

To: California Energy Commission
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Re: Docket No. 09-RENEW EO-01
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California Energy Commission

DOCKETED

09-RENEW EO-1

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Subject: Comments of The Nature Conservancy on the DRECP NEPA/CEQA

The Nature Conservancy (the Conservancy) respectfully submits the enclosed comments to the Draft Desert Renewable Energy Conservation Plan (DRECP) and Environmental Impact Report/Environmental Impact Statement (EIR/EIS) California, 79 Fed. Reg. 57971 (September 26, 2014).

For over six years, the Conservancy has invested deeply in the development of the DRECP; as a stakeholder, a member of the California Renewable Energy and Desert Working Group, and as a funder of the Independent Science Advisory Committee. We believe strongly in the value of landscape-scale planning for biodiversity conservation and in the siting of renewable energy in the California deserts.

The agencies' vast investment of resources and remarkably creative energy in formulating the draft plan proposes to move desert planning very significantly toward a comprehensive, landscape-wide approach, directing development to low conflict areas while protecting and enhancing the biodiversity of our vast, intact but threatened, desert areas. This is an effort that we favor and deeply appreciate. We offer our continued assistance as the agencies seek to improve and adopt the core principles of the DRECP in a form that provides well-designed and durable conservation while providing incentives for appropriate siting of renewable energy resources.

Our comments primarily focus on: (1) **biological goals and objectives**, including the establishment of quantitative BGOs, and whether the Preferred Alternatives' proposed Development Focus Areas (DFAs) would preclude the ability to achieve these BGOs; (2) **groundwater** and the need to establish specific, mandatory requirements for the long-term conservation of groundwater and groundwater-dependent resources; (3) the adequacy, including the durability, of **conservation and mitigation commitments**; and (4) **planning and permitting** of renewable energy in the DRECP. The comments, including the appendices, include a detailed discussion of these as well as other issues raised by the draft DRECP.

At the outset, it is quite clear to us that a number of outstanding issues with the structure and operation of the draft DRECP, some reaching the heart of its conservation promises, must be addressed before it or a modified planning vehicle can be issued in final form. That said, the state of desert conservation and its vibrant natural communities would be vastly improved were the fundamental principles of the draft DRECP adopted in a form that overcame these hurdles. We are confident that this can be accomplished.

We earnestly urge the participating agencies to engage in a very open discussion with all stakeholders after the close of the comment period to work through necessary changes to and clarifications of the draft.

We appreciate the opportunity to comment, and look forward to assisting as the DRECP emerges in more final form.

Sincerely,

A handwritten signature in cursive script that reads "Laura Crane". The signature is written in black ink and includes a long horizontal flourish at the end.

Laura Crane
Associate Director, California Land Program
The Nature Conservancy

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1. Introduction

The Nature Conservancy (the Conservancy) is a global non-profit organization dedicated to sustaining biodiversity by conserving the lands and waters upon which all life depends. We seek to achieve our mission through science-based planning and implementation of conservation strategies that provide for the needs of nature and people. The Conservancy's principal focus in renewable energy development in the California deserts has been to use science-based analysis to help ensure that renewable energy facilities are sited and conditioned in ways that preserve the remarkably intact and fragile natural communities of California's Mojave and Sonoran Deserts, and to preserve migration corridors and connectivity between key habitat areas.

We strongly support the development of preferred resources (e.g., energy efficiency, demand response, energy storage, and renewable energy generation) to mitigate the increasing threat of climate change. California's leadership in these areas is essential to set national and global precedent to demonstrate the economic and practical feasibility of adopting aggressive renewable energy goals while reducing reliance on carbon-based energy sources.

In reaching these goals, we support implementation of California's loading order¹ and believe the state should first pursue demand-side preferred resources (e.g., energy efficiency, demand response, energy storage, and rooftop distributed generation). Where renewable energy generation facilities (e.g., wholesale (20MW) distributed generation, utility-scale) are needed, they should be planned and sited thoughtfully to meet multiple goals, including grid benefits, reasonable costs, and the protection of nature.

It is critical to site renewable energy generation facilities in a manner to first avoid ecological impacts, then to minimize or contain ecological impacts, and finally to mitigate remaining impacts with conservation investments to offset the impact. If renewable energy facilities are not located, built, and operated responsibly, they can negatively impact biodiversity, harm wildlife and vital habitats, and diminish water resources, especially in fragile desert environments.

Given the importance of decarbonized electricity supplies identified in several analyses that have been conducted for California to understand how the state would meet emission reduction goals of 80% below 1990 levels by 2050², the Conservancy believes that landscape-scale planning for biodiversity conservation and renewable energy in the California deserts is a well-timed and critical endeavor. With robust renewable resource

¹ California's energy policy has recognized an electricity "loading order" as the preferred sequence for meeting electricity demands. The loading order lists energy efficiency and demand response first, renewable resources second, and clean and efficient natural gas-fired power plants third.

² Williams, J. H., et al. 2011. The Technology Path to Deep Greenhouse Gas Emission cuts by 2050: the pivotal role of electricity. Science Express [E3]

quality, important ecological resources, and some of the most intact landscapes in the continental United States, prudent planning – at the local, state, and federal levels – is needed to protect the species, ecosystems and water resources of the California deserts as we consider using some of these lands to help the state achieve its emission reduction goals. The draft DRECP properly recognizes that landscape-scale planning for biodiversity conservation is an indispensable tool to site facilities properly while avoiding ecological harm. Planning must be done now, in the context of the DRECP, to set in place durable conservation protections and patterns that will guide renewable energy development through many decades.

The draft DRECP represents a great advance in the practice of collaborative desert conservation planning, but the plan is at a critical stage. Many issues must be resolved before a final plan can be promulgated. We are firmly committed to working toward a successful completion of the plan. To aid in this process, our comments raise matters that we believe must be addressed, including our views on how resolution might best be achieved. While our criticisms are extensive, we strongly believe that the positive features of the draft are important to the future of desert biodiversity. With this in mind, in the following pages we recommend specific strategies that must be pursued prior to finalizing the DRECP.

2. The draft DRECP proposes significant benefits for conservation and landscape-level planning to meet multiple goals

For many years, the Conservancy has worked with federal and State agencies and numerous stakeholders to protect ecosystems, landscapes and species while supporting timely development of renewable energy resources in the California desert. In light of that history, the Conservancy appreciates that the agencies have taken the important next step of proposing the draft DRECP, which is directed at conserving certain Covered Species and natural communities while allowing for renewable energy development and operations. The draft DRECP reflects a number of benefits which improve upon the current approach to conservation in the California desert, including:

1. Devising a landscape-scale approach for the entire region to meet conservation goals, including providing a plan-wide vision of the conservation necessary to protect the long-term viability of desert species and natural communities.
2. Proposing conservation designations on ecologically valuable lands across the planning area. The Conservancy believes these designations are a significant step forward in creating a network of conservation lands that can achieve a plan-wide vision for protection of a large number of rare and endemic desert species and natural communities, and we strongly support these designations, with several essential revisions.

3. Guiding renewable energy resource siting to low conflict, more ecologically appropriate locations in the plan area, and establishing measures to minimize ecological impacts for development, transmission, and operations.
4. Establishing detailed and standardized Conservation Management Actions (CMAs) and mitigation measures that would be required for renewable energy and transmission development and operations to avoid, minimize and offset impacts.
5. Proposing mechanisms to improve the durability of conservation designations, such as Rights of Way for conservation on public lands that would be adopted in the DRECP through the execution of the Draft Durability MOU. .
6. Establishing disturbance caps that take into account both anthropogenic and natural disturbances.

The Conservancy supports the integrated approach to conservation embodied in the draft DRECP, although we identify a number of changes that will be needed if it is to satisfy the intended purposes of the planning effort.

3. Summary of Strategic Recommendations

The following is a summary of key issues and strategic recommendations that we present, along with other matters, in greater detail in this letter and in an accompanying series of appendices:

1. Durability mechanisms for protecting public lands must be improved. (Detailed recommendations in Section 4 and Appendix J)
2. Groundwater Conservation Management Actions must be strengthened and made mandatory to ensure that flows are maintained and critical aquatic and riparian resources will survive over the long term. (Detailed comments in Section 5 and Appendix K)
3. The draft DRECP provides critical protections to ensure long-term connectivity of the desert ecosystems. These protections need to be maintained and improved upon. (Detailed recommendations in Section 6 and Appendices A, G, H and J)
4. The Draft should include transparently derived, quantifiable plan-wide biological goals and objectives (BGOs). (Detailed recommendations in Section 7 and Appendices B, C, D and E)
5. Configuration of some Development Focus Areas (DFAs) should be revised to ensure that they do not prevent attainment of the plan-wide BGOs, to remove ecologically important lands, to protect critical groundwater-dependent resources, and to protect climate refugia for species. (Detailed recommendations in Section 8 and Appendices F and H)
6. The Undesignated and Study Lands need to be further analyzed and revised to eliminate ecologically important areas (Detailed recommendations in Section 9).

7. Improvements in the transparency of energy calculations are needed to ensure that the potential of demand-side preferred resources is accounted for in the DRECP (Detailed recommendations in Section 10)
8. Clarification and improvements of the practical benefits and incentives to developers are needed to induce renewable energy development to locate in low impact DFAs (Detailed recommendations in Section 11)
9. Adequate plan funding and effective governance of the plan's implementation, including, for example, the timing of mitigation, must be described in more detail, providing assurance and measures of success (Detailed recommendations in Appendix J).
10. Additional lands should be put into protected status (Detailed recommendations in Sections 6 and 8 and Appendix H)

There are two additional issues that we believe could potentially lead to structural changes in the DRECP. These are the challenges that the DRECP as structured has in clearly meeting Natural Community Conservation Plan legal requirements, and the absence of county participation in the DRECP. While we offer views on these two issues, we are not confident that they work in the form of the current draft. However, even if these two issues cannot be satisfactorily resolved, it is of utmost importance to improve and retain the desert conservation features of the Plan.

We recognize that fully meeting Natural Community Conservancy Planning Act (NCCP Act) requirements entails a number of practical complexities given the amount of public land in the plan, the geographic scope of the plan area compared to the expected impacts from renewable energy, the decision to cover just one set of activities that impact Covered Species and natural communities, and the uncertainty related to county participation. Given these factors, an NCCP component may unfortunately prove in the end to not be the best or an attainable fit for this conservation plan. Despite those complexities, we would support revisions to the draft to meet the standards of an NCCP, and, if the agencies do proceed to include an NCCP component, we ask that our comments related to the NCCP be considered [Appendix J].

However, if the agencies decide not to proceed with inclusion of an NCCP component, the Conservancy is prepared to work with the various stakeholders, as it has done in the past, to determine whether consensus can be reached on alternative structures to those in the draft that will still meet the key goals of the planning effort.

Along those lines, the Conservancy reviewed the goals established in the DRECP Planning Agreement (May 2010) and believe that the following goals could be achieved by a final DRECP, even if it does not include an NCCP component. We also believe all of the below goals are valuable and support finalizing a plan that will meet them:

- Provide for the long-term conservation and management of Covered Species within the Planning Area;
- Preserve, restore, and enhance natural communities and ecosystems that support Covered Species within the Planning Area;
- Build on the Competitive Renewable Energy Zones identified by RETI;
- Further identify the most appropriate locations within the Planning Area for the development of utility-scale renewable energy projects, taking into account potential impacts to threatened and endangered species and sensitive natural communities;
- Provide a comprehensive means to coordinate and standardize mitigation and compensation requirements for Covered Activities within the Planning Area, which provides greater conservation benefits than project-by-project mitigation plans would
- Provide a framework for a more efficient process by which proposed renewable energy projects within the Planning Area may obtain regulatory authorizations and which results in greater conservation values than a project-by-project, species-by-species review would have; and
- Identify and incorporate climate change adaptation research, management objectives, and policies into the final plan document.

The Conservancy appreciates how hard the agencies have worked to produce the current draft and we recognize the sheer complexity and difficulty of this undertaking. Regardless of whether the agencies pursue the DRECP including an NCCP component or with some alternative legal structure, the Conservancy believes that a number of further commitments will be necessary in the final version in order for conservation of species within the California desert to be successful.

Our comments below are focused on the aspects of the plan that we believe are most critical to make it successful under any legal structure.

4. Durability Mechanisms need to be improved

Durable conservation is the promise at the heart of the DRECP³. Lasting protection of species, habitats and natural communities is one of the key goals in the Planning Agreement. Ensuring that the DRECP provides for durable conservation also provides a

³ The fundamental interagency purpose of the DRECP is to provide a streamlined permitting process for utility-scale renewable energy generation and transmission while simultaneously providing for the long-term conservation and management of Covered Species and natural communities “with durable and reliable regulatory assurances.” See p. I.1-1. See also, p.I.1-2. BLM’s purpose includes “ensuring the durability of mitigation measures over time.”

means for renewable energy developers to meet legal and policy requirements to offset the impacts of their development.

Durable conservation has three tenets:

- Durability as to designation – *i.e.*, conservation designations will endure perpetually or over sufficient time to offset development impacts and assure mitigation success;
- Durability as to management – *i.e.*, the managing entity has both the authority and the obligation to actively manage for conservation over time; and
- Durability as to funding— *i.e.*, ongoing funding for conservation management actions is assured over the requisite time period, through an endowment or other means.

In order to achieve the goals of the plan, the agencies need to explicitly address all three tenets of durability. The follow recommendations are necessary to improve “durability as to designation” in a final plan:

1. All newly acquired areas must be conserved in perpetuity.
2. For all Bureau of Land Management (BLM) lands on which non-acquisition mitigation measures will take place, BLM should commit to granting either conservation rights of way under Federal Land Policy Management Act (FLPMA), conservation leases under FLPMA, or conservation leases under the Recreation and Public Purposes Act, and these rights of way or leases must last at least until the impacts of the development are no longer discernible and mitigation success is assured.
3. For management of BLM Conservation Lands, BLM should commit to creating one of these durability restrictions for terms that last at least until development effects are not discernible. Alternatively, if one of these three tools is not used, at a minimum, BLM should commit that, if the land use of any BLM Conservation Land is changed in the future, BLM will designate for protection sufficient additional lands to achieve an equivalent level of conservation as demonstrated through an evaluation of benefits toward the quantitative biological goals and objectives. This evaluation of benefits should be conducted by a third party such as a University, Blue-ribbon panel or a conservation non-governmental organization (NGO).
4. All forms of mitigation, whether acquisition or non-acquisition, and whether undertaken by a permittee or satisfied through an in-lieu fee, should include a fully-funded endowment to cover long-term management, which reflects all of the costs and uncertainties of such management.

5. These commitments are compatible with, but not required by, the current draft Memorandum of Understanding (MOU) between the California Department of Fish and Wildlife (CDFW) and BLM. The MOU and the final DRECP should reflect each of these durability and mitigation commitments, and the MOU must be executed and included in the final DRECP.

5. Groundwater and groundwater-dependent resources

The Nature Conservancy has previously submitted extensive comments on groundwater provisions in the DRECP⁴⁵. We incorporate those comments by this reference.

With limited cost-effective and carbon-effective⁶ sources of water available for use, renewable energy facilities will primarily rely on groundwater pumped for their construction and operation. With aquifers already stressed from over-pumping, impacts from future additional withdrawals in support of renewable energy development are sure to be significant to vital desert springs and wetlands. The groundwater resource protection provisions in the draft DRECP (including Conservation Management Action standards) must be clarified and deemed mandatory to ensure that the DRECP's assertion -- that there will be less than significant impacts to groundwater from solar energy development in all but the no action alternative⁷ -- is in fact realized. Renewable facilities will invariably rely on groundwater pumped from stressed aquifers that support vital desert springs and wetlands, and impacts from these withdrawals will be significant unless stronger, mandatory protections are included.

The final DRECP must thus impose non-discretionary requirements that protect groundwater-dependent resources, ensuring that flows are maintained and critical aquatic and riparian resources will survive over the long term. These include numerical modeling, well designed predictive monitoring, triggers based on modeled impacts and mitigation for groundwater use by renewable energy facilities. In places that support vital groundwater-dependent resources and where groundwater is already over-utilized, net reductions in basin water use must be required. If net reductions cannot be assured, the DRECP should avoid development (including elimination of Development Focus Areas, Future Assessment Areas (FAAs), Special Analysis Areas (SAAs), variance areas and undesignated lands) in these areas, including, but not limited to, areas in the Amargosa watershed.

⁴ The Nature Conservancy, Protection of Groundwater and Groundwater Dependent Communities in the Development of the Desert Renewable Energy Conservation Plan. March 21, 2014.

⁵ The Nature Conservancy, Recommendations related to Modeling for the Protection of Groundwater and Groundwater Dependent Communities in the Development of the Desert Renewable Energy Conservation Plan. July 15, 2014.

⁶ Trucking in water for renewable energy facilities can reduce if not entirely negate the greenhouse gas benefits of renewable electricity, depending on distance trucked, fuel efficiency, and type of electricity being replaced by the renewable energy.

⁷ Draft DRECP. Executive Summary. Page 48.

6. The DRECP Must Maintain Protection of Landscape-Level Connectivity

One of the benefits that the plan would provide is greater protection for linkages between large blocks of lands that are currently managed for conservation values (see Figure 1, below). These linkages areas provide landscape-scale connectivity that is ecologically important for a number of reasons.

Species movement occurs across the DRECP planning area and beyond. Some species move long distances over the course of a single generation in order to find food or mates and complete their life cycle. Others move slowly across the landscape over several generations, where good connectivity of habitats allows for gene flow enhancing the genetic diversity and adaptability of species to climate change and other threats.

Connectivity, both within the DRECP planning area and between the planning area and surrounding lands, is especially important in the face of global climate change, as some species may need to move in order to track shifts in the locations of areas with suitable temperature and rainfall regimes. Species affected by climate change that have the ability to disperse at, or faster than, the rate of change may adapt in this way if there are large intact and interconnected landscapes. However, such species will be at increased risk of extinction if their movements are blocked by infrastructure or other factors that prevent movement. Because large areas of the California deserts remain relatively intact, the DRECP planning area has the potential to provide species and communities with the space and interconnectedness they may need to adapt to climate change. Depending on how the climatic zones of North America shift in the future, the intactness of this region may allow for large-scale shifts in species ranges and habitats.

As demonstrated by comparing Figure 1 and Figure 2 below, the proposed designations on public land would protect the vast majority of the most intact portion of the Mojave Desert in California. Figure 1 shows the proposed conservation designations in the preferred alternative, along with the legislatively protected areas. Figure 2 is a map of intactness that The Nature Conservancy prepared as part of our Mojave Desert Ecoregional Assessment⁸, with the most intact portions of the desert identified in dark blue.

⁸ Randall, J. M., S.S. Parker, J. Moore, B. Cohen, L. Crane, B. Christian, D. Cameron, J. MacKenzie, K. Klausmeyer and S. Morrison. 2010. Mojave Desert Ecoregional Assessment. Unpublished Report. The Nature Conservancy, San Francisco, California. 106 pp + appendices. Available at: http://scienceforconservation.org/downloads/mojave_desert_ecoregional_assessment

Figure 1. Public land proposed for conservation designation in the preferred alternative

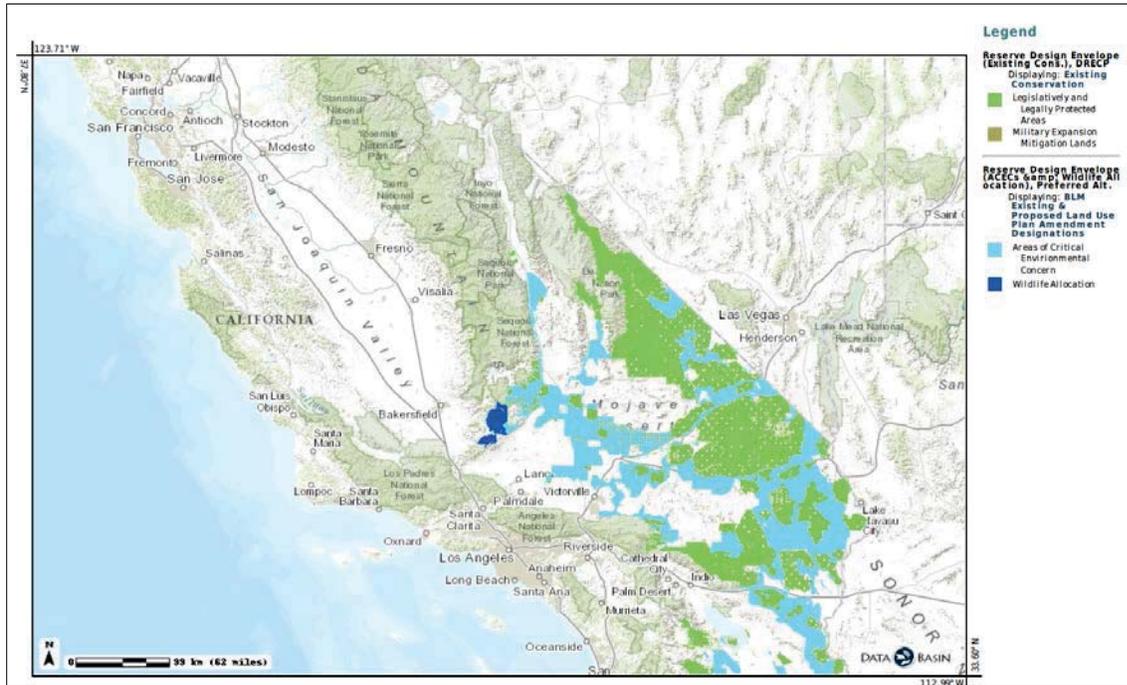
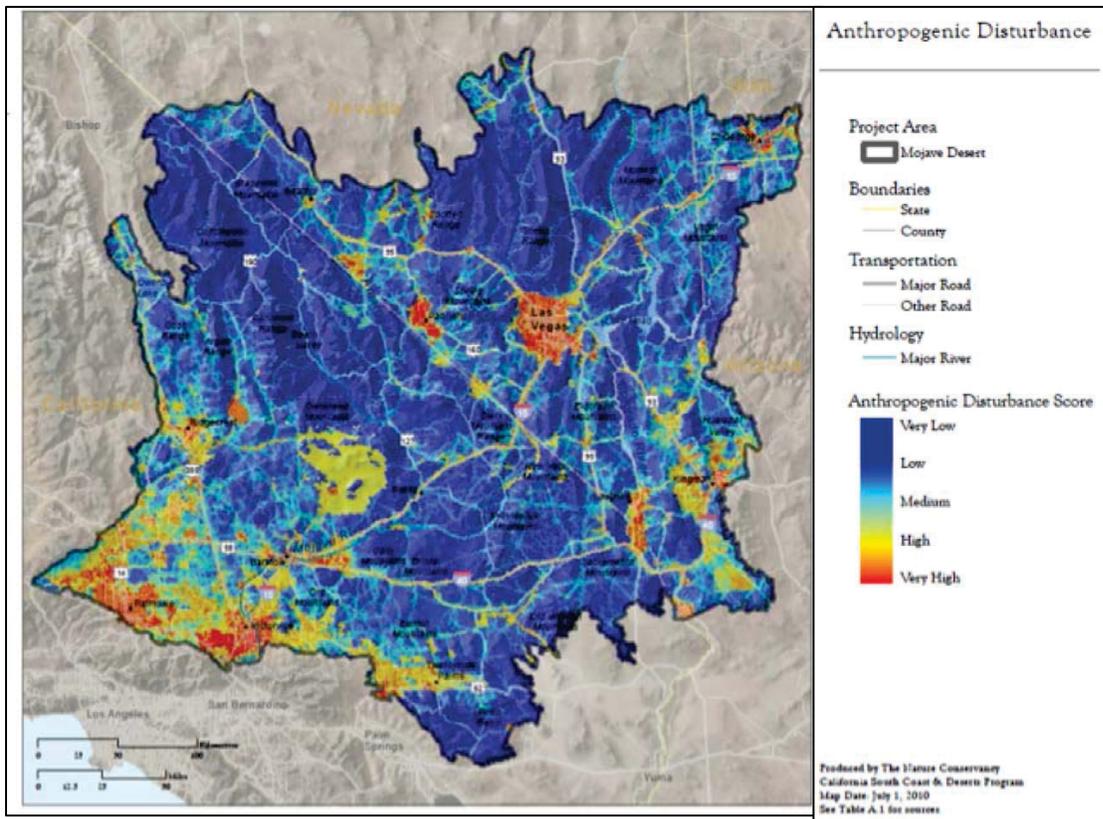


Figure 2. Intactness of the Mojave Desert



Appendix A provides further discussion on the importance of connectivity and further describes the results of the Conservancy’s Mojave Desert Ecoregional Assessment.

Recommendation: The Nature Conservancy believes that the conservation designations on public lands in the preferred alternative, along with the disturbance cap, will provide critical protections for this landscape-scale connectivity. We thank the lead agencies for focusing on linking already protected blocks of land and urge the agencies to maintain and improve these protections in the final plan. In particular, the connectivity protections could be undermined through Special Recreation Management Areas (SRMAs) and Extensive Recreation Management Areas (ERMAs) that are proposed in the draft DRECP and overlap with important linkages. (See Appendix G for discussion and recommendations related to SRMAs and ERMs overlaying these connectivity layers.)

a. Protecting connectivity within the Tehachapi Mountain Range

The Conservancy included Tehachapi Region-specific recommendations in three DRECP comment letters (August 9, 2012, January 31, 2013 and March 16, 2013). In the most recent of these letters, we recognized that the BLM had completed a several year process to update their Bakersfield Resource Management Plan (RMP). That RMP calls for the preservation of the ecological linkage between the Sierra Nevada and Transverse Ranges and the avoidance of utility-scale renewable energy installations in the linkage. This decision was supported by both public input and BLM’s planning process. We recognize that the preferred alternative includes a protection of this linkage in the form of a Wildlife Allocation Area. The Nature Conservancy supports this designation, and thanks the lead agencies for recognizing the importance of protecting this key ecological linkage.

Recommendation: Our recommendation is to maintain this designation in the final DRECP.

b. California – Nevada: Cross Border Effects

The DRECP provides the BLM a unique opportunity to demonstrate its commitment to plan at a landscape scale, particularly in light of the planning effort underway through the Las Vegas Resource Management Plan (RMP) revision. The Conservancy strongly supports proposed conservation designations in the region adjoining the Nevada border, but we are concerned that the linked and cumulative effects of development and other human uses proposed in DRECP and the Las Vegas RMP have not been adequately assessed. To the east of the DRECP, the draft Las Vegas RMP proposes land use designations for conservation, renewable energy development and recreation. The draft Las Vegas RMP proposes to dispose of public lands and open up large tracts for solar development in areas adjacent to the border that would adversely affect conservation success in California, notably that of

groundwater-dependent resources⁹. Groundwater withdrawals associated with development in the proposed Charleston View DFA would be very likely to affect ecologically critical areas in Nevada, including the Stump Springs Area of Critical Environmental Concern (ACEC). And the current, draft of the Las Vegas RMP proposes land disposals and renewables open zones in the Pahrump and Amargosa Valley areas that would affect California groundwater resources. Under NEPA, the lead agencies must evaluate the linked and cumulative impacts of potential development in California, including the Charleston View/Hidden Hills DFA, and development authorized in the Las Vegas RMP plan in Nevada. For overall species conservation across their entire range, the two plans must be aligned so that development on either side of the California-Nevada border would not undermine conservation on the other side.

Recommendation: The Nature Conservancy recommends that the lead agencies evaluate the linked and cumulative effects of proposed plans in the California and Nevada border region and act to ensure that conservation values and designations in the border area are not undermined by provisions in either the DRECP or Las Vegas RMP.

c. Soda Mountain Area

The Nature Conservancy supports the proposal to designate the Soda Mountains north of Interstate 15 for conservation in the preferred alternative. This decision supports protection for one of the most important restorable desert bighorn sheep connectivity corridors in the Mojave desert as identified by Weyhausen in the below passage:

The corridor linking the Avawatz Mountains and S. Soda Mountains was the highest-ranking restorable corridor in our analysis in terms of impact on long-term demographic connectivity. This corridor is the most influential restorable corridor because if restored it would demographically link two major clusters of populations on either side of I-15. In fact, our model suggests that the Avawatz--S. Soda corridor is the only restorable corridor that is short enough to connect populations on either side of I-15 within the estimated maximum dispersal range of a ewe¹⁰.

We request that a broader solution be implemented: include both the north and south side of the highway as an ACEC to protect important desert bighorn sheep habitat, foraging grounds, lambing grounds, and connectivity. Key portions of the Soda Mountains are already protected as a Wilderness Study Area (WSA) to the north and within Mojave National Preserve to the southeast. The conservation designation in the Preferred Alternative would provide partial protection for the Soda Mountain sub-population, but

⁹ Our extensive comments on DRECP groundwater provisions outlines in detail concerns about designations of development areas in the border area (including the Charleston View DFA), and the risks of not including a thorough analysis of cross border effects.

¹⁰ Potential impacts of proposed solar energy development near the South Soda Mountains on desert bighorn sheep connectivity Clinton W. Epps¹, John D. Wehausen², Ryan J. Monello³, and Tyler G. Creech¹

should be expanded to the South side of the highway to protect key resources for the population itself. Designating this area for conservation would also protect the only existing routes, underpasses under Interstate 15, for connectivity north.

Considering the known value of this connectivity corridor and habitat, as well as the unique attributes of this particular region, such as springs in close proximity to rugged mountain sides¹¹, and desert washes that provide early season browse important for nutrition needed for lambing¹², it is critical to protect both the population and the connectivity both to the west and the north. This is best accomplished by conservation designation.

Recommendation: The Nature Conservancy recommends that the lead agencies maintain the conservation (ACEC) designation for the Soda Mountain area to the north of I-15 and expand the designation to protect this key connectivity corridor to the south of I-15.

7. The DRECP must develop and analyze quantifiable plan-wide Biological Goals and Objectives

The Draft Plan includes the rationale for defining plan-wide biological goals and objectives (BGOs) in Section 1.3.4.3: “At the Plan-wide level, the BGOs describe the overall guiding principles, conservation targets, and conditions considered necessary to conserve the landscape and ecological processes, natural communities, and Covered Species across the Plan Area. Plan-wide BGOs are an expression of the total desired conservation for each biological resource independent from the contribution provided from DRECP implementation.”

The Nature Conservancy strongly agrees that a vision of what is needed to achieve protection of ecological values across the DRECP planning area is necessary. A comprehensive conservation vision is a necessary component of an NCCP, and provides tremendous value under a programmatic EIS/EIR, General Conservation Plan (GCP) or Habitat Conservation Plan (HCP). The plan-wide BGOs are the scientific foundation for this comprehensive vision and serve as the basis for determining the conservation actions needed to fully protect the Covered Species and natural communities. In order to be useful

¹¹ *Access to forage and water resources in proximity to rugged escape habitat is critical for desert bighorn sheep (USFWS 2000).. As noted previously, lambing recruitment is generally positively correlated with high winter precipitation. Poor quality forage may adversely affect maternal care if ewes are in poor condition and lamb mortality may be increased through malnutrition, thus adversely affecting recruitment (USFWS 2000).*

¹² During the reproductive season, nutritious forage is typically concentrated on alluvial fans and bajadas, and in washes where more productive, wetter soils support more herbaceous forage than steeper, drier, rockier soils. These areas, therefore, are especially important food sources during the heat of summer months and in drought conditions (74 FR 17288–17365).

and acceptable, the biological goals and objectives must be both: (1) quantitative, or at least quantifiable, and (2) capable of geospatial representation. These features of BGOs are critical to evaluating the adequacy of the draft plan for the Covered Species during plan development, and they are essential for tracking and evaluating the success of the plan during implementation.

a. The draft DRECP and EIR/EIS needs to establish quantifiable goals and objectives

The current draft plan does not propose quantifiable plan-wide BGOs that can be represented geospatially. Our close examination of the draft DRECP revealed that the document proposes only *qualitative* plan-wide goals for the 37 Covered Species and the 31 covered natural communities, and that it states these goals and objectives in ways that are not directly quantifiable. Stated another way, the draft DRECP does not include quantitative (or quantifiable) and measurable conservation measures for the Covered Species and natural communities. The lack of quantifiable objectives leaves the reader without a means of assessing the adequacy of conservation measures proposed in the document to protect the Covered Species or whether proposed development alternatives would preclude accomplishment of those goals. The lack of quantitative BGOs and the ability to geospatially explicit represent them handicaps successful implementation of the plan from the outset because it is not possible to monitor whether implementation of the plan is on track for meeting those goals. Because it is uncertain how the DRECP will be implemented (e.g., large amounts of public land contribute to the plan-wide conservation reserve, and county participation is not guaranteed), clearly defining measurable and quantified BGOs becomes all the more important.

The Nature Conservancy has extensive global expertise in conservation planning, including identification of quantitative and measurable biological goals and objectives, and development of landscape-scale plans to ensure the long-term viability of species and habitats. In order to evaluate the alternatives in the draft plan, we collaborated with Defenders of Wildlife, an organization with extensive expertise in the conservation needs of specific Covered Species, to develop a set of quantitative plan-wide biological goals and objectives that can be mapped.

Biological goals provide descriptive guiding principles for conservation within the plan area based on the conservation needs of the Covered Species and natural communities. *Biological objectives* relate directly to goals, and are concise statements that provide quantitative, measurable targets and specify what and how much will be achieved, when and where it will be achieved, and who is responsible. Strictly speaking, it is the *Biological Objectives* that are materially inadequate in the draft DRECP. To simplify the language we use in the rest of this letter and the accompanying appendices, however, we refer to the

numbers that Conservancy and Defenders of Wildlife scientists calculated for this analysis as recommended BGOs or recommended goals.

The recommended BGOs are based on the standard approaches used by The Nature Conservancy and many other organizations for ecoregional conservation planning¹³. For species, this standard approach is based upon species rarity, spatial distribution, population trends and legal status (see Appendix B for a detailed description of the methodology).

Because the DRECP is setting BGOs for significantly fewer Covered Species (i.e., “targets”), the methodology we used for establishing biological goals and objectives based only on the DRECP’s selection of Covered Species may be insufficient to ensure the long-term viability of either the Covered Species or other species and desert natural communities. Typically, when The Nature Conservancy conducts an ecological assessment for an ecoregion or other area as large as the DRECP study area, it identifies many more “target species” (i.e., species and natural communities) for which quantifiable biological goals and objectives are set than the 37 “Covered Species and Communities” identified in the DRECP draft plan. For example, in the Mojave Desert Ecological Assessment¹⁴, the Conservancy identified 521 species, 44 community types and all seeps and springs as ecological “targets.” In order to meet BGOs for such a large number of species and habitats, the resulting conservation vision is broad and synergistic in effect, providing a comprehensive plan for biodiversity conservation. Due to overlaps in habitats of some among the large number of target species and communities, the Conservancy’s approach also affords benefits for many of the target species that go beyond the initially established goals.

Defenders of Wildlife has proposed higher BGOs than those yielded by the Conservancy’s objective setting approach for seven species for which they have significant expertise (Desert tortoise, Mohave ground squirrel, Golden Eagle, Swainson’s Hawk, Desert Pupfish, Owens Pupfish, and Burrowing Owl). Because the Conservancy’s approach is designed for use with larger numbers of Covered Species and Communities, we recommend that the DRECP use these higher values for these species to ensure that they are adequately protected.

Tables containing our recommended quantified goals for the Covered Species and covered communities are in Appendix C.

¹³ Craig Groves, Laura Valutis, Diane Vosick, Betsy Neely, Kimberly Wheaton, Jerry Touval and Bruce Runnels. *Designing a Geography of Hope: Guidelines for Ecoregion-Based Conservation*. Volumes I & II. The Nature Conservancy. 2000. The Nature Conservancy, Arlington, VA.

¹⁴ Randall, J. M., S.S. Parker, J. Moore, B. Cohen, L. Crane, B. Christian, D. Cameron, J. MacKenzie, K. Klausmeyer and S. Morrison. 2010. *Mojave Desert Ecoregional Assessment*. Unpublished Report. The Nature Conservancy, San Francisco, California. 106 pp + appendices. Available at: http://scienceforconservation.org/downloads/mojave_desert_ecoregional_assessment

Recommendation: The Nature Conservancy’s strong recommendation is that the lead agencies develop quantitative plan-wide biological goals and objectives for the final plan. Further, The Nature Conservancy and Defenders of Wildlife have developed recommended quantitative BGOs to evaluate the adequacy of the draft plan in protecting the long-term viability of the Covered Species. The recommended quantitative BGOs that we used to evaluate the draft plan are included in Appendices C and E. We urge the agencies to adopt these recommended quantitative BGOs as minimum standards for ensuring the viability of Covered Species across the planning area. We also recommend that the agencies evaluate the recommended quantitative BGOs further to determine if any of the goals should be raised to a higher conservation standard.

8. The Development Focus Areas should be revised

a. DFAs should be revised to ensure that they do not preclude attainment of plan-wide goals

The Conservancy scientists used their explicitly-stated quantitative objectives to analyze impacts of the Development Focus Areas proposed in the Preferred Alternative on Covered Species. Because the acreage covered by the proposed DFAs is so much greater than the anticipated impact of 297,000 acres¹⁵ on these lands, we specifically analyzed whether the anticipated development affecting a total of no more than 297,000 acres could preclude meeting these quantitative objectives. The full analysis of Development Focus Areas is included in Appendix F.

i. Results

We found that for 11 of the 37 Covered Species in the DRECP, there is the possibility that development of the DFAs under the preferred alternative could preclude meeting the quantitative goals (See Figure 3).¹⁶ In each case, this was because the total acreage covered by the DFAs is large, and contains a great deal of habitat for each of these 11 Covered Species. We further analyzed the habitat requirements of these species and found that for 9 of the 11, if the anticipated 297,000 acres of DFAs were developed, and that development were to occur on areas that serve as core habitat for the species in question, development would preclude the agencies from meeting the quantitative objectives for that species (See Table 1 below). For the other two species, development of a total of 297,000 acres within the DFAs would not convert sufficient habitat to preclude meeting their quantitative objectives.¹⁷ This work graphically illustrates the importance of careful definition of DFAs

¹⁵ Per Table 11.3-20 in the Draft DRECP

¹⁶ These species include: Greater Sandhill Crane, Mountain Plover, Desert Pupfish, Tri-colored Blackbird, California Black Rail, Willow Flycatcher (including Southwestern), Alkali Mariposa Lily, Bakersfield Cactus, California Condor, Mohave ground squirrel, and Owens Pupfish.

¹⁷ These species include: Greater Sandhill Crane and Mountain Plover.

to restrict the inclusion of key or core habitat areas and the need to develop a conservation strategy within the DFAs for species with significant amounts of habitat in these areas.

We recognize that implementation of the Conservation Management Actions (CMAs) would reduce the impact to these species by imposing requirements on developers to avoid impacts to Covered Species, so that development may well be limited to more appropriate areas within the DFAs. With adoption of the plan, CMAs will apply on public lands and to approvals that participating state agencies execute. However, since the counties have not yet agreed to sign onto the DRECP, if the development is proposed on private lands, CMAs will only be assured if the permit is under the jurisdiction of the California Energy Commission (CEC) or if a federal or state take permit is required, or if the lead agency conducting the permitting adopts—or is required to adopt – the CMAs to fulfill the California Environmental Quality Act's (CEQA's) full mitigation requirement. In those cases, CEC, CDFW and the United States Fish and Wildlife Service (USFWS), according to the draft, will require implementation of the CMAs as a condition of issuing take permits. There are undoubtedly cases where Covered Species or other special status species may be impacted on private lands and where no take permit will be needed (e.g., impacts to Burrowing Owls). In those cases, there is no assurance or method for tracking whether CMAs are applied, unless the counties are signatories to the plan or adopt the CMAs as satisfying the full mitigation standard.

Recommendation: We believe that the DFAs should be revised to ensure that development within a DFA could not preclude meeting the quantitative BGOs. This is especially important if application of the CMAs cannot be guaranteed for all development.

We were not able to evaluate whether application of the CMAs would be sufficient to ensure that development would not preclude meeting the quantified goals. Rather, we developed recommendations for revisions to the DFAs to accomplish this. Table 1 provides a summary of the acreage per species that should be removed from the existing DFAs to ensure that implementation of the plan does not preclude meeting the quantified goals. Although we were not able to provide recommendations for removal of specific areas within the DFAs, we provide an analysis in Appendix F that includes information about high conservation value lands within the DFAs.

Recommendation: The Conservancy recommends that the lead agencies:

1. Evaluate which species are at risk from development within DFAs which could preclude the protection of adequate amounts of their habitat to enable the agencies to meet quantitative BGOs for them, both where imposition of CMAs is assured and where that assurance is absent.

2. In cases where imposition of CMAs cannot be guaranteed, evaluate habitat needs on a species-specific basis to identify high-quality habitat within the DFAs that should be removed to meet the acreage goals listed in Table 1¹⁸.
3. Revise all DFAs by the acreages listed in Table 1 where CMA conditions (or the absence of CMA imposition) may not be sufficient to ensure meeting the quantitative goals with DFA development.
4. Develop conservation priorities within the DFAs for the species that require lands within the DFA to meet their BGOs and structure mitigation for development in these DFAs to implement these priorities.

To illustrate the above points, Figure 3 (below) provides an overview of the habitat area of each Covered Species affected by the proposed DFAs, proposed ACECs, and other land use designations in the Preferred Alternative of the draft DRECP. Each column represents one of the 37 Covered Species. The blue and green portions of each column represent the percentage of the species total habitat area that is in areas that are legally or legislatively protected or in one of the existing, proposed or potential conservation designations on public land. The yellow portion represents lands categorized as “undesigned” public lands, where renewable energy development may be allowed. Orange portions of each column represent Future Assessment Areas (FAAs) and purple portions of each column illustrate where each species habitat falls within Special Analysis Areas (SAAs). FAAs, SAAs and Undesignated Lands may be considered at a later date for inclusion in DFAs, ACECs or other designations. The tan colored portion of each column represents private lands categorized as Conservation Planning Areas, which might be considered for protection at a later date. The key provides details on the specific types of land.

The red portion of each column, descending from the top of the figure represent the percentage of each species habitat that is found within the DFAs proposed in the Preferred Alternative. The black diamonds represent the quantitative BGOs identified using the Conservancy’s standard approach. The yellow diamonds represent the higher BGOs that we recommend for seven species based on work by the Defenders of Wildlife. Columns in which the black or yellow diamond falls within the red bar, represent species whose conservation acreage objectives cannot be achieved without the protection of some land in the proposed DFAs (e.g., removal from DFA plus subsequent conservation designation). Columns in which the black or yellow diamond falls within the blue and green bar, represent species whose conservation acreage objectives can be met in the existing conservation areas (diamond in the green portion of the column), or in the existing plus proposed conservation areas (diamond in the blue portion of the column)

¹⁸ It is important to note that the acre totals that we are recommending for removal are not additive, and would not necessarily benefit just one species at a time. For example, many of the bird species that are dependent on agricultural lands would benefit from removal of the same acreage.

Figure 3. (Stalagmite and Stalactite) Chart to analyze Covered Species and quantitative goals.

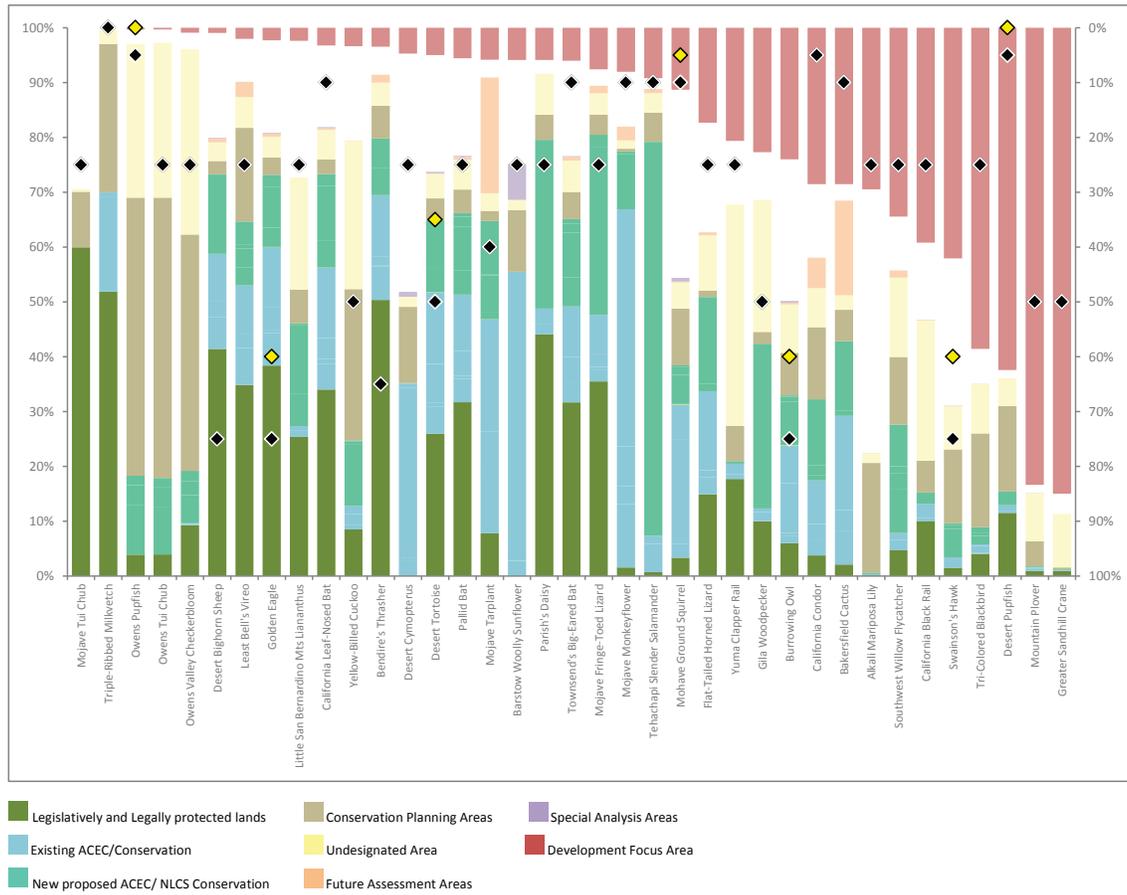


Table 1. Recommended refinement to DFAs

A	B	C	D	E	F	F	G	H	I
Species	Acres of Habitat in DRECP	Biological Objective (%Habitat protected)	Acres needed to meet Biological Objective	Acres of Habitat in DFAs	DFA Max Scenario (acres)	Max Impact of DFA to Species* (Lesser of E or F)	Remaining habitat in DRECP after Max DFA impact (B-F)	Could Biological Objective be met? (F-D)	Recommendation: Acreage of habitat to remove from DFAs (G + I = D)
Alkali Mariposa Lily	188,653	75%	141,490	55,573	297,000	55,573	133,080	No	8,410
Bakersfield Cactus	282,891	90%	254,602	80,654	297,000	80,654	202,237	No	52,365
California Condor	1,308,406	95%	1,242,985	373,017	297,000	297,000	1,011,406	No	231579
California Black Rail	214,958	75%	161,219	84,295	297,000	84,295	130,663	No	30,556
Desert Pupfish	8,154	100%	8,154	5,090	297,000	5,090	3,064	No	5,090
Southwest Willow Flycatcher	329,397	75%	247,048	113,510	297,000	113,510	215,887	No	31,161
Greater Sandhill Crane	638,315	50%	319,158	542,475	297,000	297,000	341,315	Yes	0
Mohave Ground Squirrel	3,642,631	95%	3,460,500	412,512	297,000	297,000	3,345,631	No	114,869
Mountain Plover	832,131	50%	416,065	693,861	297,000	297,000	535,131	Yes	0
Owens Pupfish	17,546	100%	17,546	60	297,000	60	17,486	No	60
Tri-colored Blackbird	278,299	75%	208,724	163,058	297,000	163,058	115,241	No	93,483

*Assumption of impact is if the entire 297,000 acres of DFA development occurred within that specie’s habitat within the DRECP planning area. Note: This evaluation was conducted using modeled habitat layers provided through data basin. If occupied habitat is less than modeled (e.g., for burrowing owls), then this chart does not capture the full extent of refinements that are necessary. In addition, this evaluation did not consider the effects of applying CMAs within DFAs.

b. Ecologically critical areas need to be removed from the DFAs and protected

There are additional areas of the DFAs that need to be refined to exclude ecologically important lands, including lands for which public and private investments have been made to conserve species and natural communities.

i. Desert Tortoise Natural Area

The Conservancy contributed significant amounts of funding and labor to the formation of the Desert Tortoise Natural Area (DTNA) in the western Mojave near California City during the 1970s. The DTNA provides an important refuge for this federally listed threatened species in high quality habitat. The Desert Tortoise Natural Area is also home to over 160 species of flowering plants, and a high diversity and density of wildlife. Per The Nature Conservancy records, there are 29 species of breeding birds and many migrant birds, 28 species of reptiles, and 23 species of mammals within the DTNA. Decades of public and private investment have gone into the area, to reserve these lands for a conservation purpose, to manage the DTNA, and to monitor tortoise populations. The DTNA is currently designated as an ACEC, but BLM proposes in the draft to remove that status and include the area in a DFA. The justification for and adverse impacts of this proposed change are not analyzed in the draft (nor are the effects of removing ACEC status for two other areas).

We believe that removing ACEC status for the DTNA needlessly undermines years of conservation efforts and millions of dollars of investment by stakeholders to the DRECP whose support is vital for the Plan's success. Substantial work by the Conservancy, the Desert Tortoise Preserve Committee, and other groups over decades has been devoted to funding, assembling, and managing this protected area. More broadly, proposing the removal of ACEC designation or reduction in the acreage of an ACEC should require an extensive analysis of the impacts on the values for which the ACEC was designated and should not be proposed where, as in the case of the DTNA, long standing protection for important ecological resources would be lost.

Recommendation: The Nature Conservancy urges the lead agencies to remove the DTNA from all proposed DFAs or any other designation that allows potential for development. Further, the Conservancy recommends that the DTNA retain its designation as an ACEC and also be included as an NCLS unit, reflecting its importance as habitat for the Desert tortoise and Mohave ground squirrel, the significant public and private investment in this conservation area, and the scientific values it provides as one of the best studied Desert tortoise areas.

ii. DFAs within the Amargosa River Watershed, including Silurian Valley.

The Nature Conservancy reiterates the recommendation that we made on January 31, 2013 in response to the "Description and Comparative Evaluation of Draft DRECP Alternatives": all proposed Development Focus Areas in the Amargosa Watershed should be eliminated

due to the serious threat that development poses to protected ground-water dependent resources. We further request that the lead agencies not designate any Future Assessment Areas in this area, or leave public lands within the watershed in an undesignated category. Please refer to Appendix A in our January 31, 2013 comment letter for a map of the watershed and a description of why renewable energy development should not be facilitated in this ecologically fragile and biologically rich area. The appendix to that 2013 comment letter also describes the Conservancy's investment in protecting the Amargosa River system. Appendix H to this letter provides additional information about the ecological values of Silurian Valley.

iii. Areas that are critical for responding to climate change

Incorporation of climate change considerations is critical in developing a conservation reserve design for the DRECP. We are pleased that the DRECP included consideration of climate change in many parts of the plan, including in many of the plan-wide objectives, in the Monitoring and Adaptive Management Plan (MAMP), and in modeling that was done to inform the DRECP. However, it is not clear what methodology was used to integrate the various climate models in Appendix P (Climate Change) into the reserve design planning process.

One of the most relevant pieces of research related to climate change is not included in Appendix P: a project funded by the California Energy Commission on the Cumulative Biological Impacts of Solar Energy projects in the California Desert carried out by a team led by Frank Davis¹⁹. In this report (Chapter 4), the authors looked at predicted species habitat ranges in historic and mid-century time periods using five alternative climate models, assuming business as usual emission scenarios. The results of these models, publically available on Databasin²⁰, show predicted historic, current and mid-century ranges for Covered Species in the California Desert. The data also show the level of climate model agreement across the species ranges. We can have more confidence in areas where three or more climate models show agreement in predicted presence of species habitat.

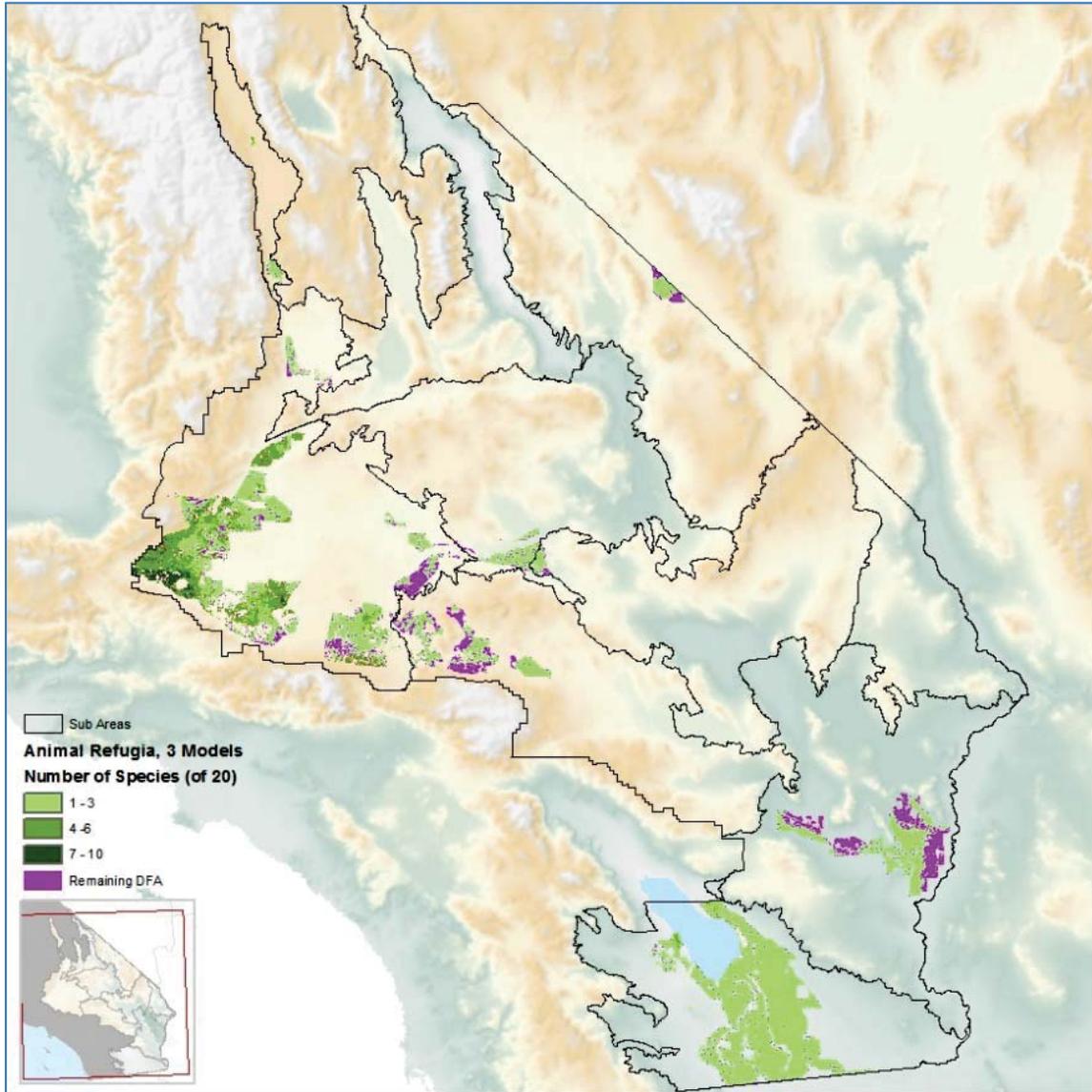
Figure 4 illustrates areas within the DFAs that contain modeled refugia for animal species, as modeled by the Frank Davis group. These areas are where the 3 climate models agree, represented by the number species (out of the 20 animal species modeled). In particular, the western Mojave stands out as a place that contains critical climate refugia for multiple species. In addition, the western portion of the Mojave that adjoins the Tehachapi range

¹⁹ Davis F, Soong O, Stoms D, Dashiell S, Schloss C, Hannah L, Wilkinson W, Dingman J. 2015. Cumulative Biological Impacts Framework for Solar Energy Projects in the California Desert. California Energy Commission. Forthcoming.

²⁰ Databasin: [Animal species distribution models, California Deserts, version Feb2014](#); [Plant species distribution models, California Deserts, version Feb2014](#); [High-resolution bioclimate grids for the California Deserts](#)

and the San Gabriel Mountains provides a critical linkage from the desert floor to higher elevations.

Figure 4. Climate refugia, based on agreement of three climate models



Recommendation: The Nature Conservancy recommends that the DRECP explicitly explain how climate change considerations are incorporated in the conservation reserve design. In addition, the DRECP should:

1. Refine the DFAs to eliminate or minimize critical climate change refugia.

2. Provide protective designations on public lands that are expected to serve as key climate change refugia.
3. Identify areas of private lands that are expected to provide critical climate change refugia and include these areas in the Conservation Planning Area and the Interagency Plan-wide Priority Conservation Areas.
4. Develop a conservation strategy, to be implemented through the plan, for the far western triangle of the Antelope Valley.

c. Refine DFAs to reflect County analyses and input

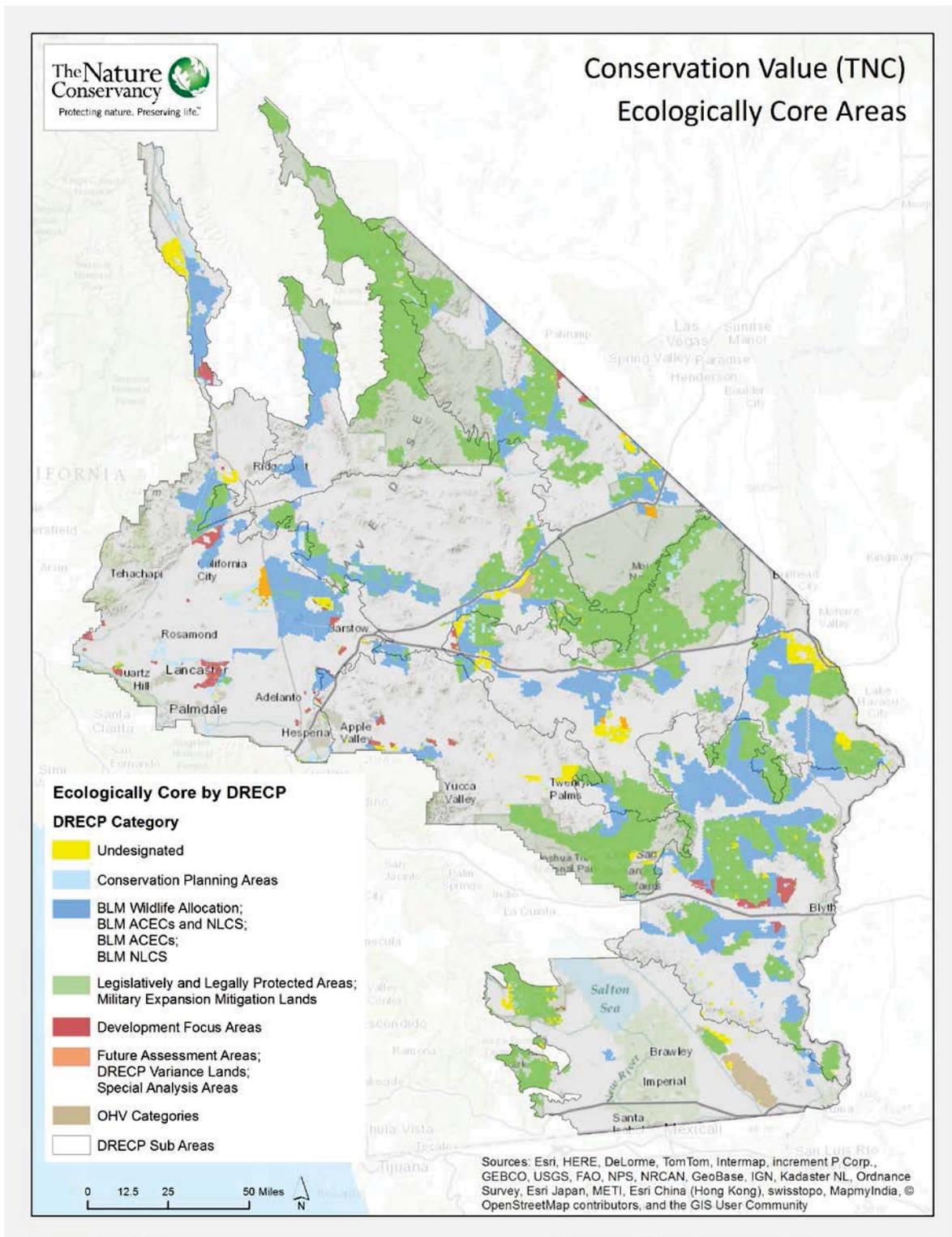
We recognize that many of the DFAs are located on private lands and much of the anticipated renewable energy development may fall within the jurisdiction of the counties. In order to make the DRECP successful, the Conservancy strongly recommends that the agencies work with the Counties to refine the DFAs so that the Counties are able to support the plan. Our strong hope is that the counties will sign onto the plan and agree to provisions that allow the plan to be finalized as an NCCP. Even if this ultimate goal is not achieved, refining the DFAs to provide a clear indication to developers where there is broad agreement from the agencies that have jurisdiction over required permits will provide tremendous value.

d. Ecologically Core Areas should be removed from Development Focus Areas and Study Lands

All lands identified as Ecologically Core through the Conservancy's Mojave Desert Ecoregional Assessment and as highest conservation value in the evaluation the Conservancy commissioned, "A Framework for effective conservation management of the Sonoran Desert in California"²¹ should be removed from lands where renewable energy development is permissible under the Plan, including areas within Development Focus Areas, Study Lands (e.g., DRECP Variance Lands, Future Assessment Areas, Special Analysis Areas) and Undesignated Areas. These areas are highlighted in Figure 5 below, which illustrates all of the ecologically core lands, necessary to meet quantified goals, by how they are classified or designated in the preferred alternative of the DRECP. The Conservancy supports the proposed ACEC designations in this Figure and urges the agencies to remove those ecologically core areas within DFAs or Study Lands.

²¹ Stallcup, Jerre Ann. 2009. A Framework for Effective Conservation Management of the Sonoran Desert in California. Conservation Biology Institute. Available at: <http://consbio.org/products/projects/sonoran-desert-conservation>

Figure 5: Intersection of lands identified as ecologically core by the Conservancy and proposed designations as identified by the Preferred Alternative of the Draft DRECP.



9. The Study Lands and Undesignated Areas should be revised

The Study Lands (e.g., DRECP Variance, Special Analysis Areas, and Future Assessment Areas) and Undesignated Areas need to be revised to remove areas of high conservation value and to ensure that they do not preclude the ability to achieve the quantitative BGOs. In addition, portions of the Study Lands and Undesignated Areas that are important for meeting the quantitative BGOs should be placed in the Conservation Planning Area (if they comprise private lands) or given a protective conservation designation (if they fall on public lands).

The Preferred Alternative identifies 183,000 acres of Study Lands; including 128,000 acres of Future Assessment Areas, 42,000 acres of Special Analysis Areas, and 13,000 acres of DRECP Variance Lands²². In addition, the Preferred Alternative identifies 1,323,000 acres of Undesignated Areas that may be open to applications for renewable energy development plan-wide; 709,000 of these acres occur within the BLM LUPA²³.

Because the acreage covered by the proposed DFAs in the Preferred Alternative is already much greater than the anticipated impact of 297,000 acres²⁴, we believe that the additional acreage proposed for Study Lands and Undesignated Areas is unnecessary for meeting the stated energy goals of the plan and should be minimized, if not entirely eliminated.

Recommendation: The Conservancy recommends that the lead agencies:

1. Remove all Study Lands and Undesignated Areas identified as ecologically core, as described in Section 8d of this letter and as illustrated above in Figure 5.
2. Conduct an evaluation similar to the one outlined in Section 8ai of this letter to determine whether designating FAAs, SAAs or Undesignated Areas for development could place some species at risk by precluding the ability to meet quantified goals. In this assessment, FAAs, SAAs and Undesignated Lands should be added to the “stalactite” portion of the graph, rather than assessed as part of the “stalagmite” component. This assessment should be provided in the DRECP. The DRECP should not open for development any Study Lands and Undesignated Areas that would preclude the ability to meet quantitative goals.
3. Conduct an evaluation similar to the one outlined in Section 8ai of this letter and Appendix I to determine if addition of any of the FAAs, SAAs or Undesignated Areas for development are necessary to meet quantitative goals. For example, based on our evaluation in Appendix I, Barstow Woolly Sunflower requires protection of some

²² Draft DRECP. Table II.3-42, Page II.3-299.

²³ Draft DRECP. Table II.3-42, Page II.3-299.

²⁴ Per Table 11.3-20 in the Draft DRECP

Undesignated Lands and Special Analysis Area lands to meet the recommended quantified goals.

10. Energy Calculations

Since the start of the DRECP planning process, California has made considerable progress towards decarbonization of the electricity sector. But, based on the position of the Governor and current bills introduced in the legislature, the state seems poised to move much further—to require at least 50% renewables on the electric grid by 2030²⁵. It is thus imperative to better integrate and align planning processes to prepare for a future that can readily integrate a very significant increase in preferred resources on the grid, including utility scale solar and wind generation, while conserving California’s landscapes, wildlife and natural resources.

As discussed in our introductory comments, to meet state goals to reduce carbon-based energy, we support first pursuing demand-side preferred resources (e.g., energy efficiency, demand response, energy storage, rooftop distributed generation). Where large-scale renewable energy generation facilities (e.g., wholesale (up to 20MW) distributed generation, utility-scale) are needed, they should be planned to meet multiple goals including grid benefits, cost and the protection of nature.

Recommendation: To improve transparency and ensure that the potential of demand-side preferred resources is accounted for in the DRECP, we recommend that the lead agencies:

1. Provide the “latest revised July 29” calculator excel spreadsheet upon which the DRECP relied to determine its estimated need for 17K to 19K MW of new renewable energy in the Plan area.
2. Provide the bases for assumptions regarding the amount of customer side distributed generation, existing renewable generation, zero carbon imports, and other inputs to the calculator.
3. Ensure that the energy calculator and analysis uses the best available information, including but not limited to, the most current official state demand and population forecast.
4. Adjust the megawatt target to account for renewable energy projects that have become operational or under construction since the calculator cutoff date of December 31, 2010, as well as those already approved in the Plan area.

²⁵ Brown, Edmund Jr. “Inaugural Address.” Sacramento. 5 Jan. 2015.

11. Planning and Permitting Renewable Energy in the draft DRECP

We anticipate that even with California’s aggressive policies for demand-side preferred resources, the desert region will be a key component of California’s long-term energy future. The DRECP’s identification of lower impact Development Focus Areas is an important element in guiding large-scale renewables to appropriate desert sites. As noted in Section 8 of our letter, the preferred alternative DFAs presented must be further revised to limit ecological impacts, but the planning concepts embedded in the DFAs are fundamentally sound. However, to meet its intended purpose, DFA designation must be accompanied by practical benefits and incentives to developers that will in fact induce renewable energy development to locate in these low impact DFAs.

An efficient, timely and predictable permitting process for locating projects in DFAs is a very important siting incentive. Based on our review, the draft DRECP makes progress towards this goal²⁶. For example, the draft DRECP permitting framework proposes to codify state-federal agency (e.g., USFWS, BLM, CEC, CDFW) collaboration through the DRECP Coordinating Group on approvals of well-sited renewable energy development in the desert²⁷. The Conservancy joined with other conservation organizations and renewable energy industry members in making a recommendation to keep intact state-federal agency collaboration for well-sited energy development in the desert²⁸ and we appreciate that this approach has been adopted within the draft DRECP.

While the draft DRECP provides a considerable amount of information regarding the development and permitting process, we feel that there is an opportunity and need to further clarify the permitting process, create process improvements to increase efficiency and predictability in approvals, and explore the creation of other incentives in order to effectively drive development to low impact DFAs. With this in mind, we provide specific feedback in the following sections that we encourage the agencies to consider for inclusion in the final Plan.

a. DRECP DFA Permitting Process for Renewable Energy

A very significant investment has been made to develop a framework for regulatory authorizations that required weaving together multiple federal and state processes. The

²⁶ The May 2010 Planning Agreement announced an intent to provide a framework for a more efficient process by which proposed renewable energy projects within the Planning Area may obtain regulatory authorizations May 2010 Planning Agreement, page 7.

²⁷ Exhibit II.3-9, “Summary Submittal and Review Process for Projects Seeking Streamlining Under DRECP Including Required Avoidance, Minimization, and Mitigation Requirements”

²⁸ California Desert Renewable Energy Working Group. "Vision/Values Statement." Letter to Governor Edmund G. "Jerry" Brown, Jr. 30 July 2014. MS. N.p.

draft DRECP provides considerable information about the proposed regulatory approval process for renewable energy projects located in DFAs, especially in the Preferred Alternative. However the discussion in the draft could be greatly improved by revisions clarifying the direct and substantial gains in permitting efficiency and predictability that will accompany the process for siting in DFAs – even without considering the potential addition of other permitting and coordination enhancements.

The DRECP includes a DFA Process Roadmap (included as an Exhibit II.3-9), an informative tool to visualize and also provide time limits on the development process within the DFAs. The DFA Process Roadmap helpfully proposes time-bound processes, including Coordination Group review of the Integrated Project Proposal for DRECP consistency²⁹ and permit application review by participating agencies (e.g., BLM, USFWS, CDFW, CEC and/or CSLC)³⁰.

Based on our review, it appears that renewable energy projects proposed within a DFA may proceed directly through the DFA Process Roadmap, obtaining measurable efficiency gains, most notably in expedited review of permit applications by DRECP participating agencies. These gains may be especially valuable for wind and solar PV projects on private land that will require incidental take authorizations pursuant to state and federal Endangered Species Acts. For example, the permitting timeframe for a renewable energy project that involves the take of a listed species on private land requires a Habitat Conservation Plan pursuant to Section 10 of the federal Endangered Species Act that can take upwards of 6-9 years³¹. Under the proposed DFA Process Roadmap, it appears that FWS is committing to expedited review and to “take action within 1 year”³² of a completed application. This is potentially a very significant, measurable improvement in permitting times and efficiency for renewable energy projects proceeding under the DRECP. These comparative efficiency gains are not clearly stated in the draft.

Recommendation: To improve stakeholder understanding of the efficiency gains proposed by the DFA Process Roadmap, we recommend that the agencies create a companion table to the roadmap that clearly quantifies and compares permitting under the DRECP versus under the no action alternative, including approximations of the direct costs,

²⁹ Draft DRECP, pgs. II.3-231 (in text) and II.3-233 (Exhibit II.3-9).

³⁰ Draft DRECP, pgs. II.3-231 (in text) and II.3-233 (Exhibit II.3-9).

³¹ US Fish and Wildlife Service, Pacific Southwest Region, presentation in Renewable Energy Scoping Meeting, March 12, 2009.

³² Draft DRECP, II.3-231 (in text) and II.3-233 (Exhibit II.3-9).

mitigation costs, and regulatory approval timetables for both public and private land sites³³.

b. Renewable Energy in DFAs on Private Lands

The final DRECP needs to provide additional benefits and incentives that will guide renewable energy development to low impact DFAs, especially those on disturbed private lands. We have identified two areas that CDFW and USFWS should explore further to gain efficiency in regulatory authorizations for listed (Covered) species.

First, for renewable energy projects sited on private lands where the county is not a participating agency, the draft DRECP states that project proponents can follow the DFA Process Roadmap and integrated project proposal review process to apply directly to CDFW for State take authorization and/or USFWS for federal take authorization³⁴. In the DFA Process Roadmap CDFW and USFWS propose to expedite review of these permits and take action within 1 year³⁵. While the 1-year timeframe is a measurable improvement over low-effect and standard HCP processing times, it is difficult to gauge efficiency gains in permit processing when compared to the Section 7 regulatory timeframe of 135 days³⁶ and the CESA Incidental Take Permit timeframe of a maximum of 150 days³⁷. While project-by-project permit processing usually takes substantially more time, the DRECP expedited permit processing commitments for incidental take authorizations have longer stated approval periods. To resolve this issue, we recommend that CDFW and USFWS analyze and discuss comparative processing times for separate State and federal take authorizations to determine if the DRECP timetable would in fact provide efficiency gains³⁸. Access to a more efficient permitting process for incidental take permits and authorizations is a critically important incentive to locate in DFAs on private land in counties that are not participating in the plan. The final timeframes for incidental take permit processing in DFAs must thus

³³ May 2010 Planning Agreement: “Provide a framework for a more efficient process by which proposed renewable energy projects within the Planning Area may obtain regulatory authorizations and which results in greater conservation values than a project-by-project, species-by-species review would have.” We believe that our proposal would help attain this stated goal.

³⁴ Draft DRECP, pg. II.3-250

³⁵ Draft DRECP, pgs. II.3-231 (in text) and II.3-233 (Exhibit II.3-9).

³⁶ FWS, Pacific Southwest Region, Renewable Energy Scoping Meeting, March 12, 2009.

³⁷ 14 CCR § 783.5

³⁸ Helpful benchmarks might be permit processing timeframes established under other HCP/NCCPs in California and well as individual project permits not in plan areas.

be clearly shorter than project-by-project permit processing timeframes, to incentivize project proponents on private lands to choose to utilize the DRECP.³⁹

Second, USFWS and CDFW should investigate the feasibility of using a joint application form for incidental take under their regulatory frameworks. More broadly, the DRECP should strive to use joint applications to minimize redundancy and improve efficiency and lower costs in application preparation. The draft DRECP currently requires an applicant to prepare separate permit applications for each participating DRECP agency. Thus for a covered activity in a DFA on private land, where the county serves as the lead agency, developers must prepare three applications: a permit application to the lead agency and separate permit applications through the DRECP process to CDFW and USFWS for state and federal incidental take authorizations. Even for projects in DFAs on private lands where the county is not a participating entity, a joint application for federal and state take authorizations would streamline the number of applications that an applicant would need to prepare, providing additional efficiency gains and benefits over the no action alternative.

c. Improving Cost and Mitigation Certainty

The DRECP draft provides inadequate certainty for the processing costs and mitigation requirements that developers will experience seeking approval to site in DFAs. Greater definition of the costs and mitigation requirements in the DRECP would add considerably to the attractiveness of the DRECP as a path for renewable project siting compared to project-by-project permitting.

The costs developers will bear in obtaining a permit through the DRECP are largely undefined and will be known most likely very late in the approval process. Although the recently released draft Implementation Agreement provides some details on and components of these costs under the rubric “DRECP Implementation Fees,” and agrees to provide applicants an estimate of fees in connection with a preliminary review of the project⁴⁰, final costs will only be defined when final approvals are issued. Most costs, including the cost (and nature) of mitigation alternatives are decided on a project-by-project basis, leading to little certainty in what developers will face.

Strong incentives to locate projects in DFAs could be provided were the DRECP amended to more clearly define implementation costs and mitigation requirements in advance of individual project applications making their way almost all the way through the approval process. Better guidelines or calculation principles also would help, as would a

³⁹ By implementing previous recommendations about revising the DFAs, uncertainty and potential for environmental conflicts that contribute to more difficult permitting will be greatly reduced.

⁴⁰ Section 2.4.1 of the draft Implementation Agreement at page 14 et. seq. contains details on costs and mitigation.

comparative analysis of costs and mitigation requirements for projects (including those already permitted or in the approval process) that do not use the DRECP, which should be more extensive and expensive than those under the DRECP. Additional recommendations related to mitigation are included in Appendix J, Section V.

d. Transmission Availability in DFAs

Access to transmission with available capacity within DFAs is one of the major benefits that could come from the DRECP and a key incentive to development within DFAs. Conversely, failing to plan for transmission to DFAs could have significant impacts on guiding development away from DFAs, and ultimately, the success of the Plan.

We encourage the DRECP participating agencies to work with the CPUC and CAISO to integrate the DRECP into long-term energy planning and transmission planning. We agree with our conservation colleagues⁴¹ that a comprehensive transmission plan is needed for the DRECP. This comprehensive transmission plan should seek to identify multiple value transmission solutions through a comprehensive evaluation process that evaluates non-wires alternatives such as demand response, energy efficiency and energy storage⁴².

Recommendation: The DRECP must be fully integrated into long-term energy and transmission planning.

We join our conservation colleagues in recommending that the CAISO to catalyze a special study plan for the DRECP⁴³. After needed system improvements have been identified through a comprehensive, multi-value process, which looks at energy efficiency, storage and distributed solutions to address resource needs, any improvements to serve the DFAs should be classified as “policy lines” by the CAISO. Another path would be to take the system improvements identified through the study process and form a Transmission Study Group. This model was implemented in the Tehachapi region in response to interest from multiple parties in regards to access to the high-quality wind resource in the Tehachapi Wind Resource Area. Together the CPUC, CAISO, SCE, local agencies and other stakeholders worked together to form the Tehachapi Study Group, ultimately resulting in the Tehachapi Renewable Transmission Project. In the case of the final DRECP, a Study Group could be convened with representatives from CPUC, CAISO, DRECP, local government, environmental groups, and other interested stakeholders, including local communities, to

⁴¹ Sierra Club, et.al., DRECP Transmission Comments. February 23, 2015.

⁴² <http://www.caiso.com/documents/paper-non-conventionalalternatives-2013-2014transmissionplanningprocess.pdf>

⁴³ Sierra Club, et.al., DRECP Transmission Comments. February 23, 2015.

develop a least-regrets transmission investment to deliver renewable energy from a DFA or portion of a DFA. This type of study process could result in a transmission investment that delivers multiple benefits, including a powerful incentive for well-sited renewable energy development.

Recommendation: The DRECP agencies, together with the CPUC and CAISO, must evaluate, through a public process, different pathways to comprehensively plan for transmission availability within the DRECP.

e. Renewable Energy Development on BLM Lands: Study Lands & Undesignated Lands

The Preferred Alternative identifies 1,182,000 acres⁴⁴ within the BLM LUPA that may be open for renewable energy development decisions. As noted in Section 9, the acreage covered by proposed DFAs in the Preferred Alternative is already much greater than the anticipated development need of about 297,000 acres⁴⁵. The Conservancy's recommendation is that BLM minimize the amount of land held open for future renewable energy development decisions (e.g., Study Lands and Undesignated Areas). BLM should accomplish this by: revising the Study Lands and Undesignated Areas per the Conservancy's recommendations in Sections 8 and 9; and by clarifying the availability of Undesignated Lands for renewable energy development, as follows in Section 11f.

The Conservancy believes that the final plan should limit renewable energy development on BLM lands to the Development Focus Areas unless a clear case can be made for designating other or additional lands through an EIS/EIR analysis. The effects of the large inventory of existing applications on BLM lands that have not been analyzed in the DRECP should be included in the final analysis of DRECP development impacts.

f. Clarify the availability of Undesignated Areas for renewable energy development

The Preferred Alternative identifies 1,323,000 acres of Undesignated Areas that may be open to applications for renewable energy development plan-wide; 709,000 of the acres occur within the BLM LUPA⁴⁶. The extent to which these undesignated areas are open to application for renewable energy development is unclear. Table II.3-50, the "CDCA Plan and DRECP Preferred Alternative Crosswalk", states that electrical generation facilities are not allowed on "non-designated lands (unclassified or Class M)"; we assume that these are considered "undesignated areas" although the terminology is not an exact match. However, in contrast, the definition of undesignated areas in the glossary states: "These areas would be open to renewable energy applications but would not benefit from the streamlining or

⁴⁴ From Draft DRECP: 367,000 acres of DFAs within the BLM LUPA; 106,000 acres of Study Lands; and 709,000 acres of Undesignated Areas.

⁴⁵ Draft DRECP. Table II.3-20, Page II.3-167.

⁴⁶ Draft DRECP. Table II.3-42, Page II.3-299.

CMA certainty of the DFAs”⁴⁷. And another definition is found in the BLM Land Use Designations factsheet: “Un-allocated Lands – BLM -managed lands that are not covered by any of the above designations. These lands would maintain current management methods. Under the CDCA Plan, renewable energy applications could be accepted on these lands but a plan amendment would be necessary”⁴⁸. It is imperative that the DRECP agencies clarify the extent to which renewable energy applications will be allowed on undesignated areas, because within the BLM LUPA alone, Undesignated Areas together with DFAs and Study Lands, cumulatively represent 1,182,000 acres that may be open to applications for renewable energy development; this is almost four times the acres required for the total project area (297,000)⁴⁹ for all renewable generation technologies.

Recommendation: We recommend that the DRECP agencies: (1) better define the term “undesignated areas” and clearly define which private and public land allocations are considered beneath this umbrella term (e.g., unallocated lands, unclassified lands, Class M, non-designated lands); (2) once better defined, clearly identify the areas/allocations that are open to renewable energy applications and those that are not; and (3) clearly articulate the development and permitting process where applications are allowed.

12. Conclusion

We appreciate the tremendous effort that has gone into the preparation of the draft DRECP and supporting EIS/EIR. We believe that the Plan, if adopted with modifications, would offer very significant gains in desert conservation. The Conservancy pledges to continue work to contribute to the completion of a final plan that protects desert biodiversity while offering well designed development incentives in appropriate sites.

⁴⁷ Draft DRECP. Glossary-19.

⁴⁸ http://www.drecp.org/documents/docs/fact_sheets/DRECP_BLM.pdf

⁴⁹ Draft DRECP. Table II.3-20, Page II.3-167.

Appendices

- Appendix A: Connectivity
- Appendix B: Methods for Quantifying Biological Objectives for Covered Species
- Appendix C: Recommended quantifiable BGOs for covered species.
- Appendix D: Methods for Quantifying Natural Community Goals for DRECP Analyses
- Appendix E: Recommended Quantitative Goals for Covered Natural Communities
- Appendix F: Analysis of Development Focus Areas on Covered Species
- Appendix G: Overlap of Conservation Designations and Recreational Designations
- Appendix H: Silurian Valley and Surrounding Areas
- Appendix I: Conservation to be gained by the DRECP
- Appendix J: Legal and policy analysis
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Appendix A: Connectivity

Because habitat patch size suitability varies among species, it is important to maintain landscape integrity at multiple scales. For example, bighorn sheep live primarily in habitat “islands” of mountainous terrain surrounded by flat terrain. Fringe-toed lizards occupy patches of sand dunes. Least Bell’s Vireo (*Vireo bellii pusillus*) and other rare and endangered birds occupy patches of riparian habitat surrounded by arid lands, and pupfish survive in isolated pools in various locations throughout the region. Conserving connections between these species’ preferred habitats allows individual movements and multi-generational dispersal, thereby increasing genetic diversity and long-term species viability. For species that are not able to move far, such as pupfish or narrowly endemic plants, protecting adjacent habitat can be critical to survival because activities on surrounding lands can disrupt or alter the habitat quality and ecosystem processes that support these species.

Barriers restrict the movement of species, limit gene flow, and prevent natural dispersal. While the DRECP planning area is currently one of the most intact large regions in the lower 48 states, it is already fragmented by several major highways, utility corridors, canals and railroads, and with each passing year greater human demands are placed on this region, more infrastructure is built, and the habitat connectivity between protected areas becomes more and more tenuous.

The Nature Conservancy’s 2010 Mojave Desert Ecoregional Assessment evaluated the intactness of the entire Mojave Desert. One of our conclusions was that this ecoregion is one of the most intact ecosystems in the lower 48 states of the US. The most intact portions of the desert can be seen in Figure 2 in our main comment letter in dark blue. The crescent that extends between Death Valley National Park, the Mojave National Preserve, and Joshua Tree National Park, heading into the Pinto Basin, is the most intact segment of the Mojave Desert Ecoregion. Even more importantly, because of the combination of National Parks and established wilderness areas, is that it is entirely feasible to protect these intact areas and the connectivity they provide. – but such a critical opportunity is fleeting.

Appendix B: Methods for Quantifying Biological Objectives for Covered Species

Scientists at The Nature Conservancy, working with scientists from Defenders of Wildlife, attempted to translate the descriptive, qualitative Biological Goals and Objectives presented in the DRECP draft plan to identify quantitative Biological Objectives for the DRECP's 37 covered species, and 31 covered community types. This ultimately was not possible to do from the qualitative descriptions provided.

Therefore, we followed the guidelines for Ecoregional Conservation Plans used by The Nature Conservancy, World Wildlife Fund and many other conservation organizations and government agencies in the United States and around the world. These guidelines are detailed in *Drafting a Conservation Blueprint: A Practitioner's Guide to Planning for Biodiversity*, by Craig Groves (2003, Island Press, 457 pages)¹.

For each of the 37 covered native species, we identified the percentage of the known habitat area necessary to ensure long-term viability of the species (see Table 1). To do this, we first determined:

- a. whether each species' range was widespread, limited, peripheral or endemic (i.e. found only within the DRECP area boundaries), and
- b. whether it's preferred habitat had a large patch, small patch, linear, or point distribution pattern. Large patch species usually occupy 10,000 acres or more (such as those found in creosote scrub); small patch species - 1,000 acres or less (such as those found on sand dunes, playas or rocky outcroppings); linear typically refers to riparian species or those along desert washes; and point distribution species are those in isolated environments such as springs, seeps and on patches of unique soil types.

We also determined each species' global and state rarity rankings according to the Natural Heritage Programs ranking system used by the California Natural Diversity DataBase (CNDDB), as well as by NatureServe, the Nevada Heritage Program, and the other state Heritage programs across the nation. Finally, we determined whether each species was federally listed as Endangered (E) or Threatened (T) or, if not, whether it was listed by the state of California (S) or whether the species is officially listed as a Candidate Species (C) by the USFWS or by the State. We used this suite of information and the following guidelines to identify percentage habitat protection goals for each species:

¹ The Nature Conservancy. 2000. *Designing a Geography of Hope: Guidelines for Ecoregion-Based Conservation*. Volumes I & II. (authors: Craig Groves, Laura Valutis, Diane Vosick, Betsy Neely, Kimberly Wheaton, Jerry Touval and Bruce Runnels). The Nature Conservancy, Arlington, VA.

1. Widespread, large patch species with a significant portion of their range outside of the DRECP area were assigned a habitat protection objective of 25%
2. Widespread, large patch or small patch species that have a large portion of their entire population within the DRECP area were assigned a habitat protection objective of 50%
3. Widespread, small patch species that have a large portion of their range in the DRECP area and which are either documented as significantly declining in abundance or federally or state listed as Endangered or Threatened were assigned habitat protection objectives of 75%
4. Widespread species whose distribution data is tied to geographic point locations (e.g. those with known winter or maternal roost sites) were assigned habitat (roost site) protection objectives of 90%
5. Species with Limited or Endemic Distributions, and which are known to have relatively few populations or relatively few individuals were assigned habitat protection objectives of 90%; those with even fewer populations or individuals were assigned goals of 95%
6. Species endemic to the DRECP study area and with one known population were assigned a habitat protection objective of 100%

As noted in our comments, typically when The Nature Conservancy is doing an ecological assessment using quantifiable biological goals and objectives, the Conservancy identifies many more “target species” for which quantifiable biological goals and objectives are set. For example, in the Mojave Desert Ecological Assessment², the Conservancy identified 521 species, 44 community types and all seeps and springs as ecological “targets” for which quantifiable goals were set. In order to meet BGOs for such a large number of species and habitats, the resulting conservation vision is broad, providing additional benefits for many of the target species.

Because the DRECP is setting BGOs for significantly fewer covered species (i.e., “targets”), the methodology for establishing biological goals and objectives should be evaluated and should be seen as the absolute minimum values to be used to express a hypothesis of what is needed to ensure the long-term viability of the species.

² Randall, J. M., S.S. Parker, J. Moore, B. Cohen, L. Crane, B. Christian, D. Cameron, J. MacKenzie, K. Klausmeyer and S. Morrison. 2010. Mojave Desert Ecoregional Assessment. Unpublished Report. The Nature Conservancy, San Francisco, California. 106 pp + appendices. Available at: http://scienceforconservation.org/downloads/mojave_desert_ecoregional_assessment

Based on this situation, we also collaborated with Defenders of Wildlife, an organization with extensive expertise in the conservation needs of specific Covered Species. Defenders of Wildlife scientists proposed higher BGOs for seven specific species for which they have either more expertise or greater programmatic focus (i.e., Desert tortoise, Mohave ground squirrel, Golden Eagle, Swainson's Hawk, Desert Pupfish, Owens River Pupfish, and Burrowing Owl). Because the Conservancy's approach is designed for use with larger numbers of Covered Species and Communities, we recommend that the DRECP use these higher BGOs for these seven species to ensure that they are adequately protected. The higher BGOs for species identified by Defenders of Wildlife and recommended by the Conservancy are listed below along with the rationale for setting them.

1. Desert Tortoise

Goal based on "Drafting a Conservation Blueprint" methodology: 50%

Defenders of Wildlife proposed goal: 65%

Rationale: Widespread Range, Large Patch Distribution, G4, S2, Threatened under ESA. Mojave desert tortoise population is in decline and requires recovery in addition to conservation. Habitat loss and fragmentation is one threat that can be addressed relatively simply through durable and enforceable habitat conservation. Other threats to this species are harder to address (drought, disease, climate change, predation).

2. Burrowing Owl

Goal based on "Drafting a Conservation Blueprint" methodology: 25%

Defenders of Wildlife proposed goal: 40%

Rationale: Widespread Range, Large Patch Distribution, G5, S2, BLM Sensitive Species. Burrowing Owl population is in decline in its native habitat in California. The last stronghold for the species is in the agricultural matrix of Imperial Valley which lies within the DRECP are. While not a natural landscape, migratory Burrowing Owls from other regions depend on the Imperial Valley as their wintering grounds.

3. Golden Eagle

Goal based on "Drafting a Conservation Blueprint" methodology: 25%

Defenders of Wildlife proposed goal: 40%

Rationale: Widespread Range, Large Patch Distribution, G5, S3, BLM Sensitive Species. Golden Eagles are heavily impacted by both wind and solar. Wind has direct impacts on Golden Eagles while solar results in loss of foraging habitat. Factors: Ongoing impacts to golden eagles in the plan area, the fact that many golden eagles migrate to the plan area from other regions, and their relatively low population

density in the CA desert.

4. Swainson's Hawk

Goal based on "Drafting a Conservation Blueprint" methodology: 25%

Defenders of Wildlife proposed goal: 40%

Rationale: Large Patch Distribution, G5, S2, Threatened. Swainson's Hawk are heavily impacted by both wind and solar. Wind has direct impacts on Swainson's Hawk while solar results in loss of foraging habitat.

5. Desert Pupfish

Goal based on "Drafting a Conservation Blueprint" methodology: 95%

Defenders of Wildlife proposed goal: 100%

Rationale: Limited Range, Point Location, G1, S1, Endangered. Desert Pupfish are in decline and live in a very limited range, dependent on groundwater resources. This species requires not only conservation but recovery.

6. Owen's pupfish

Goal based on "Drafting a Conservation Blueprint" methodology: 95%

Defenders of Wildlife proposed goal: 100%

Rationale: Limited Range, Point Location, G1, S1, Endangered. Owen's Pupfish is highly endangered and in decline in its limited range. It is dependent on groundwater resources Similar to the Desert Pupfish, this species requires not only conservation but recovery.

7. Mohave ground squirrel

Goal based on "Drafting a Conservation Blueprint" methodology: 90%

Defenders of Wildlife proposed goal: 95%

Rationale: Endemic, Large Patch Distribution, G2/G3, S2, Endangered. Mohave ground squirrel faces many threats in its endemic West Mojave habitat. The species is in decline due to a suite of synergistic threats. Similar to desert tortoise, habitat fragmentation and destruction is just one of many threats, but this can be relatively easily alleviated by setting aside intact habitats with durable and enforceable protection.

See Appendix C for the list of covered species, as well as the type of range and distribution, Global and State rarity rank (GRANK), federal and state listing status, and the quantitative protection objective we identified for each one.

Appendix C: Recommended quantifiable BGOs for covered species.

The methodology for establishing these recommended BGOs is included in Appendix B.

Number	Species	Range	Distribution	G Rank	Status	Recommended Goal	Notes
1	<i>Gopherus agassizii</i> Desert Tortoise	Widespread	Large Patch	G4S2	T	65%*	Listed species, but ranging across four states (CA, NV, UT and AZ)
2	<i>Phrynosoma m'callii</i> Flat-tail horned lizard	Limited	Small Patch	G3S2	C	75%	2 ecoregions, recently listed as candidate, declining due to habitat conversion
3	<i>Uma scoparia</i> Mojave fringed-toed lizard	Endemic	Small Patch	G3G4	C	75%	More populations than Flat-tail horned lizard, but only in Mojave ecoregion
4	<i>Batrachoseps stebbinsi</i> Tehachapi Slender Salamander	Endemic	Small Patch	G2S2	T	90%	Few populations and endemic to this portion of the Mojave ecoregion, so higher goal than Mojave fringed-toed lizard
5	<i>Toxostoma bendirei</i> Bendire's Thrasher	Limited	Large Patch	G4G5	S	35%	Found in 2 ecoregions, many populations, not imperiled
6	<i>Athene cunicularia</i> Burrowing Owl	Widespread	Large Patch	G5S2	S	40%*	Widespread in several ecoregions, sensitive to loss of agricultural habitat
7	<i>Laterallus jamaicensis coturniculus</i> California Black Rail	Limited	Linear	G4T1	T	75%	Found only in two ecoregions but not common in either, habitat is threatened by water use and drought
8	<i>Gymnogyps californianus</i> California Condor	Limited	Large Patch	G1S1	E	95%	Obviously imperiled and sensitive to disturbances throughout its range
9	<i>Melanerpes uropygialis</i>	Limited	Small Patch	G5S1S2	E	50%	Many populations, secure, couple of ecoregions

Number	Species	Range	Distribution	G Rank	Status	Recommended Goal	Notes
	Gila Woodpecker						
10	<i>Aquila chrysaetos</i> Golden Eagle	Widespread	Large Patch	G5S3	S	40%*	Widespread in several ecoregions, sensitive to disturbance of breeding habitat and poaching
11	<i>Grus canadensis tabida</i> Greater Sandhill Crane	Widespread	Large Patch	G5T4	T	50%	Widespread in several ecoregions but significant number of population overwinters in CA
12	<i>Vireo bellii pusillus</i> Least Bell's Vireo	Widespread	Small Patch	G5T2	E	75%	Numerous populations, but declining and listed
13	<i>Charadrius montanus</i> Mountain Plover	Widespread	Small Patch	G2S2	C	50%	Widespread but significant amount of populations utilize Salton Sea and Antelope Valley
14	<i>Buteo swainsoni</i> Swainson's Hawk	Widespread	Large Patch	G5S2	T	40%*	Widespread species, declining but secure, ag habitats important
15	<i>Agelaius tricolor</i> Tricolored Blackbird	Endemic	Linear	G2G3S2	C	75%	Declining species, endemic, wetland habitats threatened in range
16	<i>Coccyzus americanus occidentalis</i> Western Yellow-Billed Cuckoo	Widespread	Linear	G5T3	E	50%	Widespread but declining and Western population recently listed, riparian habitat threatened by drought and water drawdown in CA
17	<i>Empidonax traillii (extimus)</i> Southwestern Willow Flycatcher	Limited	Linear	G5T1	E	75%	Less widespread than Yellow-billed cuckoo, but more threatened in habitat type and sensitive to disturbances during breeding,

Number	Species	Range	Distribution	G Rank	Status	Recommended Goal	Notes
18	<i>Rallus longirostris yumanensis</i> Yuma Clapper Rail	Limited	Linear	G5T3	E	75%	Habitat type threatened by water overuse and drought in CA range
19	<i>Cyprinodon macularius</i> Desert Pupfish	Limited	Point location	G1S1	E	100%*	Highly threatened by drought and water overuse, few locations well known
20	<i>Siphateles bicolor mohavensis</i> Mohave Tui Chub	Endemic	Linear	G4T1	E	75%	Endemic to Mojave, more populations than Desert Pupfish, threatened by drought and water overuse.
21	<i>Cyprinodon radiosus</i> Owens Pupfish	Endemic	Point location	G1S1	E	100%*	Highly threatened by drought and water overuse, few locations well known
22	<i>Siphateles bicolor snyderi</i> Owens Tui Chub	Endemic	Linear	G4T1	E	75%	Endemic to Mojave, more populations than Desert Pupfish, threatened by drought and water overuse.
23	<i>Ovis canadensis nelsoni</i> Desert bighorn sheep	Widespread	Large Patch	G4T4	S	25%	Widespread species, not threatened, State sensitive species
24	<i>Macrotus californicus</i> California leaf-nosed bat	Widespread	Point location	G4	S	90%	Maternal and winter roosting caves well known and easily protected for otherwise widespread species
25	<i>Xerospermophilus mohavensis</i> Mohave ground squirrel	Endemic	Large Patch	G2G3S2	E	95%*	Endemic to West Mojave, lots to be learned about population dynamics and what constitutes appropriate habitat
26	<i>Antrozous pallidus</i>	Widespread	Point location	G5	S	75%	Maternal and winter roosting

Number	Species	Range	Distribution	G Rank	Status	Recommended Goal	Notes
	Pallid bat						caves well known and easily protected for otherwise widespread species, more known populations than Townsend's or CA leaf-nosed bats
27	<i>Corynorhinus townsendii</i> Townsend's big-eared bat	Widespread	Point location	G3G4	S	90%	Maternal and winter roosting caves well known and easily protected for otherwise widespread species
28	<i>Calochortus striatus</i> Alkali mariposa lily	Endemic	Small Patch	G2S2	S	75%	Very few populations, not much known about ecological needs or trends, threatened by drought and water overuse
29	<i>Opuntia basilaris</i> var. <i>treleasei</i> Bakersfield cactus	Endemic	Small Patch	G5T1	E	90%	Highly threatened in known locations, declining and listed as endangered
30	<i>Eriophyllum mohavense</i> Barstow woolly sunflower	Endemic	Small Patch	G2S2	S	75%	Few populations, endemic, same status as Alkali Mariposa lily
31	<i>Cymopterus deserticola</i> Desert Cymopterus	Endemic	Small Patch	G2S2	CS	75%	Few populations, endemic, same status as Alkali Mariposa lily
32	<i>Linanthus maculatus</i> Little San Bernardino Mountain Linanthus	Endemic	Small Patch	G2S2	S	75%	Few populations, endemic, same status as Alkali Mariposa lily
33	<i>Mimulus mohavensis</i> Mojave monkeyflower	Endemic	Point location	G2S2	S	90%	Sparse distribution, known populations easily protected
34	<i>Hemizonia mohavensis</i>	Limited	Small Patch	G2G3S2	S	60%	In at least two ecoregions, so

Number	Species	Range	Distribution	G Rank	Status	Recommended Goal	Notes
	Mojave tarplant						lower goal than Alkali Mariposa Lily
35	<i>Sidalcea covillei</i> Owens Valley checkerbloom	Endemic	Small Patch	?	S	75%	Little info on this species (not on NatureServe), so deferred to other rare plants to set goal
36	<i>Erigeron parishii</i> Parish's daisy	Endemic	Small Patch	G2S2	T	75%	Few populations, endemic, same status as Alkali Mariposa lily
37	<i>Astragalus tricarinatus</i> Triple-ribbed milkvetch	Endemic	Point location	G1S1	E	100%	Single known population, highly threatened

* indicates that the goal has been raised based on recommendations from Defenders of Wildlife scientists

Appendix D. Methods for Quantifying Natural Community Goals for DRECP Analyses

In an attempt to quantify the DRECP Biological Goals and Objectives (BGOs) for species and communities, we first tried to take the qualitative written text of the DRECP document and translate it into numeric goals. However, we quickly realized that that could not be done with the information supplied by DRECP. We also asked the authors of the DRECP document for more quantitative information (such as the numeric goals that were used in the first run of their MARXAN analysis) to help us generate finite numeric goals from the DRECP text, but have not received adequate information in order to do this.

Seeking the best alternative, we decided to use The Nature Conservancy's standards for setting quantitative goals (also known as Conservation by Design Standards for Ecoregional Planning) in order to identify appropriate quantitative objectives for conservation of each of the 31 natural communities considered within the DRECP document. Conservation goals may be used for two purposes in ecoregional assessments: first, as a hypothesis for the number and distribution of each conservation target needed to maintain its viability; and, second, as an accounting unit to aid in determining the degree to which the identification of conservation areas meets established conservation goals.

The recommended quantitative goals we selected represent an initial hypothesis of the minimum requirement of the level of protection estimated to be sufficient to allow each of the 31 natural communities considered in the DRECP to maintain ecological variability, evolve, and persist as conditions change over the coming decades. As more detailed and specific information becomes available regarding the needs of these communities, it may be necessary to adjust some of the conservation goals and to adapt the subsequent analysis accordingly.

We first compared the 31 natural communities considered within the DRECP document with those considered in The Nature Conservancy's Mojave Desert Ecoregional Assessment, to see how similar TNC's categorization of natural communities was to the DRECP's categorization. Many of the natural community types were roughly equivalent between the two analyses, but there were also 11 natural communities that were considered in The Nature Conservancy's Mojave Desert Ecoregional Assessment that did not appear to be included in the DRECP analysis. Missing natural communities that are found in the California deserts and should be included in the DRECP include: Blackbrush Shrubland, Crucifixion Thorn Woodland, Desert Pavement, Mesquite Bosque, Mesquite Upland Scrub, Mojave Mid-Elevation Mixed Desert Scrub, Mojave Mixed Steppe, Open Water, Sonoran Paloverde-Mixed Cacti, Transmontane Alkali Marsh, and Wildflower Field.

We then obtained data on the spatial distribution of the 31 natural communities considered within the draft DRECP plan using data made available by the Conservation Biology

Institute in DataBasin (www.databasin.org). These data were extracted from the Land Cover/Natural Vegetation Communities dataset provided by Aerial Information Systems and the California Dept. of Fish and Game. We also used information provided by the DRECP about the total acreage of each natural community type within the DRECP study area. Using this information, we set quantitative conservation goals (based on a percentage of land area that should be conserved) for each natural community type. These goals are based on patch size, distribution, rarity, and special features (such as dependence on a high water table) of each community type, as described in detail below:

A conservation goal of **90%** was set for **nine** natural communities. These included three communities that were rare and water-dependent: Arid West Freshwater Emergent Marsh, Californian Warm Temperate Marsh/Seep, and Southwestern North American Riparian Evergreen and Deciduous Woodland. Rare upland community types were also given a conservation goal of 90% when less than 10,000 acres of the community type was found within the DRECP study area. The **six** natural communities that fell into this category were California Annual Forb/Grass Vegetation, Californian Mesic Chaparral, Californian Pre-Montane Chaparral, Central and South Coastal California Seral Scrub, Southern Great Basin Semi-Desert Grassland, and Southwestern North American Riparian Evergreen and Deciduous Woodland.

A conservation goal of **75%** was set for **four** natural communities. This included one water-dependent community that covered 69,731 acres within the DRECP study area, and therefore could not be considered rare: Southwestern North American Riparian/Wash Scrub. The other three communities given a goal of 75% were Californian Xeric Chaparral, Central and South Coastal Californian Coastal Sage Scrub, and Western Mojave and Western Sonoran Desert Borderland Chaparral. All three of these communities are found in small patches along the edges of the DRECP study area and had spatial coverage between 24,031 and 59,120 acres.

A conservation goal of **60%** was set for **four** natural communities. These were communities that were found in scattered patches within the DRECP study area, and covered between 75,852 and 117,931 acres. The communities included were Californian Montane Conifer Forest, Intermontane Deep or Well-Drained Soil Scrub–Sonoran Desert Scrub, Intermontane Seral Shrubland, and Intermountain Mountain Big Sagebrush Shrubland and Steppe.

A conservation goal of **50%** was set for **four** natural communities. These were communities that were found in scattered patches within the DRECP study area and covered between 196,158 and 441,069 acres. The communities included were California Annual and Perennial Grassland, Inter-Mountain Dry Shrubland and Grassland, North

American Warm Desert Dunes and Sand Flats, and Sonoran-Coloradan Semi-Desert Wash Woodland/Scrub.

A conservation goal of **40%** was set for **five** natural communities. These included two communities that were common where they occurred, but had a very restricted range near the edges of the DRECP study area, including Californian Broadleaf Forest and Woodland, Great Basin Pinyon–Juniper Woodland. The three other communities given a goal of 40% were common and scattered in large patches throughout the DRECP study area. These included North American Warm Desert Alkaline Scrub and Herb Playa and Wet Flat, Shadscale–Saltbush Cool Semi-Desert Scrub, Southwestern North American Salt Basin and High Marsh.

A conservation goal of **35%** was set for **one** natural community: Madrean Warm Semi-Desert Wash Woodland/Scrub. This is a matrix community in parts of the Colorado Desert, but the overall acreage was 919,641, which was smaller than the other matrix communities, and therefore required a higher conservation goal.

Matrix communities that were common in numerous locations or found throughout the DRECP study area were given a goal of **25%**. There were **four** matrix communities: Arizonian Upland Sonoran Desert Scrub–Sonoran Desert Scrub, Lower Bajada and Fan Mojavean–Sonoran Desert Scrub, Mojave and Great Basin Upper Bajada and Toeslope, and North American Warm Desert Bedrock Cliff and Outcrop.

Appendix E: Recommended Quantitative Goals for Covered Natural Communities

The methodology for establishing these recommended quantitative BGOs is included in Appendix D.

DRECP Natural Community	Conservation Goal
Arid West Freshwater Emergent Marsh	90%
Arizonian Upland Sonoran Desert scrub–Sonoran Desert scrub	25%
California Annual and Perennial Grassland	50%
California Annual Forb/Grass Vegetation	90%
Californian Broadleaf Forest and Woodland	40%
Californian Mesic Chaparral	90%
Californian Montane Conifer Forest	60%
Californian Pre-Montane Chaparral	90%
Californian Warm Temperate Marsh/Seep	90%
Californian Xeric Chaparral	75%
Central and South Coastal California Seral Scrub	90%
Central and South Coastal Californian Coastal Sage Scrub	75%
Great Basin Pinyon–Juniper Woodland	40%
Intermontane Deep or Well-Drained Soil Scrub–Sonoran Desert Scrub	60%
Intermontane Seral Shrubland	60%
Inter-Mountain Dry Shrubland and Grassland	50%
Intermountain Mountain Big Sagebrush Shrubland and Steppe	60%
Lower Bajada and Fan Mojavean–Sonoran Desert Scrub	25%
Madrean Warm Semi-Desert Wash Woodland/Scrub	35%
Mojave and Great Basin Upper Bajada and Toeslope	25%
Mojavean Semi-Desert Wash Scrub	90%
North American Warm Desert Alkaline Scrub and Herb Playa and Wet Flat	40%
North American Warm Desert Bedrock Cliff and Outcrop	25%
North American Warm Desert Dunes and Sand Flats	50%
Shadescale–Saltbush Cool Semi-Desert Scrub	40%
Sonoran-Coloradan Semi-Desert Wash Woodland/Scrub	50%
Southern Great Basin Semi-Desert Grassland	90%
Southwestern North American Riparian Evergreen and Deciduous Woodland	90%
Southwestern North American Riparian/Wash Scrub	75%
Southwestern North American Salt Basin and High Marsh	40%
Western Mojave and Western Sonoran Desert Borderland Chaparral	75%

Appendix F: Analysis of Development Focus Areas on Covered Species

This appendix contains species-specific analysis of how Development Focus Areas could be revised, or how a conservation strategy could be developed, to protect vital habitat for ten of the Covered Species. The analyses are for eight of the eleven Covered Species that have a large percentage of their modeled habitat in the DFAs (see Table 1 in the main letter). The other two Covered Species included in this Appendix are the Yuma Clapper Rail and the Mojave Monkeyflower. The recommend BGOs would not be precluded by conversion of 297,000 in the DFAs; however, our analyses for these two species revealed that minor modifications in the DFAs would remove significant amounts of their modeled habitat from threat of conversion.

For each species, we have included the plan-wide biological objectives from the draft DRECP, as well as the Conservancy's recommended quantitative goal. We also provide two series of maps for each DFA of concern for each species. In each case, the first series of maps shows the modeled distribution (Davis, 2014) of the each species within the DFAs of concern, with areas of overlap identified in red.

The second series of maps depicts areas where the DFAs of concern might be refined to avoid conversion of the species habitat, or where a conservation strategy for the species may be focused. These maps show areas within the DFAs that were both modeled as habitat for the species by Davis (2014) and identified as having high conservation value by the Conservation Biology Institute (CBI) (CBI, 2014) in lime green. It is important to note that the CBI Conservation Value data was not species specific, and conservation strategies or DFA refinements would need to take into consideration specific species needs.

We have not provided analysis of how DFAs should be revised for three of the eleven species whose quantitative goals could be precluded by habitat conversion of 297,000 acres within the DFAs (see Table 1 in the main letter): California Condor, Desert Pupfish, and Owens Pupfish. Both the Desert Pupfish and the Owens Pupfish have very limited ranges and there are strong CMAs to require avoidance. However, as discussed in the main letter, the Conservancy recommends that the lead agencies evaluate whether these CMAs can be assured if they are on private lands. If they cannot be assured, we recommend removing all Desert Pupfish and Owens Pupfish habitat from DFAs. We further recommend the agencies do an analysis similar to what the Conservancy has done in this appendix for the California Condor.

Our analyses also identified several specific areas within three DFA regions that are important for multiple Covered Species, including portions of DFAs in the Cadiz and Chocolate Mountains, Imperial Borrego Valley, and West Mojave and Eastern Slopes. These areas were identified by comparing the high conservation value lands and modeled habitat

areas within the DFAs across the ten species we analysed. Our recommendation is that the lead agencies either remove these areas from the DFAs or develop conservation strategies within the DFAs that can be implemented proportional to the impacts of development that occur on these lands.

The analysis that follows is for the following species (in this order):

1. Greater Sandhill Crane
2. Mountain Plover
3. Tricolored Blackbird
4. California Black Rail
5. Southwestern Willow Flycatcher
6. Alkali Mariposa Lily
7. Bakerfield Cactus
8. Yuma Clapper Rail
9. Mohave Ground Squirrel
10. Mojave Monkeyflower

1. Greater Sandhill Crane

DRECP Stated Conservation Objectives:

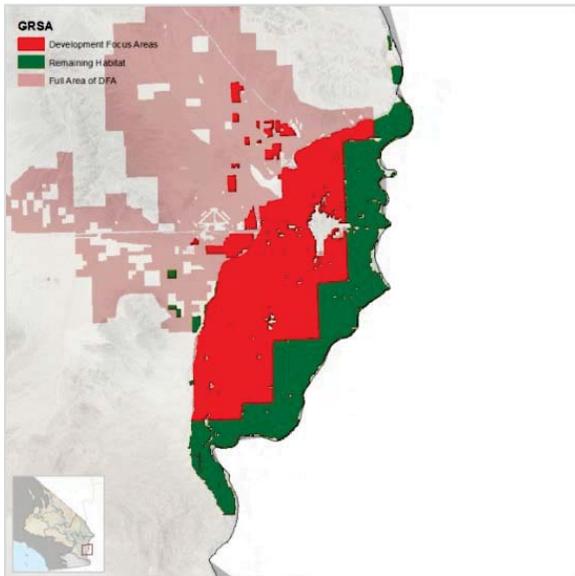
Obj. GSCR1.1: Conserve and avoid high quality habitat in known roosting and foraging areas within the Imperial Borrego Valley ecoregion subarea (Imperial County).

Obj. GSCR1.2: Maintain a minimum overwintering population size of 720 individuals within Imperial County.

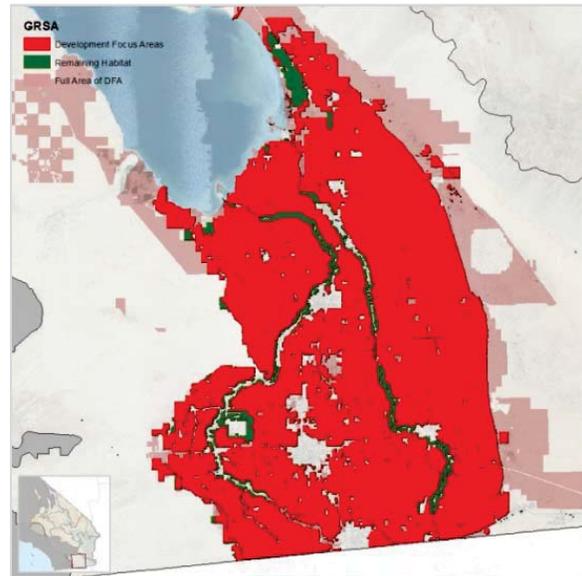
Recommended conservation goal	25%	319,158 acres
% Modeled habitat in DFAs	85%	542,475 acres

Map series 1: Modeled Greater Sandhill Crane habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in blue.

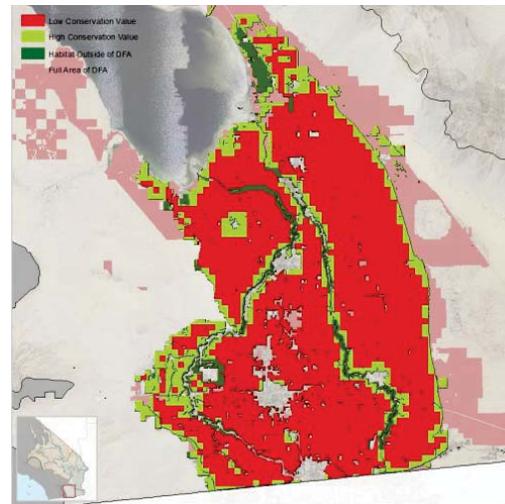
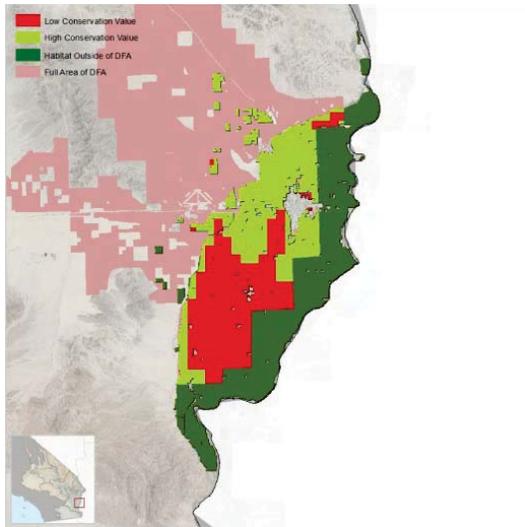
Cadiz Valley and Chocolate Mountains



Imperial Borrego Valley



Map series 2: Modeled Greater Sandhill Crane habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat, identified as having high conservation value by CBI (2014) and within DFAs. Areas in red are modeled habitat within DFAs but identified as having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in grey.



2. Mountain Plover

DRECP Stated Conservation Objectives:

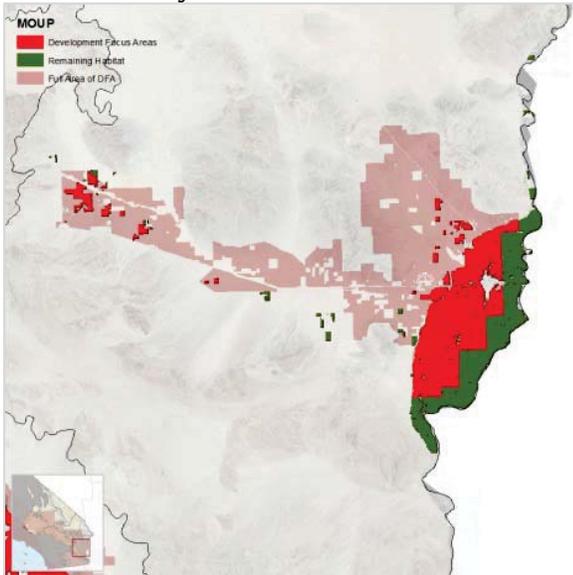
Goal MOPL1: Conserve and avoid agricultural habitat in the Imperial Valley to provide enough suitable habitat for mountain plovers so as to maintain and expand the population of mountain plovers wintering in the Plan Area (Andres and Stone 2010).

Goal MOPL2: Eliminate or alleviate threats to mountain plovers which could further reduce the size of the population, or which constrain recovery of the species' population in the Plan Area

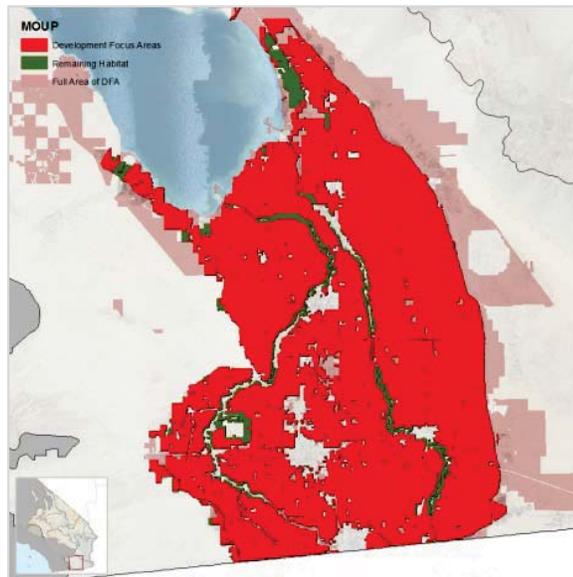
Recommended conservation goal	50%	416,065 acres
% Modeled habitat in DFAs	83%	693,860 acres

Map series 1: Modeled Mountain Plover habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in blue.

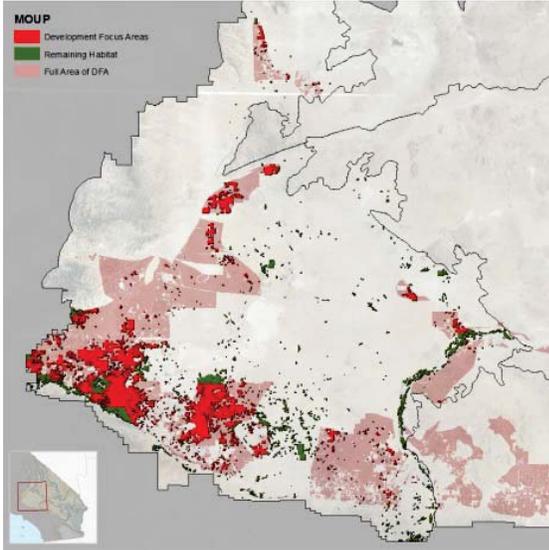
Cadiz Valley and Chocolate Mountains



Imperial Borrego Valley

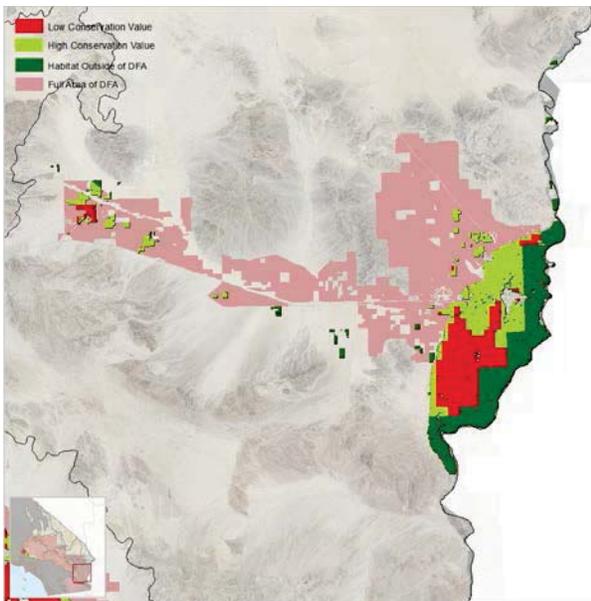


West Mojave and Eastern Slopes

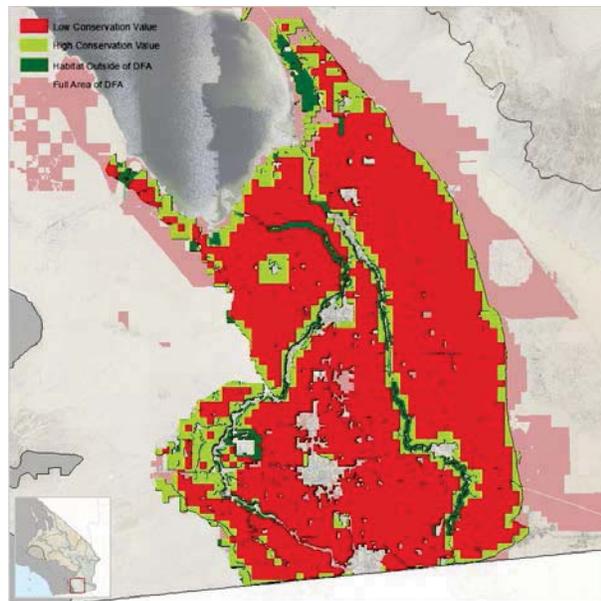


Map series 2: Modeled Mountain Plover habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified as having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in grey.

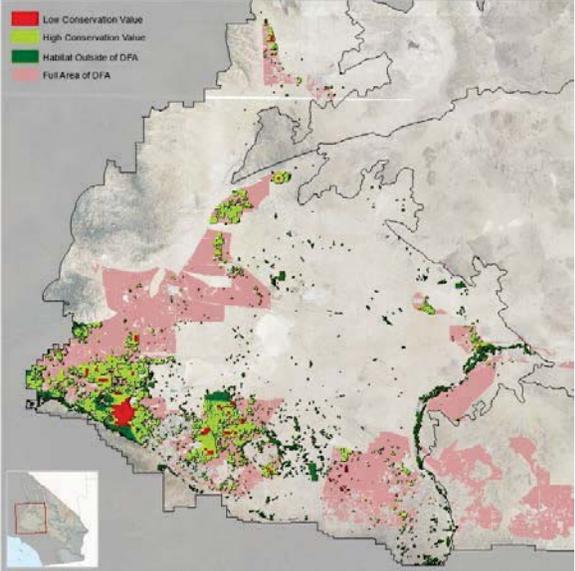
Cadiz Valley and Chocolate Mountains



Imperial Borrego Valley



West Mojave and Eastern Slopes



3. Tricolored Blackbird

DRECP Stated Conservation Objectives:

Obj. TCBL1.1: Maintain or increase populations of tricolored blackbird in the Antelope and Owens Valleys.

Obj. TCBL1.2: Conserve tricolored blackbird nesting and foraging habitat in wetlands and agricultural lands found within the West Mojave and Eastern Slopes Subarea.

Obj. TCBL1.3: Avoid impacts to nesting habitat and nesting colonies.

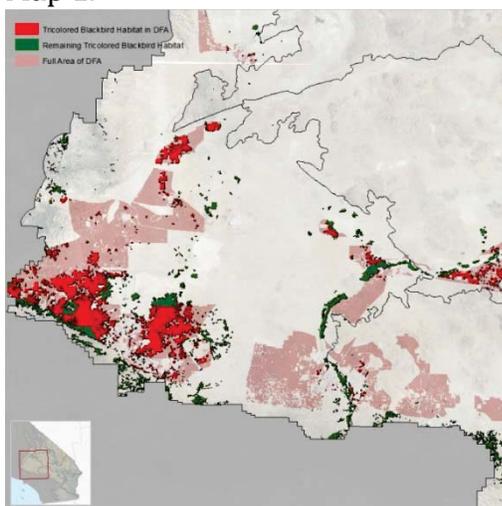
Recommended conservation goal	75%	208,724 acres
% Modeled habitat in DFAs	59%	163,058 acres

Map 1: Modeled Tricolored Blackbird habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red.

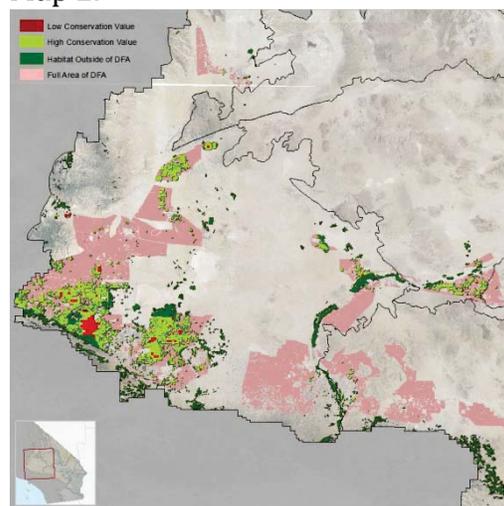
Map 2: Modeled Tricolored Blackbird habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified has having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red

West Mojave and Eastern Slopes

Map 1.



Map 2.



4. California Black Rail

DRECP Stated Conservation Objectives:

Obj. CBRA1.1: Conserve and avoid suitable habitat adjacent to the Colorado, New and Alamo Rivers, Sony Bono Salton Sea National Wildlife Refuge, state of California Imperial Wildlife Area and Imperial Irrigation Districts managed wetland.

Obj. CBRA1.2: Create, restore, and enhance California black rail nesting habitat in viable locations focusing on areas of documented occurrences.

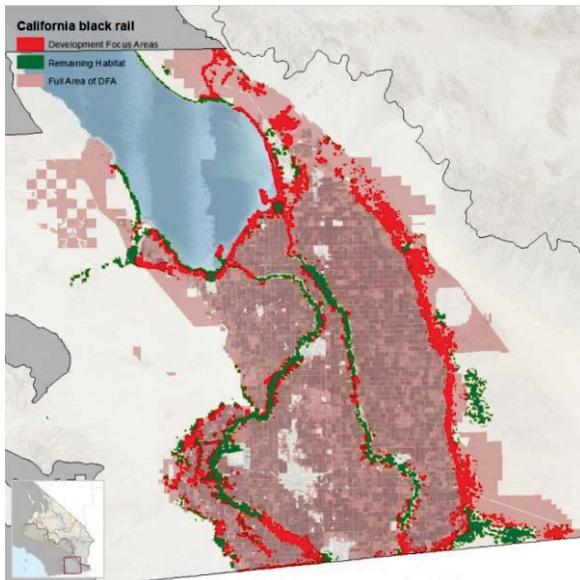
Recommended conservation goal	75%	161,219 acres
% Modeled habitat in DFAs	39%	84,295 acres

Map 1: Modeled California Black Rail habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in blue.

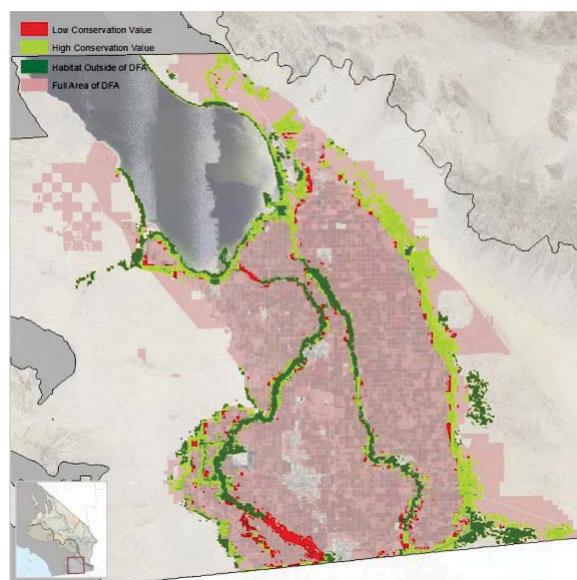
Map 2: Modeled California Black Rail habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified has having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in grey.

Imperial Borrego Valley

Map 1.



Map 2.



5. Southwestern Willow Flycatcher

DRECP Stated Conservation Objectives:

Obj. WIFL1.1: Conserve all areas of suitable habitat for migrating willow flycatcher in the Plan Area.

Obj. WIFL1.2: Maintain and enhance natural hydrological and geomorphological conditions in natural streams, springs, and seeps to enhance and increase suitable habitat for the willow flycatcher.

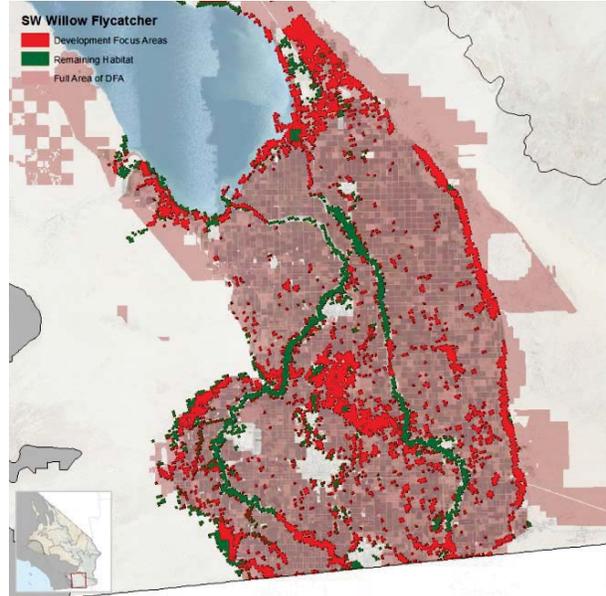
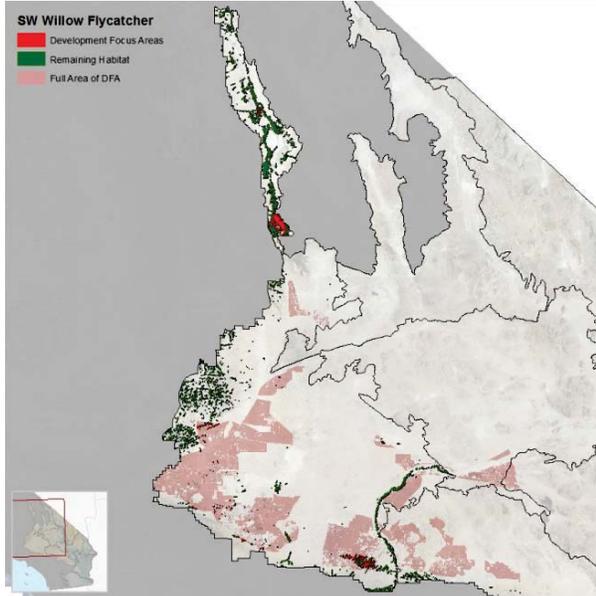
Obj. WIFL1.3: Enhance suitable habitat for willow flycatcher by increasing the quality and extent of a dense mid-story and understory riparian vegetation location near surface water or saturated soils in the following areas: Lower Colorado River Recovery Unit, including the following sites: Adobe Lake, Big Hole Slough, Blankenship, BR Lagoon, Cibola Lake, Clear Lake, Draper Lake, Ehrenberg, Ferguson Lake, Gila Confluence, Headgate Dam, Lake Havasu-Neptune, Mittry Lake SWA, Picacho East, Taylor Lake, Topock Marsh, and Walker Lake; Basin and Mojave Recovery Unit, including the following sites: Owens River—Big Pine, Owens River—Lone Pine Creek, Mojave River—Mojave Forks, Mojave River—Oro Grande, Mojave River—Upper Narrows, Mojave River—Victorville I-15, Holcomb Creek—Little Bear, San Felipe Creek—San Felipe, and Amargosa River.

Obj. WIFL1.4: Develop and implement a management plan for the invasive species that threaten willow flycatcher and its suitable habitat. o Reduce the threat and spread of invasive plant species such as tamarisk in willow flycatcher suitable habitat (note: tamarisk management in areas occupied by nesting willow flycatchers should only be undertaken with extreme caution to prevent habitat loss for the willow flycatcher). o Eliminate or decrease, relative to existing conditions, the spread of brown-headed cowbird parasitism on willow flycatcher in suitable habitat within the Plan Area including the Lower Colorado River, Amargosa River, and Mojave River.

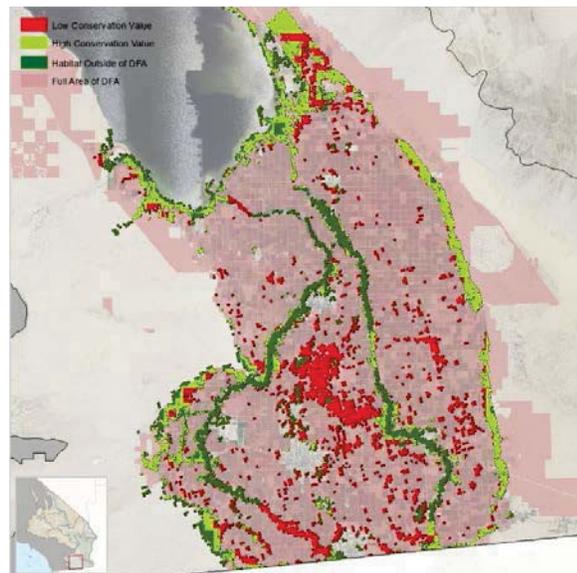
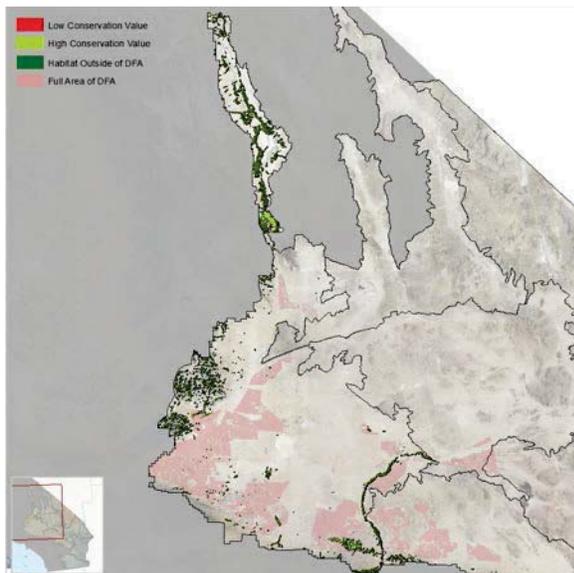
Obj. WIFL2.1: Increase the number of occupied breeding territories in the Plan Area to the following amounts (USFWS 2002), based on the 10-year average of annual surveys:

Recommended conservation goal	75%	247,048 acres
% Modeled habitat in DFAs	35%	113,510 acres

Map series 1: Modeled Southwestern Willow Flycatcher habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in blue.



Map Series 2: Modeled Southwestern Willow Flycatcher habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified as having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in grey.



6. Alkali Mariposa Lily

DRECP Stated Conservation Objectives:

Obj. AML1.1: Conserve and avoid known extant populations of AMLI. Occurrences of alkali mariposa-lily are concentrated in the Lancaster area and also in Red Rock State Park.

Obj. AML1.2: Maintain a hydrological regime that maintains suitable water table levels at each population.

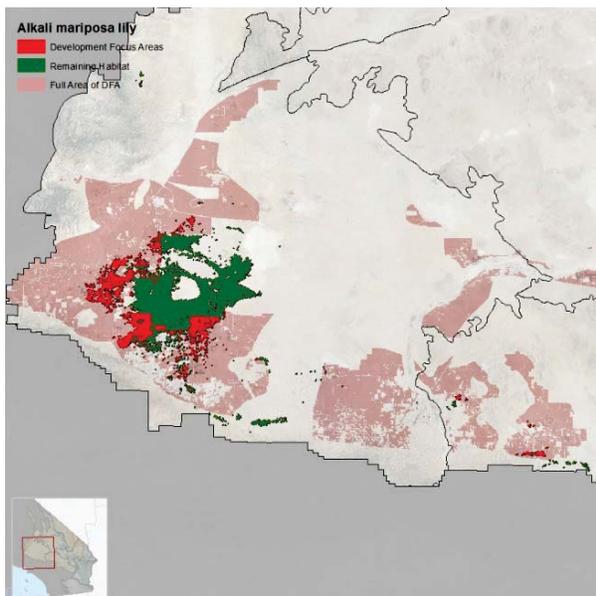
Obj. AML1.3: Manage land uses and enhance vegetation communities within habitat that supports the species.

Recommended conservation goal	75%	141,490 acres
% Modeled habitat in DFAs	30%	55,573 acres

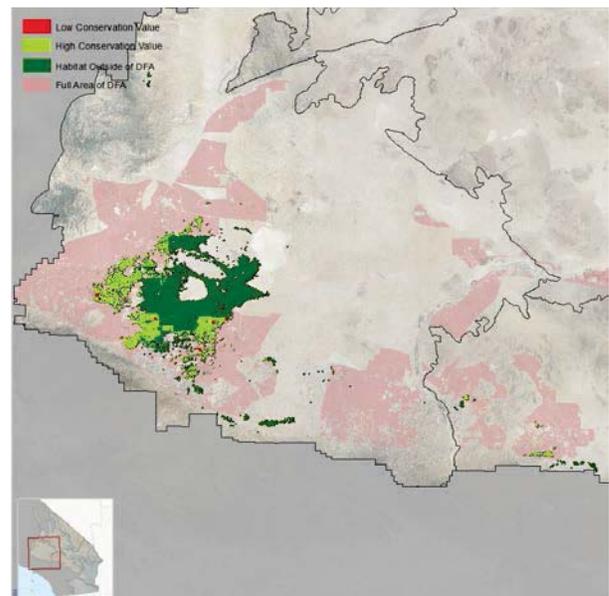
Map1: Modeled alkali mariposa lily habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 2: Modeled alkali mariposa lily habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified has having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 1.



Map 2.



7. Bakersfield Cactus

DRECP Stated Conservation Objectives:

Obj. BACA1.1: Conserve suitable Bakersfield cactus habitat within the Plan Area.

Obj. BACA1.2: Conserve large contiguous blocks of habitat of at least 160 acres and avoid fragmentation of spatially and genetically distinct clumps^{2,4}. Avoid fragmentation of grouped populations into more than two contiguous blocks, particularly in higher elevations (e.g., Tehachapi foothill populations).⁴

Obj. BACA1.3: Improve, relative to existing standards, knowledge of BACA distribution and life history to inform future management actions.

Obj. BACA2.1: Increase the number of clumps within each population to at least 100.

Obj. BACA2.2: Conserve and avoid known extant populations of BACA. Examples of populations in the Plan Area include but are not limited to ^{1,3}:

- o The population west of Mojave, north of Oak Creek Rd. (35.0540000, -118.3106667, 35.0499167, -118.3523500, 35.0164667, -118.3289333).

- o Tehachapi foothills, near the west antelope station, north of the California aqueduct, and east of the Pacific Crest Trail. (34.90863, -118.44587; 34.90969, -118.36376).

- o Tehachapi foothills, near the junction of Trotter Avenue and 120th Street (34.96542, -118.36376; 34.97113, -118.36678).

- o Tehachapi foothills, Oak Creek Pass, south of Highway 58 and Tehachapi-Willow Road (35.05443, -118.39714).

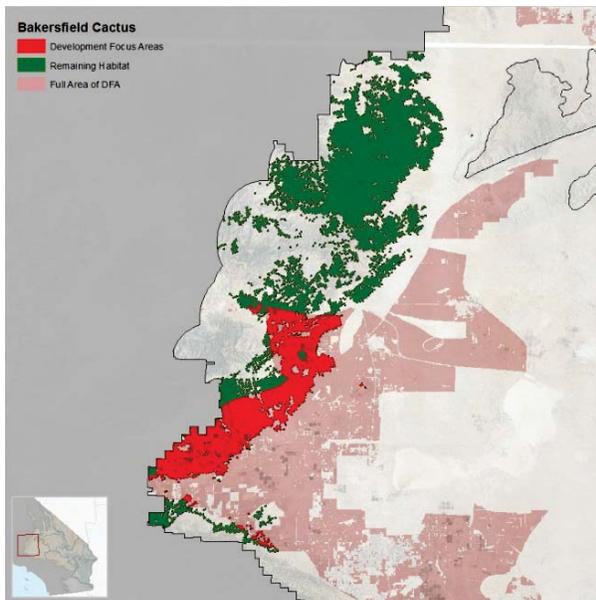
Obj. BACA3.1: Improve relative to existing conditions, BACA abundance and resilience to climate change throughout its range in the plan area.

Recommended conservation goal	90%	254,602 acres
% Modeled habitat in DFAs	29%	80,654 acres

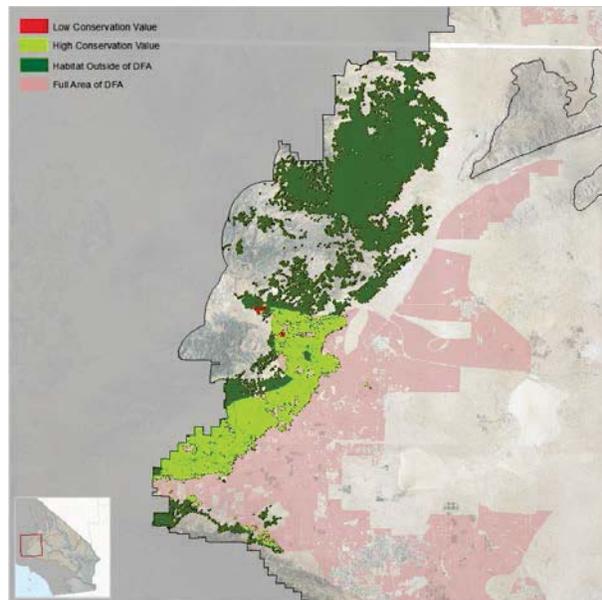
Map series 1: Modeled Bakersfield cactus habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 2: Modeled Bakersfield cactus habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified has having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 1.



Map 2.



8. Yuma Clapper Rail

DRECP Stated Conservation Objectives:

Obj. YCRA1.1: Conserve and avoid suitable habitat for Yuma clapper rail focusing on conservation of suitable habitat adjacent to the Colorado River and in Imperial County in the Salton Sea area, including suitable habitat areas adjacent to the Sonny Bono Salton Sea National Wildlife Refuge, the state of California's Imperial Wildlife Area, and the Imperial Irrigation District's managed wetland.

Obj. YCRA1.2: Create, restore, and enhance Yuma clapper rail resting habitat in viable locations focusing on areas of documented occurrences.

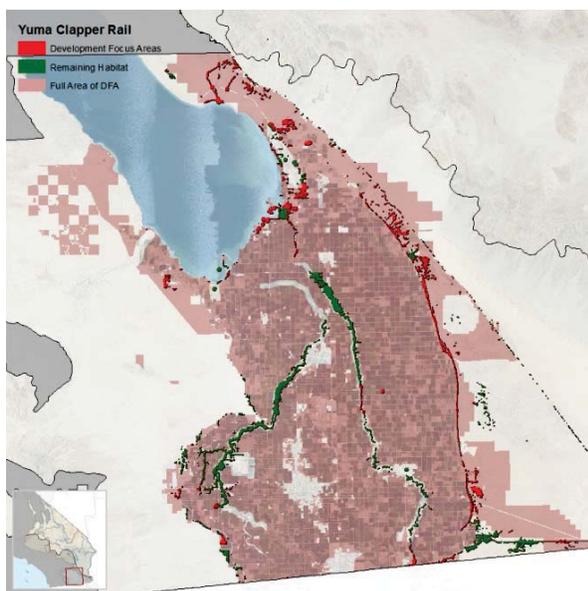
Recommended conservation goal	75%	42,516 acres
% Modeled habitat in DFAs	21%	11,705 acres

Note: This species is not at risk of the DFA precluding the ability to meet the recommended conservation goal.

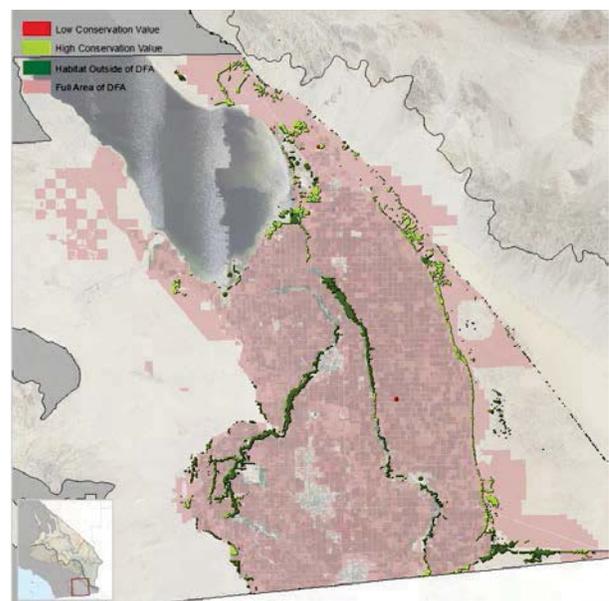
Map 1: Modeled Yuma Clapper Rail habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in blue.

Map 2: Modeled Yuma Clapper Rail habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified has having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red. The Salton Sea is shown in grey.

Map 1.



Map 2.



9. Mohave Ground Squirrel

DRECP Stated Conservation Objectives:

Obj. MGSQ1.1: Conserve and avoid disturbance of suitable habitat in specific geographic regions that are required for MGSQ population viability, identified as key population centers. Key population centers are presented in Figure C-39, described by Leitner (2008, 2013), and are listed below:^{1,2}

- o Coso Range-Olancha, portion within the DRECP boundary
- o Little Dixie Wash
- o Coolgardie Mesa-Superior Valley, portion outside of the DOD installations (Naval Air Weapons Station China Lake (China Lake) and National Training Center at Fort Irwin (Fort Irwin))
- o Edwards Air Force Base (EAFB), portion outside of the DOD installation
- o Desert Tortoise Natural Area (DTNA)
- o North of Edwards, originally described by Leitner (2008) and extended by the Kramer-Red Mountain study area detections in Leitner (2013) and by the California City study detections in Leitner (2013a) ¹²
- o Pilot Knob
- o Ridgecrest, eastern portion of the population originally described in Leitner (2008) (outside Ridgecrest city limits), and the portion outside of the DOD installation (China Lake)
- o North Searles Valley
- o Harper Lake
- o Fremont Valley/Spangler, described by Leitner (2013) as Fremont Valley/Teagle

Obj. MGSQ1.2: Conserve and avoid disturbance of population expansion areas consisting of suitable habitat within 5 miles of key population centers listed in Objective MGSQ1.1 to provide for dispersal, additional connectivity between populations, and preservation of contiguous habitat³.

Obj. MGSQ1.3: Conserve and avoid disturbance of high-priority habitat linkages and corridors important to genetic exchange⁴ between key population centers and other metapopulation functions or for shifts in the MGSQ range in response to climatic changes. Conserve linkages in suitable habitat or valleys, passes, or minimally rocky terrain under 5,000 feet. Conserve linkages that are at least 3 miles wide or wider as noted below⁵. These linkages are presented in Figure C-39 described below, and based on modeled habitat⁶, detection data^{7,8,9}, hypothesized linkages and detections described by Leitner (2008, 2013), and expert opinion^{3,10,11}.

- o Owens East and Owens West, connecting Coso Range-Olancha to north Owens Valley, on

the east and west sides of Owens Lake

- o West of China Lake, connecting Coso Range-Olancha to Little Dixie Wash
- o South of Ridgecrest, at least 6 miles in width of habitat south of the town of Ridgecrest connecting Little Dixie Wash with Fremont Valley/Spangler and Ridgecrest population centers
- o Ridgecrest-Searles, at least 6 miles in width of habitat south of the Ridgecrest population center connecting the South of Ridgecrest linkage and the Ridgecrest population center to North Searles Valley, along State Route 178 and through Spangler Hills, and including the strip of habitat east of Searles Lake and west of China Lake
- o Central, a 6-mile-wide north-south linkage connecting Fremont Valley/Spangler to North of Edwards, along U.S. 395, with 3-mile-wide linkages extending east through the Almond Cove/Cuddeback Lake area to Pilot Knob and west to DTNA, and a 3-mile wide linkage connecting Fremont Valley/Spangler southeast to Pilot Knob.
- o DTNA-Edwards, connecting the southwestern edge of DTNA to the North of Edwards population center.
- o Pilot-Coolgardie, connecting Pilot Knob to Coolgardie Mesa-Superior Valley, through Superior Valley
- o Harper-Coolgardie, connecting Harper Lake to Coolgardie Mesa-Superior Valley through habitat north of Harper Lake and south of the Black Hills
- o Kramer-Harper-Edwards, connecting EAFB to North of Edwards and Harper Lake, along the north and east borders of the EAFB installation, on both sides of U.S. 395 and State Route 58.

Obj. MGSQ1.4: Identify disturbances that cause barriers to MGSQ movement within linkages and corridors described in Objective MGSQ1.3, and under the plan of a desert restoration specialist, identify and conserve areas feasible for restoration.

Obj. MGSQ1.5: Conserve and avoid suitable habitat, within or outside of the historic range of MGSQ, that is considered by the best available science and habitat models to be suitable for MGSQ occupancy^{6, 10, 11} in the event of range and distribution shifts in response to climate change (climate change extensions). Climate change extensions are presented in Figure C-39 and are described below:

- o Habitat and potential future habitat in Owens Valley, up to 40 miles north of Owens Lake (to the northwest boundary of the DRECP)
- o Habitat and potential future habitat west of the Little Dixie Wash population, including low foothills and valleys, from the Scodie Mountains to the north, to the Piute Mountains to the west, to the mountains south of Jawbone Canyon Road

Obj. MGSQ1.6: Complement DOD efforts to protect MGSQ populations and linkages within military installations by conserving suitable habitat adjacent to DOD lands with MGSQ populations.

Obj. MGSQ1.7: Improve, relative to existing standards, knowledge of species distribution and life history to inform future management actions.

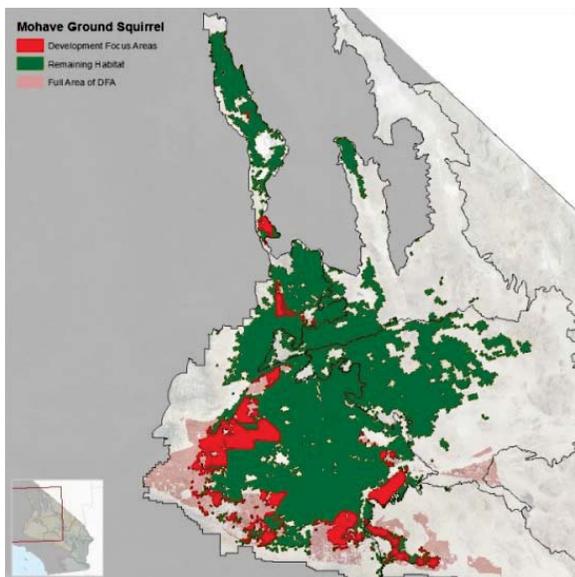
Obj. MGSQ2.1: Improve relative to existing conditions MGSQ abundance and resilience to climate change throughout its range in the plan area.

Recommended conservation goal	95%	3,278,368 acres
% Modeled habitat in DFAs	11%	412,512 acres

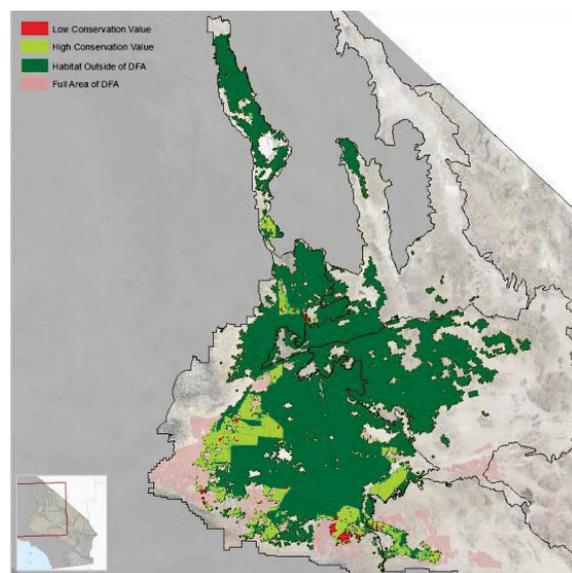
Map series 1: Modeled Mohave ground squirrel habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 2: Modeled Mohave ground squirrel habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified has having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 1.



Map 2.



10. Mojave monkeyflower

DRECP Stated Conservation Objectives:

Obj. MOMO1.1: Avoid and conserve known extant populations of MOMO.

Obj. MOMO1.2: Manage land uses and enhance vegetation communities within habitat that supports the species in the Plan Area.

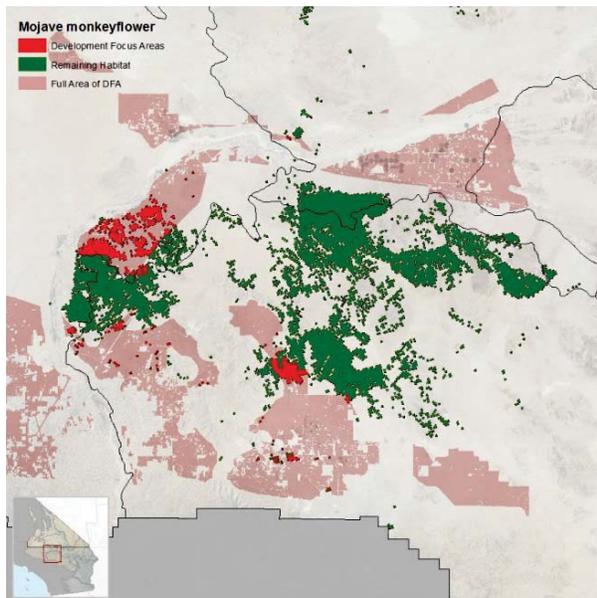
Note: This species is not at risk of the DFA precluding the ability to meet the recommended conservation goal; however, only minor adjustments need to be made to avoid conflicts with this species, specifically in the West Mojave and Eastern Slopes subarea.

Recommended conservation goal	90%	176,057 acres
% Modeled habitat in DFAs	8%	15,772 acres

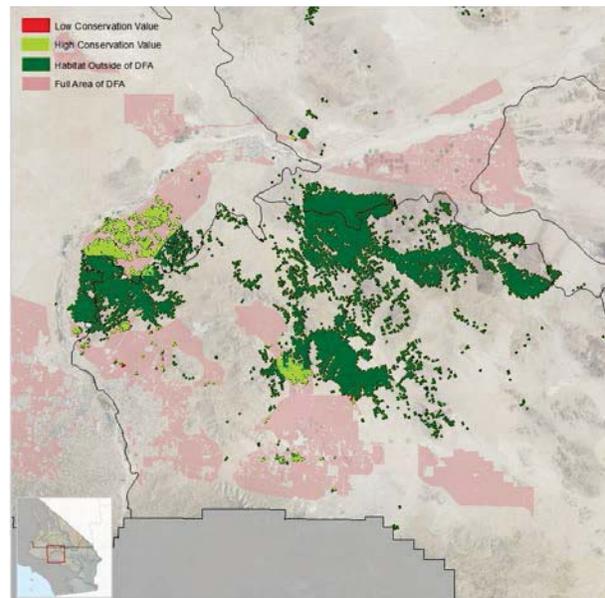
Map series 1: Modeled Mojave monkeyflower habitat and DFAs. Areas of modeled habitat (Davis, 2014) within the DFAs are shown in red, and areas of modeled habitat outside the DFAs area shown in green. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 2: Modeled Mojave monkeyflower habitat and Conservation Value within DFAs. Areas shown in lime green are modeled habitat within DFAs that was also identified as having high conservation value by CBI (2014). Areas in red are modeled habitat within DFAs but identified has having low conservation value. Areas in dark green are modeled habitat outside of the DFA. Areas of the DFAs that are not modeled habitat are shown in light red.

Map 1.



Map 2.



Appendix G. Overlap of Conservation Designations and Recreational Designations

BLM has proposed major land use plan changes in the draft DRECP. The impacts of those changes have not been fully analyzed. In the draft, BLM would apparently eliminate the existing land use categories (C, L, M and I) from the California Desert Conservation Area plans and replace them, in many areas, with a series of new designations, largely based on recreational values. The effect of substituting these new designations, Special Recreation Management Areas (SRMAs) and Extensive Recreation Management Areas (ERMAs), for the existing land use categories is not described or analyzed. The proposed SRMAs and ERMAs overlap with lands already designated for conservation, lands designated for Desert tortoise conservation areas and linkages, and with lands identified as having high conservation value in the Conservancy's Mojave Desert Ecoregional Assessment (2010) Framework for Effective Conservation Management of the Sonoran Desert in California (2009) (see Figures G-1, G-2, G-3 and G-4 below).

These overlaps raise four key concerns for The Nature Conservancy:

1. The SRMA and ERMA designations "harden" recreational uses into the plan, without analyzing whether the existing levels of recreation are compatible with species and habitats, or if more intensive use would be appropriate. Further, there is not an assessment as to whether the recreational designations are compatible with the conservation values for which the lands are also being designated. For example, in many cases, the proposed SRMA and ERMAs overlap with desert tortoise linkages and key conservation areas (see Figures G-2 and G-3), and inappropriate levels of OHV use is one of the key threats identified in the Tortoise Recovery Plan that must be addressed for the recovery of this species. In addition, recreational designations overlap many areas that The Conservancy has identified as "ecologically core" in our analyses (see Figure G-4).
2. The act of designating land for recreational use may encourage more intensive and varied uses than currently exist.
3. The draft DRECP does not provide any information as to how BLM could obtain adequate funding to manage these uses where it is not doing so now
4. The draft DRECP does not clarify that when conflicts arise between conservation and recreational uses in these areas, that conservation values will take precedent.

Further Discussion: Special Recreation Management Areas

Although it appears than many of the new management plans for SRMAs would incorporate provisions from the existing CDCA plans, the draft DRECP does not disclose whether and how BLM's management for these areas would change. Under these proposals, extensive

areas of the desert would be durably designated principally for recreational purposes. The implication of this change is that recreational values are to be given management priority over conservation values in many areas that have enormous conservation importance—and where, based on past experience, we can anticipate these two values will conflict. Notably, the draft DRECP does not state that where recreational and conservation values conflict or are incompatible, conservation values have priority.

This is apparent in areas such as the proposed Amargosa/Grimshaw and the Tecopa Pass SRMAs, which feature sensitive ecological resources and overlap existing ACECs or adjoin current wilderness areas. The draft's brief description of how these areas would be managed focuses on road access and other activities that may be incompatible with the conservation of those resources. In both of these areas, plans to manage conservation and wilderness values are incomplete or missing. Thus, recreational priorities established with SRMA designations would be likely to displace and reduce options for proper management of conservation values. For the Amargosa/Grimshaw SRMA, an overdue joint ACEC/ Wild and Scenic River Management Plan that would define conservation priorities would be overtaken by the SRMA designation and its management plan. For example, although the language is somewhat vague, the Amargosa/Grimshaw SRMA designation appears to elevate recreation values above ecological considerations:

Implementation Decisions: An activity level plan would be developed to identify and designate current and future recreational opportunities, appropriate facilities to provide for and manage the proposed uses, parameters for Special Recreation Permitting of events, staffing, funding, parameters for facility and road/trail maintenance, partnerships, possible recreation fee considerations, and an implementation schedule. Until the new plan is approved, continue implementing management actions in the Amargosa & Grimshaw Lake ACEC plans for recreation. Integrate these into the new Amargosa River ACEC & SRMA Plans. Ensure compatibility & continuity among recreation activities in the following plans: ACEC, WSR, wilderness & OSNHT. Amargosa Grimshaw Special Recreation Management Area, Appendix L, SRMA/ERMA Part 2.

For the Tecopa Pass area, a Kingston Range Wilderness plan is absent.

The proposed designation of SRMAs in the draft DRECP requires analysis of these designations on sensitive species, habitat connectivity, and landscape scale conservation values.

We are also concerned that these recreational designations are being proposed in the context of inadequate BLM resources for management of desert recreation and conservation. The conservation values of a number of the areas that would be designated as SRMAs are already under threat of serious damage by vehicular recreation that is not limited to authorized routes of travel. (e.g., the Salt Creek ACEC and Kingston Range Wilderness areas adjacent to the proposed Dumont Dunes SRMA). Designation of SRMAs, at

very least, implies that management of all of these areas would give inappropriate priority to recreation.

Recommendations:

- Exclude proposed SRMAs/ERMAs from all areas where recreation, particularly OHV recreation, may prevent the DRECP from meeting its species conservation objectives.
- Conduct further analysis and allow for public comment on the impacts of the designation of SRMAs and ERMAs.
- Remove / do not propose SRMA and ERMA designations where they overlap with ACECs and NLCS lands that have been established for conservation values
- Clarify that when there is a conflict between SRMA and ERMA designations and conservation values, that the conservation values will take precedence.

Further Discussion: Extensive Recreation Management Areas (ERMAs)

BLM has proposed a series of ERMAs in the plan area, but only for the area managed by the Needles Field Office. The primary purpose for designating these large areas appears to be unrestricted and dispersed vehicular recreation. ERMAs also appear to be a new land use category for public desert lands that no previous CDCA plan or amendment had adopted. There is no analysis of impacts resulting from these designations, especially on habitat connectivity and other conservation values, nor a disclosure of whether BLMs previous land use classifications would have permitted this land use. Unlike other OHV use areas such as Dumont Dunes and Razor, which are proposed as SRMAs, the ERMAs do not carry specific management prescriptions that would limit vehicular travel to designated open routes or avoid ecological or culturally important areas. Without a full analysis of the impacts of and alternatives to ERMA designations these designations should be removed from the DRECP.

Figure G-1. DRECP Overlap of Conservation Designations and proposed SRMA and ERMA Designations

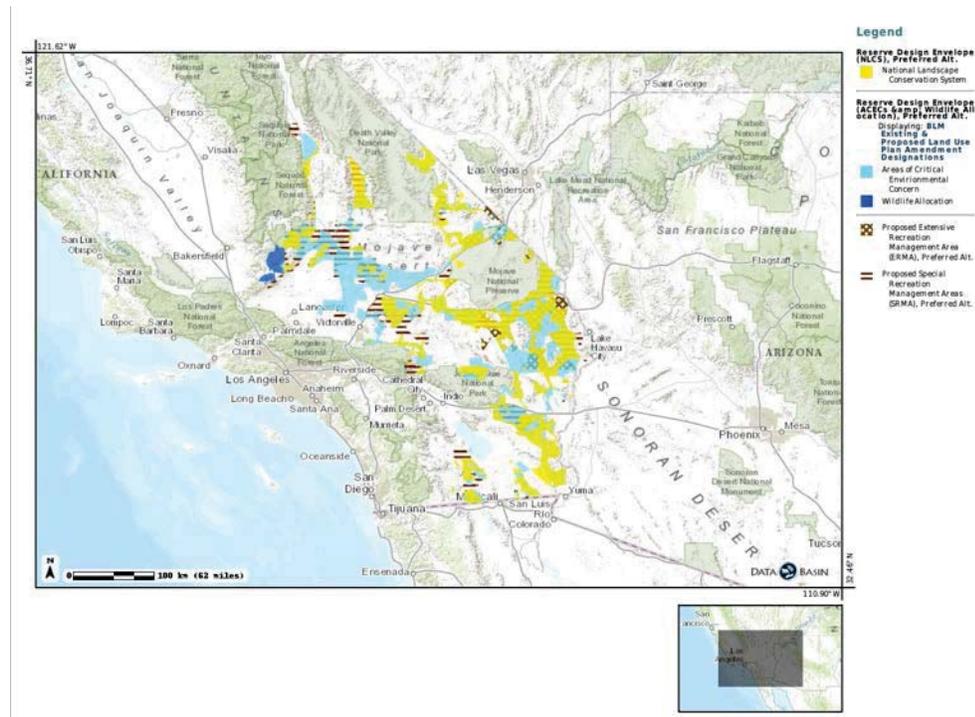


Figure G-2. Overlap of proposed SRMA and ERMA Designations and Desert Tortoise Conservation Areas and Linkages (map 1 of 2)

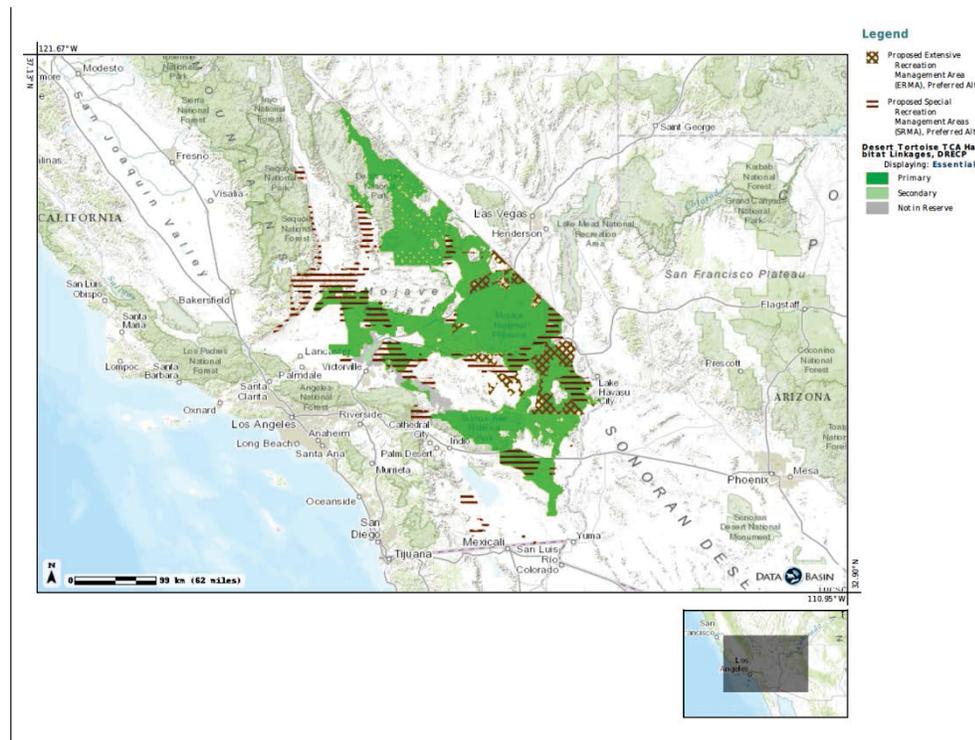


Figure G-3. Overlap of proposed SRMA and ERMA Designations and Desert Tortoise Conservation Areas and Linkages (map 2 of 2)

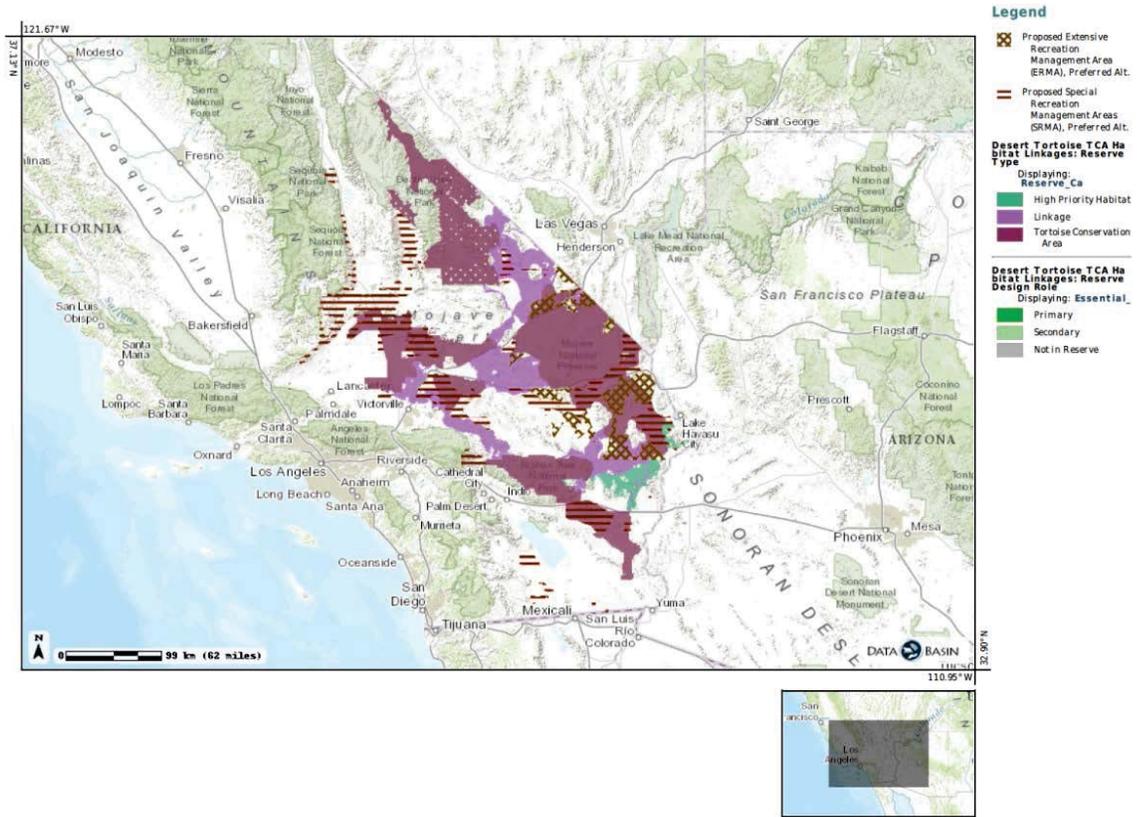
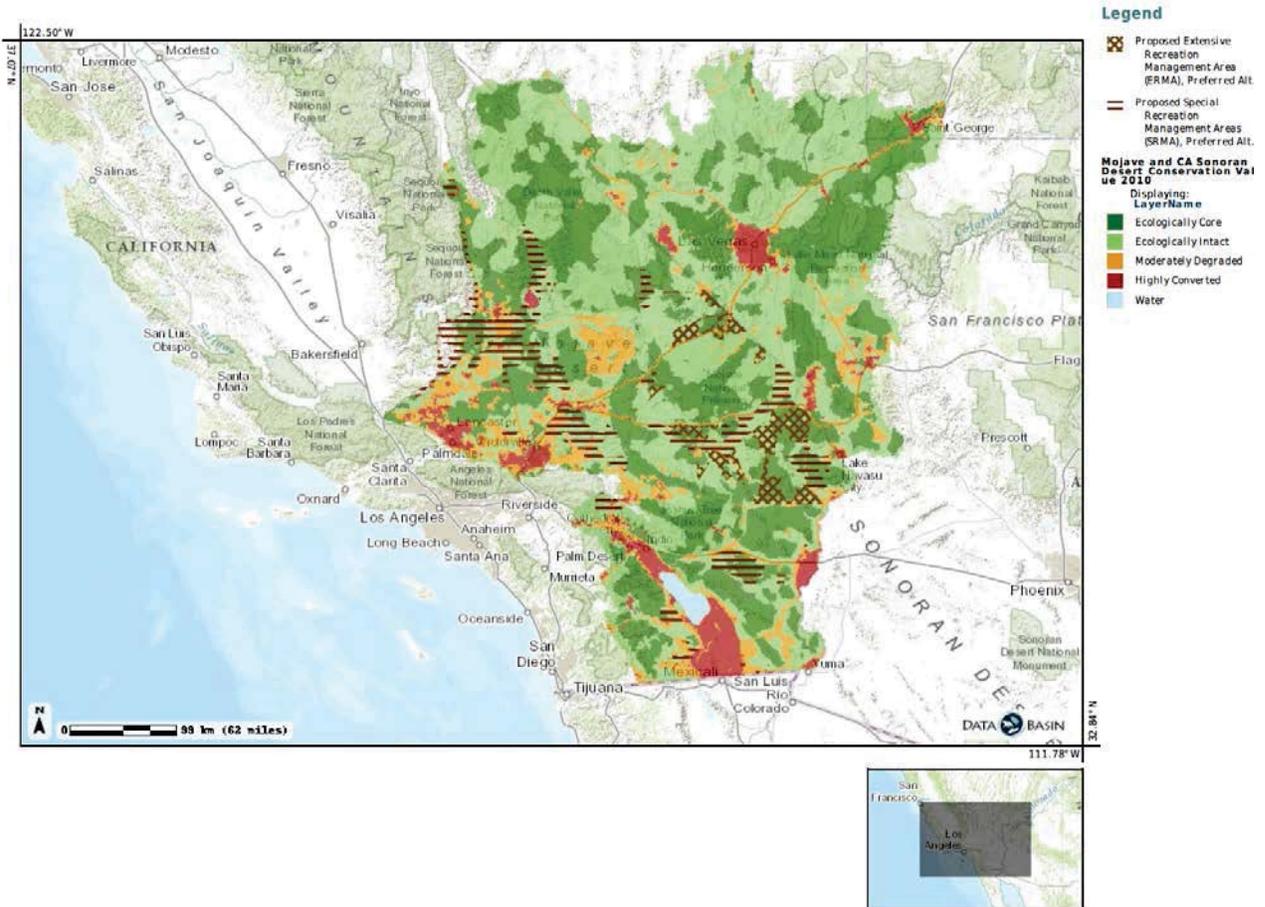


Figure G-4. Overlap of proposed SRMA and ERMA Designations and Conservation Values identified in the Conservancy's Mojave Desert Ecoregional Assessment (2010) and Framework for Effective Conservation Management of the Sonoran Desert in California (2009).

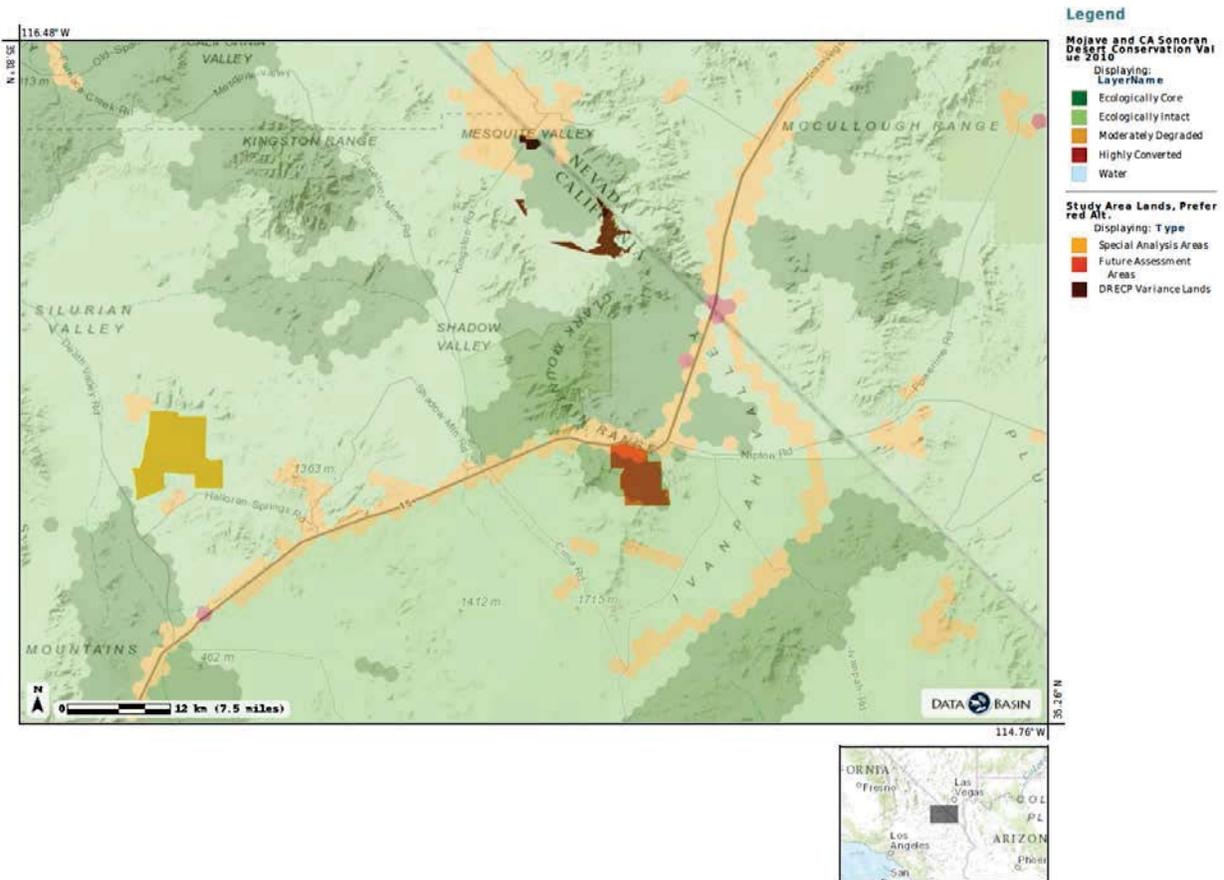


Appendix H. Silurian Valley and Surrounding Areas, and the importance of areas that harbor little-to-no invasive species

The Nature Conservancy's Mojave Desert Ecoregional Assessment evaluated habitat and other conservation values across the entire Mojave Desert, including the Silurian Valley. The study ranked each square mile-sized hexagon into one of four categories: Ecologically Core habitat, Ecologically Intact habitat, Moderately Degraded habitat, and Highly Converted areas. The Conservancy strongly advocates that renewable facilities siting be limited to lands in either the Degraded or Converted categories. By avoiding Ecologically Core and Ecologically Intact habitats, the Mojave Desert's biodiversity can be adequately protected, and project developers can minimize the project development risks (e.g., legal, financial, schedule) that are often associated with development in areas of high conservation value.

The Conservancy's assessment of the habitat values of Silurian Valley and surrounding areas is shown in Figure H-1 below.

Figure H-1. Map of conservation values and proposed Special Analysis Areas, Future Assessment Areas and DRECP Variance lands in the region around the Silurian Valley and Amargosa River Watershed



Development of the proposed Silurian Valley SAA, the FAA and the DRECP Variance lands would severely compromise connectivity between Death Valley National Park, the Mojave National Preserve (especially the Clark Mountains) and adjoining or nearby wilderness and wilderness study areas, and cause significant habitat fragmentation in this currently intact ecosystem.

Recommendation: the Silurian Valley SAA, the FAA and the DRECP Variance lands in this region should be removed from consideration for renewable energy development. The lead agencies should also evaluate whether these areas are appropriate for ACEC and NLCS designations. Specifically the Conservancy proposes that the Silurian Valley designated as an ACEC and as part of the NLCS.

Lack of Invasive Species.

In addition to its landscape value, another important ecological characteristic of the Silurian Valley SAA lands is that they feature low levels of invasive, non-native vegetation. Preserving areas that lack invasive vegetation is necessary for the long-term protection and viability of the species and habitats native to the Mojave and Sonoran Desert Ecoregions (parts of which comprise the vast majority of the DRECP study area). This is of critical importance because the native plants, animals and natural communities in these deserts are not adapted to wildfires, which are promoted and fueled across huge areas by invasive plant infestations. Prior to the invasion of these species following their introduction by humans in the recent past, fires (e.g., ignited by lightning strikes) would burn only small areas, without an effective means to spread because native species did not provide continuous cover over fuels. Invasive grasses, herbs and tamarisk changed that dynamic by providing carpets or thickets of vegetation that can carry and spread flames across vast landscapes.

The great majority of attempts to control invasive vegetation and to restore native vegetation in the Mojave ecoregion following fires have failed. Large-scale control of invasive grasses and herbs in particular, is technically infeasible in the Mojave and Sonoran Deserts given current technology. Once an area has burned, invasive vegetative species outcompete native vegetation, increasing the relative cover and biomass of invasive species and increasing the risk of future wildfires. After two burn events, the Mojave Desert vegetative communities generally cross a tipping point, and are converted to such a degree that recovery of native vegetation is virtually impossible. Given the technical difficulties with 1) control of invasive grasses and herbs, and 2) restoration of burned areas, two of the most important conservation measures that can be taken are to preserve and protect those areas harbor little or no invasive species biomass and to manage them so as to prevent disturbances that could promote invasions. These are the areas have the lowest risk of fire,

which is a serious threats to the long-term viability of Mojave and Sonoran Desert vegetation, natural communities, and the species that rely upon these habitats.

The integrity of soils is critical to the maintenance of biodiversity and native plant communities broadly in the Mojave Desert, and in the Silurian Valley in particular. Protecting intact soils and allowing them to retain their integrity and natural characteristics ensures the survival of resident native plant and animal species. In desert scrublands such as those found in the Silurian Valley, soil integrity relies on soils staying in place. Naturally-occurring soil biological crusts constitute a protective skin in many desert scrublands, binding particles of mineral soil together to create a thin, cohesive horizontal layer along the surface of the ground, thereby enhancing soil quality and integrity and holding soils together. These crusts are extremely fragile and slow to recover when disturbed by human activities. Following soil disturbances or the disruption of natural processes that maintain soils, desert ecosystems are then prone to invasion by non-native species, and the grass-fire cycle can become a persistent problem.

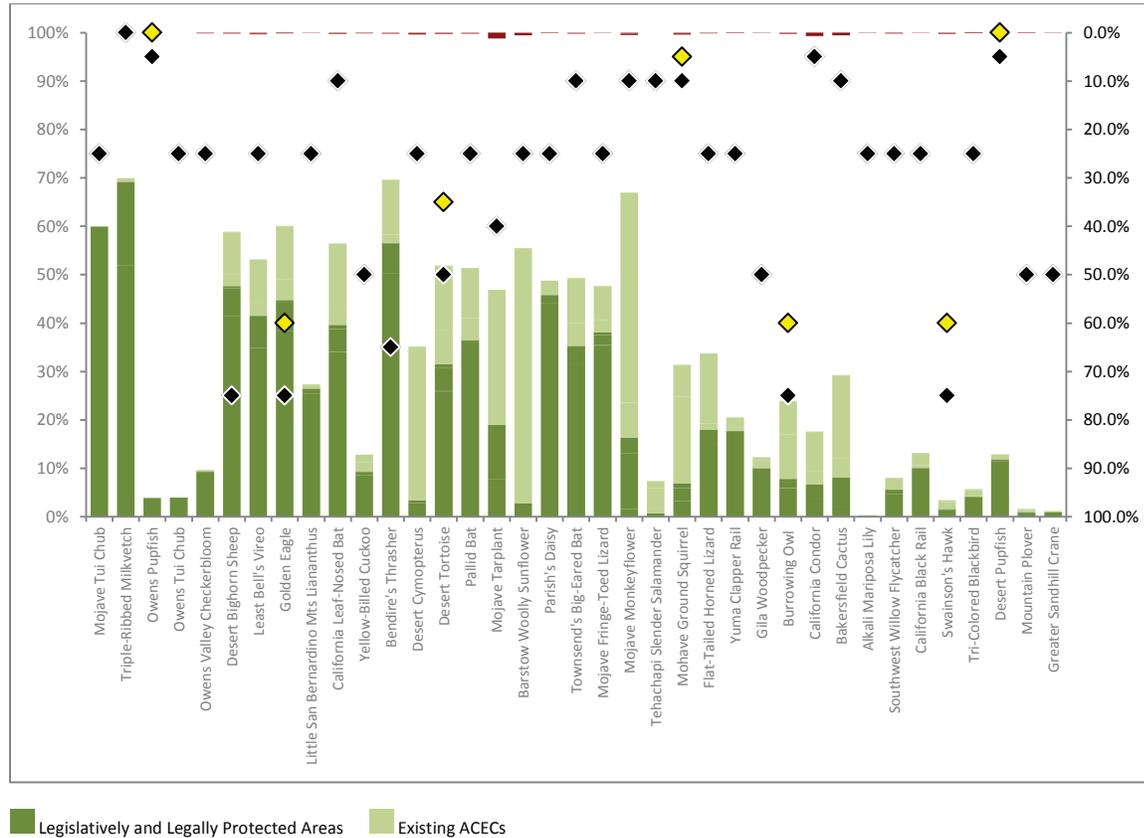
The Silurian Valley is found near the center of the intact crescent of Mojave Desert land identified in the Conservancy's Mojave Desert Ecoregional Assessment, and the valley constitutes a portion of an important linkage that was identified during a consensus-based workshop led by SC Wildlands.

Appendix I. Conservation to be gained by the DRECP

We analyzed the sufficiency of existing conservation lands plus proposed additions to the conservation network to achieve our recommended quantitative BGOs. It is important to note that this analysis only evaluates one component of meeting the conservation outcomes: placing land into a protected status, either through durable designations or through acquisition. The analysis does not evaluate the durability of those designations, the durability of management for protection of the covered species, or the durability of funding needed for such management. However, since the BGOs that we are proposing (see Appendix C) are expressed as a percentage of total habitat, which can be expressed geospatially and described in acres, it is possible to determine the degree to which the draft plan meets these acreage benchmarks. For this analysis, we simply evaluated the percentage of Covered Species habitat that would be protected by some type of conservation designation or by protection of lands that are currently in private ownership.

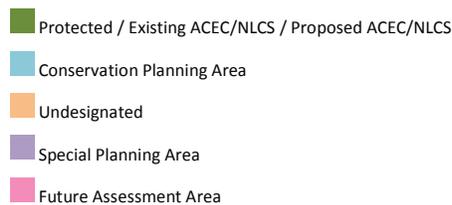
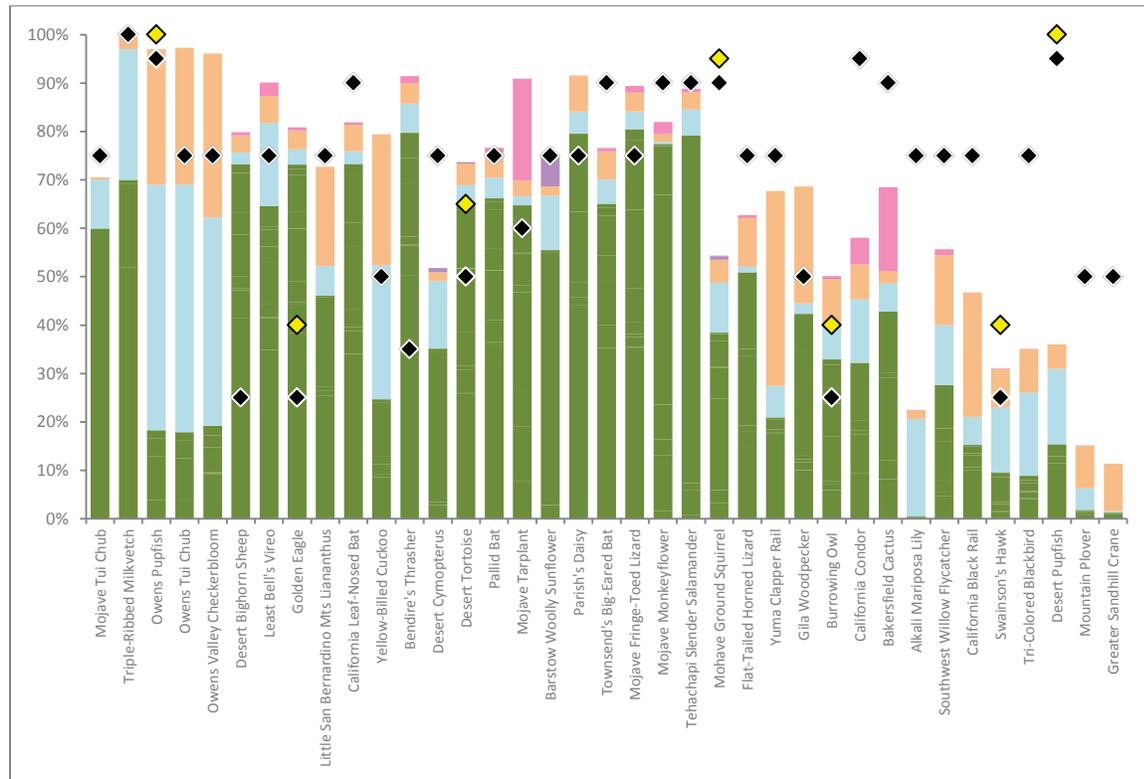
We determined that existing legally and legislatively protected areas (e.g., National Parks and Preserves, BLM Wilderness) are sufficient to meet the conservation objectives for just 3 of the 37 covered species (Desert bighorn sheep, Bendire's Thrasher and Golden Eagle; See Figure I-1). Existing ACECs are not sufficient to meet the habitat requirements for any of the other Covered Species at the recommended levels.

Figure I-1. Percentage of each Covered Species habitat area in legislatively and legally protected areas and in existing ACECs. Percentage of the area of each Covered Species habitat to be removed from existing ACECs under proposals in the draft DRECP is shown by the dark rust colored bars hanging from the top of each column.



When proposed additional ACEC lands are added, the proposed conservation objectives for four more covered species could be met (Desert tortoise, Mojave tarplant, Parish's daisy, and Mojave fringe-toed lizard; Figure I-2). Thus, existing protected lands and current ACECs, plus lands proposed for ACEC designation in the "Preferred Alternative" of the draft DRECP, would be sufficient to meet the land protection goals for a total of 7 of the 37 covered species.

Figure I-2. Percentage of each Covered Species habitat area in legislatively and legally protected areas, existing ACECs plus lands proposed for conservation, development and further analysis. See legend for details of each land use designation or proposed designation.



Adding the Conservation Planning Area (Figure I-2), and assuming successful protection of private lands, would allow for three more species to meet our recommended conservation goals (i.e., Least Bell's Vireo, Yellow-Billed Cuckoo, and Burrowing Owl).

If currently undesignated lands were put into a protected status, an additional four species could meet the recommended conservation goals (Triple-ribbed milkvetch, Owens Tui Chub, Owens Valley Checkerbloom, and Pallid bat).

Appendix J. Legal and policy analysis

The draft DRECP raises a number of important legal and policy questions that must be addressed before the DRECP can be made final. Several of these questions bear directly affect the operational feasibility and structure of the DRECP, including:

- How will the DRECP ensure protection of species when it covers only development impacts from renewable energy?
- How will the DRECP ensure adequate and lasting protection of conservation areas?
- How will the DRECP be funded?
- How will mitigation requirements be decided and implemented?
- How will the governance structure function?

Resolution of these questions will require changes in the draft and will most likely require the issuance of a supplemental document and opportunities for further public comment before the DRECP moves to final. The Conservancy's recommendations are briefly summarized in the body of the letter. This appendix expands the discussion of key issues raised in the letter and adds several additional concerns and recommendations.

I. Development Coverage—meeting plan-wide BGOs and legal standards

The draft covers only development impacts from renewable energy projects and excludes the effects of other kinds of development in the plan area. This structure presents challenges in meeting the standards of the Natural Community Conservation Planning Act (NCCP Act). Without including all development activities, the attainment of the plan-wide biological conservation goals and objectives (BGOs) is problematic. In lieu of committing to achieve plan-wide BGOs, the draft DRECP adopts the novel concept of “step down BGOs,” allocating only a portion of overall development impacts and species take to renewables development.

Separating the effects of renewables and other development renders an evaluation of whether the plan will meet plan wide or even partial goals very difficult, and perhaps impossible. This difficulty is well illustrated by “proportioning.” The draft DRECP proposes to address the gap between renewables effects and total development impacts by proportioning—dividing the anticipated total impacts based on county-by-county forecasts of renewables development versus future residential and commercial development (in Appendix N-2 of the draft DRECP). The DRECP recognizes that these forecasts are inherently uncertain, subject to wide variation based on demographics and the nature of housing demand, county rules, the location and amount of renewable generation and transmission, and other factors that are exceedingly difficult to predict over the term of the

DRECP. For some counties—San Bernardino, for example— the predicted range of the renewables share in total development is extremely wide: 37% to 70%. (Table N2-5 at page N2-10), leading the authors to select a mid-range percentage, without analyzing the effects of whether this or another numerical value would best meet biological requirements, or whether species take would be over- or under-allocated for renewables development as a result.

While it is equitable that renewables not bear a significantly disproportionate share of responsibility for meeting plan-wide conservation goals, by excluding non-renewables development, significant uncertainty remains about whether plan-wide or renewables-only conservation strategies will work. The draft DRECP does not address non-renewable energy development, may not cover the development of some renewables projects (unless counties choose to join the DRECP), and does not fully cover all of the development impacts of renewables projects, such as the effects of groundwater extraction. To meet habitat conservation planning standards, assurances should be included that the plan-wide biological goals and objectives will be realized if any take permits are to be issued for Covered Species.

If the DRECP cannot be revised to cover all development, otherwise assure that the plan-wide BGOs are met and satisfy NCCP standards, the agencies should explore other avenues to retain—and improve on-- the core conservation goals of the plan. Most significantly, under the proposed DRECP, the principal protections for covered species are the CMAs, the mitigation undertaken in the DRECP NCCP Reserve Design, and the designation and management of BLM Conservation Lands. As currently envisioned, the CMAs and mitigation apply to any developer proposing to engage in Covered Activities, but these additional protections are essential to ensure that any type of development within the California desert plan area will be compatible with conservation of the Covered Species and of other special status species, as well as the full suite of the desert's natural communities. CMAs and DRECP mitigation requirement should be applied, to the extent feasible, to all development in the DRECP plan area to equalize the burden of mitigation obligations and ensure that conservation goals can be reached.

Recommendation: Whether pursuant to an NCCP or an alternative framework or structure, the agencies should explicitly agree to impose on non-Covered Activities at least the same level of CMAs, mitigation and other protections as are now proposed for Covered Activities. There may well be other possibilities for improving and retaining the conservation benefits of the DRECP in the event that an NCCP component cannot be part of a joint state-federal planning effort. We encourage the agencies to engage in an open discussion about these possibilities.

II. Take Limits

In order to ensure that the achievement of plan-wide BGOs is not precluded, the agencies should be explicit about the plan-wide take limits versus the take limits for Covered Activities alone. This should be done in a manner similar to the way that the draft DRECP articulates take limits for Golden Eagles, for which take limits would be applied to all development activities and not just Covered Activities. Plan-wide take limits would govern a much broader set of activities than just the Covered Activities for renewable energy and transmission. As we noted previously, the proportionality allocation of conservation responsibilities and takes based on assumptions from Appendix N2 are quite speculative. Assuring that all development, at a minimum, would meet the requirements and protections of the DRECP would allow agencies to best assure that plan-wide conservation goals and objectives are attained, and prevent the under- or over-allocation of take to renewables and transmission development, especially in situations where non-renewables development is expected to be a major or widely variable factor in the future.

The Conservancy recommends that the DRECP establish plan-wide take limits for all development within the DRECP Plan Area, not just for Covered Activities and renewables.

III. Biological Opinion

The draft DRECP agrees that it will require a biological opinion (BO) prepared by the US Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act will be required to ensure that no listed species will be jeopardized by federal agency action. A BO has not been issued, even in draft form.

The Conservancy recommends that the USFWS release the draft BO for public comment, prior to release of the DRECP and EIR/EIS in final form. This will allow the public a comprehensive understanding of how the DRECP will function to protect Covered Species and natural communities.

IV. Durability

i. Time Limitations

The draft DRECP's provisions, including the major share of its conservation protections on public land, end in 2040, just 25 years from now. The effects of development, including likely project or permit renewals, will undoubtedly continue well beyond that period since the initial permit period for each project will presumably be 30 years. Furthermore, new projects will likely be permitted through 2040, and these projects will themselves have an initial permit period of 30 years or more (i.e., permit periods lasting through 2070 or later). The DRECP should contain provisions that will assure that the effects of all projects permitted under the Plan, including any renewal periods, will be offset by continuing conservation requirements. In light of the lengthy period of impacts from currently forecast and likely future renewables projects, we also believe that the DRECP should provide for

perpetual—not limited—protection for species and natural communities, particularly mitigation through acquisition of private land. At the very least, conservation protections on public lands must hold throughout the duration of development impacts, plus any period needed to achieve fully functional mitigation, and the draft needs to be amended to provide for at least that length of protection¹.

The Conservancy recommends that for all conservation investments that result from this DRECP:

- For BLM lands, the conservation should last at least as long as the duration of the impacts from the Covered Activity plus any period needed to achieve fully functional mitigation.
- For private lands, the conservation should last in perpetuity.

ii. Durability of Conservation

Durable conservation is the promise and heart of the DRECP². Lasting protection of species, habitats and natural communities is needed to satisfy both state and federal laws, including the NCCP Act and federal and state Endangered Species Acts, constitutes a fundamental prerequisite for providing take permission for development, and is needed to support any viable conservation plan. Consequently, the DRECP must assure legal and practical durability for all conservation designations and mitigation actions.

As written, the draft DRECP does not guarantee that important protections for species and natural communities will persist³. For instance, BLM’s conservation designations (Land Use Plan Amendments—or LUPAs) for federal land (including Areas of Critical Environmental Concern (ACECs) and National Conservation Lands (NLCS)) are mutable through future plan amendment. Although we recognize that BLM would presumably rarely—and with considerable difficulty—make plan amendments removing conservation protections, that possibility exists and must be offset by a commitment in the final DRECP to ensure that the proposed DRECP’s conservation goals and objectives will be met over an extended period. Specifically, BLM and the state must commit to precluding any changes to land use designations (and mitigation actions) incompatible with the conservation values and purposes embodied in the DRECP unless clearly equivalent protections for conservation lands or other assets are simultaneously substituted for any eliminated protections. A

¹ We believe that conservation protections should be perpetual—and this is especially true for lands acquired or segregated for mitigation purposes.

² The fundamental interagency purpose of the DRECP is to provide a streamlined permitting process for utility-scale renewable energy generation and transmission while simultaneously providing for the long-term conservation and management of Covered Species and natural communities “with durable and reliable regulatory assurances.” See p. I.1-1. See, also, p. I.1-2, BLM’s purpose includes “ensuring the durability of mitigation measures over time.”

³ We discuss below the potential positive effects of the adoption of an improved version of the draft federal-state durability memorandum of agreement.

commitment to substitute conservation resources requires reliance on both a fair resolution process and quantifiable BGOs, expressed geospatially, that provide a means to assess whether changes in land use designations and mitigation actions threaten the conservation values of the DRECP.

The Conservancy recommends: that the BLM and the State commit in the DRECP to preclude any changes to land use designations and mitigation actions incompatible with the conservation values and purposes embodied in the DRECP, unless clearly equivalent protections for conservation lands or other assets are simultaneously substituted for any eliminated protections.

iii. ***The Memorandum of Agreement (MOA), Durability and Enforcement of Commitments***

The Nature Conservancy agrees in large part with the concerns raised by a number of our environmental colleagues in their letter regarding “DRECP NEPA/CEQA; Comments on Draft Agreement by and between the Bureau of Land Management and the California Department of Fish and Wildlife,” dated February 12, 2015.

The draft federal-state Memorandum of Agreement (MOA) is a vehicle that in our view might be amended to accomplish enduring conservation. The draft MOA proposes several durability enhancements for mitigation performed on public land⁴, but would not require adoption of any of them. We believe that the DRECP should require durability mechanisms, directly in the DRECP itself, and by execution and inclusion of an improved MOA, that would provide a clear, joint federal/ state commitment to honor and enforce long term conservation protections. BLM and the state agencies should thus execute an amended MOA and integrate it into the DRECP and provide MOA coordination provisions in the plan itself.

As currently constituted, the durability in the current draft MOA is inadequate to ensure that BLM Conservation Lands will retain long-term protection because BLM reserves total discretion to choose to use or reject the use of one of three proposed durability “tools” described in Section D.2.c.i of the draft MOA. : (1) Federal Land Policy and Management Act (FLPMA) Title V Rights-of-Way; (2) permits, leases or easements granted pursuant to 43 U.S.C. §2920 (Title III of FLPMA); and (3) leases granted pursuant to the Recreation and Public Purposes Act (RPPA). The draft MOA also notes that BLM could use withdrawal authority as a supplemental or alternative protective device. Unfortunately, the draft MOA does not describe BLM’s selection criteria for use of these tools, or the length or nature of the protection the BLM would afford by applying each of these tools.

⁴ As noted above, mitigation achieved through acquisition of interests in private land is customarily, and always should be, perpetual.

Because the dedication of land to renewable facilities will be an enduring dedication of desert habitat to an industrial use, the length of the conservation and mitigation designations on public land should be of at least the duration necessary to offset development impacts and contribute meaningfully to a long-term landscape-scale conservation structure and function.

Given the existing policy, regulatory and statutory limitations on permanent designations, our preferred option is for BLM to use existing FLPMA authority to designate conservation rights of ways (ROWs) to ensure conservation, with terms that encompass the life of the renewable energy facility—with automatic renewals where renewables project permits are extended-- plus an additional period of time required to successfully accomplish any on- or off-site mitigation requirements. The ROWs must also exclude incompatible uses. While not permanent, these conservation ROWs, if properly structured, would provide long-term conservation protection.

There is clear precedent for the creation of long term, exclusionary rights of way in public lands. BLM has created enduring rights to exclusively occupy public lands under the authority of FLPMA for such uses as oil and gas and mineral extraction, pipelines, infrastructure construction, renewable energy development, and many other purposes. As the MOA proposes, BLM has the authority under FLPMA to create similar rights for conservation purposes. These conservation ROWs necessarily would exclude incompatible uses, and would last for the length of time needed to offset the effects of renewable energy development, well beyond the proposed life of the project and even the DRECP itself.

The Conservancy recommends that the MOU (and the DRECP) needs to be revised to reflect a commitment by the lead agencies to put in place effective, durable conservation protections, using science-based decision-making. As such, BLM and DFW should amend the draft and the MOU as follows:

1. BLM should narrow the durability tool options for BLM conservation and mitigation lands to the creation of third party rights or other durable vehicles that exclude incompatible uses and protect conservation to offset all development impacts, not limited to the lifetime of the DRECP itself. While we prefer the use of Conservation Rights-of-Way, one or the other of these tools should be applied to each conservation designation and mitigation action involving land.
2. In the event that the ecological function of designated Conservation Lands decreases or BLM exercises its authority to change conservation land use designations or mitigation provisions, there should be explicit agreement from BLM in the MOU that BLM will substitute durable reservations on equivalent conservation assets

dedicated to the DRECP.

3. BLM and DFW should commit in the MOU and DRECP to provide for federal and state enforcement of all conservation protections, and create the means to monitor, promptly report, and make publicly available, full information about all land use and mitigation transactions.
4. The MOU should adopt a practical and efficient system to resolve disputes between parties that promptly refers disputes to officials that have final decisional authority. Where scientific or biological matters are in dispute, an expert panel should be created to arbitrate and finally decide disputes.

iv. ACECs, NLCS and Disturbance Caps

Each ACEC and NLCS designation has a disturbance cap, which is to account for all historic and future disturbances, caused by both natural and anthropogenic events. How the disturbance levels will be calculated and monitored, what disturbances will be included⁵, and how future development and other activity that affects each area will be regulated is not explained. The disturbance cap rules are exceedingly important to the operation of the DRECP and deserve full explanation.

In addition, retaining ACEC nomenclature is critical. When developing a land use plan, FLPMA mandates that BLM “*give priority* to the designation and protection of areas of critical environmental concern.” 43 U.S.C. § 1712(c)(3) (emphasis added). ACECs are areas “where special management is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes.” *Id.* § 1702(a).

The draft DRECP states that if there is overlap of National Conservation Lands and ACECs, “it is the BLM’s expectation that it will identify these areas solely as National Conservation Lands. In general, the National Conservation Lands will be managed as larger ecoregional units to protect landscape-wide values, while the ACECs are targeted towards area specific values. However, the site-specific protections of the individual ACEC units complement the broader landscape protections and would be carried forward for particular areas or zones within the broader National Conservation Lands to ensure that the individual values are protected.” Draft DRECP at II.3.2.2.1.1.3.

⁵ The draft states that natural, as well as anthropogenic, disturbances will be included in calculation of the cap. How—and when—natural disturbance phenomena will be calculated, and the remedy when disturbance caps are exceeded, is unstated. For example, the effects of climate change will have significant future effects on desert habitats, creating natural disturbances and requiring additional or different conservation area protections.

A critical aspect of the statutory language cited above is FLPMA's requirement that BLM "give priority" to ACEC designation *and* protection. 43 U.S.C. § 1712(c)(3). This cannot be overlooked when thinking about ACECs in the context of the draft DRECP. Even though BLM is proposing to manage National Conservation Lands at the landscape-level, it still must prioritize designation and protection of ACECs within National Conservation Lands. This means National Conservation Lands cannot subsume ACECs, but are another layer of overlapping management.

The Conservancy recommends:

- All existing ACECs should be retained, and ACECs within NLCS lands should also remain as ACECs, since retaining the ACEC name and purpose provides public benefit, educational value and priority protection.
- A clear definition of what will be included in all disturbance caps and how caps will be enforced, including the method for establishing current conditions and tracking changes of disturbance, must be explained
- The disturbance cap should apply to each ACEC and subregion separately, rather than the entire planning area. A disturbance cap that allows for that disturbance to be concentrated in one area could have tremendous impacts to both localized species as well as migratory ones.

V. Mitigation

The mitigation provisions of the draft DRECP must be configured to contribute to the achievement of the BGOs and to follow the Department's mitigation hierarchy to first avoid, then minimize adverse impacts, and then to compensate for any remaining harmful impacts⁶. The draft DRECP's discussion of avoidance, minimization, and compensatory mitigation are scattered throughout the draft and should be systematically explained in one location in order to demonstrate consistency with the Department of Interior's mitigation hierarchy. BLM's CMAs provide guidance on how the DRECP would implement certain types of mitigation, but the draft largely relegates compensatory mitigation decisions--and many other mitigation decisions--to case-by-case determinations in the context of individual facility permitting. The mitigation framework in the CMAs uses fairly broad and flexible terms to guide specific mitigation decisions. In particular, the formulas and frameworks for how compensatory mitigation fees would be calculated and assessed, and how expenditures would be prioritized, are missing. Given the past history of compensatory mitigation determinations for permitted renewables facilities⁷, it is important to spell out specific criteria and formulas to be used in making these decisions,

⁶ Recent Department of Interior Secretarial Order 3330 mandates the use of the hierarchy to establish landscape scale conservation plans.

⁷ Compensatory mitigation for the Bright Source Ivanpah solar project, for example, was decided very little or no public participation very late in the permitting process, and was inappropriate—lands were selected in the western Mojave far in a different Desert tortoise recovery unit than the area impacted by the facility.

include public participation, and narrow agency discretion to vary from these criteria and formulas.

Although mitigation fees are a critical component in the funding of the DRECP, the proposal does not actually set a specific mitigation fee for Covered Activities but leaves the amount of any mitigation fee to a case-by-case determination. As noted above, while we appreciate that there is a great deal of fluctuation in real estate prices, which makes it difficult to set a single fee at the present. While the agencies may feel constrained to provide only a generic analysis at this stage, the generic analysis included in the proposal does not provide sufficient bounds on the case-by-case determination. In other words, even if the generic analysis supported the adequacy of funding for the DRECP, nothing in the proposal requires the case-by-case determination to follow the same methodology as the generic analysis. The proposal identifies a list of cost components which may figure into case-by-case determinations “as applicable” (Draft DRECP, pp. II.3-292 through 293), but the proposal does not state which cost components are actually “applicable” to either acquisition or non-acquisition compensatory mitigation, nor which of these cost components (e.g., monitoring and adaptive management, administrative costs) are indirect costs and how they should be allocated.

In order to provide greater assurance that case-by-case mitigation funds will be adequate and to provide developers greater certainty in the expected amount of their mitigation obligation, the proposal needs to provide formulae which will be used to determine case-by-case fees for both acquisition and non-acquisition mitigation, to identify each of the cost categories which must be included, to explain which categories of costs are indirect costs and how they will be allocated, and to identify the sources of information for determining the actual costs in each cost category.

Finally, whether the mitigation fee is based on acquisition or non-acquisition, one required cost component should be the full funding of an endowment for long-term management. While the list of potential costs components mentions a long term endowment (Draft DRECP, pp. II.3-292, II.3-297 through 298), nowhere does the proposal require that each mitigation fee must fully fund such an endowment or establish either the costs which must be funded by the endowment (e.g., management of mitigation, replacement of equipment, contingency) or the parameters which must be utilized to determine the size of the endowment (e.g., discount rate). Since the adequate funding of long-term management is essential to achieving durable mitigation, it is critical that the agencies require the funding of an endowment for long-term management and specify the key costs and parameters, which will ensure its adequacy.

The proposed mitigation ratios are also a subject of deep concern. The basis for establishing presumptive 1:1 and 2:1 mitigation ratios are lacking. The Conservancy

believes those ratios are too low given well-justified past requirements (which ranged to 5:1 and higher) implemented under the CDCA.

The Draft's methodology to calculate in-lieu fees is confusing. We believe that the use of in-lieu fees can constitute a significant incentive for developers to locate in DFAs, but the fees have to be adequate and fairly set. We agree that the correct method to set these fees is to equilibrate in-lieu fees with the cost of acquiring and permanently stewarding private land acreage with appropriate conservation characteristics in the vicinity of the project. Given the paucity of private lands in many DRECP Plan areas and the great variation and occasionally rapid fluctuations in desert land values, this is an inherently difficult task. However, given the need for certainty in DRECP financial resources and in the obligations of project developers, the DRECP must contain more definition on in lieu fee determinations, including a formula which agencies would follow to determine the fee, establish the minimum requirements for various cost inputs to assure adequate financial resources (e.g., requiring an endowment for long term management), and describe the data sources to be utilized for the various cost inputs.

Because of their importance to meeting concrete conservation objectives, the public must be given the opportunity to comment and challenge all mitigation decisions, including compensatory and in lieu fee mitigation determinations for individual projects. In the past mitigation decisions have often been made after projects are approved and permit details are in virtually final form.

The Conservancy Recommends:

- The basis for mitigation decisions must be clearly spelled out in the DRECP, providing specific formulas and rules for case by case determinations
- Mitigation ratios must be based on species needs and habitat values, ratios exceeding 2:1 must be included
- In lieu fees must be based on specific valuation principles that include equivalence with acquisition mitigation with full endowment for long-term stewardship costs.
- The DRECP should provide for public participation prior to all case-by-case mitigation decisions and include and 3rd parties, including NGOs, in carrying out mitigation actions.

VI. Funding

The Conservancy is concerned about whether there is adequate assurance of funding for the entirety of the DRECP, including the NCCP Plan⁸ or the portion of the NCCP Plan paid for by Covered Activities (i.e., DRECP NCCP Reserve Design). In Section II.3.1.8, the proposal discusses generally how much money might be raised in mitigation fees and then describes other potential sources of federal and State funding, but the proposal fails to address a number of key issues, leading to substantial uncertainty about the financial viability of the overall DRECP, whether or not the NCCP Plan and the DRECP NCCP Reserve Design are included in the final DRECP.

First, the proposal does not provide an estimate of the total cost of the DRECP or the proportion of that cost attributable to renewables development; instead, the proposal merely estimates how much might be raised by mitigation fees and then describes some potential sources of federal and State funding (Draft DRECP, pp. II.3-288 through 289, II.3-293 through 298). Without an analysis of how much total funding is needed, it is impossible to determine whether the mitigation fees and other potential sources of funding are adequate.

Second, even though it is apparent that mitigation fees are not sufficient to fund the DRECP and that other sources of funding are necessary, the proposal merely describes “potential sources” of federal and State funding, without providing an estimate of approximately how much can be expected from each source (Draft DRECP, pp. II.3-293 through 298). While we understand that the agencies cannot commit to the expenditure of appropriations in future fiscal years, the agencies should be able to make estimates, or ranges of estimates, of the amounts expected from each source so that there is a full explanation of the funding against which adequacy can be assessed. In other words, the proposal needs to present a comprehensive financing plan, not simply an overview of potential sources of funding.

Analysis of long term management needs and requisite funding is lacking regarding BLM’s ability to implement Plan measures on the millions of acres of BLM Conservation Lands, which are relied upon for persistence of covered species and communities. BLM has historically been underfunded and cannot meet its current obligations under the California Desert Conservation Area plan, so this is a major concern.

In determining costs of implementation, the draft Plan provides anecdotal and incomplete information, instead of data garnered from appraisers for costs of land, and expert

⁸ In order to meet the requirements of the NCCP Act, the Natural Community Conservation Plan requires not only the conservation of the areas within the DRECP Reserve Design but also conservation in the areas designated as NCCP Conceptual Plan-Wide Reserve Design and BLM Conservation Lands. Executive Summary, p. 36. As used in this section, “NCCP Plan” includes all conservation actions in areas identified as DRECP NCCP Reserve Design, NCCP Conceptual Plan-Wide Reserve Design, and BLM Conservation Lands.

biologists and land managers for estimated costs of stewardship, effectiveness and compliance monitoring.

For purposes of calculating the range of appropriate mitigation fees for covered activities to implement the Plan over its 25-year term, the draft repeatedly refers to “the analysis team.” The qualifications and composition of this body are not provided, and the analysis chooses between various costing methods without providing adequate rationale. Determination of an appropriate fee range and structure is a very specialized area of finance, and for a plan of this complexity and duration it is essential to engage an independent recognized mitigation fee expertise.

From a biological standpoint, the draft acknowledges that there is scant biological data available on the 22 million acres of habitat in the plan area, and that therefore the plan must rely on monitoring and adaptive management to be effective. Yet the effectiveness monitoring is inadequate, both in scope and frequency. Further, there is no funding allocated specifically to adaptive management. Appendix I in the draft DRECP simply states that 20% - 50% is the normal range of cost contingency for planning, and that DRECP *may* use 20%. This 20% would have to cover all contingencies, such as unanticipated escalation in land costs, legal and liability issues, and so forth, in addition to adaptive management. The failure to plan for adequate effectiveness monitoring/ funding and to provide specific assured funding for adaptive management is troubling.

The Conservancy Recommends:

- Funding sources and amounts—or formulae for determining funding-- must be clearly spelled out in a comprehensive financing plan prepared by an independent expert
- Critical monitoring and adaptive management obligations should be reconsidered and properly funded to ensure their implementation over time

VII. Effects on Species not included as Covered Species

The draft DRECP and EIR/EIS has chosen its Covered Species subset from a broader array of sensitive and listed species that inhabit the DRECP Plan area and that are subject to the effects of renewable energy development. As a result, the draft DRECP and EIR/EIS fails to cover all listed species and sensitive species⁹ that may be impacted by development of Covered Activities and other development within the plan area, including the Development Focus Areas. Because effects on non-covered listed and sensitive species will require supplemental review and permitting to justify issuance of incidental take of these species,

⁹ For example: Development within the Amargosa Watershed that uses groundwater may impact Amargosa Vole and Amargosa Pupfish.

development within DFAs where Covered Activities will impact listed, but not Covered Species, will likely require additional permitting (i.e, take authorization).

The Conservancy recommends:

- Identify in the draft DRECP and EIR/EIS the DFAs where impacts to listed species that are not DRECP Covered Species may occur.
- Clarify and indicate which DFAs contain permitting uncertainty due to these listed species that are not DRECP Covered Species.

Appendix K. Groundwater and groundwater-dependent resources

Groundwater is a particularly scarce and ecologically important resource in the California deserts. The draft DRECP expresses support for protecting groundwater dependent resources and maintaining springs and wetlands and other surface expressions of water, but lacks specific, mandatory requirements to protect these critically important resources, especially over the long term. This must be corrected before the DRECP is finalized. In previously submitted comments to the DRECP,¹⁰ the Conservancy provided detailed analyses of the shortcomings in the draft DRECP's approach to protection of groundwater and groundwater-dependent resources and made specific recommendations for how to improve them. Below are the critical recommendations presented in those letters.

The Conservancy recommends where any groundwater dependent resources might be affected by project pumping, even if the impacts would only be noticed over a very long time period, the following requirements should be imposed:

1. Exclude development in areas where sensitive groundwater dependent resources exist, especially where groundwater withdrawals might affect listed or special status species, Wild and Scenic River or other protected areas¹¹.
2. Minimize water use, including restrictions on generation technology (e.g., no wet cooling, and a preference for PV in most basins).
3. Thoroughly inventory water dependent biological resources, surface expressions of water, and groundwater aquifers, and understand their linkages. In many basins, while complete information is not available and may be somewhat difficult and expensive to obtain, it is necessary, possible and reasonable in light of overall project costs to achieve at least a basic understanding of resources and hydrology that can be used to construct a numerical model; this understanding must precede permit processing in any basin.
4. Require a well-designed groundwater monitoring plan, based on a numerical groundwater model that will be used to anticipate adverse effects on biological resources. Ordinarily, to develop a numerical groundwater model and monitoring

¹⁰ We submitted two prior letters to the DRECP on proposed groundwater provisions and include those recommendations again by reference here: The Nature Conservancy, Protection of Groundwater and Groundwater Dependent Communities in the Development of the Desert Renewable Energy Conservation Plan. March 21, 2014; and The Nature Conservancy, Recommendations related to Modeling for the Protection of Groundwater and Groundwater Dependent Communities in the Development of the Desert Renewable Energy Conservation Plan. July 15, 2014.

¹¹ The Amargosa watershed is an excellent example of an avoidance area. Groundwater pumping from stressed aquifers that supply the Wild and Scenic River, support listed species such as the Amargosa vole and Devils Hole pupfish, and provide water to a unique spring-fed riparian corridor should not be increased as a result of DRECP provisions.

plan, a series of monitoring wells is drilled and instrumented to predict and avert effects on resources based on water level declines.

5. Set triggers for water levels in monitoring wells that will require remedial action based on predictive modeling and monitoring parameters, up to cessation of pumping, if levels drop below the trigger.
6. Require, especially in any basin where groundwater levels are dropping or water rights are overallocated, compensatory mitigation for water use by acquiring and retiring other active groundwater uses in amounts equivalent to—or, where overallocation is significant, in multiples of the proposed project pumping.

Groundwater considerations and proposed lands open to development in the Northern and Eastern Mojave.

In every alternative, the DRECP draft proposes to open, or reserve for future renewables development decisions, substantial parcels of both public and private land in the eastern Mojave. In most of the alternatives, including the Preferred Alternative, lands with high conservation value in the Amargosa watershed would be designated as a DFA, variance area, Special Analysis Area or Future Assessment Area. Similarly, other ecologically important areas in the eastern Mojave, some adjacent to national parks, and which maintain connectivity and intactness, provide key habitat values or protect groundwater dependent resources would be opened to development, or reserved for future renewables decisions as variance or study areas. With rare exception, the Conservancy's Mojave Desert Ecoregional Analysis¹² has found most of the acreage within each of these areas to be either ecologically core or ecologically intact, and thus not appropriate for development. Figures K-1, K-2, K-3, K-4, K-5 and K-6 show the overlap of lands open for development with the conservation values from our Ecoregional Analysis. These conservation values are described in detail in Appendix H.

¹² Randall, J. M., S.S. Parker, J. Moore, B. Cohen, L. Crane, B. Christian, D. Cameron, J. MacKenzie, K. Klausmeyer and S. Morrison. 2010. Mojave Desert Ecoregional Assessment. Unpublished Report. The Nature Conservancy, San Francisco, California. 106 pp + appendices. Available at: http://scienceforconservation.org/downloads/mojave_desert_ecoregional_assessment

Figure K-1. Overlap of proposed development areas and Conservation Values identified in the Conservancy's Mojave Desert Ecoregional Assessment (2010). Alternative 1.

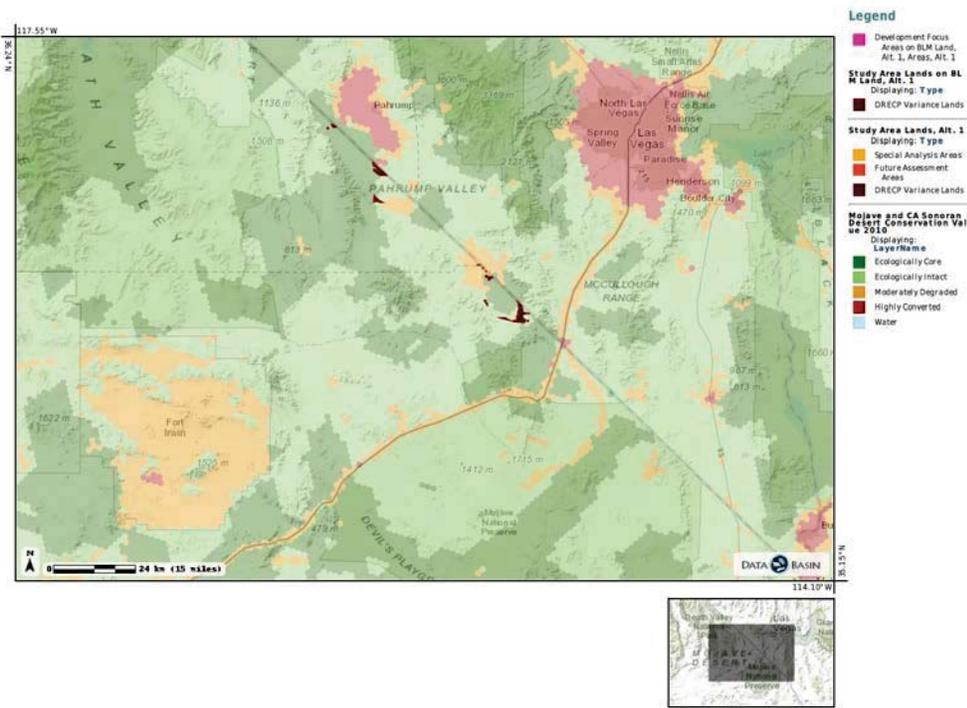


Figure K-2. Overlap of proposed development areas and Conservation Values identified in the Conservancy's Mojave Desert Ecoregional Assessment (2010). Alternative 2.

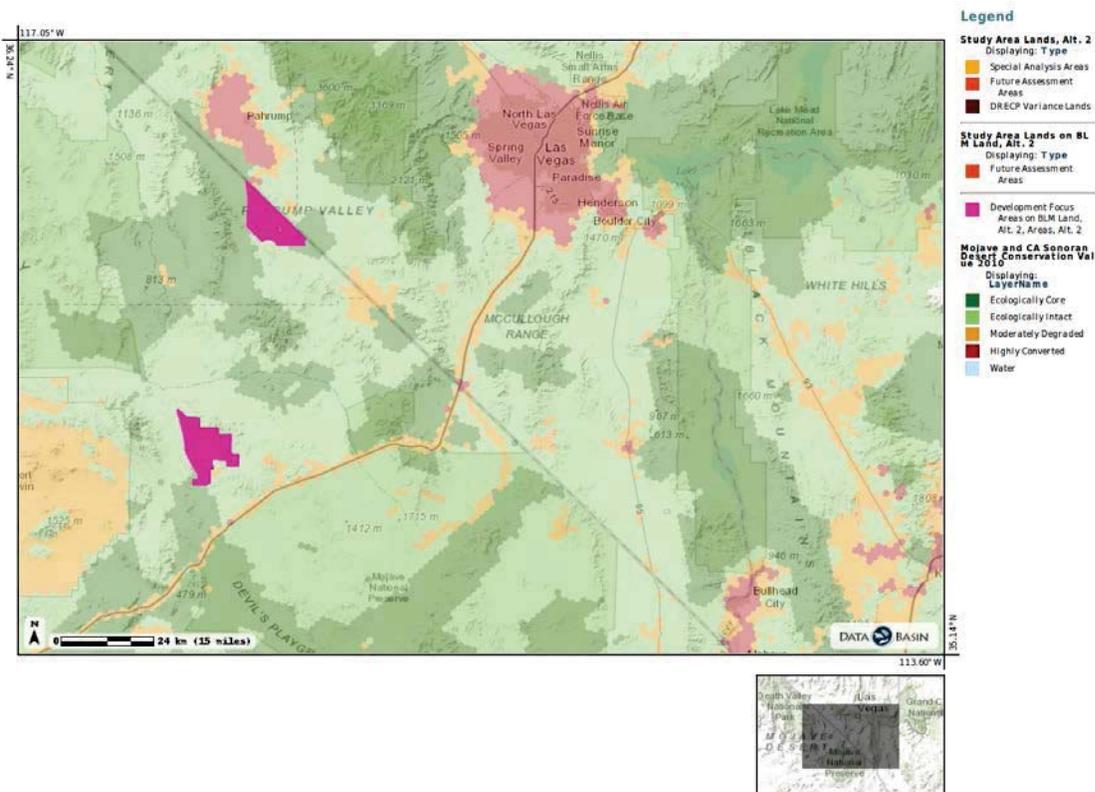


Figure K-3. Overlap of proposed development areas and Conservation Values identified in the Conservancy's Mojave Desert Ecoregional Assessment (2010). Alternative 4, part 1.

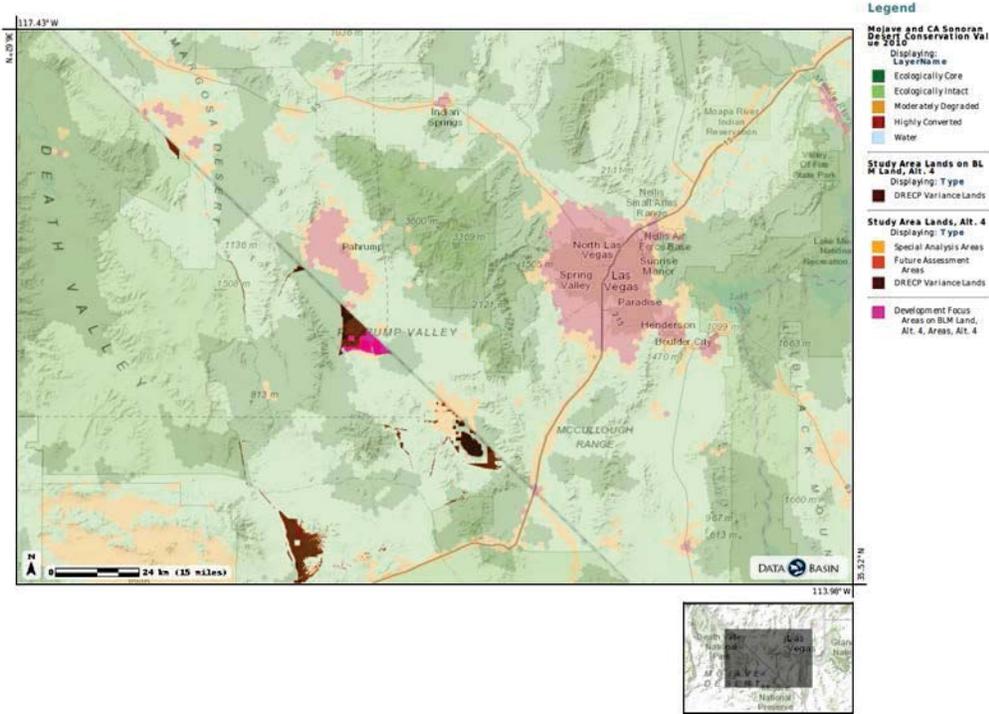


Figure K-4. Overlap of proposed development areas and Conservation Values identified in the Conservancy's Mojave Desert Ecoregional Assessment (2010). Alternative 4, part 2.

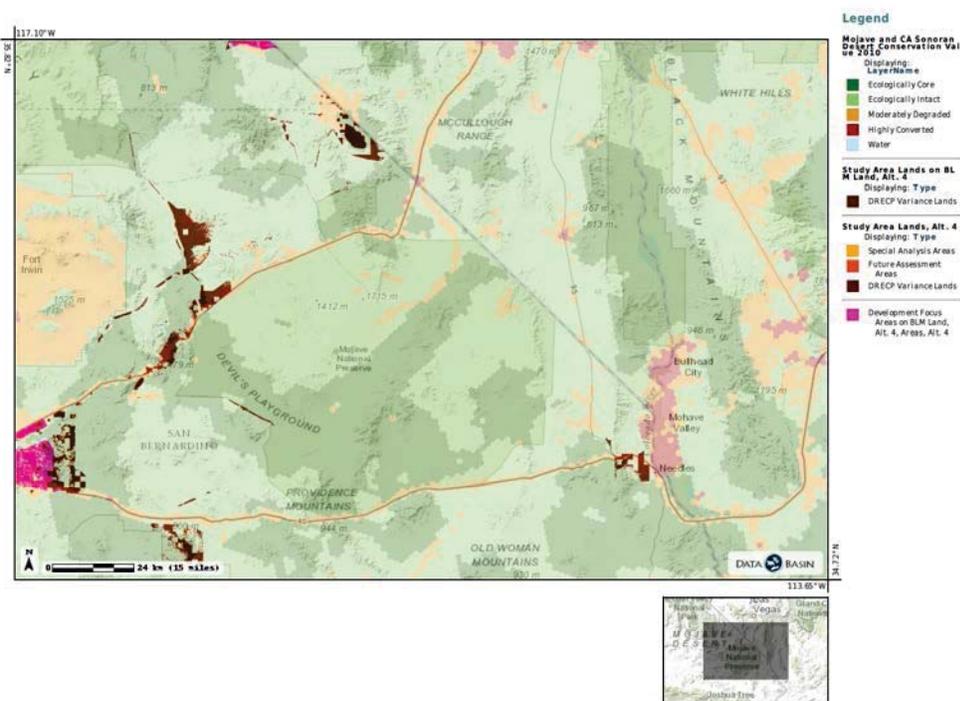
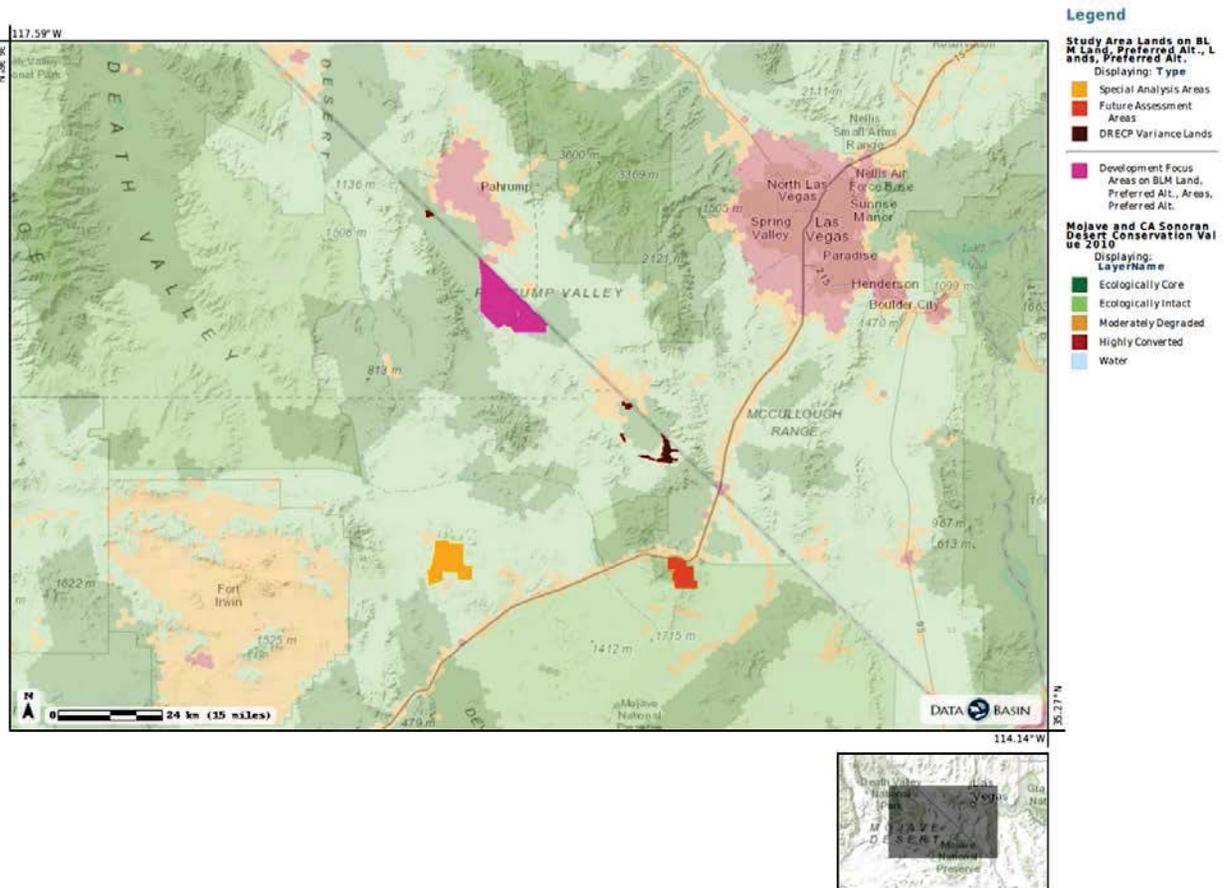


Figure K-1. Overlap of proposed development areas and Conservation Values identified in the Conservancy's Mojave Desert Ecoregional Assessment (2010). Preferred Alternative.



The Nature Conservancy is especially concerned about potential development in the Amargosa watershed, which extends over a broad area extending from the Silurian Valley in the south, north and east to the Pahrump and Amargosa Valleys in Nevada, and west to Death Valley National Park. Recent studies¹³ have determined that the groundwater dependent perennially flowing reach of the Amargosa River in California, designated as a Wild and Scenic River, relies on aquifers that would be pumped if renewable projects were located in these areas. These aquifers are already stressed; water levels are dropping, and rights to withdraw additional groundwater in this area are virtually unlimited. Provisions of the Wild and Scenic Rivers Act restrict federal actions that may adversely affect the flow

¹³ The USGS Death Valley Regional Flow Model has long shown the principal groundwater flow in the area moving from east to west, including through the Pahrump Valleys and Amargosa Valleys in Nevada into California. Recent work by Andy Zdon & Assoc, Inc., funded by the Nature Conservancy, has confirmed that flow into the Amargosa River's important tributary springs comes from the Spring Mountains through Pahrump Valley, from the outflow of springs in Ash Meadows and from the Kingston Mountains. Please refer to the Conservancy's extensive analysis of groundwater issues in the Appendix.

or designation values of the river (which include the river's unique riparian and aquatic life).

Additionally, currently proposed modifications to BLM's Las Vegas and Pahrump resource management plan would significantly affect the nature and pace of development as well as conservation success in the northern and eastern Mojave region of the DRECP plan area. Before any development or study designations are made for this area, these two plans need to be coordinated and the linked effects analyzed. This region will rely on transmission routed through Nevada, shared groundwater and other conservation resources. (See also Section 6b in our main comment letter.)

Further, the areas in the above maps are in the heart of the intact crescent of Mojave Desert land identified in the Conservancy's Mojave Desert Ecoregional Assessment (discussed in Section 6 of our main comment letter and also in Appendices A and H).

Recommendation: Based on these issues, we believe that the DRECP should remove all designations that allow for or incentivize development in the Northern and Eastern Mojave California Desert Conservation Area (CDCA) Plan area from all alternatives.