

Southern Sierra Change Adaptation Workshop February 20-22, 2013 in Visalia, CA



This two-and-a-half-day workshop brought nearly 170 land managers, conservation practitioners, and education partners together from across the southern Sierra Nevada region to dialog with each other and address 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?*

After hearing keynote talks about agents of change, natural resource conditions, and the human dimension, participants tested a change adaptation framework (Fig. 1) through a series of exercises. They identified shared values, discussed resource vulnerabilities, assessed current objectives in light of these vulnerabilities, and brainstormed potential revised climate-smart objectives. Participants described management strategies for both the persistence of valued resources as well as ways to facilitate desired transformation when persistence is not possible. Speakers from agencies, universities, and non-governmental organizations presented talks on vulnerability assessments, adaptation strategies, and more. Line officers or representatives from several agencies also spoke on a panel about shared regional values, facilitating an open and informative discussion of the challenges ahead.

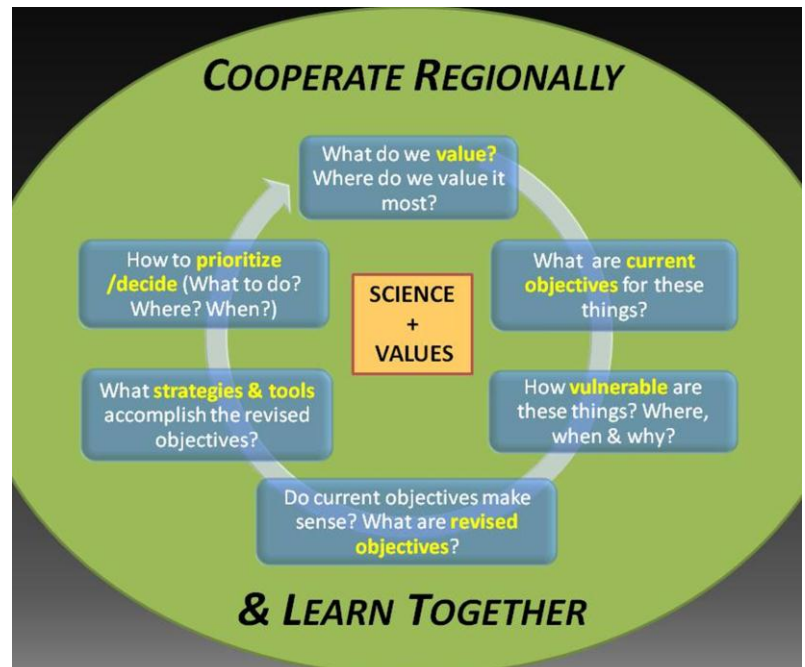


Figure 1: The change adaptation framework tested in the workshop.

By the end of the workshop, participants had identified shared values within the southern Sierra, described vulnerabilities of six focal resources to climate change and other stressors, drafted potential revised objectives for these resources, and identified potential strategies and management tools to meet these objectives (see box, next page). Results indicate that current management actions alone are not likely to accomplish current objectives, especially under rapidly changing conditions. In some cases, the current objectives were still deemed acceptable, but participants recommended changing how management is carried out. In other cases, current objectives were revised in light of changing conditions. The suggestions for on-the-ground management actions and for policy changes focused on resistance or resilience strategies. In contrast, research/monitoring and education actions generally focused more on facilitating transformation to novel conditions or planning for extreme events. Please read the workshop report for details of these results.

Participant Responses

Top values for the southern Sierra Nevada:

- 1) Hydrologic resources (e.g., water quality and quantity)
- 2) Human connections to the environment
- 3) Biodiversity

Top criteria used to establish values:

- 1) Public support
- 2) Cross-regional benefits
- 3) Vulnerability of value/ability to triage

Top stressors:

- 1) Fire (both lack of fire and undesirable fire effects)
- 2) Pollution (air and land based)
- 3) Non-native species, recreational use, and climate change

Top strategies:

- 1) Managed fire
- 2) Education
- 3) Experimentation and monitoring

Constraints to Implementation:

- 1) Cost (i.e., sustained financial support)
- 2) Agency regulations and culture
- 3) Public concerns

Tools to Overcome Constraints:

- 1) Public support
- 2) Collaboration
- 3) Education

Emergent Themes:

- Protecting single species versus managing for the ecosystem.
- Focusing on at-risk areas/values versus investing in those likely to persist in spite of change.
- Some agencies can do certain strategies more easily than others.
- Some strategies accomplish multiple resource objectives (co-benefits).

Several themes emerged from the workshop. For example, should managers focus effort on conserving species versus ecosystems? Should managers protect locations/values that are most at-risk or those that are most likely to persist? Are these really trade-offs or can multiple objectives be accomplished over a regional landscape?

Participants acknowledged that agencies have varying abilities to carry out different strategies and that some strategies benefit multiple resource objectives. By working regionally, we can take advantage of these differences and co-benefits.

This workshop represented the first of many steps in adapting to changing conditions in the southern Sierra. Overall, participants and members of the planning committee agreed that this was a good starting point, but that more effort, dialogue, and process development are needed to plan for and implement change adaptation strategies, especially from a regional perspective. In the post-workshop survey, many participants noted that the adaptation framework would be useful to their planning efforts, but it will require further development before integration. We expect to modify the approach using lessons learned described in the workshop report.

Critical topics identified for future efforts include public engagement (how to understand and integrate human connections to the environment), technical aspects of adaptation actions (how to apply new strategies or change the way existing tools are applied), and methods for prioritization (how to decide where and when to act).

Workshop materials, including the report, will be hosted on the California Climate Commons website, which also will host an online forum to facilitate discussion.

<http://climate.calcommons.org/aux/sscaw/index.htm>

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