Memorandum

To: David Harlow, Director, Desert Renewable Energy Conservation Plan (DRECP)

From: Laura Crane, The Nature Conservancy
Jill Bays, California Council of Land Trusts
Greg Suba, California Native Plant Society
Garry George, Audubon California

Date: November 23, 2011

Subject: Comments on DRECP Preliminary Conservation Strategy

           Docket: 09-RENEW EO-01

We would like to thank you for the opportunity to review and comment on the Preliminary Conservation Strategy (PCS). We have attached our specific comments on the PCS on the form provided in the request for comments, and this cover memorandum is intended to provide an overview of the focus of our comments. Our organizations fully support this critical plan and our comments are intended to strengthen the DRECP.

We recognize that the Draft Preliminary Conservation Strategy, released on October 26, 2011, is not intended to be the draft conservation reserve for the DRECP. The Executive Summary states, "It is important to note that the PCS map is a **_preliminary_** step in development of the overall DRECP conservation strategy and does not represent a recommended reserve design or overall conservation strategy, nor does it reflect all data that will be used to develop the strategy."

Fundamental to the success of the DRECP will be the creation of an overall DRECP conservation strategy that maintains and creates the needed conditions for recovery and persistence of covered resources given accelerating and unpredictable changes in ecosystem dynamics from climate change, and other impacts. The following comments are our recommendations for creating this overall conservation strategy in a manner to meet the above goal. While the comments are overarching and relate to the overall approach and direction of the Preliminary Conservation Strategy, we have noted where comments apply to specific tables or appendices where appropriate.

We're happy to discuss any of our comments with you in more detail. Again, thank you for the opportunity to comment.

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The Nature Conservancy

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California Council of Land Trusts

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DRECP Preliminary Conservation Strategy

Comment Form – Docket Number 09-RENEW EO-01

Commenter (Your Name)	Comment #	Comment Location:					Comment (e.g., organization, content, grammatical comments)
		Chapter	Section #	Page #	Paragraph	Paragraph (from top)	
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	1	Global					The first step in developing an overall conservation strategy is to clearly describe the goals and conservation needs for each covered resource independent of data availability, and evaluate the adequacy of spatial data to represent the resource. • Establish the goals based on the ecology and conservation context (known population trends, distribution of stressors) and what is known about the rangewide distribution. Explicitly address the adequacy of the mapped data available to represent the distribution of the resource as part of the project documentation. • Avoid using the results of a gap analysis as a justification for setting goals. Explicitly discuss uncertainties about impacts from climate change and other stressors where appropriate as risks to meeting goals. • Use conceptual models and diagrams (also called results chains) to explain links between conservation action, ecological condition and long-term viability.
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	2	2	2	2-35 - 2-44			The use of a hierarchical approach to goal setting at the landscape, community and species-level is helpful in the PCS document Table 2.2-5, more examples are needed.

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The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	3	Global					In the development of an overall conservation strategy, it will be important to make use of existing planning documents
							• Implement and improve on scientifically sound conservation actions identified by existing conservation and recovery plans.
							• Plans: West Mojave Plan, Northern and Easter Colorado Desert Coordinated Management Plan, the Desert Tortoise Recovery Plan, the CalPIF Desert Bird Conservation Plan, TNC Mojave Ecoregional Assessment, etc. (Appendix G of ISA report has a full list of these)
							• DRECP should review, incorporate and build on previous connectivity work:
							  a. CA Desert Connectivity Project
							  b. South Coast Missing Linkages
							  c. CA Essential Habitat Connectivity Project
							  d. All riparian and washes are important linkage features.

The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	4	Global					The overall conservation strategy must take into account the landscape structure and habitat quality. Incorporate landscape structure into the reserve design through use of intactness/ fragmentation analyses as a proxy for habitat quality and an initial proxy for connectivity. If Marxan is used, the cost layer for Marxan is a good way to do this. It is often preferable to keep this layer a simple composite of the most irreversible existing land uses and fragmenting features rather than a comprehensive set of all disturbances. Factors identified in the UC Santa Barbara study on mapping Low Risk areas provide a great starting point in the fragmentation sub-network.
The Nature Conservancy, California	5	Global					Incorporate CDFG vegetation mapping as soon as possible using estimates of % disturbed and % native species composition in understory as broad indicators of ecological condition and habitat value for wildlife.

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Council of Land Trusts, California Native Plant Society , Audubon California							The approach for incorporation of vegetation mapping is not clear and needs to be transparent. Please provide a diagram of the conservation planning process (e.g., relationships of habitat models, species distribution models, reserve design models, and how they feed into each other) and identify where vegetative land cover is a driving input into the model. Clarify how that data will be incorporated and which models will be re-run when vegetative data are available. Discussion of the incorporation of the forthcoming CDFG vegetation data is necessary given the apparent mismatch in the timing of the release of the data with the goal of developing a draft reserve design.
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	6	Global					Establish goals for the full reserve design as a basis for evaluating its effectiveness. The overall goal of the conservation planning and implementation should be need to maintain or create the conditions for persistence for covered resources given accelerating and unpredictable changes in ecosystem dynamics from climate change, and other impacts. Explicit consideration of the adaptation needs for species vulnerable to climate impacts is critical. Example goals include: • Representative: Encompasses full range of variability and full complement of biodiversity, stratify where needed • Redundancy or replication: Contains multiple examples of targets • Efficiency: Builds on existing network of conservation lands where appropriate. **It is critical to run scenarios with different combinations of lock-ins, including runs with no lock-ins to distinguish between areas with high biodiversity value and legal protection.** • Resilience: Large enough to withstand disturbance, provide refugia • Connectivity: maintains connectivity at multiple spatial and temporal scales for species, ecological processes • Restorative: Opportunities to restore degraded habitats or create new habitat should be identified, but given the lack of success and scientific basis for

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							restoration alternatives, extreme caution should be exercised in relying on restoration as a conservation strategy. It is more appropriate for some natural communities (e.g., riparian habitat) and not others. Additional research is needed to provide the basis for restoration actions.
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	7	Global					The progression of the planning processes is currently not clear. Use diagrams to show the progression of the planning process and break down steps in the process into a figure which shows the order and relationship between steps. As part of clearly laying out the conservation planning process in a stepwise fashion, document feedbacks, timing of new data integration and opportunities for significant stakeholder input. An example of the stepwise process: 1. Determine covered species 2. Evaluate mapped habitat data 3. Develop models for species habitat, including connectivity explicitly 4. Develop narrative biological goals and objectives that feed into representation goals as quantitative inputs into reserve design process, 5. Subdivide region into subregions with careful attention to the scale necessary for each analytical task. 6. Assess landscape structure/intactness, use as input into reserve selection tool 7. Run reserve selection scenarios, assessing sensitivities, calibrating tool for efficient, interpretable results, testing lock-ins 8. Classify output into reserve categories, evaluate adequacy of network for covered species and communities, 9. Solicit broad and comprehensive review of the results from stakeholders and experts 10. Assess potential impacts from climate change

The table header "Comment Location:" spans the Chapter, Section #, Page #, Paragraph, and Paragraph (from top) columns.

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							11. Prioritize conservation action based on analysis of irreplaceability and vulnerability
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	8	Global					Use the precautionary principle to guide a phased implementation of the plan, focusing development toward areas unlikely to contribute to conservation of covered species/communities, while also prioritizing areas within the reserve network that are highly irreplaceable and most vulnerable to loss. • Identify areas where native vegetation is removed, soil surface broken; ALSO in locations unlikely to contribute to reserve viability or wildlife movement potential. • Adhere to the mitigation hierarchy by emphasizing the role of avoidance as the primary means by which conservation values are maintained. When avoidance is impossible, design minimization to avoid impacts at a finer scale. Compensatory mitigation (for example: land acquisition, management actions, etc.) should be used as a last resort in siting projects. Another reason to take a cautious approach is the lack of high quality vegetation data to date used in the analysis broadly. Until these data are incorporated into the analyses and habitat models, extreme caution should be exercised in interpreting the ecological value of an area.
The Nature Conservancy, California Council of Land Trusts, California Native Plant	9	Global					Use of occurrence data should be limited unless the full range of a species has been surveyed. Development of models using expert opinion, literature-based estimates or statistical relationships should be used to assess habitat suitability. If there are adequate data, it is preferable to use statistical models. • Currently, there is a mix of range data, occurrence and habitat models used to represent the biological elements. Clear rationale should be provided as to what

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Society, Audubon California							type of data is used when. • Use of occurrence information should be avoided solely as a primary driver, using occurrence data to drive distribution models is an appropriate way to bridge data gaps and uncertainties in distribution ○ Use of ACE data – Using species richness as an indicator of conservation value at the landscape scale is dubious given variation in habitat availability and quality. The same issues with the use of NDDB data mentioned above are an issue with the ACE analysis. It may in fact point to areas that are more degraded due to bias in collection of records. • Use of WEMO plan data should include a discussion about adequacy of data for the reserve design. • If the umbrella species concept is proposed as a key part of the reserve design process, then more than just the spatial overlap between covered resources should be assessed. The degree to which the conservation actions required for viability also overlap (functional overlap) should be discussed.
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	10	Appendix C					Related to the above comment, a number of species models are shown in Appendix C, but it is unclear if they are reviewed, determined to be useful or used in the PCS map. A clear definition of how they will be used in the reserve design process is needed. For example, are all areas modeled as high suitability to be included as core conservation areas?
The Nature	11	Global					At least initially, describe the potential development levels in appropriate lands in

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Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California							the study area. That will enable interpretation of the mapped data and the adequacy of the reserve network for the conservation of the covered species. • Run scenarios of development or build out to determine key risks in meeting biological goals decades down the road once the reserve design is drafted. Test the reserve network and build out energy in appropriate areas and then assess whether conservation goals can be met.
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	12	Global					Account for changes in variability in disturbance processes, ecosystem dynamics. Plan for climate change explicitly given the projected impacts to desert ecosystems. • Incorporate climate information and explicitly represent climate gradients in analysis as a element of adaptation potential. • Consider vulnerability assessments for species or communities known to have climate sensitivities, use results to risk-adjust the reserve design or biological goals. • Consider using physical, abiotic heterogeneity as a layer in the analysis as a physical coarse filter input. • Evaluate the cumulative impacts posed by climate, land use and hydrologic changes and the synergistic interactions between them to evaluate the risks to persistence of covered resources and maintenance of critical ecological processes.
The Nature Conservancy, California Council of Land	13	Global					Clearly identify what is known to be missing somewhere in the materials. Many references are made to the draft PCS being incomplete, but it is never spelled out what is missing. A simple table that displays the status of individual species and community mapping would be helpful.

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Trusts, California Native Plant Society, Audubon California							
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	14	Global					Evaluate the need and options for reserve selection tools. Use the best practices for any tool chosen. If Marxan is used, follow established best practices at the following link: (http://www.uq.edu.au/marxan/docs/Marxan%20Good%20Practices%20Handbook%20v2%202010.pdf) Below are a select set of recommendations: • It is critical to evaluate sensitivities to different parameters, re-calibrate the tool when inputs change. • Interpret the output with experts in the species of interest. • Incorporate stakeholder input into the development of the zones used and conservation goals. • Reserve selection tools are sensitive to data gaps, tool settings, and quality and spatial scale of data. It is critical to evaluate the output from these tools with various experts and stakeholders to ensure that the results are interpretable, robust, and implementable. • Specifications of parameters should be well-documented, justified and transparent. • Algorithms are best used to define the skeleton of the reserve network and the model outputs need to be augmented with analyses of connectivity, vulnerability and irreplaceability of reserves. o Irreplaceability: measure of the biological value and distinctiveness of a site

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							o Vulnerability: predicted decline in population growth rate due to development
The Nature Conservancy, California Council of Land Trusts, California Native Plant Society, Audubon California	15	Global					Reconvene the independent science advisors to provide peer-review of the biological goals and objectives, the modeling approach for covered species, selection and use of the analytical tools and framework, and a preliminary reserve design. Adequate review of the assumptions, inputs and design of conservation areas is necessary to maintain the highest level of scientific rigor.

How to Submit Written Comments

Please submit comments on the DRECP Preliminary Conservation Strategy by **November 23, 2011**.

Please include the docket number "09-RENEW EO-01" in the subject line or first paragraph of your comments.

Those submitting comments electronically should provide them in either Microsoft Word format or as a Portable Document Format (PDF) and send them via email to [**docket@energy.state.ca.us**]. Please include your name or organization's name in the file name.

Those submitting comments in paper format, please send them to:

California Energy Commission
Dockets Office, MS-4
Docket No. 09-RENEW EO-01
1516 Ninth Street
Sacramento, CA 95814-5512