CA LCC

California Landscape Conservation Cooperative

Annual Report 2013

Exerpts from Steering Committee members during the December 2013 meeting

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About the California LCC

Vision

California supports a diverse and thriving ecosystem through lasting cooperative partnerships.

Mission

The CA LCC is a management-science partnership created to inform and promote integrated science, natural resource management and conservation to address impacts of climate change and other stressors within and across ecosystems.

Geography

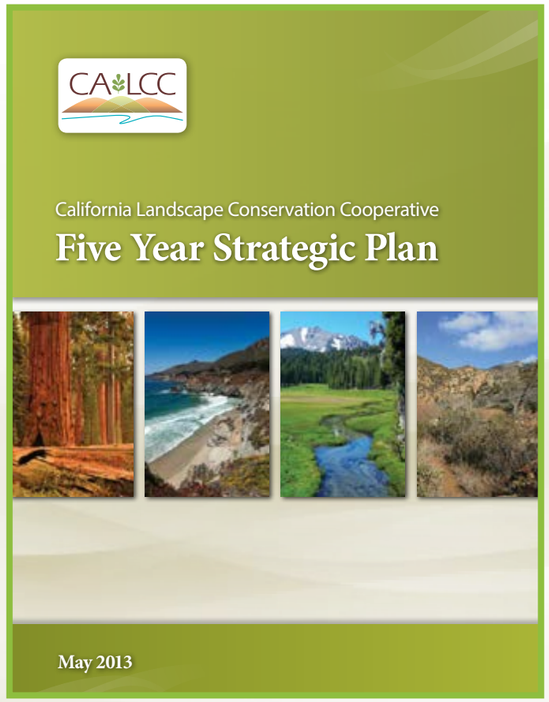
The CA LCC encompasses eight ecoregions in California including the Sierra Nevada, Central Valley, Bay Delta, North Coast, Central Coast, South Coast, Baja California and adjacent marine areas

CA LCC staff pictured from left to right: Andrea Graffis, Communication Coordinator, Rebecca Fris, Science Coordinator, Debra Schlafmann, Coordinator and Karen Thorne, Science Advisor

Key Successes

Five Year Goal

A growing community of resource managers, scientists, conservation practitioners and others that are successfully collaborating to advance and implement actions that promote resilient and adaptable ecosystems across the landscape in the face of environmental change.



Strategic Plan

In May 2013, the CA LCC Steering Committee finalized our 5-Year Strategic Plan. The Strategic Plan outlines how the California LCC will fulfill the five-year goal through three overarching Objectives:

1) Conduct and coordinate information exchange between scientists and managers to advance decision-making and conservation at a landscape scale.

2) Enhance climate-smart conservation* on a landscape scale.

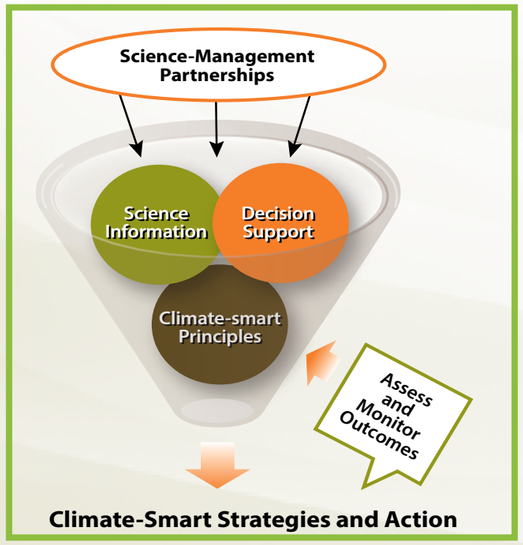
3) Ensure CA LCC provides effective and lasting outcomes that support California's diverse and thriving ecosystems.

*Climate-smart conservation is defined by the California LCC as the intentional and deliberate consideration of climate change in natural resource management, realized through forward-looking goals and linking actions to key climate impacts and vulnerabilities.

Key Successes

Science-Management Framework

In December 2013, the CA LCC Steering Committee approved and adopted the 5-Year Science-Management Framework. As called for in the Strategic Plan, the Science-Management Framework outlines key management questions and identifies priority science needs to help natural resource managers implement climate-smart conservation strategies and actions. The CA LCC convened a diverse Science-Management team of over 20 resource managers and scientists that included federal, state, university, and NGOs to develop the Science-Management Framework which was adopted by the CA LCC Steering Committee.



Our Science-Management Framework includes four Objectives:

1) Support ten or more placed-based projects across all CA LCC Ecoregions that lead to climate-smart conservation by resource managers.

2) Implement at least two interdisciplinary projects to assess and address climate change impacts to priority ecosystem processes at a landscape scale.

3) Develop two landscape conservation designs to provide a spatially explicit blueprint that will support climate-smart conservation outcomes.

4) Apply lessons learned from place-based ecosystem processes projects and landscape conservation design to implement climate-smart strategies and actions.

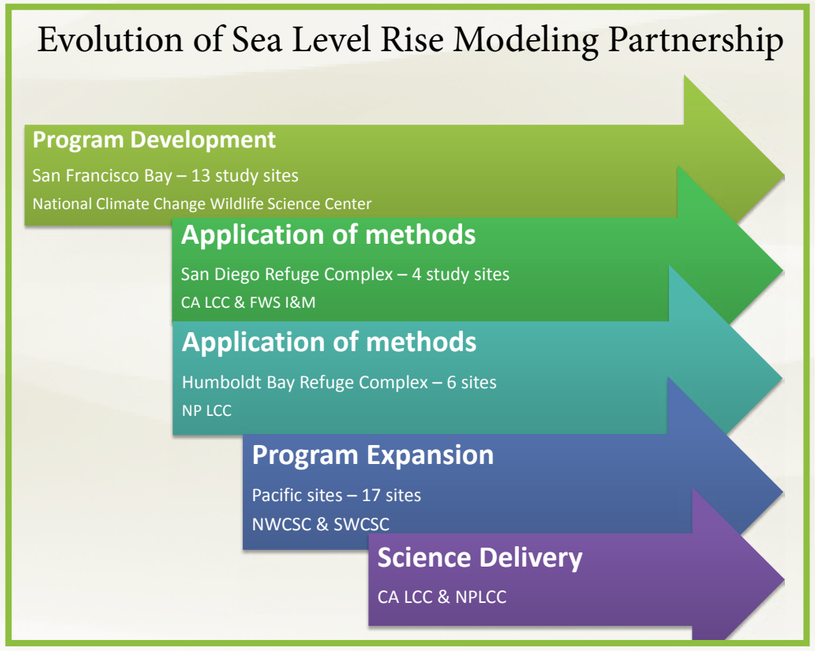
Partnerships Leveraged

Leveraging Quantified

From the start, California partners recognized the benefit of working together on climate effects to the environment and pursuing a coordinated response to natural resource management actions. Our strong partnership has produced strong leveraging of CA LCC funds. Since 2010, 27 CA LCC projects have been leveraged by partner funds over two and a half times equaling $8.8 million. Leveraged partner support for CA LCC projects comes from over 40 federal, state and local agencies, universities and non-governmental organizations. A criteria for future CA LCC projects is the support by partner organizations.

Example Project

"Sea Level Rise Modeling Across the Pacific Coast" is a continuing project that exemplifies effective CA LCC partnership leveraging. Through the below network of partnerships, the CA LCC is investigating the potential for sea-level rise to alter wetland ecosystems and wildlife populations along the Pacific coast. Results are being translated in a format relevant to refuge managers and other DOI partners for on-the-ground decision making. Throughout the geography of this project, workshops are being held to deliver tailored site specific data and decision support tools.



Conservation Design

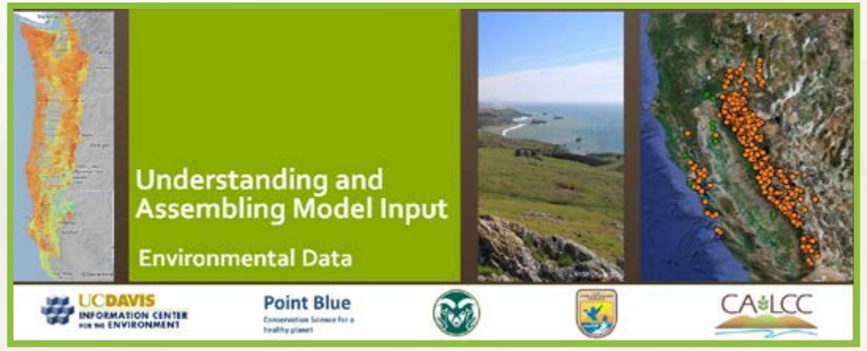
Conservation Design was identified as a key Objective in the CA LCC 5-Year Science-Management Framework. Conservation Designs seek to spatially represent a suite of conservation areas, connectivity and transition zones needed to achieve conservation in a strategic and collaborative fashion. In 2013, the Central Valley was identified as the location for a pilot Conservation Design in FY14. Rationale of the need for a Conservation Design in the Central Valley includes:

- The Central Valley has been identified by partners and stakeholders as one of the highest impacted regions in California by increasing temperatures, drought, loss of habitats and an area of importance for endangered species and migratory bird management.
- Partners of the CA LCC including the Central Valley Joint Venture and US Fish & Wildlife Service National Wildlife Refuges have requested assistance from CA LCC to provide support and coordination for Conservation Design.
- The National Resource Conservation Service and Resource Conservation Districts are seeking assistance to respond to private landowners need for climate-smart conservation tools.
- The California State Wildlife Action Plan identifies connectivity in the Central Valley as a major need. The newly emerging Bay Delta Conservation Plan and California Climate Adaptation Plan can be supported.

Conservation Planning Workshops

◊ A set of Species Distribution Modeling and Conservation Planning Workshops were held in September 2013 in partnership with UC Davis and Point Blue Conservation Science, to demonstrate spatial decision support tools to inform climate-smart conservation. Over 50 natural resource managers and scientists from 14 agencies and organizations attended these workshops. A 326 document reading list, ten presentations and five learning exercises from the workshops are available on the Climate Commons website from this effort. Key topics covered in these workshops included:

- Species distribution models
- Conservation planning prioritization
- Integrating climate change with conservation management



Adaptation Workshops

◊ In March 2013, the Southern Sierra Nevada Change Adaptation Workshop brought together over 170 scientists and resource managers from over 60 organizations to work through the question "Given uncertain and rapidly changing conditions in the 21st century, how do we best achieve our shared conservation goals for the Southern Sierra Nevada Region?"

Assessing Inventory & Monitoring

Providing a Place for Data and Learning

In 2013, CA LCC presented ongoing assessment, inventorying and monitoring efforts (e.g. climate, fog, SLR and migratory birds) through 17 webinars, 8 workshops, 31 event presentations and 54 publications, reports or articles. In addition, the US Fish and Wildlife Services' Region 8 Refuge Inventory and Monitoring Program used data housed by the CA LCC Climate Commons to assess hydrological regimes of refuges to meet water needs and availability.

Example Project

"A Monitoring Protocol to Assess Wintering Shorebird Population Trends (Pacific Flyway Shorebird Survey)" - Working with all three Joint Ventures in California, a monitoring protocol was developed for assessing shorebird population response to climate change across the Pacific Coast. This project maximizes the value of monitoring data to inform adaptive conservation and management by:

- Designing monitoring protocol to assess trends and habitat associations of species
- Involving both citizen scientists and professionals
- Designing standardized monitoring protocol to be simple yet statistically robust

Partner Highlights

California Department of Water Resources Commitment

Michelle Selmon has been the Climate Change Specialist and Senior Environmental Scientist for the California Department of Water Resources since 2009.

Michelle bas been involved with the CA LCC since its inception in 2010. In addition to serving as the new Vice Chair on the Steering Committee, she is the chairperson for the CA LCC Tribal/Traditional Ecological Knowledge Team and is a member of the CA LCC Communication Team. Her enthusiastic dedication to CA LCC activities is driven by recognition that impacts of climate change could unravel decades of hard work to protect species from extinction.

US Forest Service Leadership

Diana Craig is the Deputy Director for Ecosystem Management for the Pacific Southwest Region of the U.S. Forest Service.

Ms. Craig has been involved with the CA LCC since its inception in 2010 and an integral partner in the development of our Vision and Mission. Ms. Craig provided expert leadership and invaluable contribution to the development of the CA LCC as the first CA LCC Steering Committee Chair from October 2011 to December 2013. She is continuing her CA LCC involvement as a Steering Committee member and a partner in identifying other USFS participants and projects.

USGS Partnership

Ben Landis is the Science Communicator representing the U.S. Geological Survey's Western Ecological Research Center (WERC) on the Communication Team, and volunteered to be Team Chair.

With USGS WERC leadership, the Communication Team is developed a 5-year Communication Framework. "It is really great to work with expert communicators from other LCC affiliates, and to pool our experiences and advice. Hopefully, this inaugural framework will help guide LCC outreach activities, and help all LCC affiliates advance climate-smart conservation in California."
–Ben Landis

Demonstrating Success and Translation – Adaptation Strategies for the Sierra Nevada

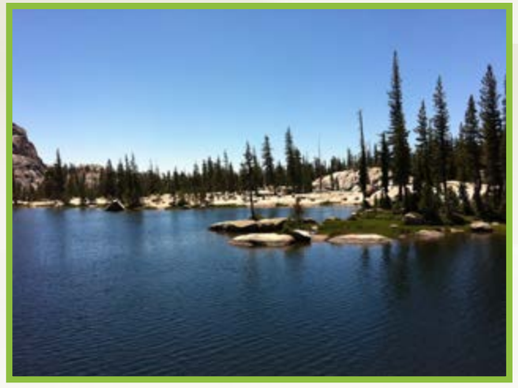
This U.S. Forest Service led project supported a collaborative effort of over 15 agencies and organizations to develop a large scale vulnerability assessment for 27 priority resources of the Sierra Nevada. Resources identified for assessment included 8 ecosystems, 15 species and 4 ecosystem services. Adaptation strategies that were collaboratively developed include:

- Alpine and Subalpine Systems – Greater use of managed wildfire to restore stand structure, promote diversity and reengage key ecosystem processes.

- Mountain Yellow-Legged Frog – Prevent establishment of predators and/or competitors with expanding ranges due to climate change by maintaining and improving fish barriers to prevent invasion into fishless systems.

- Oak Woodlands – Facilitate oak species translocations by planting seedlings with favorable genotypes for future conditions in suitable future habitat locations.

This project provided the opportunity to allow climate-smart management of forest resources to be collaboratively considered early in the new forest planning processes, rather than retrospectively or not at all. The success of this project and clear transferability of methods has led to interest in vulnerability assessments and adaptation planning of this type from numerous other agencies and organizations throughout California.



Transferable methodologies from the Sierra Nevada project include:

- A template for conducting workshops

- Identifying shared management and conservation goals for resources

- Creating adaptation strategies to reduce vulnerabilities of resources

- Identifying more specific actions that resource managers can implement

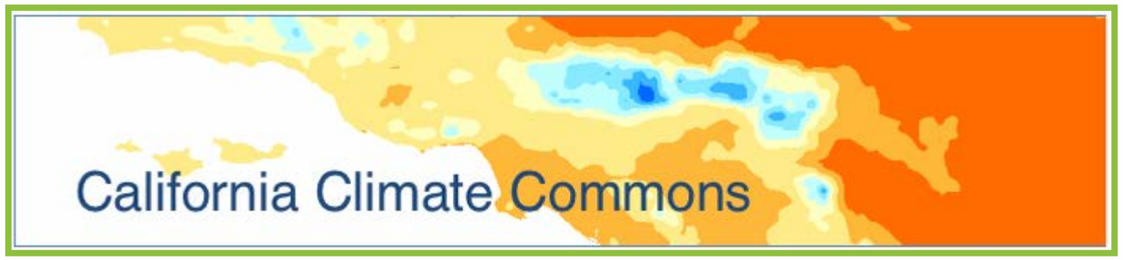
- Identifying implementation needs to facilitate incorporation of adaptation planning and management activities

The Sierra Nevada project demonstrates how the CA LCC facilitates complex multi-sector conversations to prioritize limited resources under rapidly changing ecological conditions. The successful methodology* used in this project is being transferred for use in the North-central California coastal and ocean ecosystems in an emerging effort led by the Gulf of the Farallones National Marine Sanctuary. Consistent with methodologies developed, this project will be completed with the cooperation of federal, state and non-governmental organizations managers and scientists.

These projects are excellent examples of place-based projects as outlined in the CA LCC Science-Management Framework. In the future, the CA LCC will continue to bring climate-smart vulnerability assessments and adaptation planning efforts to locations throughout the CA LCC geography.

*Also known as Strategic Habitat Conservation by USFWS and USGS.

Communication Highlights



The California Climate Commons offers:

- Climate change data and related resources
- General information about climate change science
- The opportunity to communicate with others about climate change science
- Scientific products from CA LCC-funded research projects

Climate Commons Usage

In 2013, the Climate Commons achieved increased usage. We now have over 220 registered users, who are from diverse organizations. One of the most utilized data sets is from the California Basin Characterization Model, an important dataset for evaluating potential climate and hydrological futures for California's watersheds with a changing climate.

CA LCC Project Data Sharing

In 2013 we developed the CA LCC Data Management Plan system and supporting materials. Project Leads are assisted by CA LCC staff in the creation of their Data Management Plans. Throughout a project, we catalog the products and offer hosting services to ensure accessibility of the results to a wide audience.

If project partners need assistance with hosting and serving their research or workshop results, we assist by hosting materials on the Climate Commons. An example of this from 2013 is the Southern Sierra Change Adaption Workshop.

Communication Highlights

CA LCC Newsletter

The CA LCC Newsletter is sent to a wide audience via email weekly. The subscribership consists of over 725 individuals and growing at a rate of 15 new subscribers per month over the last 6 months of 2013. Materials presented in the CA LCC newsletters include information and links for:

- CA LCC and partner events (e.g., workshops, webinars, meeting)
- CA LCC project updates
- Climate Commons highlights (e.g.., articles, new datasets)
- CA LCC and partner funding opportunities
- Climate Science Center updates and links
- Recent news and publications relating to climate change or other stressors. Information is focused on applicability to California resources and/or decision-makers.

Our Newsletter is used by subscribers in significantly higher (30%) rates than the industry average (24%) on a regular basis. We hope to continue to increase the value and use of our newsletter to our partners.

Science Delivery

Through 2013, CA LCC projects produced over 120 products that included workshops, publications and reports, and data sets. Below are some example CA LCC products and a pie chart depicting the deliverable distributions.

Workshops & Presentations

- Sierra Nevada Adaptation – Sacramento, CA, June 2013
- Climate-Smart Actions for Natural Resource Managers – Palo Alto & Oakland, CA, September & November 2013
- Landscape Connectivity and Climate Change Refugia Across the Sierra Nevada – Sacramento, CA, December 2013
- US Fish and Wildlife Service, San Pablo Bay National Wildlife Refuge "Sea-level Rise Impacts to Tidal Marsh Habitats for San Francisco Bay" – March 2013
- California Association of Resource Conservation Districts, "Integrated Scenarios for Habitat Threat Assessment on California Rangelands" - November 2013
- Bay Area Ecosystems Climate Change Consortium Climate Smart -Conservation Workshop "California Climate Commons" – November 2013

Webinars & Videos

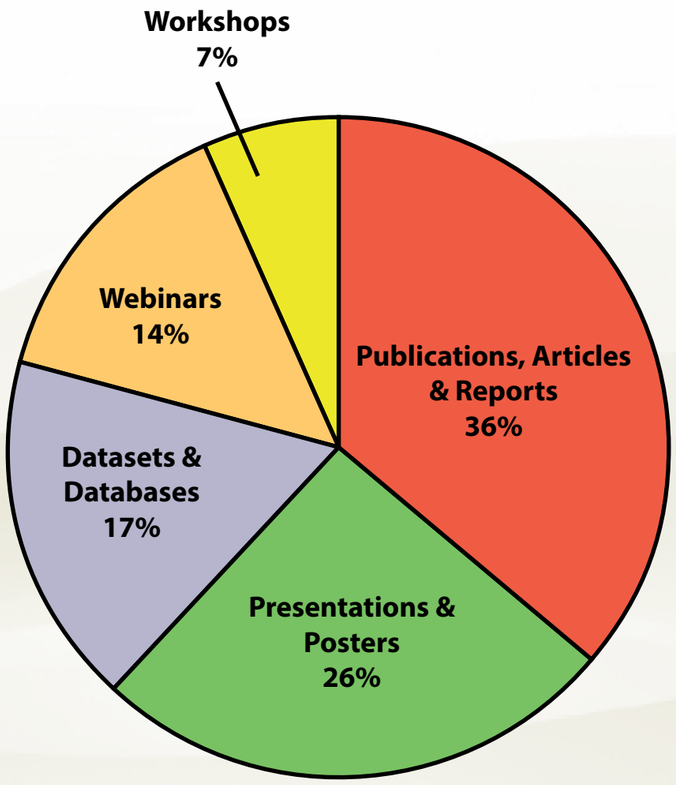
- Maximizing Evolutionary Potential Under Climate Change in Southern California Protected Areas – February 2013
- Climate Change/Land Use Scenarios for Habitat Threat Assessments on California Rangelands – March 2013
- Pacific Coastal Fog: Developing Ecologically Relevant Fog Datasets– May 2013
- Decision Support for Climate Change Adaptation and Fire Management Strategies for at Risk Species in Southern California – June 2013
- Effects of Climate Change on Inland Fishes of California – July 2013
- Determining Landscape Connectivity and Climate Change Refugia Across the Sierra Nevada – August 2013
- Sierra Nevada Birds and Climate Change – November 2013

Literature & Web resources

- Estuary News Magazine: CA LCC Special Insert - January 2013
- Climate Change Vulnerability of Native and Alien Freshwater Fishes of California: A Systematic Assessment Approach – May 2013.
- National LCC Project Catalog – June 2013
- Fog and Redwoods: Demystifying the Mist – June 2013
- CVJV Newsletter: Accounting for Climate, Urbanization, and Water Supply Management in Wetland Habitat Conservation Planning – August 2013
- A Ghost Town's Second Life as a Climate Refuge for Rodents - November 2013
- Reducing Climate Risks with Natural Infrastructure – December 2013
- 14 New Climate Commons articles overall for 2013

Science Delivery

CA LCC 2013 Project Deliverables (n=127)



For more information,
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