WORKSHOP #5 EXECUTIVE SUMMARY | ADAPTATION STRATEGIES & ACTIONS FOR PRIORITY NATURAL RESOURCES

CENTRAL VALLEY LANDSCAPE CONSERVATION PROJECT

May 10th & 11th, 2016

Table of Contents

Project information and products are available at
http://climate.calcommons.org/cvlcp

The Workshop Detailed Notes and all materials from the Adaptation Strategies Workshop may be found at http://climate.calcommons.org/cvlcp/adaptation-strategy-workshops

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1. Project Background

The Central Valley Landscape Conservation Project is an effort by the California Landscape Conservation Cooperative and a conservation partnership to cooperatively agree on strategic climate-smart adaptation goals, objectives, strategies, and actions for the California Central Valley landscape. The approach follows the Climate-Smart Conservation cycle and involves the following steps: 1) Define goals and identify priority natural resources; 2) Assess vulnerability of priority natural resources; and 3) Identify adaptation strategies and actions. Adaptation strategies will then be carried out by the partners, informed by the results of the project delivered as maps and information in an online toolbox.

The Project began by collecting and reviewing existing Central Valley conservation efforts. In Workshop #1 (October 2014) partners developed conservation goals; Workshop #2 (March, 2015) focused on scenario planning; and in Workshop #3 (June, 2015) partners identified Priority Natural Resources for vulnerability assessment and adaptation strategy planning. Vulnerability Assessments were developed for all of the Priority Natural Resources in Workshop #4: (October 8-9, 2015).

This executive summary reports on the results of Workshop #5: Adaptation Strategies & Actions, held on May 10-11, 2016.

2. Workshop Description

Fifty-two experts in Central Valley species and habitats from twenty-four Central Valley resource management or scientific organizations participated in a two-day-long workshop on May 10th and 11th, 2016, with the goal to develop adaptation strategies and actions for Central Valley Priority Natural Resources based on the results of vulnerability assessments from the workshop conducted in October 2015.

Participants were split into two groups per Habitat Group (Riparian/Riverine A/B, Upland A/B, Wetland A/B, and Desert/Grassland A/B) based on their expertise, and asked to collectively complete separate adaptation strategy and action worksheets for each of their group's identified sub-habitats, species groups, and individual species. Following group work, discussions were held with all the participants to clarify and further explore ideas proposed across the groups, and provide general feedback.

Workshop Objectives:

1. Review the results of the vulnerability assessment for Priority Natural Resources from the workshop conducted in October 2015.
2. Provide an introduction to and exploration of adaptation planning approaches, including presentation of case studies and examples.

3. Develop adaptation strategies and actions to reduce the identified stressors and/or increase the adaptive capacity of resources to climate change, and increase positive long-term outcomes for regional management goals.
4. Evaluate adaptation actions including implementation feasibility and effectiveness, and identifying what, where, and when to implement.
5. Discuss needs for spatial analysis and mapping to facilitate adaptation planning.

3. Adaptation Strategy and Action Results

Each of the working groups reported on the high-level findings they wished to share with the group (e.g., findings for certain PNRs, across PNRs, interesting ideas, etc.). Some working groups reported out for both working group A and B of their associated habitat. Brief plenary discussion followed after each working group's report-out. Below are highlights, and more detailed notes can be found in the Workshop Detailed Notes on the project website.

RIPARIAN/RIVERINE

- Improve linear connectivity of the riparian vegetation and the hydrologic connectivity between rivers and floodplains.
- Improve integration of policy with science. Substantial research has already been conducted to support the importance of habitat connectivity; therefore researchers should more actively work with decision-makers to support science-based policies.
- Develop transition strategies that support overall ecological function (not by an individual species-by-species basis)

UPLAND

- Restore and retain habitat for future conditions. Address the phenomenon that the chaparral range is moving toward the north of the Central Valley in response to climate change.
- Certain chaparral strategies may need site-specific components (e.g., support natural fire regimes).
- Valley Oak: Sustain viable groundwater levels and maintain/restore streamflow. Water is a critical actor for valley oak health. Old oaks need to have roots in the water and are thusly affected by changes in the water table. Regeneration of young valley oaks require established flooding regimes.
- Create and maintain appropriate conditions for regeneration and recruitment that can be sustained under current and future conditions.
- Conservation approaches should be multi-faceted. Several compatible activities exist; more research is needed to identify compatible land management practices and agriculture practices going forward.

- Oak Woodlands – Developed four strategies: land protection, improve land management practices, reforestation or restoration, and valuation of regulatory framework
- Cavity/roosting nesters – this species group requires larger oaks.

WETLANDS

- Promote connectivity of wetland, riverine, and upland habitats. Connectivity / corridors can provide benefits to other species beyond birds and wetland-dependent mammals.
- Increase water use efficiency (e.g., coordinated flooding of the habitat) and water management to ensure the water is on the landscape in the appropriate locations and at the appropriate times.
- Enhance overall water availability to wetlands and flooded habitat (relates to water rights and policy, and coordinating transfers for new kinds of storage).
- Expand and restore habitat, maintain flooded habitat, and implement actions that capitalize on the value of wildlife.
- Develop and implement invasive species management strategies.
- Develop climate-smart planting guides for the refuges. Conduct outreach to encourage wide-spread adoption of those new methods and practices.

DESERT/GRASSLANDS

- All habitats have suffered marked decline. Many of the taxa are endangered or threatened. Several of the strategies may already be present in regional recovery plans (e.g., Recovery Plan for Upland Species of the San Joaquin Valley).
    - One of the major strategies recommended land protection through methods such as acquisition, easements, and fee titles. GIS is also needed to identify species location and distribution of habitats.
    - Strategies and actions should aim to preserve the biodiversity of these sub-habitats and ecological diversity.
    - Connectivity between sub-habitats and species' populations is critical to increasing adaptive capacity.
    - Strategies and actions require monitoring and evaluation of progress to inform next steps.
- Vernal pools: Protect the north-south and east-west habitat gradients. Protect vernal pool habitat, including dry vernal pools that will likely fill in after a drought. Climate change will likely lead to prolonged periods of dry, dormant vernal pools in the southern part of the Central Valley. Several of the vernal pool organisms have adapted to prolonged drought. Conduct education and outreach on the importance of protecting dried vernal pools.
- Dunes face restoration challenges: few sand sources remain, dunes are few in number and fairly isolated from one another, and dune habitats are degraded. Restoration feasibility is fairly low.

- Grasslands: Invasive annual grasses are a ubiquitous problem. Utilize integrated pest management strategies (e.g., grazing and managed burning). Manage fire fuel loads to prevent fire from spreading to systems ill-adapted to fire (e.g., deserts).

4. Toolbox: Spatial Analysis and Mapping

Deanne DiPietro and Zhahai Stewart, CA LCC, provided an overview of efforts to develop a "Toolbox" to support Central Valley climate-smart conservation, which is planned to include a library of information as well as spatial analysis and mapping to support implementation of the adaptation strategies and actions developed by the project. Partners were briefed on the plans for outreach to learn about their needs for spatial data and new analyses.

5. Next Steps

The next steps for the Central Valley Landscape Conservation Project are:

- Compiling and completion of the adaptation strategies and actions,
- Completion and publication of the vulnerability assessments,
- A workshop is planned in late fall or early winter to prioritize adaptation strategies,
- Outreach to partners to begin developing the Toolbox will be conducted in the summer/fall.