

MEETING SUMMARY | FIRST PLANNING WORKSHOP

CENTRAL VALLEY LANDSCAPE CONSERVATION PROJECT

October 7, 2014

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General information and all workshop materials are available at <http://californialcc.org/central-valley-landscape-conservation-project>. For questions please contact Debra Schlafmann, CA LCC Coordinator, at Debra_Schlafmann@fws.gov or (916) 278-9414.

Action Items

1. **Planning Team** to convene Project Development and Data Management Teams and project Steering Committee, and schedule initial meetings.
2. **Planning Team** to revise Organizational Chart.
3. **Planning Team** to begin development of communication plan and internal communication guidance.
4. **Planning Team** to contact DWR for copy of Central Valley project inventory.
5. **Planning Team** to encourage both the Corps of Engineers and CalTrans to participate in future workshops.
6. **Planning Team** to recirculate survey to participants that did not yet complete it, emphasizing that it is a simple survey to gauge general interest and not a rigorous decision-making tool.
7. **All participants** to provide information for project inventory list and any other recommended participants by close of business, October 17.

1. Welcome and Opening Remarks

Debra Schlafmann, California Landscape Conservation Cooperative (CA LCC) Coordinator, opened the Central Valley Landscape Conservation Project (CVLCP) planning workshop, noting the robust participant attendance. She informed participants that this workshop is the first of six, and that each attendee has been personally invited to participate based on their professional expertise and knowledge.

Ms. Schlafmann presented several slides to accompany the following opening remarks:

- 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.
- The five-year objectives of the CA LCC are:
 1. Support place-based projects across the CA LCC ecoregions
 2. Implement ecosystem processes projects at landscape scales
 3. Develop landscape conservation designs across the ecoregions
 4. Evaluate and adjust based on outcomes and lessons learned
 - This project focuses on objective #3 (above)
- [In reference to the CA LCC Ecoregions map] The CA LCC divides the landscape into several ecoregions to (1) ensure the entire landscape is covered, (2) make it easier to engage local groups that have existing partnerships, and (3) more easily assign funding to particular areas.
 - This map is available on the CVLCP project website as well as the California Climate Commons website.
 - Other maps displayed around the room demonstrate Central Valley Joint Venture (CVJV) boundaries.
- This project, organized by the CA LCC, addresses climate change in the Central Valley by developing long-term, place-based strategies focused on natural resources that address:
 - Resource management decisions
 - Restoration and protection efforts considering climate change
 - Research and monitoring
- The above strategies will lead to:
 - Shared goals and objectives for the Central Valley
 - Climate adaptation actions that complement each other
 - Shared resources and development of tools
 - Applications of lessons learned to existing and future efforts
- This first workshop is the project's launch meeting. For the last several months, the planning team has been developing a work plan, collecting data and background information, and developing a process outline.
 - Please refer to the CVLCP 2013-2014 Work Plan and Process Outline documents

Ms. Schlafmann then recognized the members of the "planning team," including the CA LCC, Point Blue Conservation Science, and the Center for Collaborative Policy, as well as the members of the CA LCC Steering Committee.

Following Ms. Schlafmann's welcoming remarks, Dorian Fougères, facilitator from the Center for Collaborative Policy (CCP), California State University Sacramento, invited participants to stand and identify themselves by category and/or regional area of focus: scientists, managers, farmers, planners, regulators, federal, state, local, tribe, academia, non-governmental organizations, Sacramento Valley, San Joaquin Valley, and the Delta.

Mr. Fougères next reviewed the agenda, associated documents, ground rules for discussion, and the following workshop goals:

1. Review climate-smart process, project goals, expected outcomes and deliverables.
2. Review the project's organizational structure and work plan.
3. Discuss and receive recommendations on how to make anticipated deliverables most useful.

2. Climate Conservation Process, Project Purpose, and Expected Outcomes

Ms. Schlafmann presented on the climate smart approach to adaptive management in the Central Valley, the purpose of this project, and expected project outcomes. Please refer to the presentation slides #15-35: <http://californialcc.org/central-valley-landscape-conservation-project>

Key topics of the presentation included:

- Climate conservation process
 - Climate-smart adaptation: definition and principals
 - Adaptation management
- Why the project focuses on the Central Valley and the primary audiences for this work
- What issues this project will address
 - Iterative climate-smart landscape conservation process
 - What this project *does not* do
- Expected outcomes
 - What decisions this project will inform
 - Major projects anticipated
- Examples of similar efforts
- Next steps

Participant comments and questions/discussion followed:

- Are the projects derived from this effort intended to be implemented in the next two to three years, or are there opportunities for engaging in projects within the next six to nine months given the dire drought situation and recent water bond?

- This afternoon we will discuss how to balance the emphasis between short-term and long-term actions. The project work plan has a purposeful, committed timeframe for each step.
- As this is such a large-scale collaborative effort, it may be up to two years before action is implemented.
- Purposely there are many participants from the California Department of Water Resources and federal Bureau of Reclamation, among others, because the nexus between conservation and water resources is enormous and prominent.
- How far out in to the future will this project be planning for?
 - This is dependent on the needs of the resource managers and other stakeholders. Part of the purpose of this work is to focus the deliverables and engage in scenario planning.
- *Participant comment:* This is an opportunity to align our work so we all get more out of the work we are doing. If we create a collaborative framework that is agreeable, partner implementation of projects will occur naturally.
- *Participant comment:* We should break down the organizational silos that inhibit data sharing.
 - The planning team has spoken with many stakeholders prior to this launch workshop, and we understand that a primary concern is to not duplicate efforts. Future workshops will be focused on the development of new tools that make use of existing resources, rather than recreate them.
 - *Participant comment:* Phase one of the San Joaquin Valley Greenprint program just concluded, and they are beginning to assemble data that is all publicly accessible.
 - *Participant comment:* A project is currently underway by US Geological Survey involving small-scale measurements of ecological and biological characteristics of salt marshes. The data will then be used for modeling, vulnerability assessments, and adaptation strategies. Local managers will be included in the conversations at each step of the project.
 - *Participant comment:* Possibly 80% of the land that is a focus area for prioritization for the California Rangeland Conservation Coalition overlaps with this project's geographic area of focus. A lot of climate change mapping for this Coalition has been conducted, which demonstrates the gradient of transition into the Valley. This data is available to others.
- *Participant comment:* If the LCC is going to have an impact, we need to be locally relevant.
 - The stakeholders will identify priority resources and areas of focus, and which projects are relatively easy to implement (e.g. those which do not require three years of planning) as well as those that are ambitious.

- The Sierra Nevada LCC project is a good example of this point. Key Forest Service and Park Service staff as well as many others were engaged in all planning workshops, and integrated current issues and up-to-date information with the project plans.
- *Participant comment:* The CVLCP project also parallels the Department of Agriculture (USDA) efforts to support conservation of farmland, ranches, and forests.
- What does the term “resources” mean in this context?
 - The term refers to natural resources that are used by priority species. While the focus is not on agriculture, the term “resources” includes farmland insofar as priority species use these lands for habitat.
- *Participant comment:* In respect to the recent water planning work that has been done in California, we now realize that engaging in climate adaptation is absolutely necessary for procurement of a diverse, sustainable water supply.
 - *Participant comment:* We would be remiss to not consider what the Department of the Interior is doing: for example, the recent Bureau of Reclamation Sacramento and San Joaquin Basin Study, the National Water Census, and the WaterSMART and Secure H2O programs.
- *Participant comment:* It is important to develop project descriptions/information in a comprehensible and clear format, for ease of communication with partners and the public.
 - The LCC is making project information more accessible to the general public in multiple ways, including meeting personally with users of the information and requesting they disseminate it to their constituents, and subsequently inform the LCC of any confusion/misinterpretation for improvement.
 - Future workshops will include working with colleagues to appropriately translate information.
- *Participant comment:* Regarding the dissemination of information, workshops target a very small group of select people. Information needs to reach a larger audience. A library or clearinghouse would be useful, as well as education of users on how to access the data.
 - The California Climate Commons (the Commons, <http://climate.calcommons.org>) on-line library aims to fill this purpose. Information on all of the 25 LCC projects that have been completed can be found here, including syntheses of articles, documents, maps, etc.
 - All of the information from this effort will also be housed in the Commons.
 - The planning team will include a tour of the Commons at the second workshop.
- *Facilitator comment:* People in the field need to have access to these tools. The planning team will look to the stakeholders for advice on the best ways to accomplish that, such

as appointing liaisons to share information internally, etc. The planning team is also interested in obtaining feedback on who is missing from this workshop, and should be involved in the discussions, whether directly as a participant or indirectly as someone who supports the overarching efforts of this broader group.

- *Participant comment:* We should identify explicit co-benefits and tradeoffs of projects. Also, we should consider conducting a strategic assessment of what programs have a nexus with land use to support funding for project implementation.
 - *Participant comment:* From the perspective of the Bureau of Land Management (BLM), many landowners and farmers may soon decide they want to dispose of their land because maintaining it is no longer sustainable. It would be ideal if we could provide guidance on that transition plan process.
- *Participant comment:* Does it still make sense to look at the Central Valley as a whole, given that there are different core groups in smaller geographic regions, each with different issues?
 - The CA LCC Steering Committee directed the initial focus of this project to the entire Central Valley. It is important to identify and find agreement on priority habitats and species first, and what efforts are credible from a scientific perspective. This stakeholder group will help determine where the focus goes in the future.
 - Similarly, the various analyses and tools developed as part of this effort will partly determine what scale is chosen for planning in specific situations.

3. Organizational Structure and Work Plan

Rebecca Fris, CA LCC Science Coordinator, presented on the project's organizational structure and work plan. Please refer to the presentation slides #36-38, and printed handout.

Key points included:

- The planning team will convene a Steering Committee for the project in the next several months. Ms. Schlafmann will coordinate it.
 - The Steering Committee may also assist with the Project Development Team.
 - Note: This Steering Committee will be formed on behalf of this project only, and is different from the LCC Steering Committee, though there will be some overlap of participants.
- The Project Development Team will conduct the bulk of the work. Ms. Fris will coordinate it.
- The Data Management Team, led by Deanne DiPietro, Data Manager for CA LCC and partner with Point Blue Conservation Science, will be providing support for the project as a whole.
- Andrea Graffis, CA LCC Communication Coordinator, will lead communication with the Conservation Community.

- The work plan deliberately allows for conversations and materials to develop over time. It encourages participants to begin thinking about certain topics before really focusing on them with critical, detailed discussion in the workshops.
- The work plan and sequencing will be updated and revised as the project continues.
- **ACTION ITEM:** Planning Team to convene Project Development and Data Management Teams and project Steering Committee, and schedule initial meetings.

Participant comments and questions/discussion followed:

- Will people be self-defining their group participation?
 - To a certain extent. The Project Development Team will help to organize and solicit participation.
 - There will not be an open invitation for participation on the Project Development Team or the Data Management Team. These participants will be contacted and selected offline (after being vetted by the LCC Steering Committee), and a list will be presented at workshop #2 for feedback.
 - If you have a strong interest in participating in a specific team, you should contact Ms. Schlafmann.
- How is the “Conservation Community” being defined by this process?
 - In the broadest extent possible. One hundred and fifty individuals were invited to attend this launch workshop. Ms. Graffis will maintain and add to this list for email updates and other communication strategies.
- Does this project’s Steering Committee report to the LCC Steering Committee?
 - No. The LCC Steering Committee has already approved this project and empowered its Steering Committee to make the decisions, once it is convened. Communication between the two Committees will remain open.
 - Also, there will be ongoing communication between the Project Development and Data Management Teams for the project’s duration
- Which team(s) are doing the recommending, and which team(s) are doing the actual work?
 - Both the Project Development and Data Management Teams will be involved in planning and conducting work. Some of this is dependent on what comes out of the series of workshops.
 - The Data Management Team will be involved in a lot of analyses. If there is not the appropriate expertise on the team for a particular effort, there is funding to bring in other experts to assist.
 - The graphic should be revised to clarify who is doing the actual work. The sequence of verbs for the Data Management Team should be reversed to emphasize its role in conducting analyses.

- Is communication really a role of the Steering Committee?
 - Communication is a responsibility of all teams. The distribution and promotion of products is especially important so other groups are aware of our work, and how this project may add value to their work.
 - There is a need not only for communication with participants and the larger Conservation Community, but also guidance for communication within agencies and organizations. Some are so large that experts with relevant information from a participating agency never hear about the project.
 - Project deliverable #5 in the Process Outline document consists of an outreach plan to help partners use and apply the adaptation strategies and conservation options for their organization.
 - *Participant comment:* It would be helpful to show in the Organizational Chart the relationship with the entire LCC, and the activities that the project itself is or is not equipped to do. The CA LCC Steering Committee has a broader reach and higher visibility than the project itself, and should play a major role in sharing news and information about this project beyond this project's immediate network.
 - **ACTION ITEM:** Planning Team to revise Organizational Chart.
 - **ACTION ITEM:** Planning Team to begin development of communication plan and internal communication guidance.

- Will there be a literature review conducted before the second workshop?
 - Yes, this is currently in progress. Please refer to the *Draft Inventory of Existing Conservation Work in the Central Valley* handout. The planning team is requesting feedback on this. It is a living document and will be updated as more information becomes identified.
 - DWR also has a similar piece for the Central Valley. This is something it could share.
 - **ACTION ITEM:** Planning Team to contact DWR for copy of Central Valley project inventory.

4. Survey Results

Ms. Fris next presented the findings of the pre-workshop survey. There were 35 respondents. For complete results, please refer the presentation slides #39-47 and printed handout.

Participant comments and questions/discussion followed:

- *Participant comment:* It is important to keep in mind how the survey questions were structured. They seem to give emphasis to migratory birds over other species. It might be helpful to do a re-survey.
- Were tidal wetlands an option for priority habitat?

- No. Participants will be asked to revisit and expand upon the lists of priority species and habitats in the afternoon. In future workshops, we will be looking at ways to further prioritize these lists at different geographical scales.
 - Results demonstrate responses to the pre-listed set of habitats and species, and also include the “other – please identify” responses.
- Based on these 35 responses, did anything unexpectedly drop off of the priority lists?
 - No, results were close to those that were anticipated.
- *Participant comment:* Water and water availability is high on people’s list for important issues to address, yet the solutions to water may not be in Central Valley, but in the upper watershed. The Forest Service has been working with a number of Regional Water Management Groups to improve upper watershed environments. The source water is important even if you do not live in these areas (the exception being ground water).
 - *Participant comment:* Inevitably we will be dealing with water shortage as our number one problem, so we need to look at tools and strategies for efficient water use.
 - *Participant comment:* Things that are related to water *quality* did not score as high on the survey. Focus is heavily geared to water *supply*. Maybe as an audience we are disconnected.
- *Participant comment:* The Army Corps of Engineers and the California Department of Transportation (CalTrans) not at this workshop.
 - **ACTION ITEM:** Planning Team to encourage both the Corps of Engineers and CalTrans to participate in future workshops.
- *Participant comment:* Even though we are currently in a severe drought, if this is going to be a long-term project, we should also consider other major stressors such as sea level rise, flooding, and big storm events.
- *Participant comment:* It is interesting that land use is a major non-climate stressor, but there are no (or very few) economists at this workshop. We should invite economists and social scientists to the discussions.
- Can the Data Management team begin to identify efforts that have already been done (projects completed) and projects that are in progress? It is important to acknowledge where the Central Valley has been in terms of climate adaptation planning.
 - Yes, the Data Management team is working on integrating this information into the repository.
- How can this work inform recovery plans?

- This is something that the planning team is interested in exploring. How can we integrate climate change impacts into Habitat Conservation Planning and Natural Communities Conservation Planning processes? Ecological services experts should be engaged to help define this.
- Are there parallel efforts trying to improve the efficiency of water used for wildlife conservation?
 - *Participant comment:* The idea of “environmental water” is controversial because some people believe it should be counted and managed like any other water use, while others believe it is the water that is intrinsic to functioning ecosystems and cannot be treated like other water uses. Some work is being done by University of California, Berkeley, on “managed environmental water use,” and could be examined.
 - *Participant comment:* There is also a lot going on with agriculture. The more difficult questions are about the land boundaries and balance. In agricultural systems, water that floods is not necessarily wasted. This issue is also complex.
- *Participant comment:* C V Joint Venture is undergoing a ten year plan update – how to address climate change will be helpful information to add to the plan.
- *Participant comment:* Consider recent global, national and southwest climate assessments done by USGS.
- *Participant comment:* The survey is a good springboard for discussion, but it is not as inclusive as it could be. Also, any survey design should be reviewed by a social scientist.
 - Land use planners, as well as tribal governments, farmers and many other organizations were invited to contribute to the survey.
 - The survey was intended to be a starting point for discussion. It is too crude of a mechanism to gather detailed information or make decisions.
 - **ACTION ITEM:** Planning Team to recirculate survey to participants that did not yet complete it, emphasizing that it is a simple survey to gauge general interest and not a rigorous decision-making tool.

5. How the Project Will Add Value to Your Efforts

EXAMPLE APPLICATIONS

Meagan Wylie, CCP facilitator, invited four participants to explain how this process will add value to their work, and how anticipated products can be used, thus ensuring the relevance of the effort:

- **Kamyar Guivetchi**, California Department of Water Resources (DWR): The LCC program and this project are huge innovations for California natural resources conservation. From the water perspective, over the last 12-13 years we have changed the way we

update the California Water Plan and have moved to Integrated Water Management. With the integrated approach, you realize that water touches everything in regard to natural resources conservation *and* development. DWR has brought in federal, state, and local government experts, non-governmental organizations and academics into planning conversations and tried to listen as best possible. We have realized there are many opportunities for connecting dots (and there many that are already connected), and the LCC is poised and doing this, and can do a lot more.

The way this initiative was described can help move DWR's programs forward. DWR will benefit because we will then be able to leverage and work with a larger informed community, and not do this on a one-on-one basis. There is a very active climate change program focused on adaptation, and some mitigation. Prior to that program, DWR was also working with the California Biodiversity Council and adopted a resolution to advance alignment of agencies, including formation of a 42-member federal, state, and local government body. It is one-of-a-kind in California. It acknowledges the need to strengthen alignment on plans, policies, and regulations to a more integrated natural resources conservation approach. The link with LCC and this project is a direct overlap on biodiversity goals – again, a huge opportunity. Conversely, we hope we can leverage the Biodiversity Council to help LCC achieve its goals.

- **Michelle Selmon, DWR:** The CA LCC Steering Committee endorsed the resolution Mr. Guivetchi is referring to. As a specific example of how DWR will benefit from this effort: Regional climate change specialists now have the opportunity to work with water managers to understand impacts, factor these considerations into planning, and develop adaptation strategies. Relevant to conservation, we're all looking to restore and enhance ecosystems, and support and engage in projects that promote conjunctive management of surface and groundwater. Thus, people need to know answers to questions such as, Where should we restore riparian habitat? What are the priority areas? Where can we put a groundwater recharge area considering not just soils and permeability, but where it would fit into a conservation landscape? Is a previously utilized flooding area better served by another purpose once we have identified conservation priorities?
- **Dan Frisk, US Fish and Wildlife Service:** I am a project leader in the Sacramento Refuge Complex (there are five refuges in Sacramento Valley). This provides a big interface with private landowners. Two years ago, I would have said that climate change doesn't affect us, but this year all I have been dealing with is drought. We are only receiving 40% of our water (part of the Central Valley Project Improvement Act). We struggled with this at the refuge complex, and later it was bumped up to 75%. The interface with agriculture is enormous, but we need to look at water issues at more of a landscape scale. We cannot look at just managing it at a refuge complex scale. We have to coordinate with state partners, down to San Joaquin and Tulare, and figure out how to distribute water across the landscape.

This is a record year for migratory birds, and surely birds and fisheries are affected by water distribution too. Water flow, flooding, and rice decomposition are

other factors. We're coordinating with state, federal and private landowners, the Audubon Society, and have surveyed myriad people to figure out how to work collaboratively on this issue. The planning that is done through this effort will expand our network for collaboration and shared knowledge, and will help us develop both near-term and long-term plans.

- **Catherine Hickey, Point Blue Conservation Science:** This process is timely, as CVJV is embarking on updating its implementation plan since its last version is 2006. The new plan will cover a ten-year period. The focus is on migratory birds, but also includes shorebirds, riparian land birds, colonial water birds, and grassland birds. Therefore, wetlands, flooding, agriculture, and riparian systems must all be considered. Furthermore, the conversations about how to incorporate climate change into the implementation plan are just beginning. Numeric targets for population and habitat objectives will be developed with input from collaborative partners, and partners will also provide guidance as to how we inform our strategies.

TABLETOP EXERCISE

Ms. Wylie introduced the tabletop exercise. Participants were asked to consider anticipated work products, and discuss how to make the products will be as useful as possible for resource and land managers, farmers, planners, scientists, and others involved in conservation efforts in the Central Valley.

Participants discussed the following two questions:

1. *Looking at the list of four anticipated work products that follow, what should each product consider, address, and/or avoid to ensure it is maximally useful for your conservation planning and management efforts?*
 - A. *Identification of **priority resources** (species, habitats, and ecosystems) collectively developed by a broad set of partners.*
 - B. ***Vulnerability assessments and/or scenario planning** for identified priority resources based on existing data and climate information.*
 - C. ***Climate-smart adaptation strategies** developed for the priority resources based on vulnerability assessments and/or scenario planning.*
 - D. *Building from the adaptation strategies, **spatially explicit conservation options** that will support resilience and adaptation of priority resources.*
2. *If you had to prioritize the species, habitats, and ecosystems that are most important for conservation, what criteria would you use to make your decision? For example,*
 - A. *Whether the species is endemic*
 - B. *The degree to which the habitat is fragmented*

- C. *The number of endangered terrestrial, avian, and aquatic species that an ecosystem supports.*

REPORT-OUTS AND FULL-GROUP DISCUSSION

After tabletop discussions, the groups shared highlights from their conversation. The following is a transcription of each table's verbal report-out coupled with notes captured on the corresponding master note-taking worksheets.

Table #1

- Currently the Endangered Species Act drives priorities (funding decisions, activity restrictions, etc.) because recovery leads to public support. We should consider species and habitats that could be listed in the face of climate change.
 - May need to de-prioritize some species that may not be recoverable
 - Must determine and consider local or true extinction of a species
- Data collection and monitoring are important
 - Do not know enough about climate trending at a fine scale
- Water is a priority resource
- Need to define and agree on goals:
 - Biological conservation, biodiversity, land, water
 - Riparian zone as priority
- Vulnerability assessments and scenarios planning need to consider scale
 - Run through scenarios at a finer scale
 - Consider assemblages of species, rather than a single species
 - Could have new emerging assemblages with climate change
 - Consider things like grazing strategies, extent of spawning habitat, habitat undisturbed by dams, local land use planning and water management
 - Redirect water from the San Joaquin Valley to places that are in greater need
 - Develop strategies that work for many different futures

Table #2

- Does climate affect how you make your list of priority resources?
 - Connectivity is key – “save the stage”
 - Focal species and umbrella species selection criteria still applies
 - Use a habitat lens to assess projected change
 - Species are a unit of response – maybe habitats today are not the way to plan for the future
 - Avoid focusing on threatened and endangered species
 - Look at ecosystem services (e.g. river processes, geomorphic processes)
 - Need some ecosystem processes and physical factors incorporated
- Use tools that exist for scenario planning
 - Don't reproduce something that exists
- Need strong project management

- Ask managers what types of decisions they need to make
- Need to move beyond the stage of vulnerability assessments and take action – it is frustrating when this is the last stage of a project. The same is true with climate change modeling.
- Water rights and ownership are an issue for consideration
 - Moving water around is important. Ecosystems will move too
 - Are there win-wins out there regarding water?
 - Connectivity to uplands is key
 - Funding can come from mitigation
 - Develop “triage” criteria – what will we let go of?
 - Put private landowners on the map. We will get strong responses, attitudes have changed
 - Inventory (and expose/highlight) private land owner actions funded by the Farm Bill – conservation registry idea
 - Represent uncertainty with spatial priorities
 - Integrate information systems
- Prioritize focal species. Look at services provided
- Connectivity strategies – develop a list of what people can do
 - E.g. for elk, need a corridor from Coast Range to Central Valley
 - Percent endemic to Central Valley could correspond to the percent of range allocated for conservation
 - Idea: install kill switches on bulldozers
- Choose attractive species and resources so that the public can relate
- Carbon mitigation
- Financial cost of adaptation needs to be explicit
- Create a vision of alternative land uses (e.g. European style of more diversified agriculture)
- Strategic fallowing is a big opportunity

Table #3

- Look at past planning efforts
 - State Wildlife Action Plan may be a good place to start
 - Would we define the list of priority resources differently than the CVJV?
 - Do we make a laundry list of those species vulnerable to drought? Is drought an indicator for the area?
- Water is a key resource and those species made vulnerable by drought are high priority.
- In California, we have a strongly plumbed and managed system, but opportunity to do management in foothills and grazing areas.
- Increase soil health and ability to store water (reservoir storage)
- Would really like to quantify targets/outcomes
- Need to look at land conversion and water along with climate change

- Goals: preserving biodiversity in the Central Valley, focal landscapes, endangered species conservation, identifying what resources and species are most vulnerable, restore connectivity, soil health, forest restoration.
- Priority ecosystems: alkali scrub, perennial wetland, vernal pool grassland/rangeland, riparian, agricultural working land, urban forest, mountain meadows
- Criteria: biodiversity and its vulnerability to climate change, and really looking at drought impacts to certain species (widespread vs. constrained impacts).
 - Prioritize species that are more widespread – can look to them for changing landscape patterns, and they have better chance at adapting over time.

Table #4

- In terms of identification of priority resources, it is important to pay attention to what land owners view as priority resources in how we make recommendations
 - We should create practical decision support tools for land owners. Need to recognize constraints and how decisions affect resources.
- Pay attention to local and regional diversity; avoid being prescriptive at an inappropriate scale. E.g. Refuge system units across 100 miles have different needs. We should be “regionally appropriate”
- Avoid duplication of efforts. Especially use our energy to address “climate smart” needs
- Do not limit focus to rare or endemic species, but include integrative species as well (like the American badger).
- Importance of using rivers as resource integrators, making sure to address upstream, reservoirs, canals, etc. and exteriors like foothills.
 - May be a good place to start in considering connectivity.
 - Not enough thought given to connecting Sierra Nevada or cross-Valley connectivity
- Consider bridges among habitat areas.
- Re: Vulnerability Assessment and Scenarios Planning: Short-term decisions focus on qualitative assessments, long-term on quantitative computer-model based assessments.
- Where should adaptation strategies be applied? Saline soils and areas with unusual geology, areas with hydric soils?
 - Soils and geology are critical to identify.
 - If priority is to reconnect the floodplain, need to revive hydric soils.
 - San Joaquin has potential to change land management – opportunity here for flood regime habitat management
 - Putah Creek – coordination among landowners on water use to minimize flow.
- Consider objective planning in scenario planning
- Central Valley Update includes climate vulnerability, but does not include quantitative analysis on biota.
- Priority to address natural resiliency of systems (e.g. wetland reserve program)
- Conservation options: Linkages across the valley to the Sierra Nevada and floodplain (mountain to mountain)

- Target farmlands going out of production
- Use innovative conservation instruments (easements or private lands), deal with co-benefits
- Pay people for carbon sequestration – create a market for this (co-benefits)
- Criteria: look at lands that had met criteria A-C (listed in question) as first priority. Then select on wide-ranging species for indicators. Then focus on restoration.
- Promote funding to projects that benefit multiple needs.

Table #5

- Focus on whole ecosystem, not just individual species, at various scales (temporal, spatial, subject)
 - Species currently drive our management
 - Need both top-down and bottom-up approaches. This ecosystem is massively altered. “Working landscape” concept is important.
- How to include ecological and socio-ecological processes as a fourth option (along with species, habitat, ecosystem, connectivity)?
- What criteria should we use to identify priority resources?
 - Gather all the various identification processes in existence
 - Map the species, etc. along with the non-biological systems they are dependent upon
 - Avoid myopically focusing on a species or habitat in isolation
- Should we have new criteria for prioritizing our actions? Are restoration goals realistic?
- Consider “criticality” of time sequencing – we might do something small to start upon a critical path that will get more done in the long-term?
- Does a formal economic cost/benefit analysis have a place in our decisions?
 - Exceptionally challenging as you cannot put a value on a species or wildlife habitat
 - However, majority of decisions are made based on money
 - A lot of priority resources have legislation governing them. How do we manage those in the face of climate change? Should we also look to how these priorities should change?
- Should we also conduct a gap analysis?
- There is a dichotomy between what we engineer in the Central Valley versus natural processes in an “undisturbed” environment
 - See ResAlliance.org
- Linkages among species and species richness could be supported by connecting habitats
 - Ability to persist
 - Habitat connectivity
 - Use vulnerability assessment to help prioritize a preliminary list in an iterative process

Table #6

- Priorities:

- Geography matters. We will have a collection of priorities by sub-region different than the priorities of the master region (e.g. southern Central Valley, northern Central Valley, riparian areas, vernal pools, etc.)
 - Scale matters. Land managers need fine scale model outputs to make decisions on the ground
 - Tools developed need to be sensitive to both geography and scale
- Re: project boundary: need to define how to overlap to include the foothills. They are very important for water especially.
- Ecosystem processes are very important in addition to species, habitats, etc. Need lands large enough to support ecosystem processes. Also helps with resilience. Move out of a system-focused approach.
 - If focus on processes and ecosystem and ecosystem level we can cover multiple species. This may require different agencies/groups/organizations to agree on targets
- Vulnerability Assessments:
 - Compile results of any current assessments that have been done
 - Incorporate future of agriculture in the Central Valley
 - Identify threats – development (urbanization), agriculture, loss of water, global demand for agricultural products
 - Include socioeconomic components and scenario planning to incorporate various market drivers
- Adaptation Strategies
 - Scale-dependents: Some are local and some are valley-wide
 - Need corridor and connectivity
 - Look at various levels of funding to see what management activities are possible
 - Include both management and policy considerations
 - Opportunities for land conversion
- Spatially-explicit Products
 - Need to be careful with public outreach, especially with farmers, ranchers, large land owners
 - Can have multiple options for outputs/products
 - Public vs. internal products (one with parcels, one with out)
 - Maps can tell a story, make the message clearer and more accurate. We need these products to communicate our story to the public and each other
- Criteria to use for prioritization
 - Target “low-hanging fruit” – e.g. low cost to convert, buy, restore, etc. Things that are relatively easy to implement
 - Vulnerable habitats that might be lost
 - Areas already impacted by non-climate change threats
 - Connectivity of habitats and species
 - Migration corridors won’t work as there is no where to migrate to
 - Certain programs would want to know if the area would support their target species

- Policy decision: do we write off the most vulnerable areas that would be too costly and difficult to maintain?

Table #7

- Avoid solely focusing on listed species (many may miss keystone species). Instead focus on breadth of species
 - Surrogate species concept may be useful, but still may leave out key species
 - Include a wide variety of species (e.g. low mobility species vs. wide-ranging species), and select focal species that capture a landscape in its entirety.
 - Refer to existing targets for populations (e.g. bird guilds and timing of wetland management on refuges)
 - Beware of political pitfalls (i.e. a Delta Smelt could derail a whole project!)
 - A thorough literature review is critical.
- Project boundaries should be flexible depending on what we are trying address
 - Consider multiple scales of scope (i.e. species that migrate through an area as well as residents)
 - Include species that come through the region but may be recognized as at risk elsewhere or on a larger scale
 - Consider working lands and how they provide habitat for some species
 - Think about indirect effects (e.g. economic factors that influence land conversion, population growth)
- Consider concept of landscape resiliency, and true integration of planning across the built and natural environments – this is “climate-smart”
 - Global change adaption includes land use, climate and ecological factors
- Engage a broad audience for information about species and how they use the landscape – participatory planning from the start
- Multiple scales for planning will be needed, and should be tailored to the user (e.g. HVC, regional, ecoregional); need to be able to integrate activities going on at various extents of the landscape – “mosaic of planning”
- Consider both short-term and long-term feasibility/benefits of conservation projects
 - Cost effectiveness
 - How will climate change affect this
 - Impact on species or landscape resilience

Table #8

- Discussion heavily focused on the topic of water. Water is the priority.
 - Scale of focus must be appropriate – is the full Central Valley geography necessary or appropriate? Dialogue about scaling will be important throughout initiative.
 - Consider focused geography/watershed analysis
 - Establish baseline conditions (e.g. species and habitat distributions) and looks at what we know about trends up to current day
 - Not always a direct relationship between habitat and water

- Different management strategies and new opportunities across the Valley within a changing system
- Describe natural resources (existing)
- Adaptation strategies should include advanced weather forecasting, flood and reservoir operations and management (changing rule-curves)
- Consider floodplain land acquisitions (fee and easement)
- Increase water conservation and reclamation
- Make sure we develop relevant, useful strategies and partnerships to promote solutions with local and regional partners (e.g. demonstration projects)
- Help with placing appropriate economic value on natural resources
- “water differently” geospatially
- Vulnerability Assessment should address change in flood flow duration, timing and magnitude, public safety component
 - Make sure we have flood system expertise in the workshops, and also drought/water supply system expertise

Summarization

Following individual table reports, the facilitator highlighted the following common themes that emerged from table reports:

- Emphasis on consideration of ecological processes
- Valuation and services are important ecosystem considerations
- Land owner priorities and land use integration is key
- Project scale is another important consideration. There must be local relevance, and analyses should be conducted at appropriate scales
- Integrator species and species assemblages are of equal importance as threatened and endangered species
- Planning should be done across the natural and built environments
- Projects should consider both short-term and long-term approaches
- Easements as conservation tools
- Non-recoverables and triage: where do we draw that line of what may already be lost, what is too costly or difficult to maintain, etc.?
- Criteria for prioritization will vary by topical areas of focus
- Geographical project boundaries will vary and will be product dependent
- Need to comprehensively synthesize existing work, and establish a baseline for monitoring trends
- Must develop monitoring procedures and performance indicators by which to assess outcomes
- Must allow for regional flexibility to adapt project designs and integrate new information as projects are being developed and implemented
- New water strategies will be key (water reclamation, flood planning, etc.)

Several participants then commented:

- As there is no implementation associated with this project design effort, we should identify existing programs and processes that require certain products, and make sure our product(s) contribute to those.
- We need further research up front to help us identify tipping points and thresholds.
- Development of a baseline(s) is of great importance. Do we establish baselines on what ecosystems used to look like, current day, or how it may change over 20 years, etc.? How do we recognize what impacts will occur? This conversation will be critical.

6. Review of Action Items, Next Steps and Closing Remarks

Mr. Fougères thanked the participants for their contributions to discussions, and noted that the second workshop will include further refinement and articulation of the project goals, priority resources, and criteria for prioritization that were discussed during the workshop. He also asked participants to fill out a brief workshop evaluation form, including listing any individuals, organizations or experts who should be involved in future meetings.

Ms. Schlafmann referenced the project inventory table that is in progress, and explained that the list was developed based on earlier conversations and input. She noted the planning team is looking for assistance to ensure it is comprehensive, as this will be the foundational material for the second workshop.

Regarding next steps:

- Ms. Schlafmann requested participants to submit new information or feedback on the project inventory list to any of the planning team members by close of business October 17th. This can also include key studies that are relevant to this project.
 - **ACTION ITEM:** All participants to provide information for project inventory list and any other recommended participants by close of business, October 17.
- The planning team will set up a webpage on the CVLCP website for information hosting. Emails with updates will also be sent out periodically.
- The Data Management Team will organize a webinar to walk through the California Climate Commons website, and presentation for the second workshop.
- Before the next workshop, the planning team will begin to draft project goals and objectives based on the first workshop input.

Ms. Schlafmann closed the workshop with thanks to all participants for coming and devoting an entire day to this important work.

7. Attendance

	First Name	Last Name	Affiliation
1	Sarah	Allen	National Park Service

2	Pelayo	Alvarez	California Rangeland Conservation Coalition
3	Martha	Balis-Larsen	US Fish & Wildlife Service
4	Grant	Ballard	Point Blue Conservation Science
5	Dennis	Bowker	Independent Consultant
6	Karen	Buhr	CA Assn. of Resource Conservation Districts
7	Brad	Burkholder	CA Department of Fish and Wildlife
8	Dave	Busch	US Geological Survey
9	Kristin	Byrd	US Geological Survey
10	John	Cain	American Rivers
11	Dick	Cameron	The Nature Conservancy
12	John	Carlson	River Partners
13	Brian	Cary	Wildlife Conservation Board
14	Stacey	Cepello	CA Department of Water Resources
15	Jay	Chamberlin	CA State Parks
16	Carol	Combs	Tulare Basin Wildlife Partners
17	Tosha	Comendant	Conservation Biology Institute
18	Dan	Cox	US Fish and Wildlife Service
19	Kim	Delfino	Defenders of Wildlife
20	John	Donnelly	CA Wildlife Conservation Board
21	Justin	Epting	US Fish and Wildlife Service
22	Kim	Forrest	US Fish and Wildlife Service
23	Ted	Frink	CA Department of Water Resources
24	Dan	Frisk	US Fish and Wildlife Service
25	Tom	Gardali	Point Blue Conservation Science
26	Chris	Gardner	CA Assn. of Resource Conservation Districts
27	Dale	Garrison	US Fish and Wildlife Service
28	Roberta	Gerson	US Fish and Wildlife Service
29	Wendell	Gilgert	Point Blue Conservation Science
30	Armand	Gonzales	CA Department of Fish and Wildlife
31	Denny	Grossman	CA Strategic Growth Council
32	Kamyar	Guivetchi	CA Department of Water Resources
33	Matt	Hamman	US Fish and Wildlife Service
34	Tom	Hedt	Natural Resource Conservation Service
35	Meghan	Hertel	Audubon California
36	Cheryl	Hickam	US Fish and Wildlife Service

37	Catherine	Hickey	Point Blue Conservation Science
38	Allan	Hollander	UC Davis
39	Todd	Hopkins	US Fish and Wildlife Service
40	Patrick	Huber	UC Davis
41	Josh	Hull	US Fish and Wildlife Service
42	Dan	Kaiser	Environmental Defense Fund
43	Jacob	Katz	California Trout
44	Amber	Kerr	USDA Climate Hub
45	Tom	Kimball	US Geological Survey
46	Mark	Kramer	The Nature Conservancy
47	Karen	Laing	US Fish and Wildlife Service
48	Javier	Linares	CA Fish Passage Forum
49	Stephan	Lorenzato	Riparian Habitat Joint Venture
50	Elliott	Matchett	US Geological Survey
51	Ray	McDowell	CA Department of Water Resources
52	Keith	Miles	US Geological Survey
53	Mark	Pelz	US Fish and Wildlife Service
54	Scott	Phillips	Endangered Species Recovery Program
55	Tim	Rust	US Bureau Of Reclamation
56	Pat	Rutten	NOAA - National Marine Fisheries Service
57	Ken	Sanchez	US Fish and Wildlife Service
58	Michelle	Selmon	CA Department of Water Resources
59	Eric	Smith	Vollmar Consulting
60	Wayne	Spencer	Conservation Biology Institute
61	Este	Stifel	Bureau of Land Management
62	Peter	Stine	USDA Southwest Climate Hub
63	Dan	Strait	Bureau of Reclamation
64	James	Strittholt	Conservation Biology Institute
65	Karen	Thorne	US Geological Survey
66	Sam	Veloz	Point Blue Conservation Science
67	James	Weigand	US Bureau Of Land Management
68	Mike	Westphal	US Bureau Of Land Management
69	Dawit	Zaleke	The Nature Conservancy
PLANNING TEAM			
70	Deanne	DiPietro	CA Landscape Conservation Cooperative

71	Dorian	Fougères	Center for Collaborative Policy, CSUS
72	Rebecca	Fris	CA Landscape Conservation Cooperative
73	Andrea	Graffis	CA Landscape Conservation Cooperative
74	Debra	Schlafmann	CA Landscape Conservation Cooperative
75	Zhahai	Stewart	CA Landscape Conservation Cooperative
76	Meagan	Wylie	Center for Collaborative Policy, CSUS