

Southwest Landscape Conservation Cooperatives

Landscape Conservation Cooperatives in the Southwest

The nation's landscapes and their component fish, wildlife and other natural and cultural resources are increasingly threatened by large-scale stressors. In the Southwest, prolonged drought, fire, and habitat fragmentation have had profound effects on the environment, communities and the economy. Working through partnership and collaboration, the region's Landscape Conservation Cooperatives are working to help identify and address pressing science needs that will help inform better management in the face of a changing climate.

Desert LCC

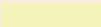
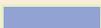
What do wildlife managers, water resource agencies, and tribal communities in Southwest deserts have in common? They all need to know how to sustain landscapes and livelihoods in an almost certain future of higher temperatures and prolonged drought. The Desert Landscape Conservation Cooperative (DLCC) is a self-directed partnership of agencies and organizations that share similar challenges related to water shortages, invasive species, and other landscape scale stressors.

By pooling partners' efforts and information, the DLCC helps address science focused on conservation of water, natural, and cultural resources for the three great deserts of the Southwest: Mojave, Sonoran, and Chihuahuan.



Chiricahua leopard frog and Sonoran Desert. Photo credit: USFWS.



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The DLCC is co-hosted by the U.S. Bureau of Reclamation (BoR) and the U.S. Fish and Wildlife Service (USFWS), and is directed by a Steering Committee that consists of 20 agencies, organizations, and tribes in the U.S. and Mexico. The Steering Committee has recently identified the primary science needs of DLCC partners, and has also identified on-going and future science projects to fill those needs. For example, the Sonoran and Rio Grande Joint Ventures bring information on which bird species are most vulnerable to environmental change. The BoR's West-wide Climate Risk Assessment provides scenarios of future water availability for humans and ecosystems. State agencies are providing maps of wildlife corridors and critical habitats to help with land use planning at broad spatial scales. Whether the issue is livelihoods or ecosystems, the DLCC illustrates the power of partners working together.



Great Plains LCC

The Great Plains Landscape Conservation Cooperative (GPLCC) is working to lead the development, facilitation and integration of science and management to ensure strategic natural resource conservation on the Great Plains. Temperate grasslands represent one of the most altered ecological systems on Earth; however, grasslands in the Great Plains still include an assemblage of over 2,000 native species of plants and animals. Playas, one of the most unique wetland ecosystems in the U.S., are also found in the Great Plains. Throughout the year, playas serve as biodiversity centers, hosting more than 200 species of birds and other wildlife. In addition, the Great Plains landscape overlays the world's largest aquifer - the Ogallala Aquifer - which is recharged by playa wetlands. Grasslands, playas, and the other unique habitats of the GPLCC support priority wildlife species such as lesser prairie-chickens, northern pintails, and the Arkansas River shiner. The GPLCC landscape faces several challenges, including balancing energy development with conservation. The GPLCC will focus its efforts over the next 18 months on science related to resources such as lesser prairie-chicken and aquatic systems, including playas, prairie streams and rivers, and associated wildlife. Specifically,



Lesser Prairie Chicken. Photo credit: © D. Holt

the GPLCC is addressing spatial data and science needs to support responsible energy development siting and targeted conservation delivery. The GPLCC recently provided funding to assist the development of a range-wide sampling framework for lesser prairie-chickens, and to support the state wildlife agencies implementing aerial surveys for the species across the chicken's five-state range.

Gulf Coast Prairie LCC

The Gulf Coast Prairie Landscape Conservation Cooperative (GCPLCC) encompasses portions of five states: Kansas, Oklahoma, Louisiana, Mississippi, and Texas, as well as three Mexican states in northern Mexico. The area includes nearly 100 million acres in what is described as the Gulf Coast Prairie, Tamaulipan Brushlands, Edwards Plateau, and Oaks and



Gulf Coast and the Edwards Plateau. Photo credit: USFWS.



Prairies ecological regions of the south-central U.S. and northern Mexico. Over the last century, the Gulf Coast Prairie region has been extensively modified due to human population growth, urban expansion, agriculture, and industrial development. This area has a rapidly growing population and current density of over 25 million residents. In 2011, GCPLCC partners witnessed the worst drought in recorded history and catastrophic wildfires. The GCPLCC assisted National Oceanic and Atmospheric Administration (NOAA) partners to convene two drought workshops as a forum to help deal with the effects of extended drought and fire. With this drought, the secondary impact of decreasing in-stream flows on rare mussel species was successfully managed through a recent agreement with the Gulf Coast Cooperative Ecosystem Studies Unit (CESU), which helps secure the genetic integrity of these rare species. A second project was launched to determine the effects of reduced stream flow which, when coupled with sea level rise, has devastating impacts on coastal habitats and species. This "Coastal Model" project was funded to determine the impact of these stressors on the many priority coastal species, including whooping crane.



Whooping Crane. Photo credit: USFWS.

Dana Roth, DVM, Assistant Regional Director, Science Applications
U.S. Fish and Wildlife Service, Albuquerque, NM 87102
505-248-6928 or Dana_Roth@fws.gov