

AREAS OF CONSERVATION PRIORITY WITHIN EACH HABITAT TYPE

As part of the CWCS process, the Department has identified habitat associated with each species of wildlife at the vegetation level. The Department recognizes that there are many areas important to conservation that occur at a finer scale than vegetation associations. Identifying these areas will require a full landscape analysis based on species distributions, current and future stressor impacts, resource distribution, current protection level, proximity to urban areas, and many other factors important to the Department and wildlife. Due to time constraints and the lack of current, spatially explicit data, the Department has decided to forego this analysis at this time with the understanding that it will be completed as soon as possible. However, the Department has recently coordinated with various partners in 3 efforts to identify areas of conservation priorities. Each of these efforts have used different criteria to identify specific areas in the state that can benefit from special conservation attention. A summary of each of these efforts is included below.

Arizona Wildlife Habitat Linkages – This important effort is being led by the Department, ADOT, multiple federal agencies, universities, and non-governmental organizations. The purpose is to identify fracture zones—defined as areas dominated by private land, State Trust land, or public infrastructure (highways, railroads, canals, fencing) that can provide for wildlife movement between habitat blocks. Habitat blocks are large areas of publicly-owned habitat, including tribal and BLM land. The Linkages Workgroup identified approximately 100 fracture zones in Arizona, with 30 of these potential linkages as high priority. Priority linkages are based on the presence of special status species in the potential linkage, and the likelihood of decline or loss of wildlife species from one or more habitat blocks if connectivity is lost. The Linkages Workgroup has begun the process of drawing up detailed Linkage Designs for these priority zones. Each Linkage Design will identify which lands within the fracture zones need management for permeability, and recommend strategies to maintain permeability on those lands (including future structures to allow wildlife to cross highways and other infrastructure). The draft Linkages map (Fig. 5) provides a visual tool to guide future planning, engineering, and mitigation strategies for public roadway construction and renovation and expansion of rural and urban communities.

Ecoregional Analyses - The Nature Conservancy (TNC) has completed a ecoregional analysis for each of the TNC ecoregions in Arizona. The objective of these analyses was to identify a set of conservation areas, in each ecoregion, that if managed properly, would guarantee the persistence of the ecoregion's biodiversity. These spatially explicit analyses considered diverse criteria including but not limited to: species richness, land management, conservation goals, stressors, land ownership, vegetation, and hydrography. All in all, 147 conservation priority areas were identified in Arizona (TNC 2004b, 2005). The resulting map (Fig. 6) shows areas with the greatest strategic value for protecting ecosystems and viable populations of native species of animals and plants. This effort provides insight into the location of large species assemblages and delineates areas of high conservation priority.

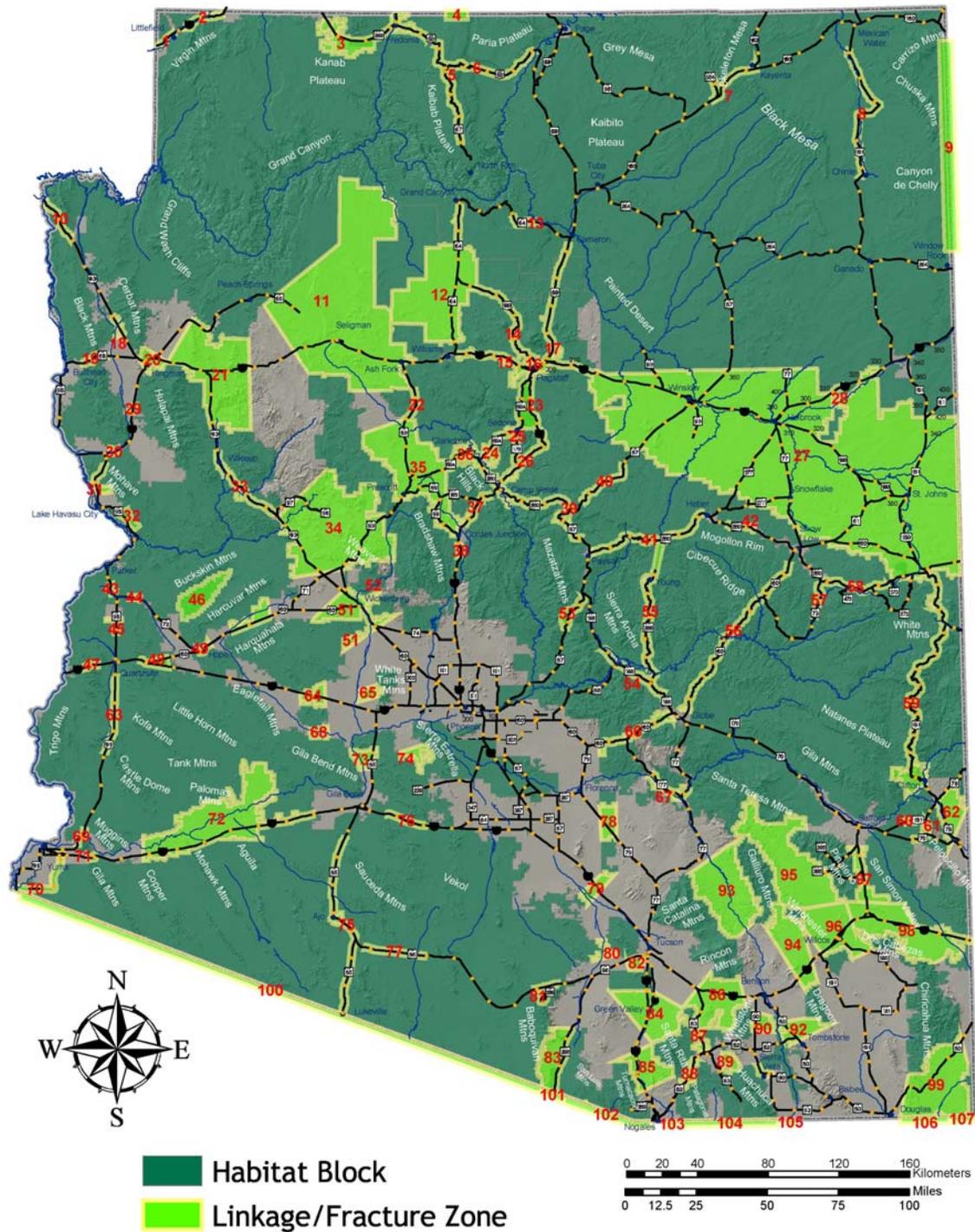


Figure 5. DRAFT Arizona Linkages map (May 16, 2005 version by S. Nordhaugen). The numbered Linkages / Fracture Zones are not in order of priority, but are identifiers associated with the map's GIS database. This product is still under revision.

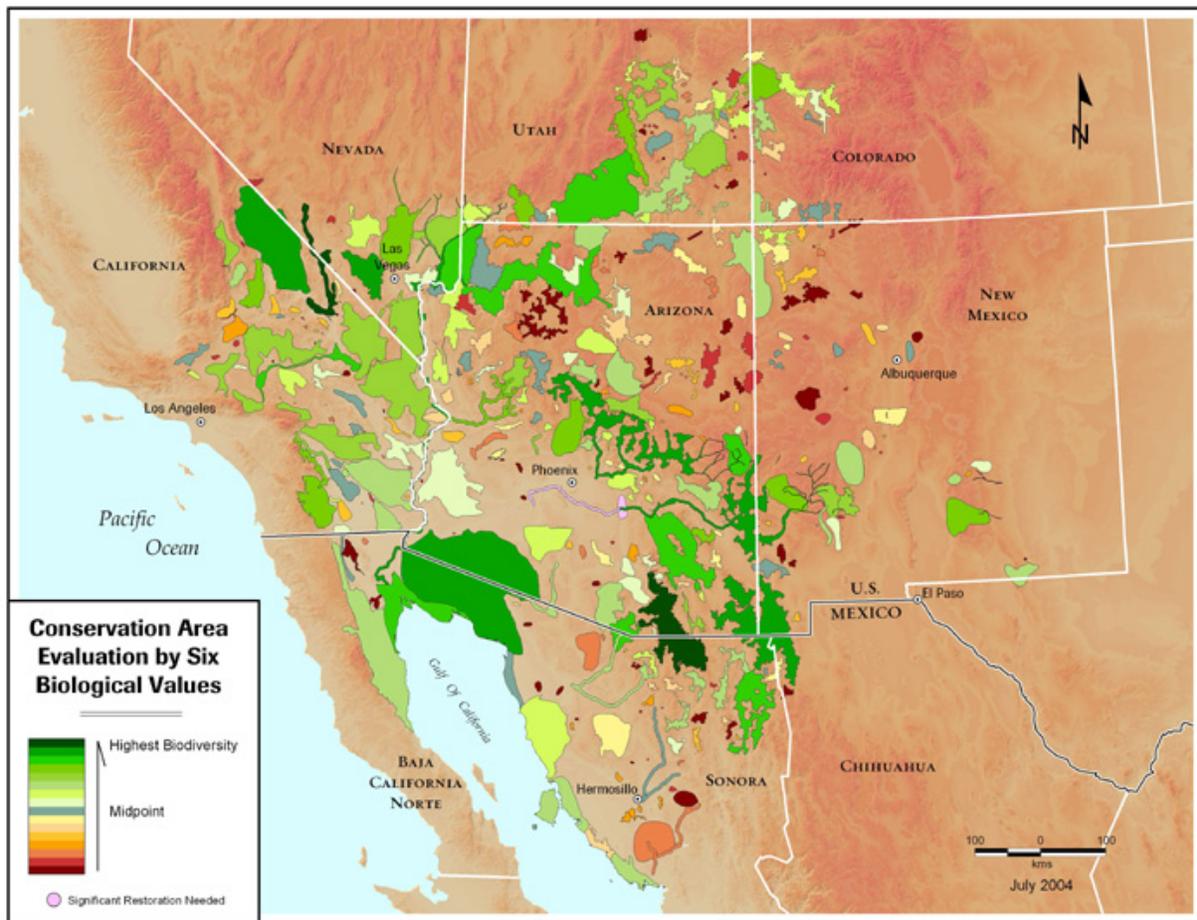


Figure 6. TNC Conservation Areas identified in Arizona and extending into neighboring states, tribes, and Mexico. Six biological values were used to identify conservation areas in this assessment: 1) plant and animal species occurring at each location; 2) species present that are globally rare (IUCN ranks of G1/G2); 3) species present that are federally listed as endangered or threatened; 4) species present that are endemic (90% of their range is found within 1 of 5 ecoregions analyzed); 5) taxonomic groups represented (birds, fish, mammals, crustaceans, mollusks, reptiles, amphibians, and plants); and 6) aquatic/riparian species present.

Arizona Important Bird Area Program – The Department has participated in a nationwide effort led by the Audubon Society to identify important bird areas (IBAs). In Arizona 4 criteria were used to identify sites. Any individual site was required to meet any one of those 4 criteria in order to qualify as an IBA. The 4 criteria are:

1. Sites important to species listed under the ESA or other special conservation status species.
2. Sites where significant numbers of birds concentrate for breeding, during migration, or in winter.
3. Sites that contain rare or unique habitat or are an exceptional representative of an ecological community type, and that hold important species or species assemblages largely restricted to that distinctive habitat or ecological community type.

4. Sites important for long-term research and/or monitoring or sites supporting educational programs in which a significant component of the program focuses on avian ecology.

Based on these criteria 26 IBAs have been identified in Arizona (Fig. 7). Each IBA represents an important conservation area for birds.

In addition to the above efforts, there are several regional habitat analyses by non-governmental organizations, contractors, and local governments that offer additional information and recommendations on land use and planning in support of wildlife resources. Recent analyses include: Sonoran Desert Conservation Plan (Pima County 2002); Sky Islands Wildlands Network (Foreman and others 2000); Wildlife Reference Document for Coconino County (Wildlife Workgroup 2003); Sonoran Desert Network Inventory and Monitoring Program (Gebow and others 2004); Mohave County General Plan (Mohave County 1995); Grand Canyon Wildlands Network (Grand Canyon Wildlands Council 2004); and the Integrated Natural Resources Management Plan and Environmental Assessment 2001-2005: U.S. Army Intelligence Center and Fort Huachuca (Trousil 2001). Each of these efforts identifies areas of high conservation priority and provides the Department with the opportunity to work with partners to insure the continuing protection of these areas.

Finally, many wildlife populations have very specific needs that are not necessarily met by landscape level conservation actions. In these cases, specific, localized actions are often needed to insure the well-being of those populations. The Department is working with numerous land managers and conservation partners on many site-specific activities to promote restoration and recovery of wildlife and wildlife habitats. Any number of circumstances can prompt site-specific conservation actions. Threatened or highly vulnerable species may require localized monitoring to insure their survival. An example would be active monitoring of bald eagle nests by Department volunteers and contractors. Small, geographically isolated populations with specific habitat needs are at risk of extirpation if those habitats are degraded or converted to other uses. Relocations and reintroductions of extirpated species may require habitat modeling, while many existing populations benefit from habitat improvements and removal of undesirable nonnative species. For example, the Fossil Creek renovation effort in 2004 involved removal of nonnative fish with the replacement of natives, following the return of natural stream flows to the creek with the decommissioning of the hydropower facility at Childs. Efforts are also underway to restore prime grassland habitat for pronghorn antelope through managing juniper encroachment, identifying and restoring important corridors, and restoring wetlands on Anderson Mesa.

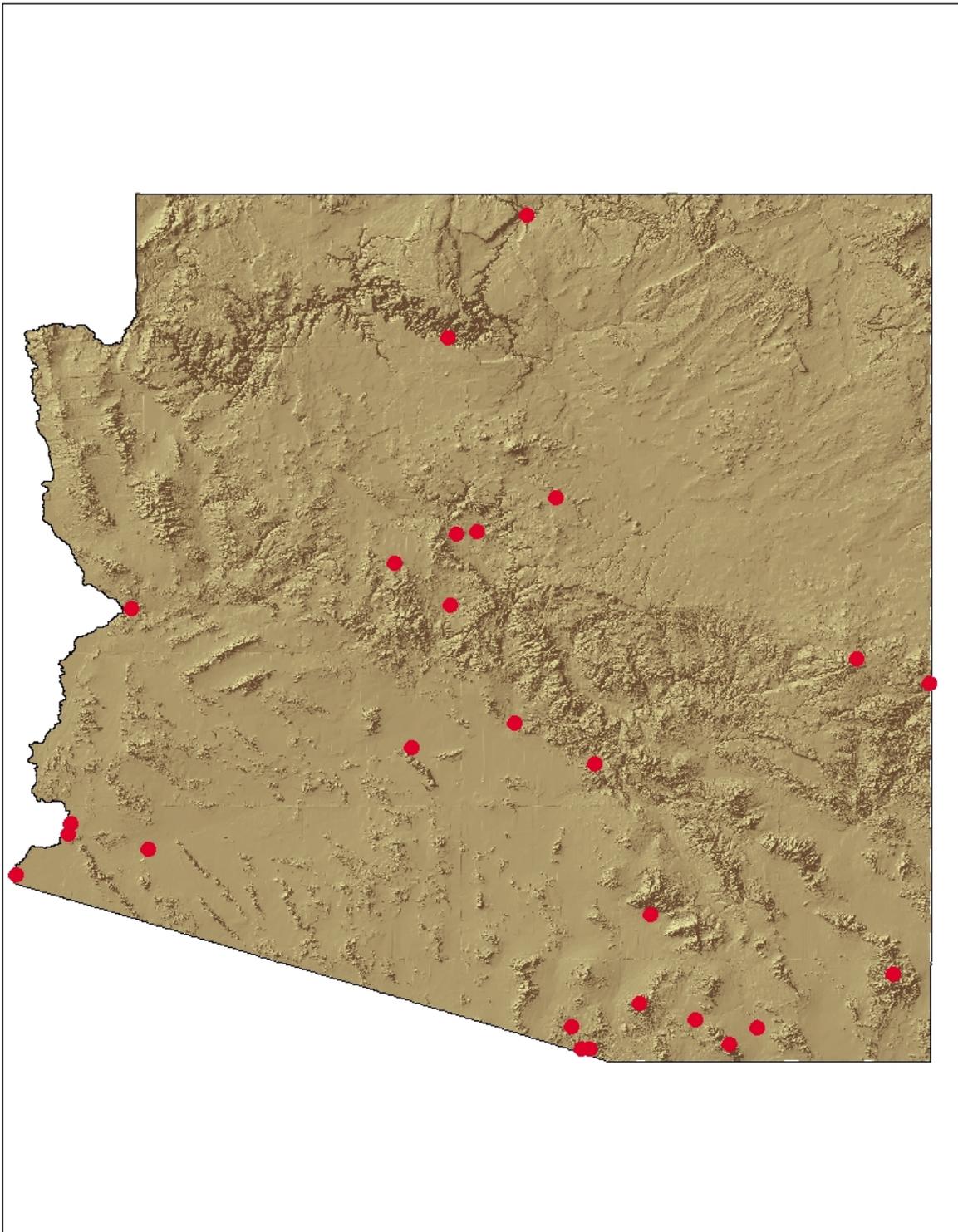


Figure 7. Center point locations of Arizona's 26 Important Bird Areas.

