Great Basin
LANDSCAPE CONSERVATION COOPERATIVE

Annual Highlights 2012
About the GBLCC
The Great Basin Landscape Conservation Cooperative (LCC) is one of 22 LCCs nationwide established by the Department of the Interior (DOI) to better integrate science and management to address climate change and related issues. The Great Basin LCC is a self-directed partnership between bureaus and others involved in natural resource management and conservation.

What does the Great Basin LCC do?
In broad terms, the Great Basin LCC helps link and integrate science information providers with resource managers and science users; brings additional DOI resources to bear on landscape-scale conservation issues and opportunities; and helps to apply science and facilitate coordination on a wide range of efforts to respond to climate change, invasive species, wildfires, human development and other stressors across the Great Basin. The Great Basin LCC is currently developing science and traditional ecological knowledge priorities that will meet the objectives of the Great Basin LCC goals and objectives. The LCC does not replace existing organizations already accomplishing conservation work in the Great Basin, rather the aim is to facilitate, enhance and inform that work.

Mission
The Great Basin Landscape Conservation Cooperative enhances understanding of the effects of changing climate and other natural and human impacts across the region and promotes the coordination of science-based actions to enable human and natural communities to respond and adapt to those conditions.

Goals
• Provide leadership and a framework linking science and management to address shared ecological, climate, and social and economic issues across the basin.
• Focus science and management actions to sustain natural resources in the context of changing environmental conditions.
• Enhance collaboration to integrate science and management among Great Basin LCC partners particularly as related to climate change and other landscape-scale change agents.
• Promote communication and education.
Highlights from 2012

• Dr. Matt Germino, Great Basin LCC Research Ecologist, received funding to the following to conduct projects in the Great Basin:
  
  • The Northwest Climate Science Center (CSC) funded a study on sagebrush in the Great Basin. The project is evaluating the application of climate science as it relates to assessing the vulnerability of sagebrush ecosystems and habitat, in terms of their resistance to environmental change and human-related resilience in restoration.
  
  • USDA National Institute for Food and Agriculture (NIFA) rangeland grant for weather effects on soil stability following wildfire for post fire management treatments.
  
  • Dr. Germino and his students at Boise State University set up a large landscape-scale study to evaluate climate effects on post-fire vegetation recovery, in the Birds of Prey National Conservation Area. Warming and rainout treatments were installed in five of the 2012 wildfires there, along within unburned areas, working with a wide range of university and agency collaborators.
  
  • The Great Basin LCC developed a communications plan in 2012 with the objective of creating awareness and enthusiasm, imparting knowledge, sharing our values, and stimulating a desire to partner with the GBLCC.
  
  • Dr. Todd Hopkins and Dr. Mike Collopy, UNR, received a grant from the Joint Fire Science Program for a conference titled, “The Great Basin Consortium 3: A Landscape under Fire.”

Great Basin LCC Steering Committee

The Great Basin LCC Steering Committee is made up of agencies, non-governmental organizations, tribal and state representatives from the five-state Great Basin region. Since 2011, the Steering Committee has worked to finalize and adopt a Great Basin LCC charter; identify issue-based working groups; select a Leadership team; and set priorities for the Great Basin LCC. The Leadership team is composed of a Chair, Vice Chair and Past Chair, with rotating terms.

In January 2012, the Steering Committee identified priorities for the year, including: coordination of conservation science surrounding sage-dependent species and habitats; build upon the BLM’s Rapid Ecoregional Assessments (REA) efforts; and facilitate information transfer of cheat-grass die-off study outcomes.

Great Basin LCC Staff

Linda Kelly  
Coordinator

Dr. Todd Hopkins  
Science Coordinator

Dr. Matt Germino  
Research Ecologist
Additional Climate Science Center-Funded Projects within the Great Basin

Great Basin LCC staff work closely with the Northwest and Southwest Climate Science Centers to:

• relay management needs of resource managers to their scientists
• help craft their request for proposals
• serve as reviewers for proposals
• provide results of climate research to the field

From the Northwest Climate Science Center

• Contribution of landscape characteristics and vegetation shifts from global climate change to long-term viability of greater sage-grouse. Lead Principal Investigator (PI): Steven Knick (FY11).

• Modeling effects of climate change on cheatgrass die-off areas in the Northern Great Basin. Lead PI: Bruce Wylie (FY11).

• Disentangling the effects of climate and landscape change on bird population trends in the Western U.S. and Canada. Lead PI: Matthew Betts (FY11).

• Toward next generation downscaling for hydrologic prediction in the Pacific Northwest (using Multivariate Adaptive Constructed Analogs - Variable Infiltration). Lead PI: Dennis Lettenmaier. (FY11).

• Uncertainty and extreme events in future climate and hydrologic projections for the Pacific Northwest: Providing a basis for vulnerability and core/corridor assessments. Lead PI: Jeremy Littell. (FY11).

• Sagebrush ecosystems in a changing climate. Lead PI: Matt Germino. (FY12).

• Integrated scenarios of climate, hydrology, and vegetation for the Northwest (Jointly funded with the Pacific Northwest Climate Impacts Research Consortium). Lead PI: Phil Mote. (FY12).

• Climate, land management and future wildlife habitat in the Pacific Northwest. Lead PI: Emilie Henderson. (FY12).

From the Southwest Climate Science Center
http://www.swcsc.arizona.edu/

• Climate change vulnerability of Native Americans in the Southwest. Lead PI: Karletta Chief. (FY12).

• Downscaled climate and hydrologic response for California and the Great Basin. Lead PI: Lorraine Flint. (FY12).

• Climate change vulnerabilities and adaptation strategies to wildfire in the southwestern United States. Lead PI: Mark W. Schwartz. (FY12).
Publications, Presentations and Outreach

Dr. Matt Germino produced eight peer-reviewed journal articles in 2012 on plant-soil-climate relationships in upland landscapes of the western US, with a focus on fire effects and experimental evidence for climate effects.

Selected Staff Publications


• Dr. Todd Hopkins, Science Coordinator, was a contributing author to the “Adaptive Management: The U.S. Department of Interior Applications Guide”. The guide provides natural resource managers with tools to address the complexities and uncertainties of natural resource management under challenging conditions such as climate change. The guide includes case studies ranging from river flow management and protecting migratory birds to siting renewable energy projects, drawn from four areas important to the DOI and its partners: climate change, water resources, energy and human impacts on the landscape. The Applications Guide is available for download at http://www.doi.gov/ppa/upload/DOI-Adapative-Management-Applications-Guide.pdf.

Getting Connected

Great Basin LCC staff supported a number of conferences and meetings, discussing and promoting the Great Basin LCC and its initiatives—a few of highlights:

Presentations

Linda Kelly and Dr. Todd Hopkins gave more than 25 presentations to 1,500 people on the Great Basin LCC this year. Some highlights include presentations to:

• The Western Regional Partnership
• The Western Working Group of the Partners in Flight Program
• the Great Basin Native Plant Selection and Increase Project
• the Tahoe Science Consortium
• the Idaho and Nevada BLM Leadership Teams

Dr. Matt Germino gave a keynote address at the National Science Foundation western states EPSCOR meeting on the role of the Great Basin LCC and federal collaborative initiatives.

The GBLCC participated in the development of the National Landscape Conservation System strategic plan in Nevada and presented on the GBLCC at the NLCS workshop in Albuquerque, New Mexico. A great deal of interest in the LCCs was expressed by managers and resource specialists throughout the country, specifically about how they could tap into the LCC community.
Support Workshops
Linda Kelly served on the organizing committee for the National LCC workshop in Denver, CO in March 2012, with nearly 400 attendees from across the nation.

The Great Basin LCC supported the Pacific Northwest Science Conference in Boise over the summer. The Pacific Northwest Climate Science Conference provides an annual forum to exchange scientific results and policy and management options related to climate change and climate impacts research.

Planned Conference
The entire staff took the lead in planning and preparing the 2nd Great Basin Consortium Conference in Boise, ID. This conference, held in January 2013, brought together 175 managers, scientists, students and others interested in the Great Basin and the challenges and opportunities we face together now and in the future. Keynote speaker and GBLCC Past Chair Mike Pellant, presented Reflections after 30 years of tackling the Cheatgrass/Wildfire Cycle in the Great Basin with Linda and Todd sitting on two conference panels discussing the path forward for the Great Basin.

Central Great Basin and Range Rapid Ecological Assessment (REA)
The Great Basin LCC will assist BLM with the Central Great Basin and Range REA Challenges and Opportunities Report.

During the June 2012 Great Basin LCC Steering Committee webinar, members approved Great Basin LCC support of the BLM’s Central Basin REA by the development of a recommendations report following completion of the assessment. The report will propose key actions participating agencies may take over the next three to five years. The Great Basin LCC will assist the BLM in developing a recommendation framework that will reach stakeholders and provide recommendations for the ecoregion. Products from the REA will be released as they are finalized and, concurrently, the Great Basin LCC staff is working on a draft plan of action to develop the report.

What are the greatest risks facing the Great Basin?

A word cloud created from attendee input at the Great Basin Consortium
Great Basin Climate Forum: 2012 Outlook

In partnership with the Desert Research Institute and the California Nevada Applications Program, the GBLCC launched a one day series for public and private land owners, resource professionals and interested individuals who are involved in resource management in the Great Basin. Three forums were held – two in Reno, NV and one in Klamath Falls, OR, highlighting topics and discussions summarizing the current climate conditions in the Great Basin. One of the goals was to provide resource managers timely and relevant information about current climate conditions and to support near term management decisions. Those who couldn’t participate in person had the opportunity to participate via webinar. The graph below highlights participant responses to using climate-related information in management decisions.

Comments gleaned from the exit survey cards from all three Climate Forums:

“I’ve been to two Forums, and found them both very informative.”

“Excellent Forum, I learned a lot, and it was well worth my time.”

“I will ensure that my agency will participate and attend all future Climate Forums and I strongly encourage you to continue these forums.”

“The Forum was a great experience to learn about the issues and to connect with other environmental professionals.”

“I am always interested in applied climate information and I enjoyed the mix of presentations and the afternoon exercise”

“Beyond the high quality of the presentations, the opportunity for networking was very valuable.”

How many times a month do you use climate or weather related information in management decisions?
Climate Forum Co-sponsors

Great Basin LCC Staff and Partners

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Steering Committee Member Organizations

Bureau of Land Management
California Department of Fish and Game
Duckwater Shoshone Tribe
Eastern Nevada Landscape Coalition
Farm Service Agency USDA
Great Basin Cooperative Ecosystem Studies Unit (GBCESU)
Great Basin Environmental Program (GBEP)
Great Basin Research and Management Partnership (GBRMP)

Great Basin Water Network
Lahontan Audubon Society
Natural Resources Conservation Service
Nevada Association of Counties
Nevada Department of Wildlife
Nevada Mining Association
PacifiCorp
Paiute Indian Tribe of Utah
Partnership for National Trails
Public Lands Council
State of Utah
The Nature Conservancy
US Fish and Wildlife Service
US Forest Service
US Geological Survey

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