

TRANSPORTATION AND HABITAT FRAGMENTATION IN SOUTHERN ARIZONA by Vanessa Bechtol, Arizona Open Land Trust

Rising from the landscape of south central Arizona are the magnificent Tumacacori and Atascosa Mountains, home to the endangered jaguar and other wide-ranging species. To the east are the San Cayetano Mountains, and farther northeast lie the Santa Rita Mountains with their notable 4,000-foot Mt. Wrightson peak. Linking one treasured mountain range to another is a picturesque valley containing grasslands and North America's densest stand of native cottonwood trees—a valley that serves as a linkage and corridor for wildlife to safely migrate from one core habitat area to another. Cutting through this area—valued equally for its majestic beauty and the habitat it provides—is Interstate 19.

Many roadways, like Interstate 19, fragment habitat and disrupt the connectivity of the landscape that is vital to the survival of many species. The deleterious effects of this fragmentation are well documented. Wide-ranging wildlife species need secure core habitat where human activity is limited and ecosystem functions are still intact so that their populations can flourish, and corridors that connect core habitat areas must be protected to allow movement from one core area to another and ensure the long-term viability of these species. Interrupted corridors additionally raise concerns related to the inhibited gene flow that will impact entire populations of species.

Another roadway, Interstate 10, cuts through rural areas in Pima and Cochise Counties. Future plans to widen this roadway between Tucson and Willcox and similar highway projects increase barriers to wildlife movement and further fragment habitat, forcing species into less suitable environs. Roadway projects throughout Arizona should consider wildlife habitat protection measures, along with funding to support and enhance wildlife crossings at appropriate locations, in the design phase of transportation plans.

The Arizona Open Land Trust has been working diligently with the Nature Conservancy, to protect wildlife habitat by mapping wildlife migration corridors and conservation targets throughout Cochise, Graham, Greenlee, Pima, Pinal, and Santa Cruz Counties, thereby expanding the wildlife corridor map to all six counties. Complementary efforts include the *Southern Arizona Habitat Conservation Priorities* project which involves identifying and protecting wildlife corridors that cross interstate and state highways as well as fragmented landscapes, The Nature Conservancy's *Apache Highlands and Grasslands Assessment*, and efforts and monitoring data of the Sky Islands Wildlands Network.

Results of these studies will provide a basis for substantiating the biological diversity of various landscapes throughout southern Arizona and for evaluating the potential impacts of future road improvements on habitat. Thus far, the project has identified important wildlife corridors crossing Interstate 10 in Cochise County and set in motion efforts with private land owners to protect important areas. Land protection through outright acquisition, purchase of development rights, or donation of conservation easements at major wildlife corridors will improve wildlife conditions by preventing the further subdivision of land, the increased presence of roads, and the urban encroachment into critical areas. Acquiring and protecting in perpetuity important wildlife corridors and installing wildlife-friendly crossings will ensure that wildlife such as the jaguar, black bear, mountain lion, and white tailed deer can safely travel throughout Arizona.

The Federal Highway Administration's website for Critter Crossings (<http://www.fhwa.dot.gov/environment/wildlifecrossings/>) provides examples of successfully implemented wildlife crossings. These can include land bridges, overpasses, underpasses, box culverts, or foliage. Retrofitting highways and major roads with wildlife crossings not only expands valuable habitat for wide-ranging species, but also diminishes animal-vehicle collisions that result in fatalities to both humans and animals.

For more information please contact Vanessa Bechtol, Project Director, Arizona Open Land Trust 520-577-8564 or vbechtol@aolt.org. or visit the Trust's website at www.aolt.org!