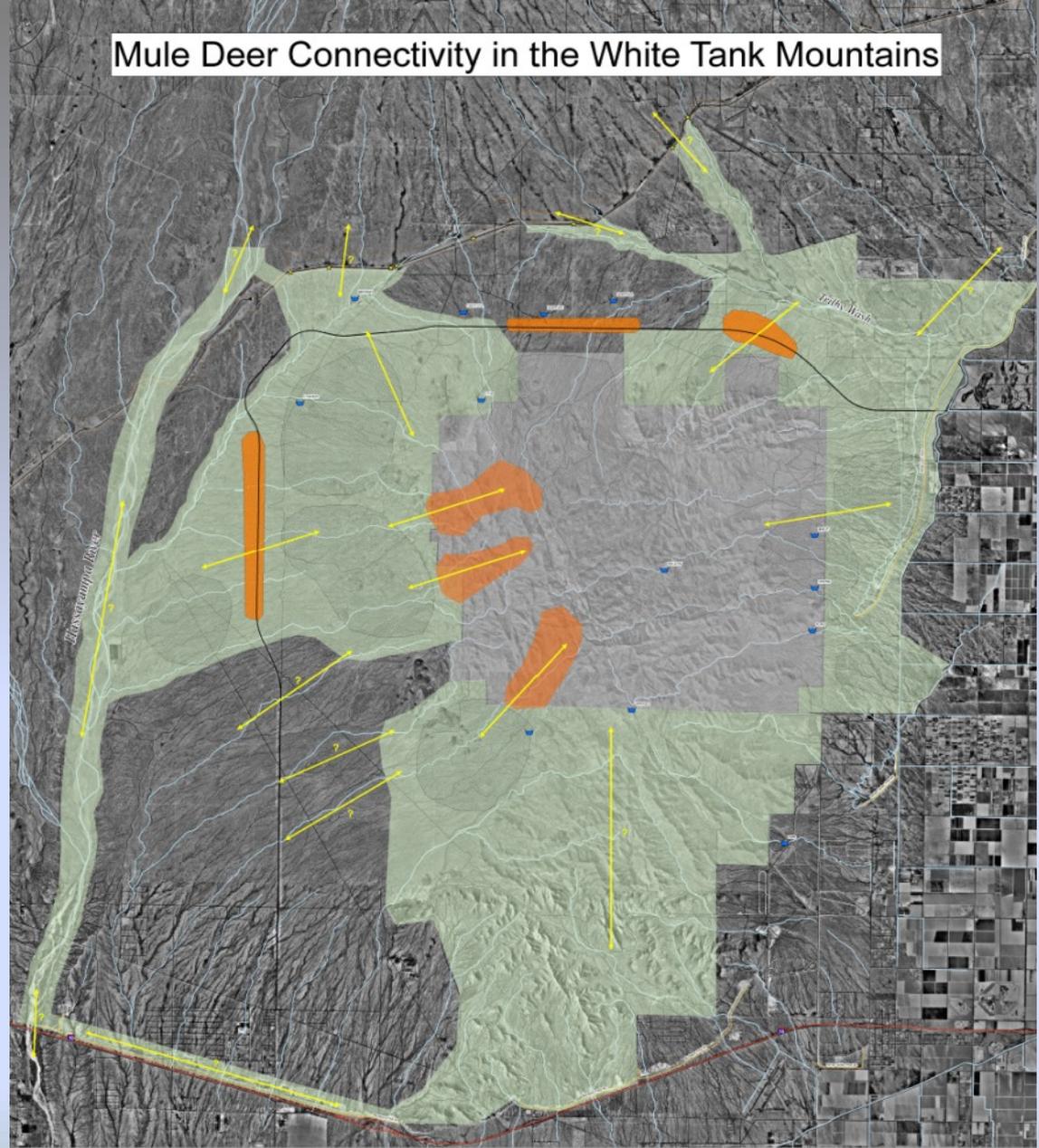
Mule Deer telemetry data used to identify habitat use and movement patterns in the White Tank Mountains

Research Results

- Core Activity Areas
- Travel Routes
- Road Crossings
- Connectivity Recommendations



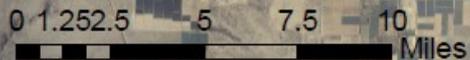
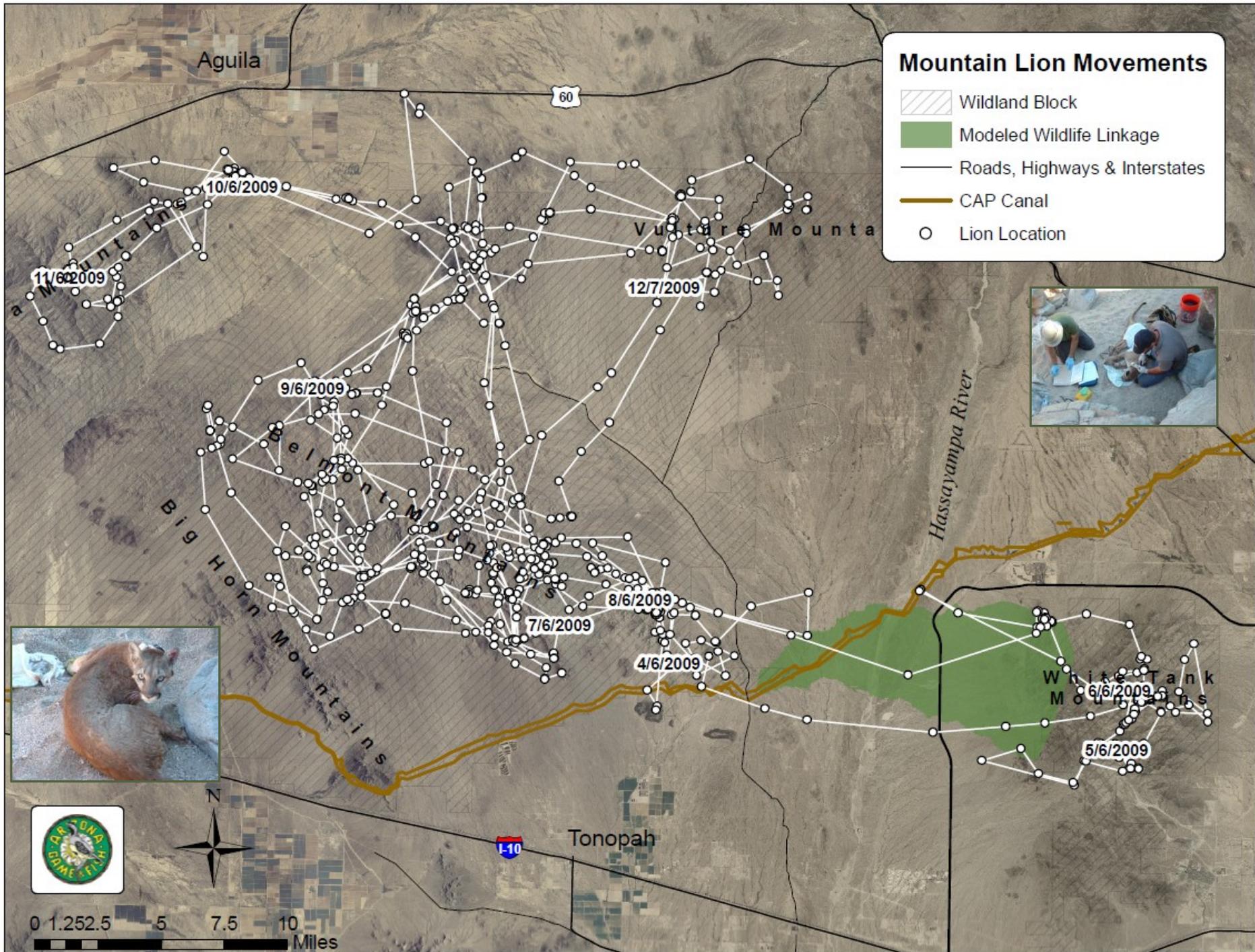
Mule Deer Connectivity in the White Tank Mountains



Mule deer activity and connectivity areas were delineated using mule deer movement data gathered by the Arizona Game and Fish Department (Grandmaison and Schweinsburg 2008). Travel routes depict the pathways used by mule deer when traveling from high elevation habitat within the White Tank Mountains to low elevation habitat outside the park boundaries. Mule deer road crossing areas are segments along the Sun Valley Parkway where mule deer repeatedly crossed the road. Yellow arrows indicated gross movement patterns exhibited during the study. Question marks indicate possible travel routes that were not identified during the study. Funding for this project was provided by the Landowners West of the White Tank Mountains and special mule deer tags raised by the Arizona Deer Association and the Mule Deer Foundation through the Habitat Partnership Committee process.

Legend

- ★ CAP Crossing Locations
- Permanent Water Sources
- Maricopa County Regional Park
- Mule Deer Activity Areas
- Travel Routes
- Mule Deer Road Crossing Areas
- Connectivity Area
- Maricopa Flood Control Structure
- Wash
- Roads
- Sun Valley Parkway
- CAP Canal



How to Use the Connectivity Assessment

- Screening tool in early stages of land use planning
- Conversation starter
- “Roadmap” for Biological priorities & needs

Working
for
Connectivity
not against
development





What can Planners do?

What steps can we take
together to achieve
wildlife habitat linkage goals?



Design communities with connectivity in mind...landscape level linkages

- Conservation design
 - Clustering
 - Gradient density
 - Transferring development rights
 - Density bonus
- Align Transportation Plans
- Align Flood Control Plans

PRACTICE GOOD LAND USE DESIGN

Sometimes the best development design that preserves the most environment land and habitat may be dense, gridded development - thoughtfully linked to greenspace or that uses green infrastructure to meet necessary ecosystem services (stormwater management, shade, recreational open space, etc.). Bottom-line, Less Sprawl

Envisioning and Planning Wildlife and Habitat Friendly Communities



*Local wildlife and habitat conservation planning should strive to **provide landscape-level linkage from property to property.***

Pictured here a forested habitat patch in the foreground retains corridor linkage to distance habitat patches. Local planning needs to work to follow such patterns.

Include Linkages in Land Use and Development plans

- **Municipal General Plans**

- Collaborate on workshops to build municipal & community support
- Present wildlife linkage plans to City Councils
- Recommend adoption of wildlife linkages into General Plans
- Development regulations & wildlife friendly guidelines
- Collaborate on review of Proposed Area Development plans

- **Open Space Plans**

- Include wildlife linkages and habitat blocks as a unique component

- **Public Land Resource Mgmt Plans**

- Align plans with adjacent or embedded jurisdictions

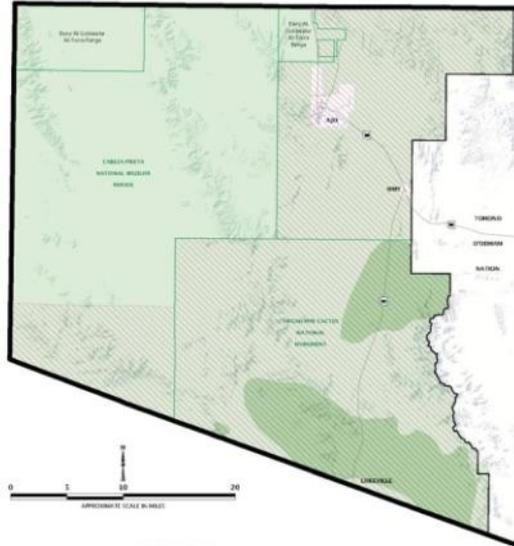
- **County Comprehensive and OSPs**

- **Conservation and Acquisition Plans – public & private**

Pima County Conservation Lands System

PRIORITY BIOLOGICAL RESOURCES of the SONORAN DESERT CONSERVATION PLAN

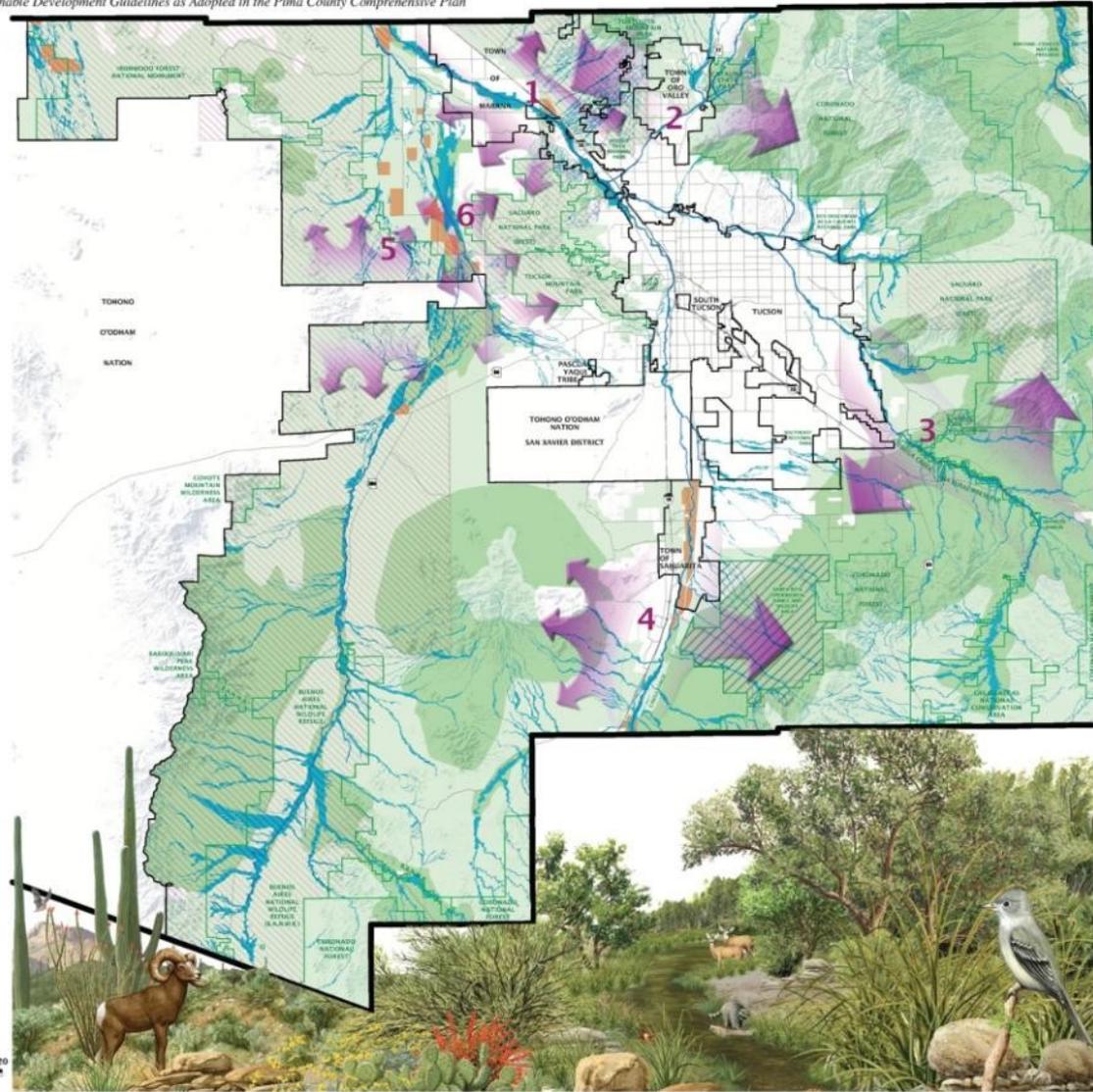
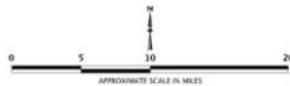
Providing Sustainable Development Guidelines as Adopted in the Pima County Comprehensive Plan



Notes:
 1. Biological data is reported in quadrants and not on points.
 2. Quadrants do not show wildlife, stream or fish habitat and are tracks, potential streams or riparian corridors.
 3. Data was provided by Pima County DDT (Department of Data and Information Systems) and the Pima County Planning Department.

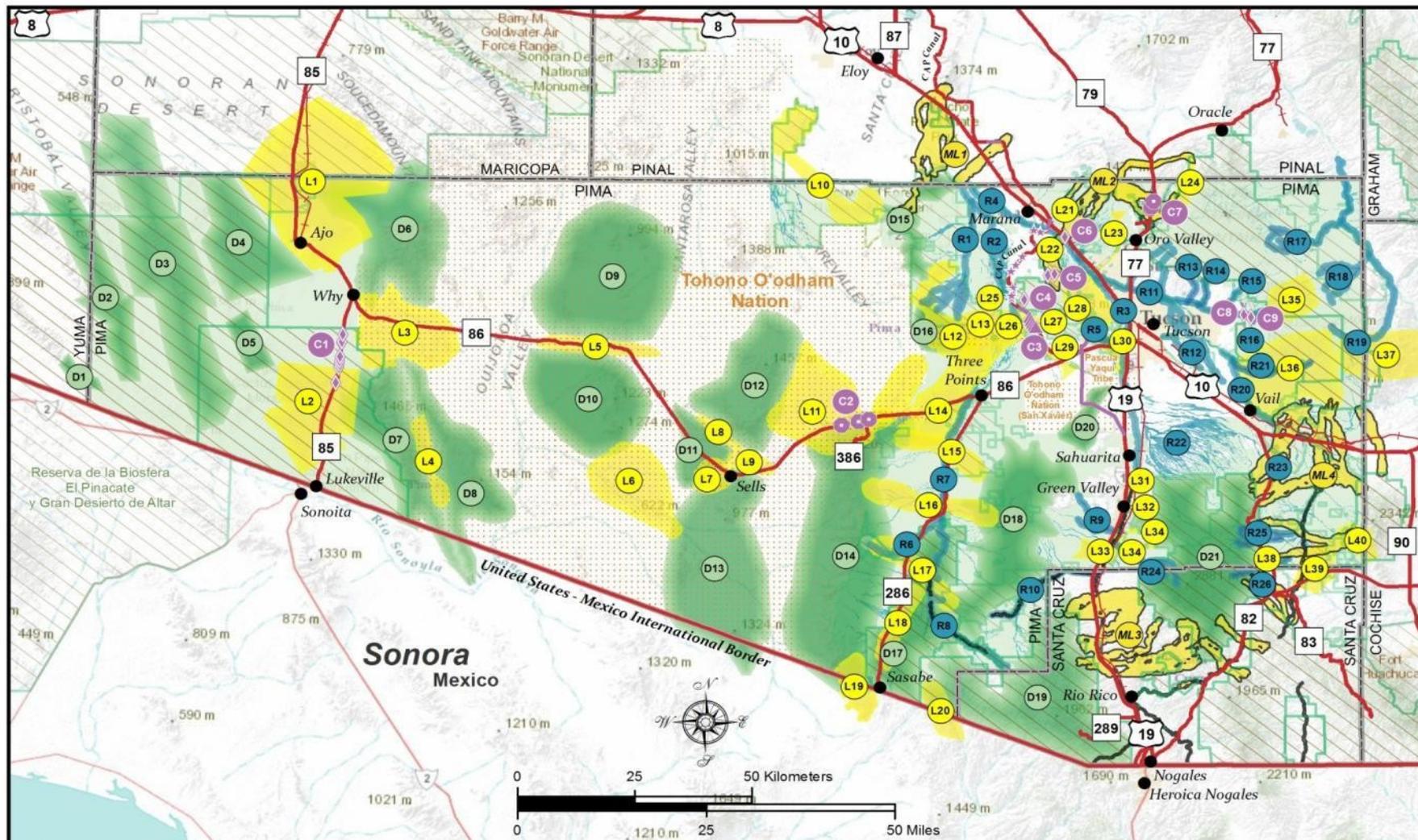
LEGEND

-  **Important Riparian Areas** are critical elements of the Sonoran Desert where biological diversity is at its highest. These areas are valued for their higher water availability, vegetation density, and biological productivity. They are also the backbone to preserving landscape connectivity.
Landscape conservation objective: 90% undisturbed natural open space.
-  **Biological Core Management Areas** are those areas that have high biological values. They support large populations of vulnerable species, connect large blocks of contiguous habitat and biological reserves, and support high value potential habitat for five or more priority vulnerable wildlife species.
Landscape conservation objective: 80% undisturbed natural open space.
-  **Special Species Management Areas** are those areas that are critical to the survival of those species of special concern to Pima County: the cactus ferngossamer pygmy-owl, Mexican spotted-owl, and southwest willow flycatcher.
Landscape conservation objective: 80% undisturbed natural open space.
-  **Multiple Use Management Areas** are those areas where biological values are significant, but do not attain the level associated with Biological Core Management Areas. They support populations of vulnerable species, connect large blocks of contiguous habitat and biological reserves, and support high value potential habitat for three or more priority vulnerable species.
Landscape conservation objective: 65% undisturbed natural open space.
-  **Scientific Research Areas** are those lands within the Tucson Biotic that are managed for scientific research: the Santa Rita Experimental Range and the University of Arizona's Desert Laboratory at Tumacacori Hill.
Landscape conservation objective: Custodian management for the purpose of promoting scientific research on the environment and natural resources.
-  **Agricultural In-Holding** consist of active, or abandoned, agricultural lands that lie within the Conservation Lands System.
Landscape conservation objective: Ensure that future, non-agricultural land uses conserve on-site resource values where present, facilitate the movement of native wildlife and the persistence of native flora across the landscape, and do not adversely impact surrounding CZA lands.
-  **Critical Landscape Connections** are six biotically defined areas where biological connectivity is significantly compromised, but where opportunity to preserve or otherwise improve the movement of wildlife between major conservation areas and/or mountain ranges will persist.
Landscape conservation objective: Protect existing wildlife habitat linkages, remove obstacles to wildlife movement, and restore fragmented landscapes.
-  **Areas Outside of Conservation Lands System**
-  **Incorporated Areas and Native American Jurisdictions**
-  **Pima County Boundary**
-  **Washes**
-  **Major Streets**
-  **Parks**



Pima County Wildlife Connectivity Assessment: County Overview

2012



- Places**
- Cities/Towns
- Important Crossing Areas (Stakeholder Input)**
- ★ CAP Canal Wildlife Crossings (CAWCD Maintained)
 - ▲ CAP Canal Wash Siphons (Pima County Maintained)
 - ◆ Preliminary Crossings
 - RTA Planned/Funded Crossings
 - ~ CAP Canal: Below Ground

- Major Barriers (General Representation)**
- CAP Canal: Above Ground
 - Interstates
 - State Highways
 - US Highways
 - Railroads
 - US - Mexico International Border

- Counties**
- ▭ Counties
 - ▨ Tribal Land
 - ▤ Protected Reserves
 - ▥ AZ Missing Linkages (2007 - 2008)

Arizona Game and Fish Department makes no warranties, implied or expressed, with any of the information on this map

Wildlife Linkages (Stakeholder Input at Workshops)

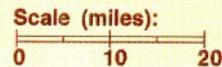
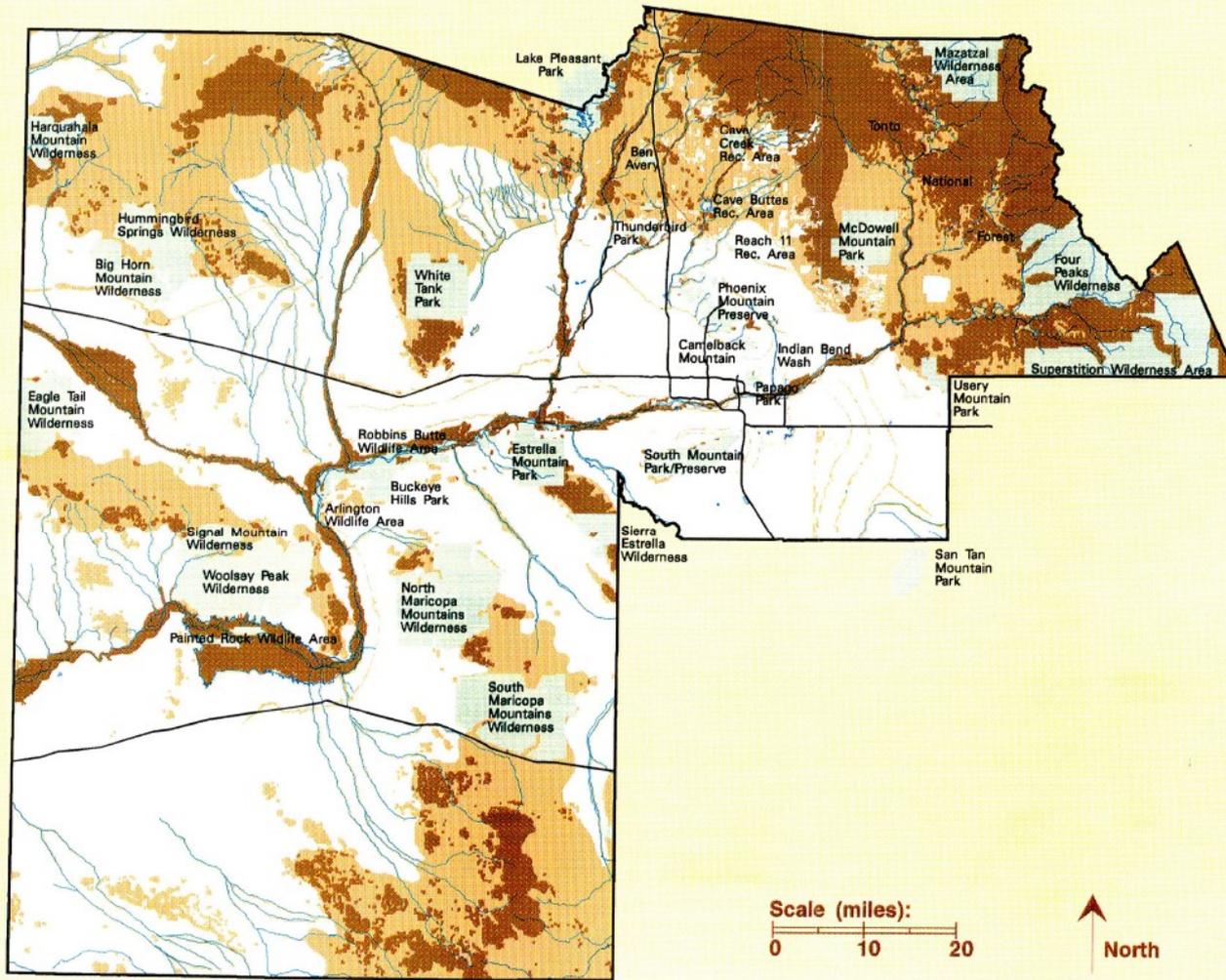
- Diffuse Movement Area (Wildlife Movement Within a Wildland Block)
- Landscape Movement Area (Wildlife Movement Between Wildland Blocks)
- Riparian Movement Area (Wildlife Movement Through Riparian Habitat)

Wildlife Linkages (Stakeholder Input Outside Workshops)

- Pima County Maeveen Marie Behan Conservation Lands System
- Diffuse Movement Area (Wildlife Movement Within Conservation Lands System)
- Riparian Movement Area (Wildlife Movement Through Important Riparian Areas)



Desert Spaces Plan - MAG



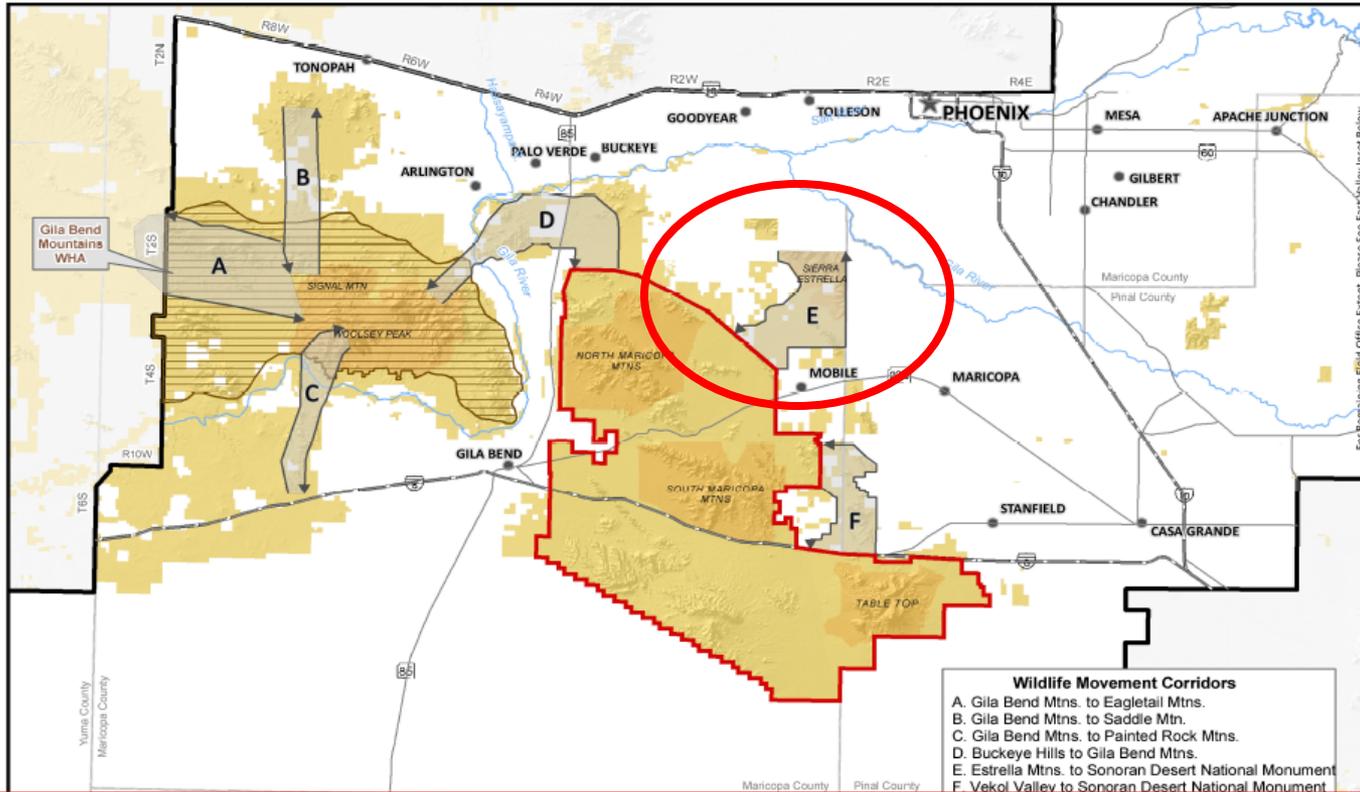
Maricopa Association of Governments
DESERT SPACES PLAN
 Maricopa County, Arizona

Exhibit 2.8
MANAGEMENT
APPROACHES

Legend:

- Conservation Areas: 962,244 acres
 Public and Private Lands with outstanding open space value. Recommended for protection from development and its effects through policy amendment, easements, restrictions, and/or acquisition.
- Retention Areas: 1,419,265 acres
 Public and Private Lands with high open space value. Recommended for sensitive development regulation.
- Secured Open Space: 645,798 acres
 Designated Parks, Wilderness, and Wildlife Areas.

Align local Linkage & Open Space plans with regional and statewide plans



Map 6
Wildlife and Special Status Species
 Lower Sonoran Record of Decision/
 Approved Resource Management Plan

- Wildlife Habitat Area (WHA)
- Wildlife Movement Corridor
- Pronghorn Seasonal Closure to all Public Use
Closed March 15 to July 15

Decision Areas

- Lower Sonoran
- Sonoran Desert National Monument

Surface Management

- Bureau of Land Management
- Bureau of Land Management Wilderness

General Reference

- County Boundary
- Interstate
- State Route
- River

No warranty is made by the Bureau of Land Management (BLM) for the use of this map for purposes not intended by BLM, or to the accuracy, reliability, or completeness of the information shown. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

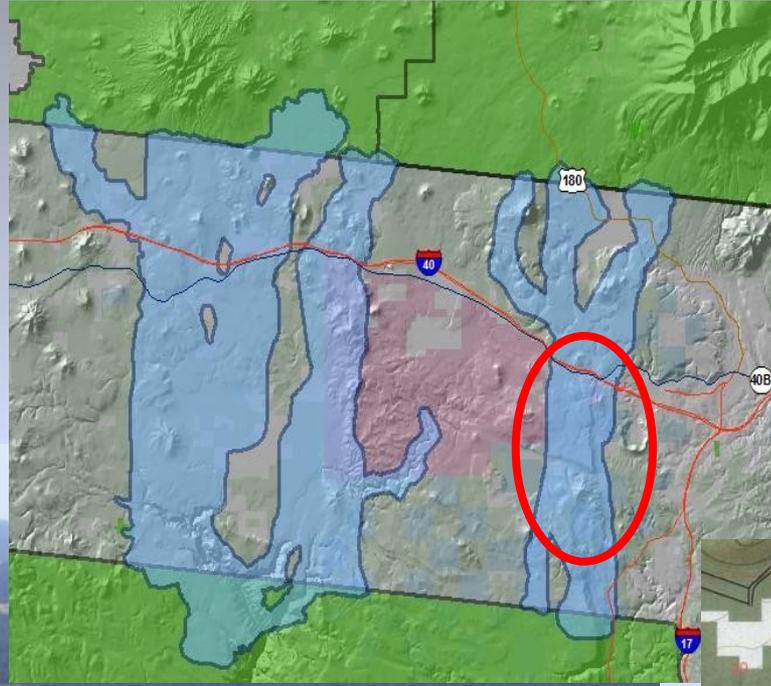
The Bureau of Land Management (BLM) conducts land use planning only in the areas administered by BLM. BLM has no planning authority under the municipal or county planning legislation of the State of Arizona.

Gila and Salt River Meridian
 Universal Transverse Mercator
 Zone 12, Units Meters
 GRS 1980 Spheroid
 NAD83 Datum

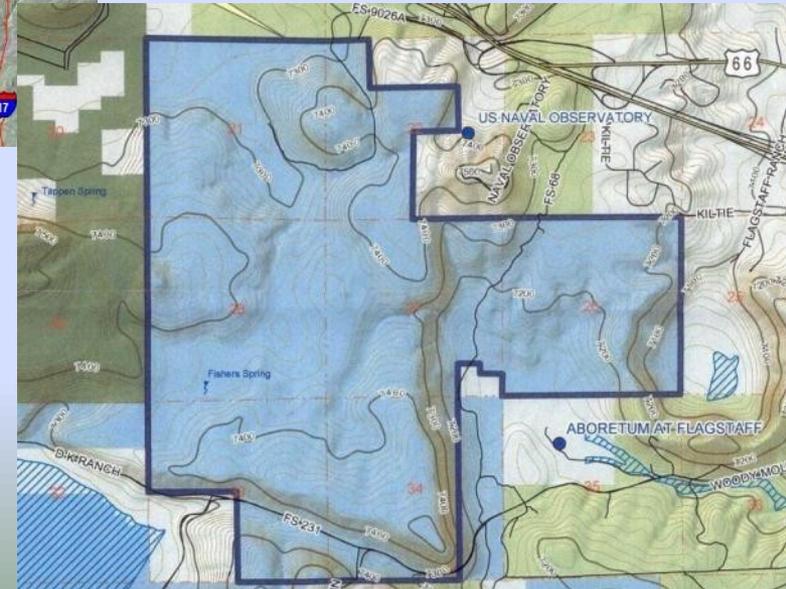
Bureau of Land Management
 Lower Sonoran Field Office
 Map Last Revised: Sep. 2012

Management Goal-
 WL-12 (Wildlife Movement Corridors): Manage wildlife movement corridors so they contain ample habitat to assist wildlife in moving from one area to another in a relatively safe manner.

Use linkage plans to prioritize conservation of open space & integrate with existing plans



Coconino County Parks & Recreation –
Rogers Lake, “Old Growth”

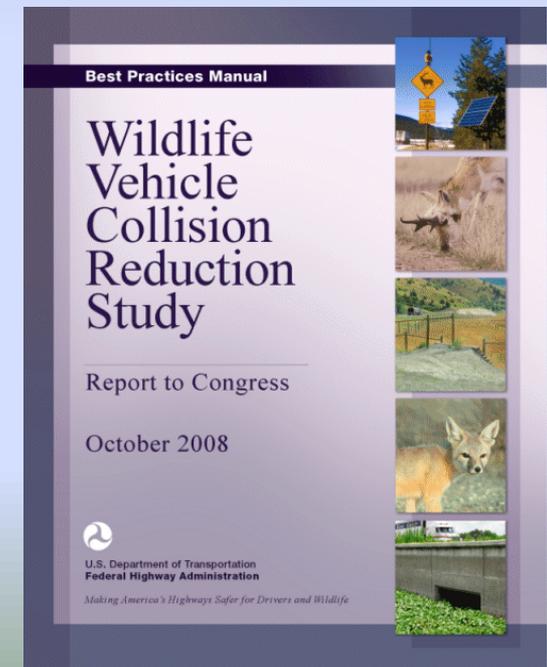


Integrate Linkage plans with infrastructure development plans

- Avoid, Minimize, Mitigate
- Align **Linkage** plans with **Transportation** plans
- Align **Linkage** plans with **Flood Control** plans
- Mitigate existing barriers
- Plan mitigation costs into projects

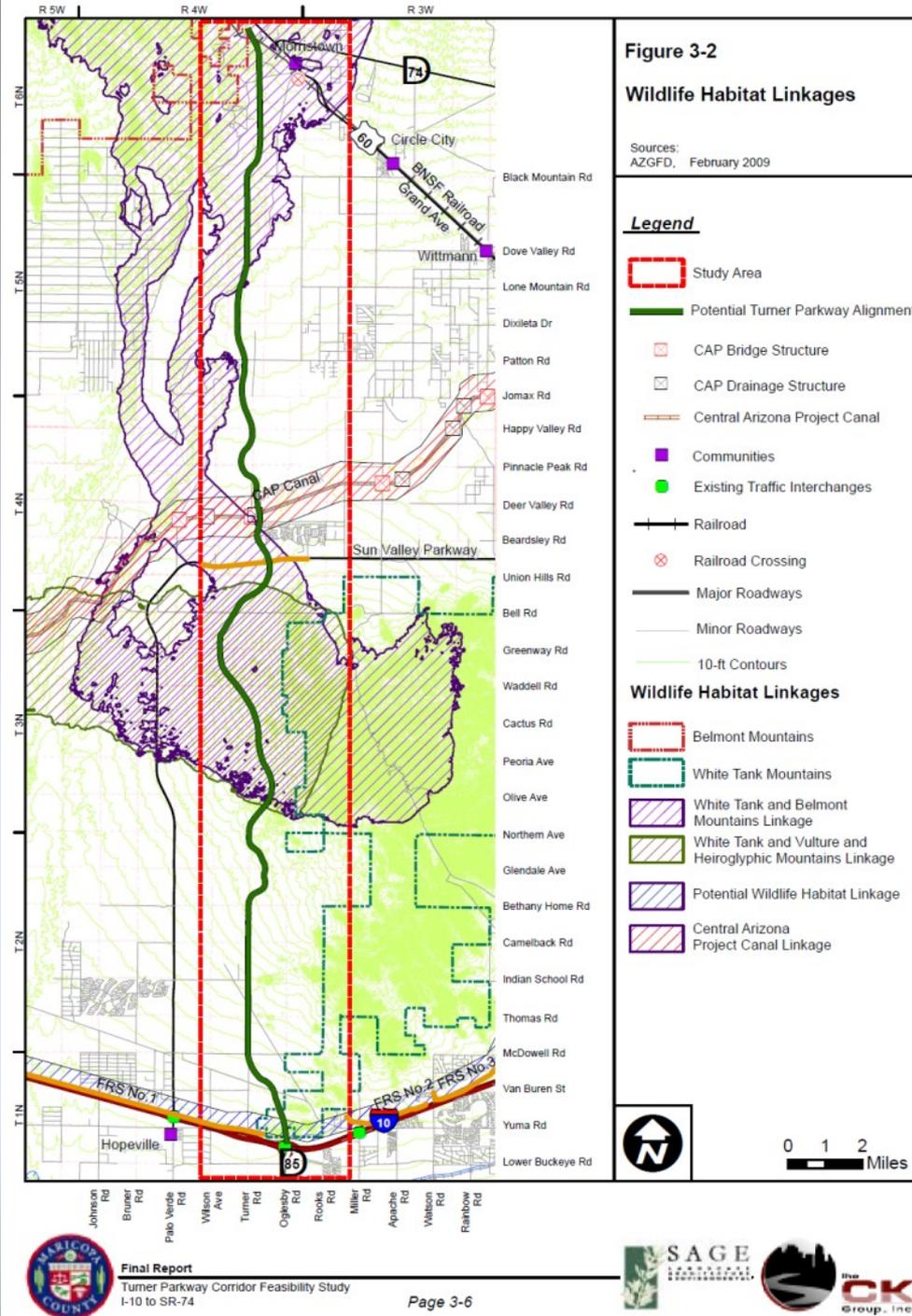
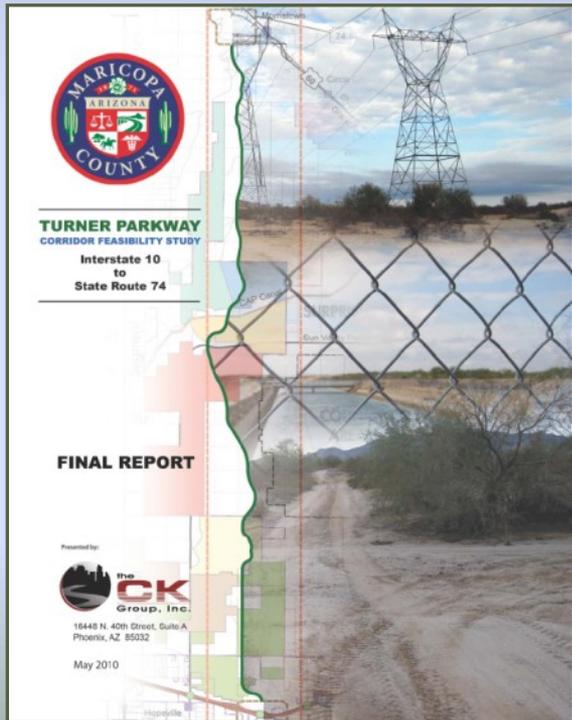


Pronghorn Overpass
Trappers Point , WY



Transportation Studies

- Early ID in planning
- Alignments
- Roadway design



Flood Control and Wildlife

Buckeye FRS 1 Rehabilitation Project

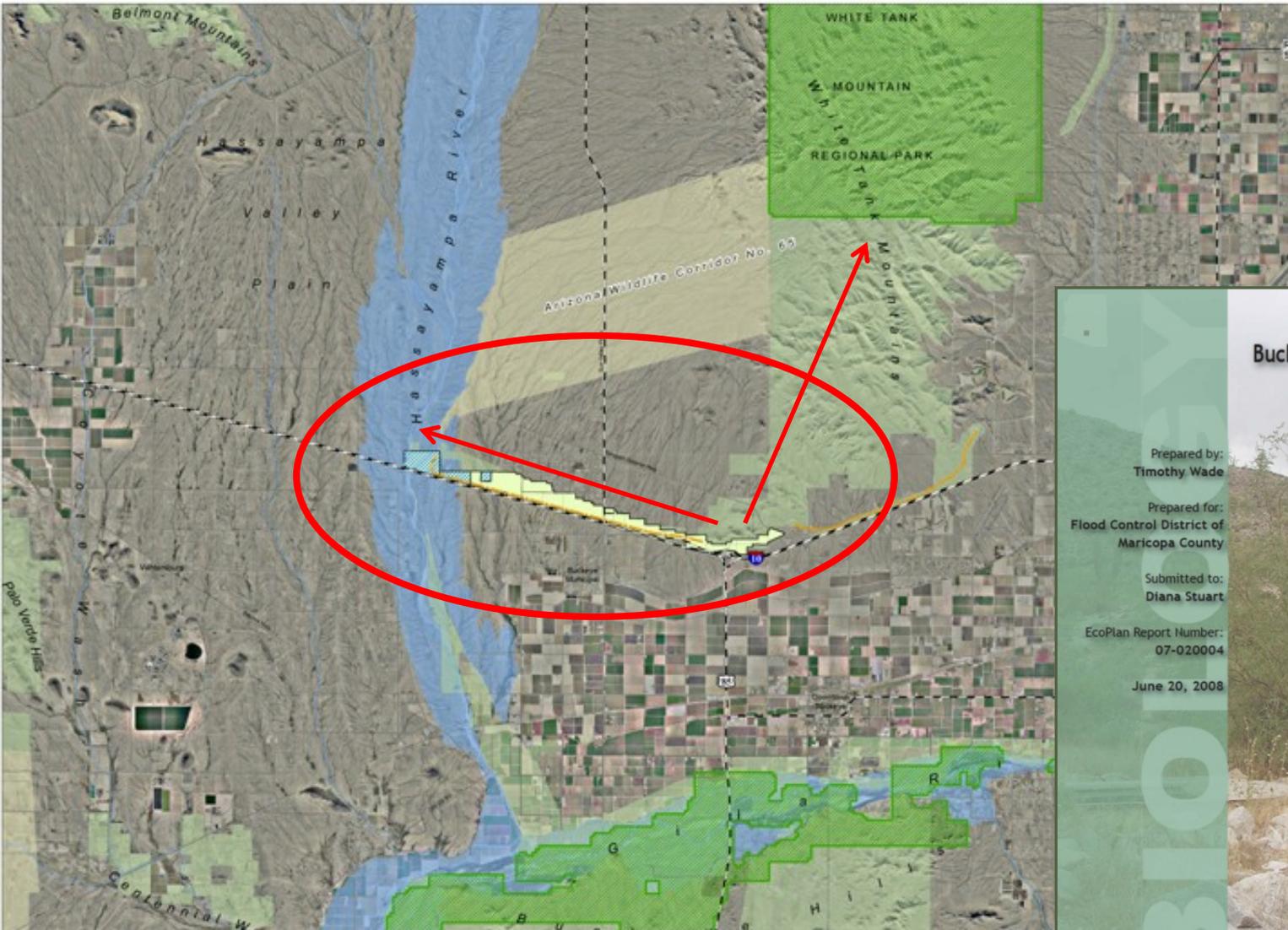
Prepared by
Flood Control District of Maricopa County
October 2007

HABITAT AREAS AND LINKAGES

LEGEND

Recreation

- Arizona Wildlife Corridor No. 65
- Designated Conservation Areas
- Riverlands
- White Tanks Regional Park



Wildlife Corridor Study Buckeye Flood Retardant Structure 1

Prepared by:
Timothy Wade

Prepared for:
Flood Control District of
Maricopa County

Submitted to:
Diana Stuart

EcoPlan Report Number:
07-020004

June 20, 2008



Flood Control and Wildlife

Buckeye FRS 1 Rehabilitation Project

Prepared by
Flood Control District of Maricopa County
April 2007

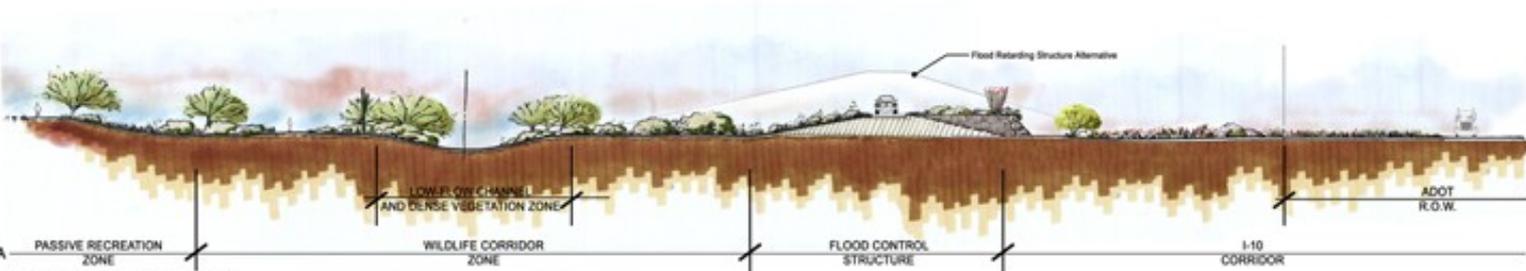
MULTI-USE AND ENVIRONMENTAL PROGRAM AND THEMES

Legend

-  Recreation Center
-  Trail Nodes/ Activity Areas
-  Observation Area/ Trail Node
-  Roadway
-  Tonopah-Salome Highway
-  Trails
-  Burrowing Owl Habitat
-  Wildlife Corridor/ Vegetated Low-Flow Channel
-  Active Recreation Area
-  Mountainous Terrain Boundary
-  Down-stream Side of Flood Control Facility with Gateway Theme
-  Flood Control Facility Center Line

DATA SOURCES

Flood Control District of Maricopa County, 2007
Environmental Planning Group, 2007



TYPICAL CONCEPTUAL SECTION
(NOT TO SCALE)



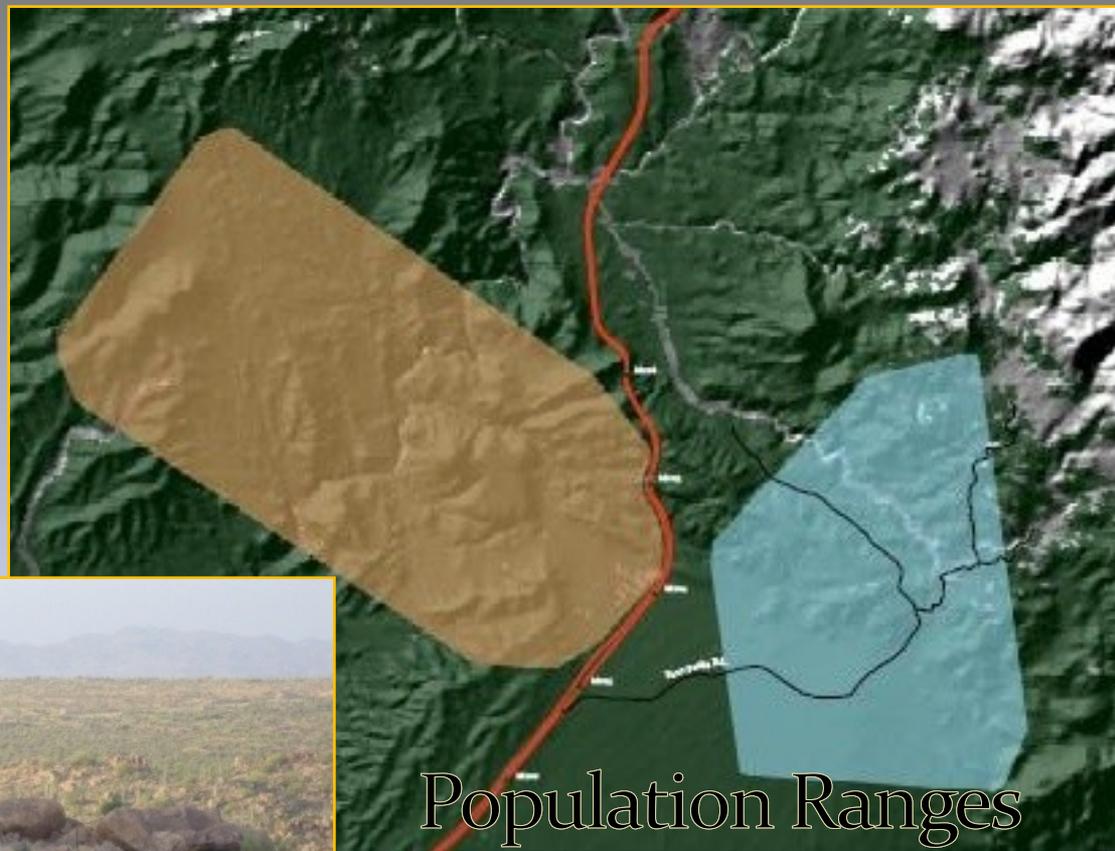
CONCEPTUAL PLAN



Wildlife Traffic

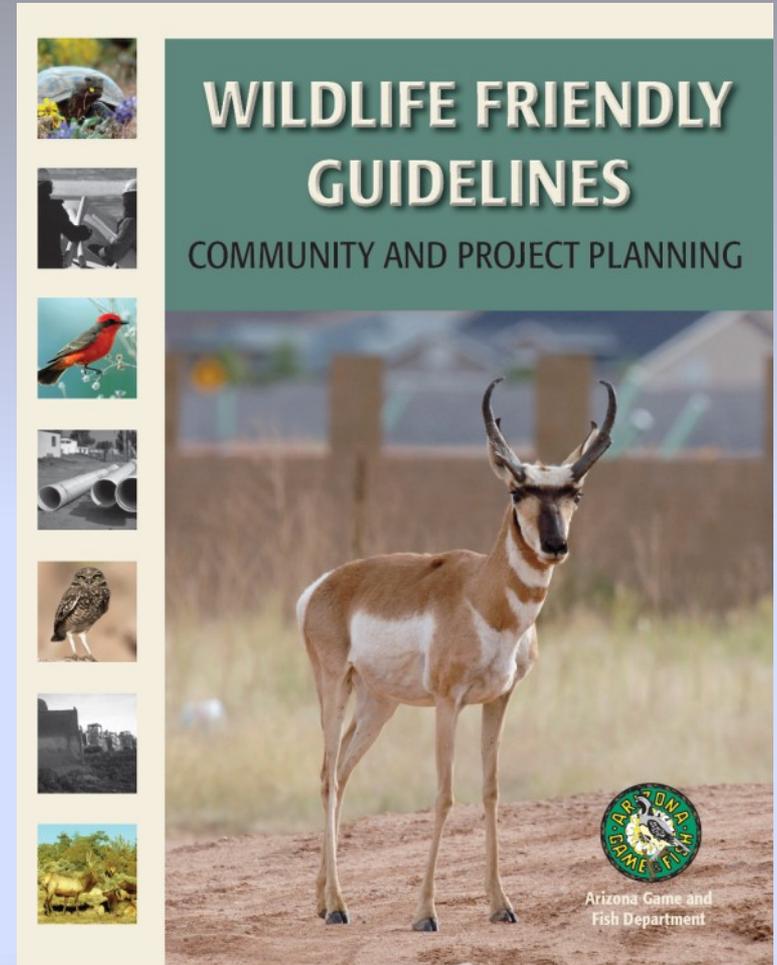


AZ State Route 87 Sonoran Desert Tortoise Project



Use guidelines to build wildlife friendly communities

- Wildlife Friendly Planning
- Bridge Construction
- Culvert Construction
- Fencing
- Solar & Wind
- Western Burrowing Owl
- Desert Tortoise
- Conservation Easements



See - http://www.azgfd.gov/w_c/WildlifePlanning.shtml

Important Habitat Features for Corridors

- Native vegetation
- Natural topographic features
- Natural washes
- Water sources
- Space



Wildlife Friendly Design...best management practices for urbanization

- Buffer linkages; low density development, small build footprints and large lots
- Preserve natural vegetation, minimize & direct lighting
- Friendly fencing vs. exclusion fencing
- Allow extra space for compatible uses like trails, parks; locate on edges of linkages
- Manage pets and use wildlife proof trash receptacles
- How wide is wide enough?...species specific approach
- Preserve & link habitat patches; reduce linkage lengths
- Restrict motorized recreation
- Promote living with wildlife education & practices

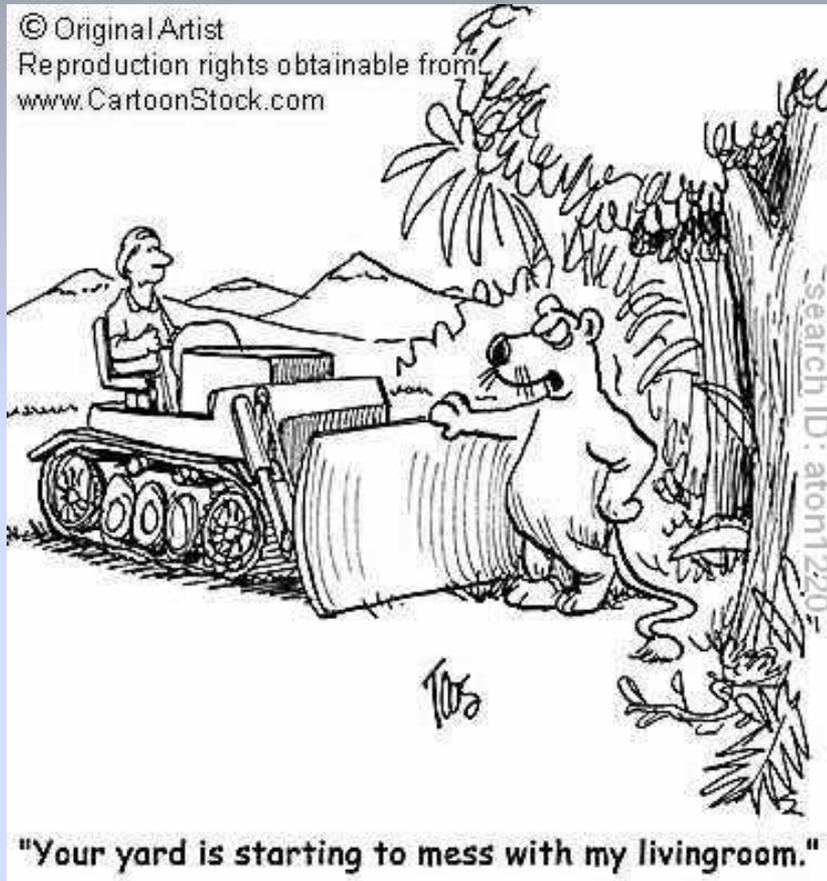
Wildlife Friendly Design...best management practices for roads, canals and railroads



- Overpasses, underpasses, culverts – height/width
- Preserve natural substrates & vegetation within...to the extent possible
- Site crossing structures to connect suitable habitats
- Preserve habitat on approaches
- Use wildlife proof funnel & exclusion fencing
- Multiple structures and types benefit more species
- Minimize human activity in area (lights/noise), reduce speeds

See <http://corridordesign.org/downloads>

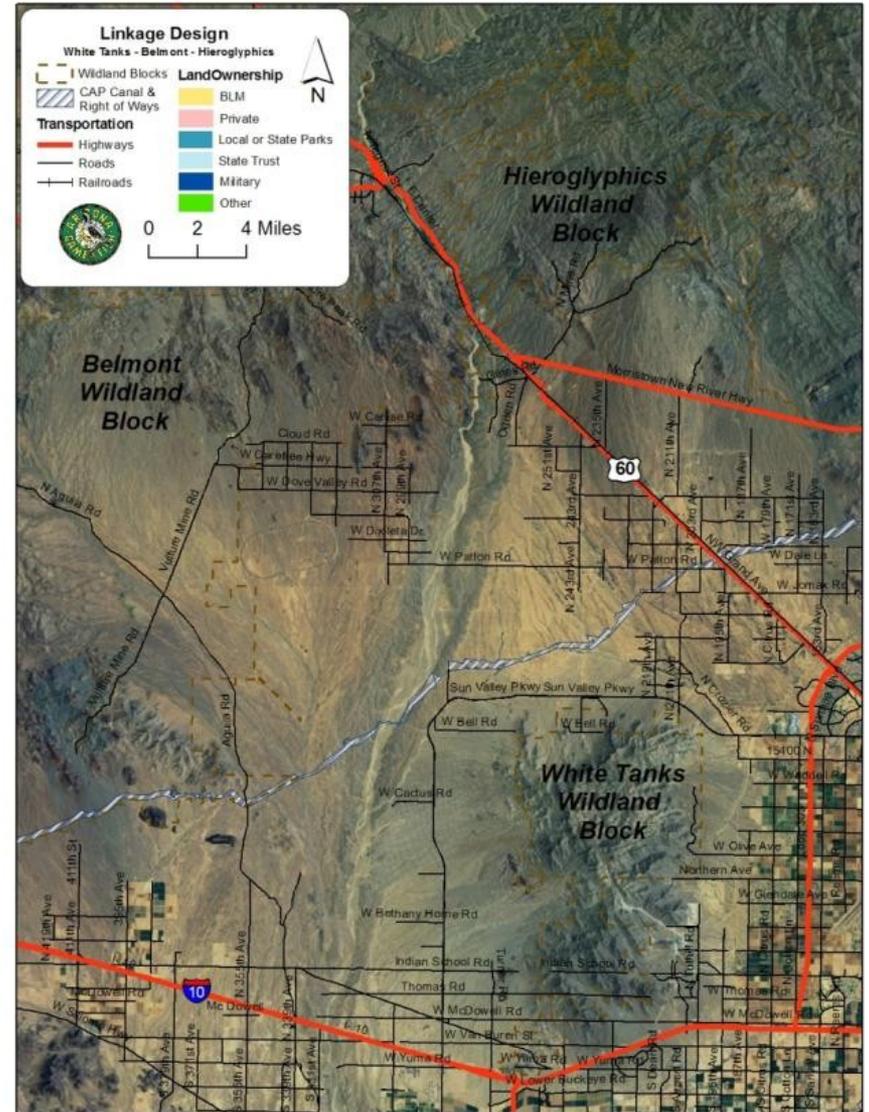
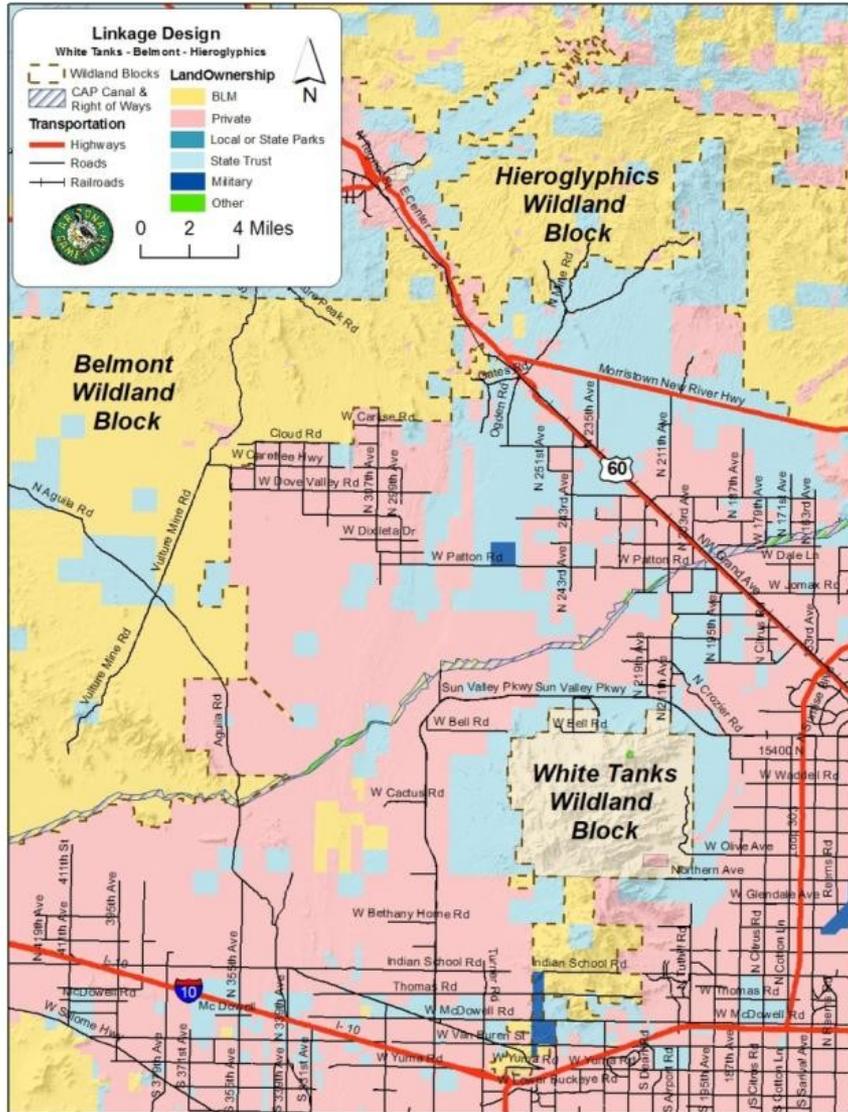
Conservation Solutions...



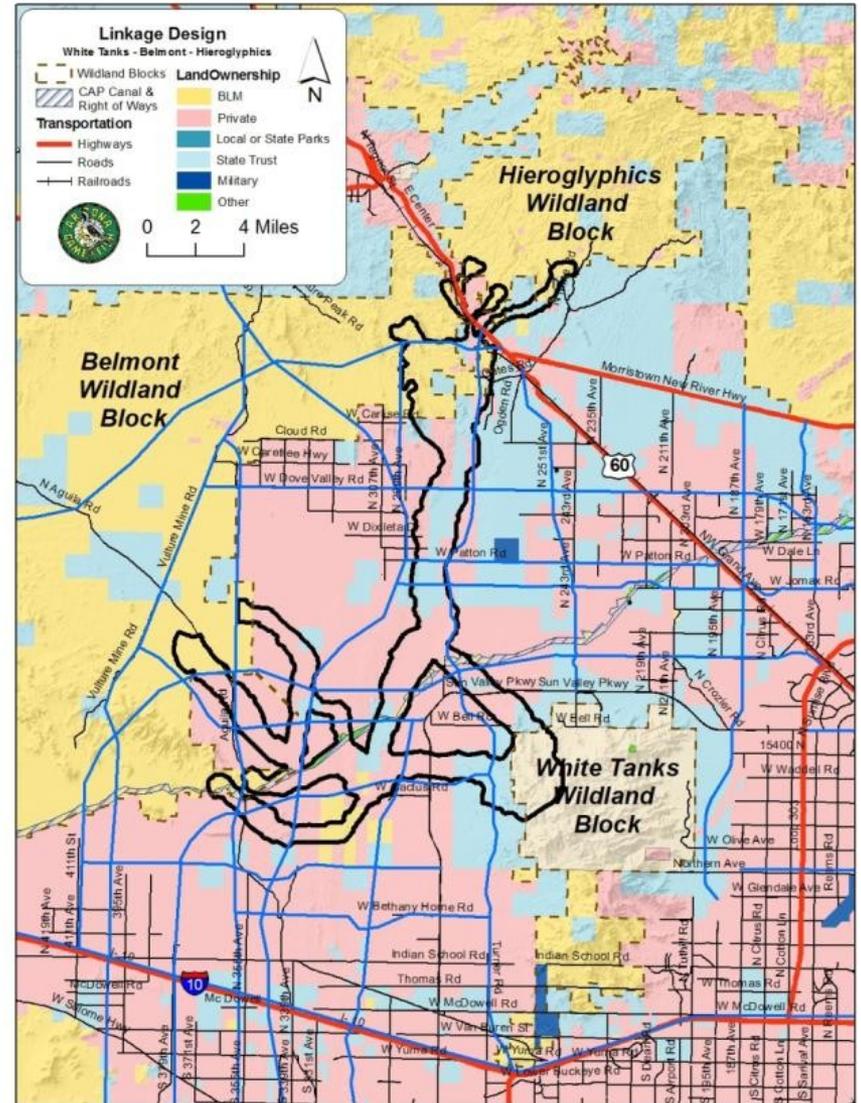
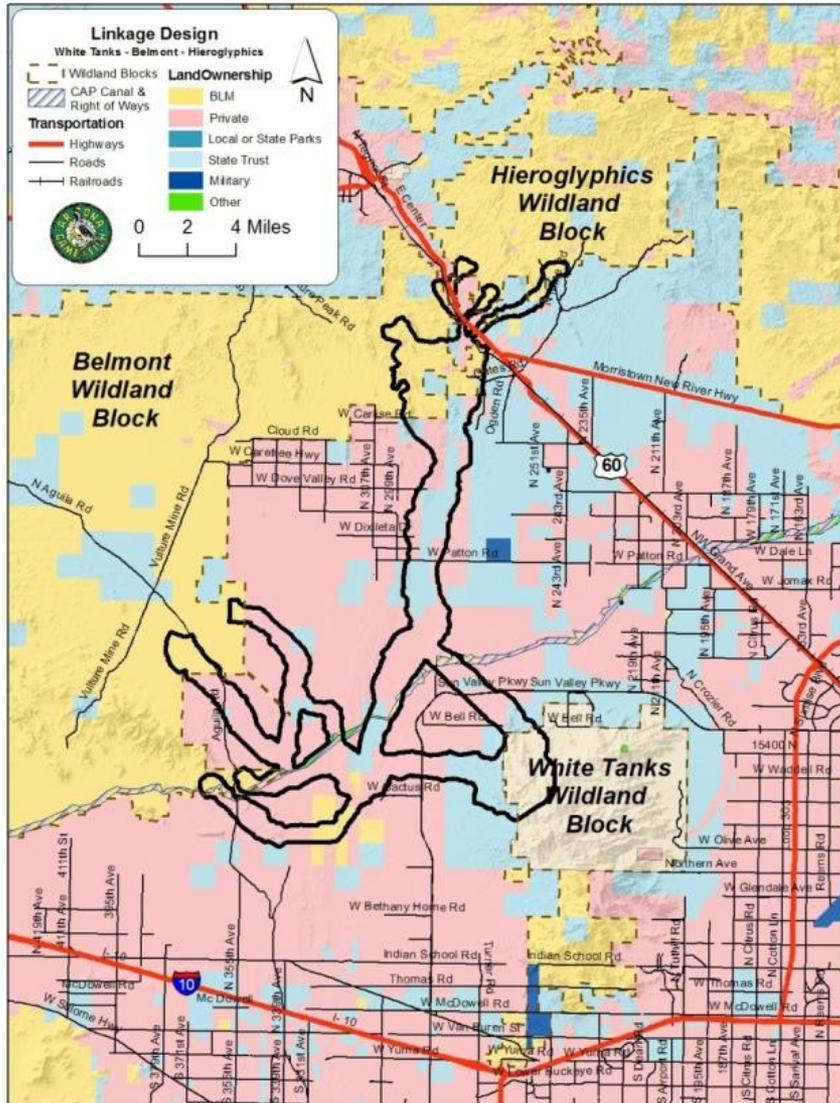
AZ Examples

- White Tank – Belmont – Heiroglyphic Mountains Linkage
- Pima County – Town of Oro Valley

White Tank – Belmont – Hieroglyphic Mtns.



White Tank – Belmont – Hieroglyphic Mtns.





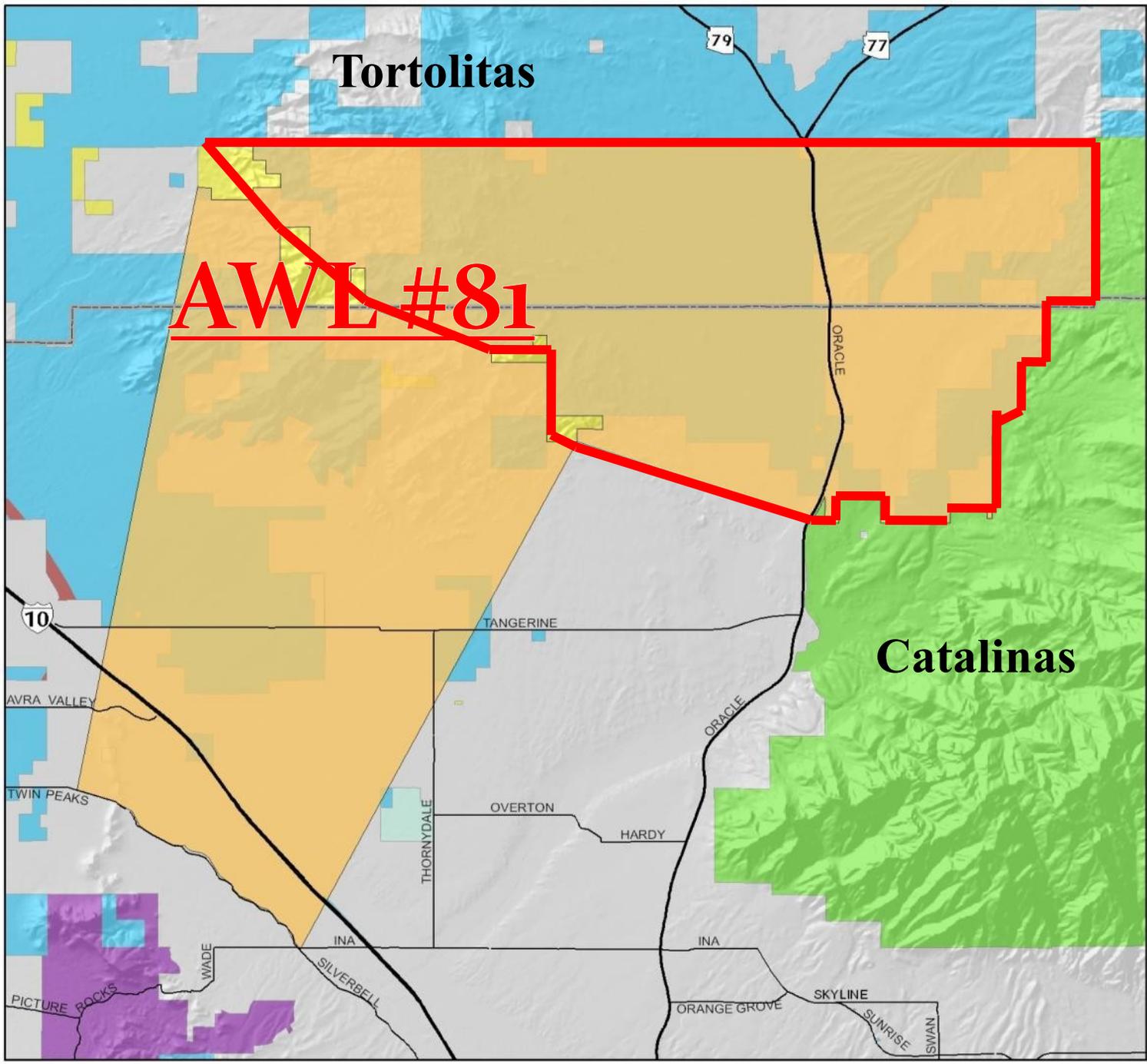
Accomplishments so far...



- Linkage identified in multiple parkway corridor feasibility studies (MCDOT)
- City of Surprise – General Plan Amendment
- Working with Town of Buckeye
- Linkage goals identified in various flood control plans
- Meeting with developers

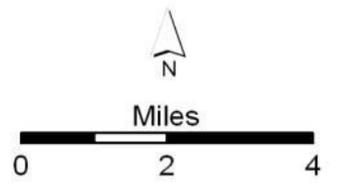
Next steps...

Build partnerships with other key stakeholders (State Land Dept., Maricopa County Parks Dept...), develop public awareness and support...

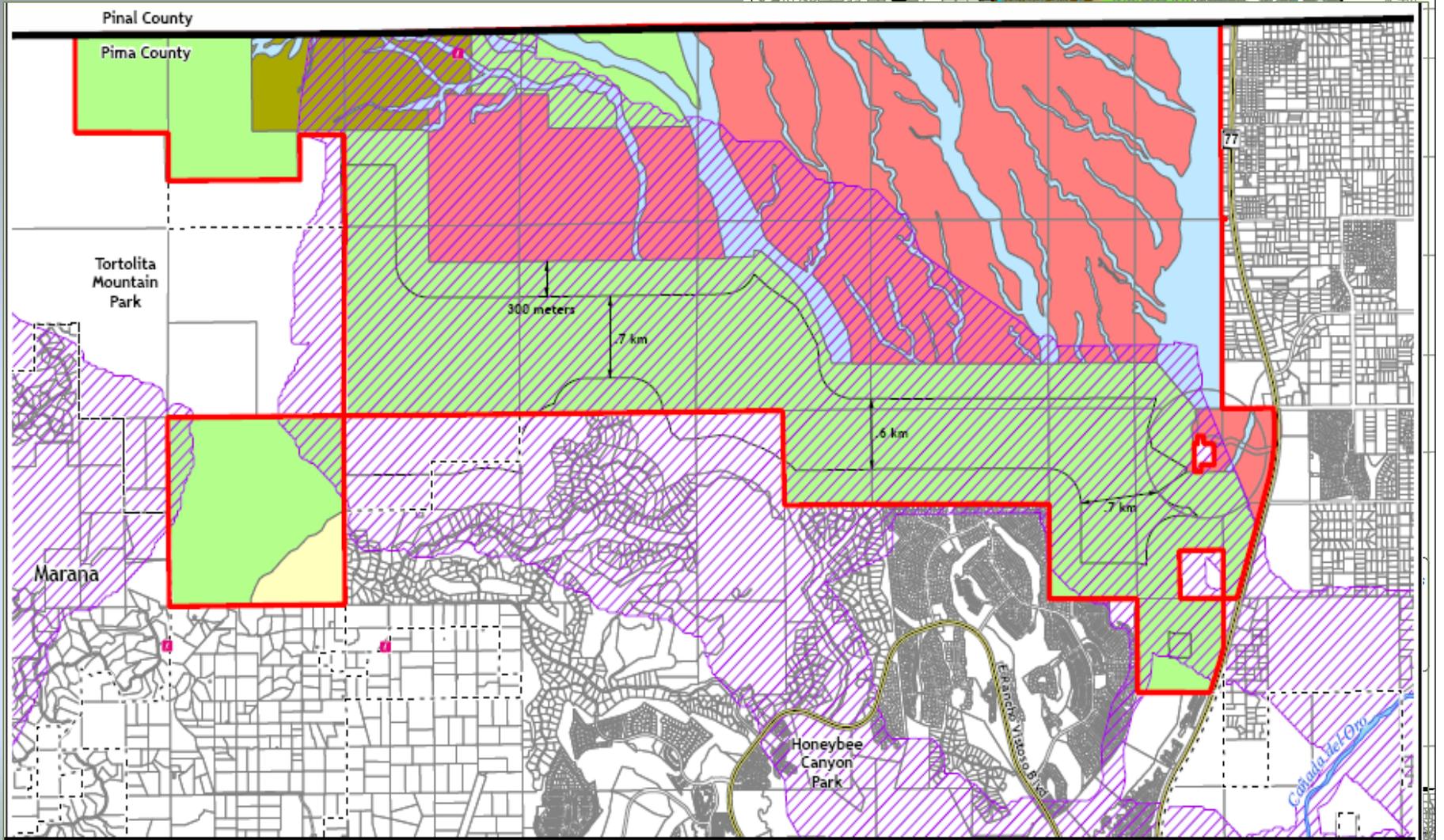


Potential Corridor
Development near
Tucson, AZ

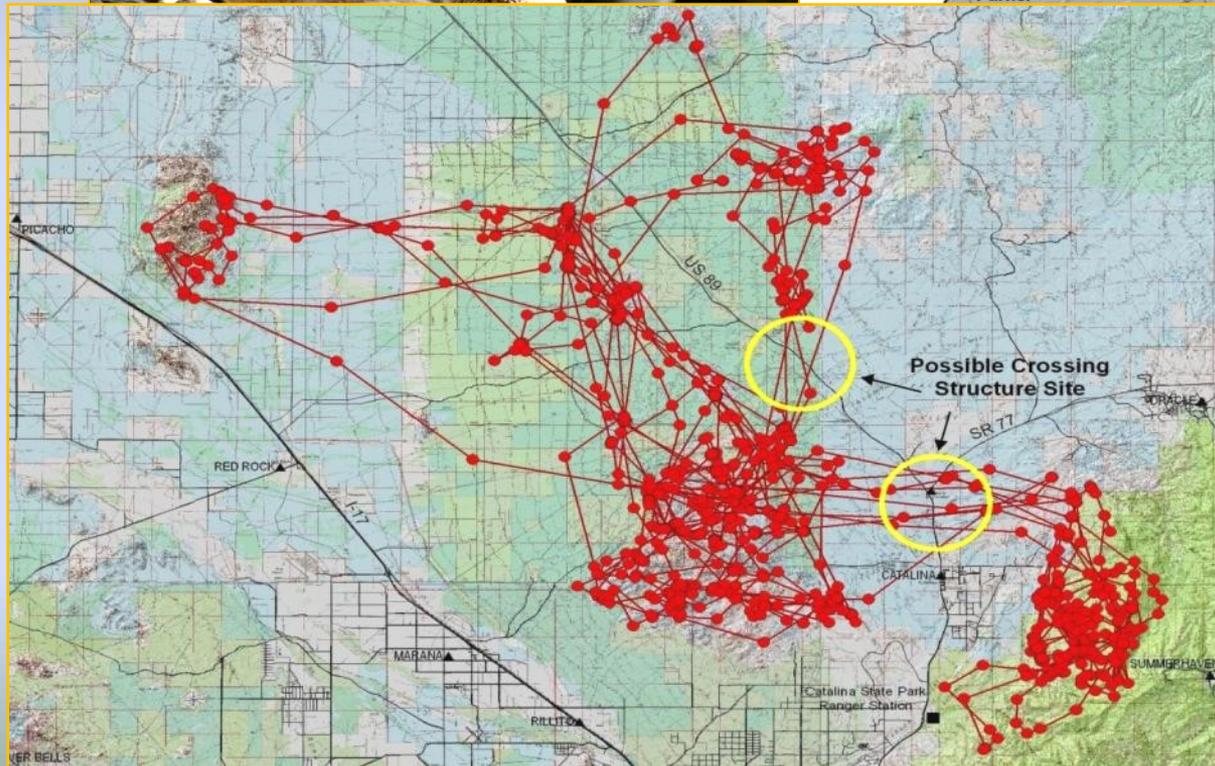
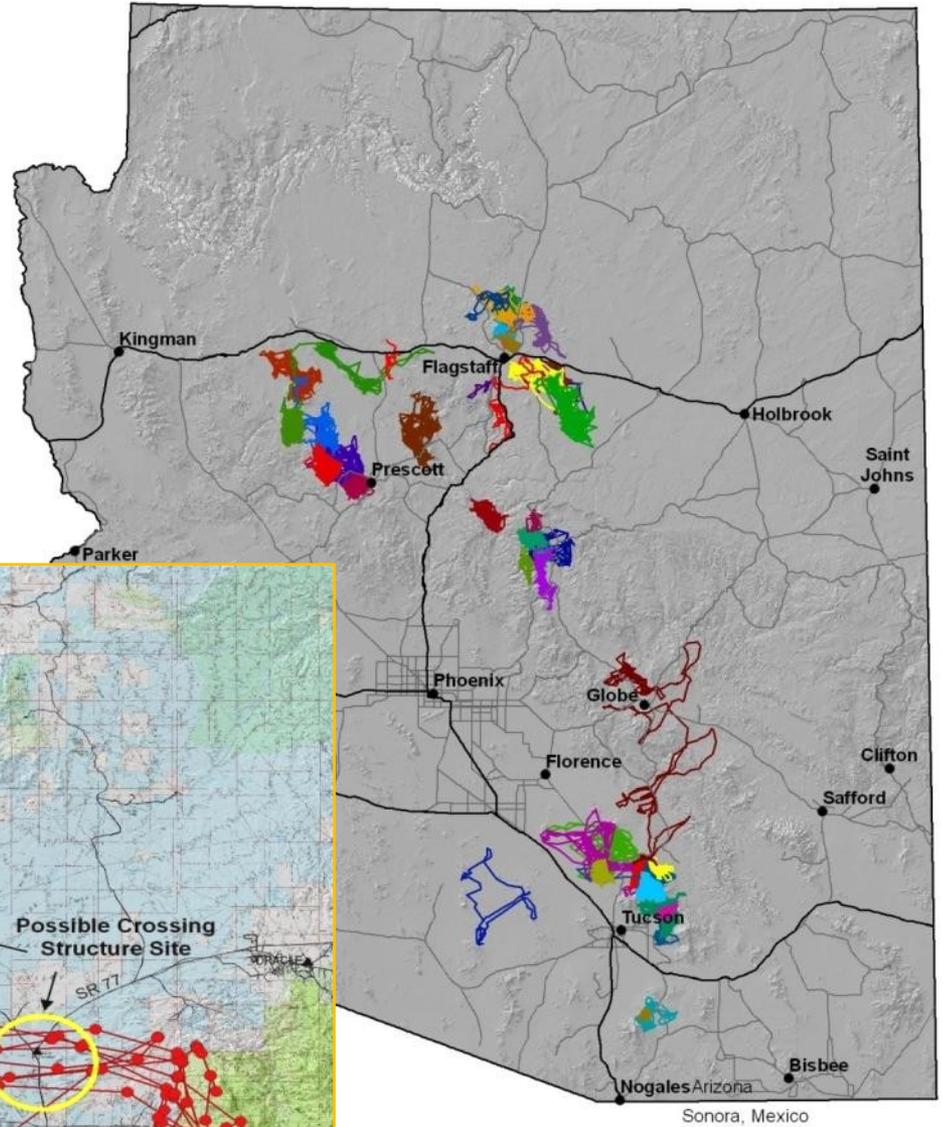
- Linkage Zone
- Land Owner**
- Private
- BLM
- State Trust
- Forest Service
- Local Parks
- National Parks
- BOR



Town of Oro Valley



MOUNTAIN LION STUDIES



CONFIGURE OPEN SPACE INTO WILDLIFE CORRIDORS

This configuration works for Wildlife Movement



Conservation Solutions...



- Collaboration
- Mitigation
 - Crossing structures
 - Habitat enhancement
 - Water development
- Wildlife Research, Monitoring and Adaptive Management
- General Land Use Plans
 - Environmental goals or elements
- Development Regulations & Guidelines
 - Preservation of natural vegetation, washes, OS
 - Minimize edge effects
 - Promote living with wildlife strategies
 - Density bonus
- Land Conservation
 - Acquisition & easements
 - Transferring development rights
 - Purchase of development rights
- Funding Strategies
 - Open Space Programs and Tax Initiatives & Bonds
 - Land Trusts

Importance of Wildlife to Arizona



Wildlife-Associated Recreation Expenditures in Arizona

\$2.4 billion

2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (U.S. Fish & Wildlife Service; data collected by U.S. Bureau of Census)



Of the 134 species of native mammals found in Arizona about 74 are found in the Sonoran Desert (Hoffmeister , 1986. *Mammals of Arizona*)



Over 500 species of birds migrate, breed or reside in the Sonoran Desert (Marshall et al. 2000)

Importance of Wildlife to Maricopa County (Millions)

Fishing and Hunting

- \$409.1 Expenditures
- **\$515 Total Impact**
- \$103 Salaries/Wages
- 5,382 Jobs
- \$21.1 State Tax Revenues

Silberman J., 2004

Wildlife Recreation

- \$368 Expenditures
- **\$690 Total Impact**
- \$193 Salaries/Wages
- 6603 Jobs
- \$4.8 State Tax Revenues

Southwick Associates, 2003

For more information see: http://www.azgfd.gov/w_c/survey_results.shtml

Quality of life issues rank open spaces, natural areas, and access to recreational lands near the top of Arizona residents' lists.

“The Arizona We Want”

(Center for the Future of Arizona- 2009 Gallup Arizona Poll)

www.ArizonaFuture.org



Key Messages



- Habitat fragmentation & loss is impacting wildlife
- Conserving corridors & linkages can mitigate
- Wildlife research can inform design
- Collaboration & Partnerships = solutions
- Local plans can support statewide goals
- Work for connectivity not against development
- Plan for ecosystems not individuals; common species common
- Wildlife are a valuable resource for Arizona

Acknowledgments...

Arizona Wildlife Linkages Workgroup



Maricopa Workshop Sponsors:

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