

July 11, 2012

California Energy Commission  
Dockets Office, MS-4  
Docket No. 09-RENEW EO-01  
1516 Ninth Street  
Sacramento, CA 95814-5512  
[docket@energy.ca.gov](mailto:docket@energy.ca.gov)



**Re: Comments on Documents Provided to the Independent Science Advisors and to the Public for the June 26, 2012 Desert Renewable Energy Conservation Plan (DRECP) Meeting**

To whom it may concern:

On behalf of Defenders of Wildlife (Defenders), Natural Resources Defense Council (NRDC), Audubon California and Sierra Club, we are writing to provide comments on the materials provided to the DRECP Independent Science Advisors and the public for the June 26, 2012 meeting. Our main points are summarized below followed by the attached table of more detailed comments on each of the new or revised documents provided to the Science Advisors. These comments incorporate and expand on the comments provided by Defenders at the Independent Science Panel Meeting June 26, 2012 and all of our earlier comments provided to the DRECP. Thank you for your consideration and we look forward to working with you on improving the conservation and renewable energy planning processes.

Our main recommendations are as follows:

**1. Application of the Precautionary Principle**

There are few Covered Species for which existing baseline information would likely be considered adequate for detecting biologically significant changes due to renewable energy and transmission activities. In addition, there are data gaps and uncertainties regarding impacts to natural communities and ecological processes. For these reasons, we support the October 2010 Independent Science Advisors recommendation to diligently apply the precautionary principle in developing this plan to avoid unnecessary trade-offs that will detrimentally affect species, natural communities or ecological processes in the California deserts.

The precautionary principle can be systematically applied to the DRECP through development of a phased plan approach whereby development in an initial phase of the plan is limited to those areas where there is the greatest certainty that biological resources will not be detrimentally affected by covered activities. As information is gathered through monitoring and research and there is greater certainty about the needs of covered species and natural communities, the plan would enter subsequent phases of conservation and

development. This approach was presented to the DRECP and stakeholders in February of 2012.

The same outcome may be achieved through development of a rigorous adaptive management and monitoring framework that incorporates the precautionary principle as described above. In the case of active adaptive management, the DRECP could establish specific questions and hypotheses related to the impact on biological resources due to covered activities. Using well-designed monitoring, the DRECP could test these hypotheses and greatly contribute to our understanding of the impact renewable energy facilities have on covered biological resources.

## **2. Consult Climate Change Biology Experts**

Climate change biology is a new field that is rapidly developing and growing. There is a growing body of literature related to managing for species conservation under predicted climate change scenarios. We urge the DRECP to actively consult with experts in this field to ensure the best strategy is adopted within the plan so that efforts to conserve species are effective and not undermined by changing climatic conditions in the region. Here are some resources we recommend the DRECP consult in developing a climate change strategy:

- Brost, B.M. and Beier, P. (2012) Use of land facets to design linkages for climate change. *Ecological Applications* 22 (1) pp. 87 – 103.
- Klausmeyer, KR et al. (2011) Landscape-scale indicators of biodiversity's vulnerability to climate change. *Ecosphere* 2(8), Article 88.

## **3. Account for Current Level of Renewable Energy Development**

Numerous renewable energy projects are planned, undergoing permit processing or are under construction as the DRECP is being prepared. Many are outside of the Development Focus Areas. Mitigation requirements for all of the “interim” projects in the planning area need to be included in the DRECP Conservation Planning strategy, perhaps on a programmatic or combined basis rather than for individual projects.

While we recognize that all of the projects either under construction, proposed, or planned may not eventually become operational, we think that the DRECP should account for some fraction of these projects when planning for renewable energy in the DRECP.

## **4. Ensure Species Data and Model Accuracy**

As has been mentioned in previous comment letters, accuracy of the Reserve Design is critical to ensuring the DRECP achieves biological goals and objectives and sites renewable energy resources in the most appropriate places. We recommend ensuring data accuracy and comprehensiveness by using the most complete datasets to model species and re-running models based on expert review and suggestions that come out of the current ISA panel

review. The new vegetation mapping and the habitat suitability model for the Mohave ground squirrel in the West Mojave region should be used to refine species models and plan the overall DRECP reserve design. The species models are the building blocks for the overall reserve design, thus it is essential that adequate time and effort is allotted to ensure they are best representing the habitat and range of covered species.

**5. Ensure Conservation Planning Process is Transparent**

Both the original rationales for proposed reserve designs and for any proposed modifications should be clearly explained as part of the written record so the public can understand both the sources and justifications for modifications as the process moves forward. Specifically, we recommend providing a clear explanation for:

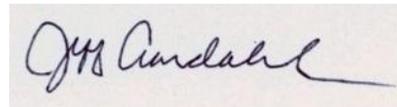
- 1) Why specific modeling software was used, how it was used and what the inputs and outputs are.
- 2) How the Biological Reserve Design Context meets the pre-defined Biological Goals and Objectives.
- 3) How climate change and its effect on species will be addressed.
- 4) How the DRECP will deal with data gaps and uncertainties.

Thank you for your consideration of these recommendations. They are provided with the intention to assist the DRECP in developing the best possible conservation plan for the California deserts while streamlining permitting for renewable energy facilities in the most environmentally suitable areas.

Sincerely,



Stephanie Dashiell  
CA Desert Associate  
Defenders of Wildlife



Jeff Aardahl  
California Representative  
Defenders of Wildlife



Helen O'Shea  
Director, Western Renewable Energy Partnership  
Natural Resources Defense Council



Barbara Boyle  
Senior Campaign Representative  
Beyond Coal Campaign  
Sierra Club

A handwritten signature in black ink, reading "Garry George" in a cursive style, followed by a long horizontal line extending to the right.

Garry George  
Renewable Energy Project Director  
Audubon California

~ Attachment~

**DRECP COMMENTS on PLANNING DOCUMENTS FOR SCIENCE ADVISOR  
REVIEW**

July 11, 2012

PLANNING DOCUMENT NAME	KEY CONCEPTS AND ISSUES	RECOMMENDATIONS
<p><b>Memorandum on Climate Change and Integration into Planning Process</b></p>	<p>1. The overall approach to addressing climate change seems to be dealt with separate from the conservation planning process.</p>	<p>1. Addressing climate change should be embedded in the overall conservation planning process. In choosing species and “rules of thumb” for the Marxan modeling, the climate vulnerability needs to be considered as a criteria in determining targets for conservation.</p>
	<p>2. Potential Effects on Species Distribution – the MGS case study uses one climate model and not a suite of climate models. Generally, using Maxent to predict species distribution under climate change carries a lot of uncertainty.</p>	<p>2. Consult with climate change biology experts to ensure that 1) if Maxent is used to predict species range shifts, the appropriate parameters and inputs, including the most recent climate models at the appropriate spatial resolution are used; and 2) modeling species range shifts to inform conservation planning decisions is the most effective way to design a reserve system in a way that addressed climate change impacts.</p>

	<p>3. DRECP Climate Change chapter indicates average temperature increases within the planning area of 3.2 to 4.7 deg. F, and the number of days of extreme heat events increasing by 31 days in the Mojave Desert and 22 days in the Sonoran Desert.</p> <p>A new climate (temperature) change study for the Los Angeles region was published by the UCLA Institute of the Environment and Sustainability 6/21/12. It predicts average temperature in the Mojave Desert will increase 5 deg. F during the period from 2041 to 2060, and that the number of extreme heat days will increase by 36 days in Lancaster and 44 days in Palm Springs.</p>	<p>3. Revise chapter on Climate Change to reflect the new UCLA study so that affected species and natural communities will be able to persist under temperature conditions predicted in the UCLA study.</p> <p>Study available at:  <a href="http://c-change.la/pdf/LARC-web.pdf">http://c-change.la/pdf/LARC-web.pdf</a></p>
		<p>4. Audubon has provided maps to DRECP and can provide GIS data on models of range shifts of California and U.S. birds due to climate change and how well we reduce GHG emissions.</p>
<p><b>Conservation Planning Process for Biological Resources</b></p>	<p>1. Conservation planning and renewable energy planning processes are addressed separately which creates confusion within the planning process.</p>	<p>1. Clearly link the two planning processes and describe how they work together in terms of defining acreages and locations of renewable energy development versus conservation areas.</p>

	<p>2. With the exception of transmission infrastructure, all covered renewable energy projects are expected to occur within the DFAs. This is the assumption being made in the planning process.</p>	<p>2. Numerous renewable energy projects are planned, undergoing permit processing or are under construction as the DRECP is being prepared. Many are outside of the DFAs. Mitigation requirements for all of the “interim” projects in the planning area need to be included in the DRECP Conservation Planning strategy, perhaps on a programmatic or combined basis rather than for individual projects.</p>
	<p>3. Conservation status of lands in the DRECP planning area for Category 2 includes public lands managed by BLM as protected open space but not in perpetuity. Included are BLM Wildlife Habitat Management Areas.</p> <p>Under CDFG, lands Category 2 include Bighorn sheep range, habitat areas and watering sites.</p>	<p>3. Considering that BLM has accepted and processed and, in some cases, approved renewable energy project applications on lands designated as Wildlife Habitat Management Areas, we recommend these lands be moved into Category 3 – Open space.</p> <p>The CDFG lands for bighorn need to be reconsidered if they are public lands. If so, they could fall within any of the categories.</p>
	<p>4. Linkages should be based on habitat suitability at a landscape scale so that conservation reserves, including currently protected lands, are interconnected with a maximum amount of habitat rather than the minimum as is generally referred to as the “least-cost” pathway approach.</p>	<p>4. Utilize habitat models for broad ranging Umbrella Species, such as Desert tortoise, Desert bighorn and Mojave ground squirrel, as the basis for identifying landscape scale linkages between protected lands. Do not rely primarily on the “least-cost” pathway modeling because it eliminated vast areas of occupied suitable habitat for covered species.</p>

	<p>5. Gap analysis does not currently include consideration of how much species habitat exists outside of the DRECP area.</p>	<p>5. The DRECP should attempt to analyze how much of a species habitat, natural community or ecological process overlaps with the DRECP plan area. Resources that fall primarily in the DRECP plan area (endemics, etc) may be more vulnerable to threats from covered activities.</p>
	<p>6. Appendix, Marxan section, Table B-5: Unclear if these acreages and % are the inputs or the outputs of the Marxan run.</p>	<p>6. Need to clarify if this table are the inputs or the outputs of the Marxan run</p>
	<p>7. Appendix, p. 4: “Data from Approach 3 and Approach 4 is being compared to the similar mapping methods of approach 1 and will be used to inform additional decisions regarding updating of the land cover data layer, species modeling, Marxan analysis, and iterative expert reserve design.”</p>	<p>7. Both TNC’s West Mojave Assessment (2012) and UCSB’s Compatibility Mapping use sophisticated GIS modeling techniques and should be considered the best available science for mapping levels of conflict with development. Please clarify how these studies will “inform additional decisions” more clearly and transparently.</p>
	<p>8. It is still unclear how the four approaches to mapping low conflict areas for development will inform the actual siting of renewable energy development.</p>	<p>8. The mapping efforts included in Section 2 of the Appendix should be integrated with the renewable energy planning process so that areas of least conflict for biological resources are development first.</p>
	<p>9. Section 3: Biological Goals and objectives: Species-specific conservation planning diagrams and the biological goals and objectives still include a lot of TBD. These diagrams were first shown to the stakeholders in January of 2012 and have not changed since then.</p>	<p>9. If the conservation planning diagrams for each species are to be meaningful, the conservation actions need to be decided as soon as possible. DRECP needs to make it a priority to finalize the specific biological goals and objectives that lay out the hypothesis for what it will take to protect and recover the species and natural communities in the plan area.</p>

	<p>10. <b>The Marxan appendix does not indicate the actual amount of modeled habitat that would be preserved for each species.</b></p>	<p>10. The results of the Marxan run in terms of the acreage and percentage of habitat conserved for each resource needs to be provided to the public to ensure transparency.</p>
	<p>11. The final acreage numbers and percentage of habitat conserved for each resource within the final reserve design (after the iterative reserve design analysis) were not provided .</p>	<p>11. For each alternative reserve design presented, the acreage within the reserve design as well as the % of a resource's geographic range should be included so that the public, agencies and stakeholders can adequately review each of the alternatives in terms of how well it meets the stated biological goals and objectives.</p>
<p><b>Conservation Planning Process for Renewable Energy Goals</b></p>	<p>1. Three principles defined on p. 3-2 to guide the identification of areas compatible with renewable energy generation. These principles, especially the first and the third are often in conflict with each other.</p>	<p>1. REAT agencies should clearly identify a strategy to deal with the inherent conflict of allowing for flexibility of siting with constricting development to already disturbed land in areas of low biological value.</p>
	<p>2. The steps identified on pps. 3-2 and 3-3 do not address how the renewable energy process fits in with the conservation planning process.</p>	<p>2. Clearly address how the renewable energy planning process (especially estimating the acreage needed) fits in with the conservation planning process. In some cases, the acreage for a specific covered activity may depend on the conservation strategy and the data/information requirements needed to know if biological goals and objectives are being met.</p>

	<p>3. Estimating Future Generation Capacity Requirements from the Plan Area</p>	<p>3. This is a moving target and should be based on need and linked to the conservation strategy. The amount of development required should be determined based on regular re-assessment of RE generation and needs as well as a re-assessment of achievement of biological goals and objectives. Re-assessment should occur in regular intervals using a “phased” approach.</p>
	<p>4. Accounting for Operational Projects or Projects Under Construction – it is stated that all projects that were either operational or under construction as of June 2012 were subtracted from the target generation capacity requirement.</p>	<p>4. All interim projects (as defined by Fish and Game Code to be subject to REAT agency interim review process) within the DRECP plan area should be accounted for and subtracted from the target generation capacity requirement, as these projects will be contributing to the renewable energy goals and targets for the desert region.</p>
	<p>5. Table 3.5-3: Estimated acreage required to accommodate renewable generation.</p>	<p>5. These acreage estimates need to be refined based on the conservation strategy. DRECP needs to clearly explain how the estimated acreage requirements are consistent with the conservation strategy and the ability of the plan to meet its legal requirements for permitting under ESA and as an HCP/NCCP.</p>
	<p>6. Identification of Renewable Energy Study Areas</p>	<p>6. Please clarify how the RESAs were identified to avoid conflicting major land uses, particularly how lands of lower biological value were mapped and modeled and the field protocol to groundtruth each area.</p>

	<p>7. The Transmission Technical Group assessed existing generation with operational dates before January 2012 – this included generation in the CAISO queue, for which utility-side transmission is under construction.</p> <p>The generation being subtracted from the capacity requirements for each RESA is not the same as the generation being subtracted from the overall generation goals for the DRECP as a whole.</p>	<p>7. Ensure that all facets of the plan that deal with renewable energy capacity requirements are operating under the same principles and accounting for projects in a clear, transparent and standardized way.</p>
<p><b>Revised Renewable Energy Acreage Calculator</b></p>	<p>1. Energy Acreage Calculator only accounts for renewable energy projects in construction or operational as of June 2012 and does not account for projects planned and under permit review.</p>	<p>1. Revise the net-short MWs from renewable energy sources for the year 2040 by including all interim projects as defined by Fish and Game Code. These are the projects that undergo REAT review to make sure they are consistent with the DRECP and NCCP Act standards.</p>
	<p>2. In Table 2, the existing in-state renewable subtracted from the in-state renewable energy need is 35,000 GWhs. This is the amount of generation occurring by the end of 2010.</p>	<p>2. The amount of in-state renewables value should be updated to include all projects operational by the end of 2011.</p>
		<p>3. Please see additional comments and suggestions submitted by the Sierra Club regarding the Renewable Energy Acreage Calculator for the DRECP, submitted on July 11, 2012. These comments stress the following point in more detail: <b>Development areas in the DRECP must reflect a reasonable, fact based estimation of need for large scale resources over the</b></p>

		<b>planning horizon to 2040.</b>
<b>Monitoring and Management Program (Adaptive Mgt.)</b>	1. Programmatic framework for the whole plan area.	1. We support the DRECP having a programmatic adaptive management framework.
	2. Role of Adaptive Management is still TBD	2. Role of adaptive management framework is even more critical if the DRECP is not a phased plan. Due to knowledge and data gaps on baseline conditions as well as impacts, gathering information and adapting policies and management actions in response is essential.
	3. Compilation of available data, p. 5-5, “there are few Covered Species (or locations) for which existing baseline information would likely be considered adequate for detecting biologically significant changes due to DRECP Covered Activities.”	3. As part of the Adaptive Management Framework, we recommend the DRECP begin collecting baseline data on covered biological resources as soon as possible. Without adequate information on species, the DRECP is left to follow the precautionary principle, limiting development of renewable resources significantly.
	4. Strategic Division of the Reserve System	4. How will the Reserve Management Units be designated and will one agency/entity manage all RMUs?
	5. Knowledge Gaps, Critical uncertainties	5. We already area aware of many knowledge gaps and Critical uncertainties. Many of these have been highlighted in a paper published by Lovich et al. (2011) <sup>1</sup> . Others include GE population viability, migratory bird movement patterns, rare plant response to disturbance and transplantation, etc. Monitoring should begin immediately as part of this framework in order to establish

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<sup>1</sup> Lovich et al. (2011)

		baseline data on biological resources in the plan area.
	6. Data Management	<p>6. We support the effort to have the framework include a centralized system for data management. We also agree that data storage and management should be standardized to maintain a high level of quality assurance and should include specific protocols for naming directories, subdirectories and files.</p> <p>We recommend that this data be made accessible not only to management agencies and entities but to the public at large as well.</p>
	7. Long-term action plans and annual reports	<p>7. We agree that there should be regular reporting as part of the adaptive management program. The key element in these reports is the evaluation of the effectiveness of current management and policy at achieving goals and objectives. There should be a very clear process, such as designating thresholds of take, for identifying significant problems or successes in the MMP. Special attention should be given to this section, as it is critical to the DRECP achieving its goals of providing a net conservation benefit to covered species and other biological resources</p>
	8. Monitoring – compliance and effectiveness monitoring	<p>8. We view the compliance monitoring as mandatory for individual projects. The effectiveness monitoring is essential to the success of the adaptive management plan and special attention and thought should be given to “criteria by</p>

		<p>which effectiveness is measured, which would be generated in the management-oriented models.” We support the establishment of an a priori change threshold or performance threshold that would inform when management or policy should change.</p>
<p><b>Baseline Biology Report: Appendix A - Metadata</b></p>	<p>1. Mohave ground squirrel: Metadata include documented occurrences in records from the period 1998 to 2009 and “core areas” are also based on these records.</p> <p>The BLM data of documented occurrences from 1974 to 1980, which are highly accurate as to location, were not included in the metadata, nor was Appendix M from the West Mojave Plan published by BLM in 2005.</p>	<p>1. Include the BLM site records for the Mohave ground squirrel and Appendix M from the West Mojave Plan in the metadata, and revise the extent of occupied habitat. If the natural vegetation communities are present, then the BLM site records should be used to delineate the currently occupied range. The concept of “core areas” and its use in the habitat modeling and conservation for this species significantly reduces the amount of key habitat.</p> <p>Please obtain the additional site records from BLM or Jeff Aardahl at Defenders of Wildlife.</p>
<p><b>Map of Planning Area Preliminary Biological Reserve Design Context</b></p>	<p>1. Land categories on the context map show areas of High and Moderate biological value but do not show areas of low biological values where natural land cover has been lost such as agricultural lands and unused industrial sites (brownfields).</p> <p>It appears such areas would largely fall into the Undesignated category on the</p>	<p>1. Using existing mapping layers, identify lands with low biological value (e.g., abandoned agricultural lands that are no longer viable due to lack of irrigation water, salt contamination or impaired drainage; abandoned industrial sites). Such lands will largely occur in the Antelope Valley, Imperial Valley, Mojave Valley east of Barstow, and Fremont Valley north and east of</p>

	context map.	Mojave. See TNCs ecoregional assessments for the Western Mojave, Mojave and Sonoran areas for previously mapped lands in the above categories.
	2. In the Pisgah Valley area east of Barstow, there is an Unclassified area of public land surrounded by high biological value lands. This unclassified area appears to represent the proposed Calico solar project.	2. Revise the map to show the Unclassified area as having high biological value, which has been documented through recent on-site inventories and identified as part of a key habitat linkage for the Desert tortoise by the FWS.
	3. In the Chuckwalla Valley, north and east of Desert Center, the context map shows areas as Unclassified that have been identified as key habitat linkages for the Desert tortoise and other species. One such block of land is located north and west of the Desert Sunlight solar project and the other is located within the proposed footprint of the Palen Solar Project. The latter area has been designated by BLM as a Wildlife Habitat Management Area for Desert tortoise linkage or movement habitat.	3. Include public lands in the Chuckwalla Valley as having high biological value as recognized by BLM in their decision on the Desert Sunlight solar project and the NECO Plan amendments that designated Wildlife Habitat Management Areas for Desert tortoise and Desert bighorn movements.
	4. In the Owens Valley north of Owens Lake is an area of Unclassified land on either side of the Owens River that is relatively undisturbed. It appears this land area is largely owned by the City of Los Angeles and includes the area of their proposed Southern Owens Valley Solar Ranch.  This area is occupied by the introduced Tule elk and the herds are under active management by the CDFG. The narrow band of high biological value habitat	4. Include lands occupied by Tule elk herds and under active management by CDFG in the high biological value category. Expand the high biological value corridor associated with the Owens River to include lands within 0.5 miles on either side of the river floodplain.

	associated with the Owens River is insufficient in protecting habitat in this region.	
	5. Private and public lands north and south of Tehachapi are generally mapped as having Moderate biological resource values. These lands are known to be occupied and utilized by California condors and Golden eagles.	5. Modify the map to show that these lands are of High biological value for these two species. For occurrence data see various CEQA and NEPA documents for wind projects in the area.
<b>Biological Goals and Objectives (Revised 6/14/2012)</b>	1. Definition of “Conserve” appears to be a compilation of actions to achieve conservation goals and objectives.	1. Revise definition of “Conserve” so that it reflects a desired outcome or condition, and what its attributes are.
	2. Scope of the Goals and Objectives should address all stressors on covered species and their habitats, not simply those related to renewable energy development.  Current draft is unclear which stressors are considered “Outside Stressors” are beyond the scope of DRECP.	2. Revise Goals and Objectives to clarify that the conservation strategy will include actions to remove or reduce stressors regardless of their source.  “Outside Stressors” that are determined to be beyond the scope of the plan for legal or regulatory reasons should be identified.
	3. Stressors on biological resources related to renewable energy development and how the impacts will be addressed needs to be clarified. Will the projects planned, under permit review or under construction as “interim projects” pending finalization of the DRECP be subject to DRECP mitigation requirements?	
	4. Stressors on biological resources other than renewable energy may be incompatible, individually or in combination, with Goals and Objectives and management of Conservation Reserves.	4. Clarify how the DRECP will lead to resolving stressors, other than those associated with covered activities that are incompatible with the Goals and Objectives.

	5. Under the conservation strategy for the DRECP, Conservation Areas or Reserves will be managed to conserve ecosystems for covered species.	5. Clarify how the DRECP will lead to establishing Conservation Areas or Reserves on both private and public lands, and how conservation of these areas will be achieved in perpetuity.
	6. Goals and Objectives will be achieved through conservation actions on public and private lands.	6. Goals and Objectives and their associated conservation actions should reflect minimum standards under existing laws, regulations and policies for public lands separate from those pertaining to private lands. Stronger Goals and Objectives exist for Public Lands than for private lands.
	7. Objectives for conservation of habitats for covered species and natural communities are currently expressed in acres	7. Objectives should specify percent of habitats for covered and natural communities that will be conserved for both public and private lands. This will provide flexibility because acreages are expected to change as more information and updated mapping products are obtained.
	8. Aerial habitat for covered species of birds and bats has not been incorporated into Goals and Objectives	8. Include aerial habitat as a Natural Community and develop Goals and Objectives especially for certain covered species including but not limited to: <ul style="list-style-type: none"> <li>• California condor</li> <li>• Golden eagle</li> <li>• Prairie falcon</li> <li>• Neotropical migrating birds</li> <li>• Bats</li> </ul>
	9. Conservation of rare plants	9. Goals and Objectives for rare plants should be based on communities rather than simply sites where they occur. Develop Goals and Objectives based on habitat models for

		these species.