



**SOUTHERN ROCKIES**  
Landscape Conservation Cooperative

# 2013 Annual Report

*The geography of the Southern Rockies Landscape Conservation Cooperative contains unique natural landscapes and a diverse tribal and non-tribal cultural heritage. Across all cultures, a unifying theme is the need for water and natural resources to sustain human life and maintain human activities that have socio-cultural and economic significance.*



LANDSCAPE CONSERVATION  
COOPERATIVES

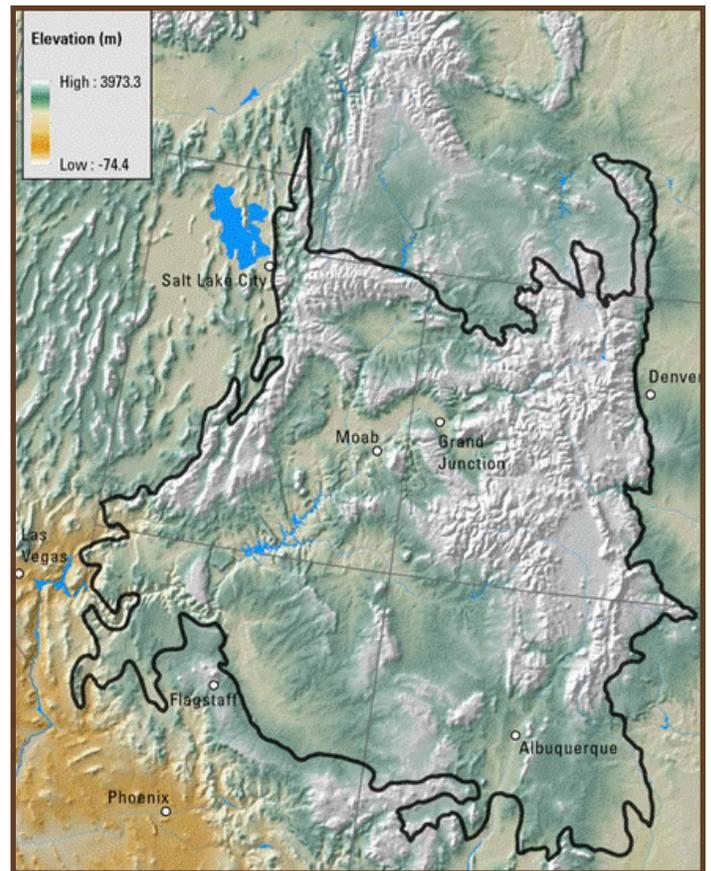
# The Southern Rockies Landscape Conservation Cooperative (SRLCC)

was initiated in April 2011. Since that time, the SRLCC has established itself as a diverse partnership. In 2013, SRLCC partners contributed over \$1.6 million to directly support science acquisition and capacity to address landscape-level conservation planning. Of the \$1.6 million, \$669,000 was leveraged for an additional \$808,000 in matching funds and/or in-kind services, generating a total of \$1.48 million for science that informs management decisions. This report highlights these science projects as well as accomplishments and activities of the partnership in 2013.

## ORGANIZATIONAL OPERATIONS

The SRLCC Steering Committee is comprised of 20 different federal, state and tribal agencies, regional partnerships, and non-governmental organizations. The Steering Committee member entities all have statute and/or programmatic authorities to implement management actions on the ground, develop policy addressing conservation, and/or develop science to support on-the-ground conservation for natural and cultural resources.

In July, 2013, the National Park Service hosted a Steering Committee meeting in Denver, CO. The meeting focused on results-to-date of our Strategic Synthesis and setting the partnership's science and conservation focus through selection of focal resources: Stream Flows, Cultural Resources, Native Fish, Mule Deer & Elk, and Sage Grouse. A second meeting, to be hosted by the Pueblo of Jemez, NM was postponed due to the shutdown of the U.S. Federal Government in October 2013. That meeting is being rescheduled for spring, 2014. A web meeting with the Steering Committee took place



The SRLCC geography spans a five-state region encompassing a diversity of habitats from alpine tundra to cold desert basins.

on November 19, 2013. During this call, the Steering Committee approved science needs and project themes for the 2014 Funding Opportunity Announcement, and selected Dave Anderson, Colorado Natural Heritage Program, as the Committee's new Vice Chair. The Vice Chair position opened when Warren Day, U.S. Geological Survey, transitioned from Vice Chair to Chair, replacing Becky Mitchell, Colorado Water Conservation Board, who completed her one-year term as Chair.

### Steering Committee member organizations



# LANDSCAPE CONSERVATION PLANNING FOUNDATION

## ◆ Strategic Synthesis for Delivery of Conservation Science

An important function of the SRLCC partnership is to deliver applied science to resource managers so they can build landscape resilience against the effects of climate change and other landscape-level stressors on shared focal resources (both natural and cultural). For the SRLCC to function properly, there needs to be definition and agreement among the partners on the focal resources, associated landscape-level conservation objectives and the strategies to reach them. Our 2013 Science Plan included a Strategic Synthesis for the Delivery of Conservation Science. There are three parts to the Strategic Synthesis:

- » Part One—Identification of Shared Resources and Priorities
- » Part Two—Identification of Priority Conservation Objectives and Science Needs
- » Part Three—Capacity Assessment and Strategic Conservation Framework

In completion of Part One, a convergence analysis was performed on information gathered from a review of 45 strategic documents from a variety of partners, interviews with Steering Committee member organizations, and a series of four workshops, one each in Arizona, Colorado, New Mexico, and Utah. Approximately 20-30 people attended each workshop, including representatives from state and federal agencies, tribes and non-profit organizations.

## ◆ Shared Priority Resources

The convergence analysis revealed five broad categories of resources that virtually all participants across the SRLCC geography are actively managing, researching, and/or have a vested interest in:

1. Alpine/Subalpine/Montane/Woodland Systems
2. Cultural Resources
3. Riparian, Riverine and Wetland Systems
4. Shrubland/Grassland Systems
5. Water for Society

*Elk have been identified by the SRLCC Steering Committee as a focal resource for landscape-scale collaboration.*

*Photo: National Park Service*

The Steering Committee recognized a focused, strategic pursuit of landscape sustainability required further refinement of these broad categories. Within each of these broad resource categories the convergence analysis further identified multiple elements (e.g., individual species, habitats, and ecosystem services) that are actively being managed by partners in the SRLCC. The Steering Committee, during their July 2013 meeting, formally directed the partnership's science and conservation focus for the next five years toward a landscape design that supports and sustains desired measurable objectives for five focal resources:

1. Stream Flows
2. Cultural Resources
3. Native Fish
4. Mule Deer and Elk
5. Sage Grouse

Parts Two and Three of the Strategic Synthesis (Identification of Priority Conservation Objectives and Science Needs, and Capacity Assessment and Strategic Conservation Framework, respectively) are planned for completion in 2014.



## SCIENCE, PLANNING, AND CONSERVATION DELIVERY

### ◆ Science for Partner Landscape-scale Efforts

The SRLCC continued to fund science that supports conservation goals and management decisions across the Southern Rockies landscape. These projects provide specific tools that can be used by resource managers making on-the-ground management decisions that help ensure landscape sustainability. In 2013, six research projects were funded.

#### Improving Seasonal Water Supply Predictions

The National Center for Atmospheric Research will collect and serve in-situ surface hydrometeorological data into existing, operationally-ready technology to improve seasonal streamflow predictions for water resources management under Inter-state compact constraints. The Colorado Water Conservation Board will use the data collection and modeling of snowpack conditions to increase accuracy of streamflow forecasts in the Upper Rio Grande Basin.

#### Near-term Climate Predictions for Water

Most climate analysis to date has focused on projecting what conditions will look like in 20-50 years. This project will look ahead only 10-15 years. Utah State University will produce a climate information resource for local water managers within the Wasatch Range Metropolitan Area to support planning for near-term needs.

#### Science-based Riparian Restoration Planning

The Nature Conservancy, through investigation of patterns in riparian and aquatic habitat complexity at tributary junctions on the regulated Colorado and Dolores rivers and identification of habitats and groups of species that may be more vulnerable to continued changes in flow, will develop a decision support tool. The tool will help identify the best locations for forest restoration and vegetation treatments.

#### Assessing Riparian Vulnerability

The U.S. Forest Service Rocky Mountain Research Station will develop an interactive guide to aid future vulnerability assessments of aquatic and riparian species and habitats to climate change with specific emphasis on the Colorado and Rio Grande Basins. The interactive tool will assist resource managers identify previous vulnerability assessments, reduce duplication of efforts and improve future assessments.

#### Conservation Planning Atlas

We are working with the Conservation Biology Institute to develop a web-based tool that facilitates integration of data-sets into conservation planning and informs management decisions. The Conservation Planning Atlas (CPA) is an online mapping and analysis platform allowing for analyses and evaluation of datasets and provides basic mapping capability to users without desktop GIS software.

#### Applied Hydrologic Modeling

The U.S. Department of Agriculture Valles Caldera National Preserve will assess how forest restoration actions (thinning and prescribed burning) and climate change impact hydrologic functions of the watershed. The project will focus on the Jemez Mountains in northern New Mexico, and determine the extent of thinning needed and quantify potential increases in water yield as a result of large scale forest restoration treatments.

## ◆ Completion of Earlier Funded Projects

### Vulnerability of Terrestrial and Riparian Habitats

Colorado State University has assessed terrestrial and riparian area vulnerability to climate and land use change across all of the SRLCC geographic area (including a 100 km buffer around our boundary). The vulnerability assessment followed the framework advanced by Glick et al. (2010) with adjustments to broader ecological levels (ecological systems and landscapes), rather than a focus on single-species.

► View project: <http://southernrockieslcc.org/?p=1099>

### Digitization of National Wetland Inventory Data

The Colorado Natural Heritage Program (CNHP) completed digitization of National Wetland Inventory data across western Colorado. The new data set can be used in conducting environmental reviews to evaluate projects for potential impacts to wetland species and their habitats. CNHP is also using the data for wetland condition assessment tools such as Floristic Quality Assessment, Vegetation Index of Biotic Integrity, and Ecological Integrity Assessment.

► Access wetland data: <http://www.cnhp.colostate.edu/cwic/location.asp>

### Soil Vulnerability

The Conservation Biology Institute has assessed soil vulnerability to future climate change in the Southern Rockies LCC, with implications for vegetation change and water cycles. The project developed a spatially-explicit soil vulnerability index for the entire Southern Rockies Landscape Conservation Cooperative and tested a vegetation model hindcast of plant response to drought that can be used to forecast the short-term response of plants to current drought conditions.

► View project: <http://consbio.org/products/projects/31>

### Southern Rockies LCC Node on LC MAP

The U.S. Geological Survey – Core Science Analytics and Synthesis group established a SRLCC catalog inside the Landscape Conservation Management and Analysis Portal (LC MAP) scientific data and information management platform. LC MAP provides a collaborative virtual workspace allowing partners to securely share, access, and analyze common datasets and information to further coordinated research, management, and resource conservation.

► More on LC MAP: <http://southernrockieslcc.org/?p=194>

## ◆ Conservation Planning and Delivery

The SRLCC supports efforts that fill key information needs for large-scale planning efforts across our geographic area.

### Gunnison Sage Grouse

The Gunnison Basin Climate Working Group developed a watershed-wide adaptation strategy for priority species and systems in the Gunnison Basin, CO. With SRLCC support, The Nature Conservancy and the Gunnison Basin Climate Working group completed vulnerability assessments on 24 habitats and 73 species across the Gunnison Basin landscape. They then developed conservation plans to address those vulnerabilities, and completed construction of over 100 projects on private lands in the Basin to improve or restore wetlands for

grouse brooding habitat. Monitoring efforts are now underway to measure results of those conservation delivery actions.

► View project: <http://southernrockieslcc.org/?p=589>

### Bear River Watershed Conservation Area

As a result of SRLCC support, the National Wildlife Refuge Association, in cooperation with the U.S. Fish and Wildlife Service completed an Environmental Assessment and Land Protection Plan for the Bear River Watershed Conservation Area (BRWCA). This planning document includes conservation design for native fish, sage grouse, and large mammals such as mule deer and elk — all of which are focal resources of the SRLCC.

On May 1, 2013, Dan Ashe, Director of the USFWS, approved and signed the BRWCA Environmental Assessment and Land Protection Plan.

► View BRWCA plan: <http://www.fws.gov/mountain-prairie/planning/lpp/ut/brr/brr.html#Description>

### Data Analysis and Delivery Capacity

Through partner contributions the SRLCC has developed capacity for data discovery, interrogation, and delivery of a variety of data in multiple formats for decision support needs of the Steering Committee, Science Work Group, and partners. Data analysis and delivery capacity exists in the following ways:

- » A collaborative effort with the USGS Southwest Biological Science Center has provided a full-time GIS Specialist/Data Manager. This position facilitates delivery of data in multiple formats as needed by the Steering Committee and Science Work Group decision makers.
- » A cooperative agreement with Utah State University, Bureau of Land Management, U.S. Fish and Wildlife Service and the Utah Cooperative Fish and Wildlife Research Unit is bringing to bear a full-time Data Extension Specialist who will assist land management agencies with analysis and application of large data-sets, such as BLM's Colorado Plateau Rapid Ecoregional Assessment to their specific resources, landscapes and management strategies.
- » A USGS Southwest Biological Science Center Research Ecologist is working with the SRLCC to provide ecological modeling expertise for landscape scale analyses. This position also provides original

research and technical support to the Steering Committee and Science Work Group.

### ◆ Decision Based Monitoring

From the first Steering Committee meeting held in April 2011, the Steering Committee has recognized the importance and challenges of monitoring, at both a local and landscape level. Our Governance Document specifically articulates one of the functions of the SRLCC partnership is: "Monitor and Evaluate landscape scale indicators, test scientific assumptions, and evaluate effectiveness of conservation actions to inform adaptive management decision making." To this end, our Science Work Group has consistently recommended a monitoring component to our yearly science acquisition efforts, and these recommendations have received full Steering Committee approval.

The SRLCC sponsored two years' worth of monitoring of the impacts of forest restoration treatments across 32,000 acres of ponderosa pine ecosystems in the Front Range, CO, as part of a Collaborative Forest Landscape Restoration (CFLRP) project. The findings will contribute to the adaptive management decision-making processes in the Front Range CFLRP, and inform CFLRPs implementing and evaluating similar restoration treatments in nearby states with pine-dominated forests

Active monitoring is now occurring in the Gunnison Basin, CO, where the Colorado Natural Heritage Program, with help from BLM and TNC have established monitoring transects and permanent photo-points to measure vegetation response to the restoration treatments implemented as a result of a SRLCC funded vulnerability assessments.

*To learn more about the Southern Rockies LCC, please visit our website or contact a coordinator.*

Kevin Johnson, Coordinator

Phone: 303-236-4404

Email: [kevin\\_m\\_johnson@fws.gov](mailto:kevin_m_johnson@fws.gov)

John Rice, Science Coordinator

Phone: 801-524-3685

Email: [jrice@usbr.gov](mailto:jrice@usbr.gov)



[southernrockieslcc.org](http://southernrockieslcc.org)